
2017 Edition

GYMNASTICS
RISK MANAGEMENT
SAFETY COURSE
HANDBOOK



USA GYMNASTICS.

Gymnastics Risk Management

SAFETY COURSE HANDBOOK

2017 Edition
(Revised March 2018)

Official handbook of the USA Gymnastics Safety Certification Course

Acknowledgments:

Special appreciation is expressed to William A. Sands, Ph.D., who authored the 2002 edition of the “USA Gymnastics Safety Handbook” that serves as a basis for much of this handbook. Dr. Sand’s efforts and wisdom continue to pave the way for safety in the sport of gymnastics.

The content in Chapter 6 and related appendices was adapted from the United States Olympic Committee’s SafeSport program. We appreciate the USOC’s partnership to better educate the gymnastics community.

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“Education is learning what you didn’t even know you didn’t know.”

- Daniel J. Boorstin

The Importance of Safety/ Risk Management to Gymnastics

USA Gymnastics is recognized as one of the Olympic movement’s leaders in the area of safety and risk management education, and the 2013 edition of the “Gymnastics Risk Management: Safety Course Handbook” has been updated to reflect the latest information and best practices at this time. Although USA Gymnastics has a diverse professional membership – ranging from instructors, coaches, judges, tournament directors, administrators and gymnastics club owners to industry suppliers – the safety of the athletes and managing risk are the responsibility of every professional member. Safety affects everyone, and the future of our sport depends on our knowledge and commitment to safety and risk management.

The very things that make gymnastics such an incredible sport are the reasons why safety and risk management certification is crucial. The gymnastics professional is the link between gymnastics and safe participation by the athlete. In today’s litigious environment, professionals and clubs that take proactive educational measures about the importance of managing risk factors for injury and putting safety first demonstrate their commitment to their athletes and the sport. The education process increases the level of safety awareness and emphasizes the vigilance that must be maintained and continually improved to ensure the future of our sport.

This handbook is an educational resource and serves as the basis for knowledge needed to earn the safety/risk management certificate, which is mandatory for professional membership in USA Gymnastics. While this provides a broad base of information, members should consult local legal experts and insurance agents to make sure their implemented safety procedures are in alignment with local standards and requirements.

USA Gymnastics first produced a safety manual nearly 30 years ago and began requiring certification in August 1998. In just the last few years, the national governing bodies for the other Olympic sports, the U.S. Olympic Committee and other sports organizations have begun implementing many of the certification, educational and training programs USA Gymnastics has in place and using them as the guideline for their efforts.

We want to thank the many individuals and organizations who have worked with USA Gymnastics in providing the content and updates to this handbook. We will continue to provide updates as our sport grows and changes. We are in this together and appreciate your ongoing efforts to promote a safe environment for our athletes as they pursue their athletic dreams.

If you have any questions or need more information, please do not hesitate to contact our staff of member service professionals. Safety and risk management is just one of many educational opportunities available through USA Gymnastics, visit USAGymnasticsUniversity.org to learn more.

For USA Gymnastics,

Cheryl Jarrett
Vice President, Member Services

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Director of Educational Services

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Preface

Safety and risk management have to be universal concerns of gymnastics. While children have been engaging in gymnastics as play for millennia, contemporary gymnastics has become complicated. Rules, leagues, recruiting, judging, scores, prize money, parents, medals, flags and attorneys, have conspired to make gymnastics more complicated than just balancing, rolling, flipping and twisting. As the culture of gymnastics has become increasingly complex, the safety of gymnasts remains the primary concern of all gymnastics programs. I hope this handbook helps keep gymnastics safe and sane so that we can continue to offer gymnastics as a legacy to young people. Carl Sandburg perhaps said it best, “May all your children be acrobats” (135, p. 32).

– Wm A. Sands, Ph.D., FACSM, NREMT, WEMT, CSCS, May 2013

Disclaimer

The Purpose – and Limits – of This Handbook

Through this handbook, USA Gymnastics seeks to provide suggestions to local gymnastics clubs and gymnastics professionals regarding best practices in the area of safety and risk management. However, USA Gymnastics lacks both the authority and the resources to enforce policies and practices in gymnastics clubs or to hire or discipline the clubs’ employees. Therefore, **responsibility for risk management remains with the local gymnastics clubs and gymnastics professionals.** In addition, no manual could anticipate all emergencies that arise and no manual could give guidance in a particular situation because the facts will vary from situation to situation. Therefore, this handbook provides general guidance only. Accordingly, when you are developing your own risk management plan or dealing with a particular situation, USA Gymnastics urges you to seek advice from your own professionals – your attorney, your insurance agent, your accountant, medical professionals, etc. **Also, please note that this handbook does not provide legal advice.**

Application of this Handbook

The safety guidelines included in this handbook are important to all gymnastics professionals including, but not limited to, club owners and administrators, program directors, instructors and teachers, coaches, judges, meet directors and officials. Whenever these terms (e.g., club owners and administrators, program directors, instructors and teachers, coaches, judges, meet directors and officials) are used in conjunction with a particular suggestion, the handbook assumes that it applies to all gymnastics professionals.



Introduction

“Fear of harm ought to be proportional not merely to the gravity of the harm, but also to the probability of the event.”

– Daniel Bernoulli

Why Safety/Risk Management Certification?

Most simply, we need safety certification because the future is uncertain. Uncertainty about the future faces us every moment of every day. However, in dealing with uncertainty we know that the best way to meet the future is by being prepared. Preparation is pursued by ensuring readiness for the “worst case scenario.” Prepared for the worst case, we often gain spin-off benefits in being prepared for many “less-than-worst-case-scenarios” that may confront us. Our preparation and vigilance help us to meet the future. Aware of areas to avoid, we are ready to seize each opportunity for avoiding injury. Safety certification helps better prepare the gymnastics professional to be more vigilant and more likely to foresee potential problems.

Safety certification is also important because it appears to work. Catastrophic injuries (e.g., paralysis, death) have been reviewed for many years (84, 92, 95, 96, 255). Figure 1 shows the tallies of catastrophic injuries by year, as reported in the references listed.

Note that safety certification in gymnastics began around 1985-86. The incidence of catastrophic injuries prior to implementation of the safety certification program averaged approximately 2.5 injuries per year, according to these data sets. The average incidence of catastrophic gymnastics injuries following the implementation of the safety certification program is approximately 0.52 injuries per year. Of course, these data

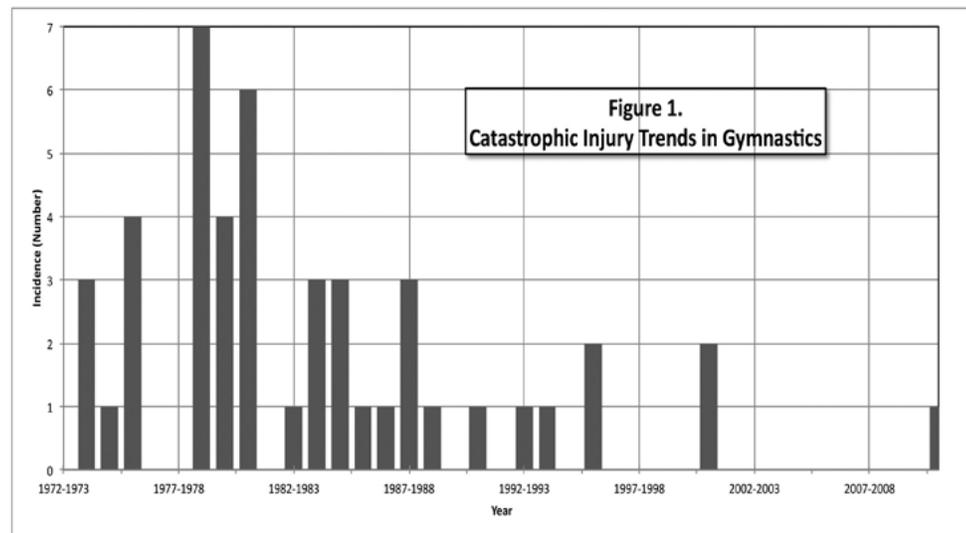
What about skill level increase?

may be incomplete (not representative of every catastrophic injury), the trends may be purely coincidental (chance occurrences), and there may be other factors that are responsible for the trends. Still, we can see that catastrophic injuries in gymnastics appear to have declined during the last two decades. It appears that safety certification is helpful and should be continued.

Safety certification also enhances professionalism. The definition of professional usually includes being paid for one’s work, as opposed to an amateur who works without pay. A secondary definition of a professional refers to expertise. Someone who is a professional is also an expert in a particular field. However, professionalism today involves more than just expertise and payment for services. Professionalism also involves periodic review by peers, proof of expertise via sanctioned professional credentials, and constant dedication to improving one’s skills and knowledge. USA Gymnastics’ Safety/Risk Management Certification is a vital credential for the gymnastics professional. While safety certification alone is not a guarantee of safe conduct, safety certification is a means of enhancing all gymnastics professionals’ awareness of safety issues and injury trends.

USA Gymnastics has led the nation in the development of safety education and certification. USA Gymnastics owes a debt of gratitude to Mr. Michael Jacki, Dr. Gerald George and Mr. Michael Donahue for their pioneering courage and dedica-

tion to making gymnastics safer for everyone. Recently, others including Dr. William Sands, Michael Taylor, Bobbi Montanari, Jeff Lulla and Kathy Feldmann have made significant contributions and been true leaders in the area of safety education. This handbook will continue the trailblazing work of these individuals and many others. This 7th edition of the “safety handbook” contains updated and added material. As gymnastics has grown and evolved, adding new disciplines, achieving greater



recognition, growing in participation and breadth of activity - the safety needs have evolved and changed. This updated handbook reflects some of those changes, extending the work of the past, and continuing gymnastics safety education in the 21st century.

Suggested Steps for Gymnastics Professionals

An understanding and implementation of risk management and correct safety procedures will not guarantee freedom from injury. However, it has been shown to lower the incidence of minor and serious injuries (69). The following is a list of suggestions for gymnastics professionals, including club owners and administrators, instructors, coaches, judges and others (31, 69, 223, 383). A brief description is provided here and each area will be discussed in greater detail throughout this handbook. You will see that these safety practices are not only an essential part of a well-managed gymnastics program; they are also the same basic steps of a good coach/instructor (69, 223).

- Properly plan the activity. This includes lesson and training plans for classes, practices and competitions, as well as skill progressions, conditioning and fitness programs, warm-up activities, and ample rest and recovery time. Using well-prepared plans allows maximization of training time with athletes, helps to avoid downtime or horseplay, and aids with proper athlete development. Figure 2 shows a coach reviewing and updating his plans prior to practice.
- Supervise the activity appropriately. Supervision includes being present, watching the activity and all athletes within your care, controlling the situation through your knowledge and planning, and ensuring that safety measures are



Figure 2: Coach tracking progress

implemented (31, 69). Supervision begins when the athlete enters the facility, continues through practice until the athlete leaves the property. During training times, gymnastics professionals should position themselves to see all of the athletes they are responsible for, continually scan, and avoid distractions (69).

- Provide proper instruction/coaching. Gymnastics professionals should know the skills and movements they are teaching, as well as the progressions and lead-ups for those skills and properly instruct the students in those activities. Proper instruction also includes continual review of safety practices, such as falling and landing drills, repetition of fundamentals skills, demonstrations of correct skill technique (Figure 3), and ample practice time.
- Provide a safe physical environment. Facilities should be safe and free from hazards. Establish a plan for regular inspections and maintenance. Environmental considerations may also include air temperature, moisture and humidity or other factors that would require special considerations.



Figure 3: Coach correcting the athlete's technique

What about prepared for out of gym?

Only oral and written?

- Provide adequate and proper apparatus and equipment. Apparatus and equipment should be inspected prior to each use. Ensure the apparatus/equipment is secure (Figure 4), mats are properly placed and there are no obstacles in the way. Avoid modifying apparatus or equipment and using it for activities other than its intended purpose.
- Educate regularly. Gymnastics professionals should continually educate the athletes and other participants regarding appropriate and safe behaviors. Education should be done regularly and be presented in written and oral forms.



Figure 4: Coach tightening a bar cable

- Provide appropriate emergency assistance. Gymnastics professionals are expected to know what to do if an injury occurs. Knowledge of basic first aid, injury management procedures, and how to implement the emergency action plan are important.
- Keep informed. Regularly updating knowledge of gymnastics skills, proper technique, skill progressions and drills, rule changes, safety issues, and major health guidelines among others is essential for gymnastics professionals. The USA Gymnastics University provides a variety of certifications and continuing education, including Congresses, clinics and workshops, online and live courses for all gymnastics professionals (Figure 5).



Figure 5: USA Gymnastics National Congress session

- Know the gymnasts. Gymnastics professionals should consider a variety of factors, such as age, height, maturity, skill level, experience, and emotional state, in determining what skills, drills and teaching activities are appropriate for the athletes and at what level and intensity. Other key information to know includes athletes' names, medical status and longevity in the program.
- Keep records. Gymnastics professionals have a responsibility to keep records of what takes place in their programs and at their events. These records should include written lesson/training plans, emergency action plans, incident reports, progress reports, inspection and maintenance checklists, student files with contact and medical information, waivers and releases and other notes and forms. Written plans lower the chances of forgetting an issue, demonstrate professionalism, serve as a resource, and save time in the future.

Key Points

- Safety certification is important because it aids in preparing for the uncertainty of the future.
- Safety certification seeks to increase safety awareness and injury prevention, and appears to reduce the incidence of catastrophic injuries.
- USA Gymnastics' Safety/Risk Management Certification is an integral part of professional development and professional credentials.
- Gymnastics professionals should properly plan the activity, supervise the activity appropriately, provide proper instruction/coaching, provide a safe physical environment, provide adequate and proper apparatus and equipment, regularly educate participants about risks, provide appropriate emergency assistance, keep informed, know the gymnasts, and keep records.

Section I: Risk Management



Chapter 1: Risk Management

“Each problem that I solved became a rule, which served afterwards to solve other problems.”

– René Descartes

Chapter Contents

- Introduction
- Risk
- What is Risk Management?
- Key Points

Introduction

Gymnastics has changed markedly over the past decade. Under the gymnastics “umbrella” are the disciplines of men’s artistic gymnastics, women’s artistic gymnastics, rhythmic gymnastics, trampoline and tumbling, acrobatic gymnastics, aerobic gymnastics, and gymnastics for all (group gymnastics). There is also ever increasing difficulty of elements and routines, which extends the gap between recreational and competitive gymnastics. Greater recreational gymnastics opportunities, such as preschool movement education, fitness programs, and special events, as well as added competitive tracks, expand the activities in the gym. Because of the wide range of activities and ongoing changes within the sport of gymnastics, the nature of safety education and certification must embrace all aspects while maintaining a standardized certification process. A practical approach to meeting the needs of safety education is risk management.

Risk management is not particularly different from previous safety certification approaches, but you will notice that less emphasis is placed on the nuts-and-bolts of teaching and coaching. Safety education, and a single safety education manual, cannot adequately embrace all of the various disciplines and their specific teaching, coaching and performance methods.

In addition to the differences among the various disciplines of gymnastics, there are significant differences between instructing and coaching. Specific instructing and coaching approaches, and their relative safety and effectiveness, are addressed for each discipline through professional development courses, seminars, clinics, materials and videos offered through USA Gymnastics University.

Risk

Risk is everywhere. You take a risk getting out of bed, getting in to your car, or flying on an airplane. Risk, for our purpose, involves danger, hazard, peril and chance. Think about risk as (1) what things can happen, (2) what is the likelihood of them happening, and (3) what is the consequence if they do happen (265)?

Gymnastics is an activity that carries inherent risks. Gymnastics professionals should manage risk through a comprehensive approach, which includes ongoing professional development and certifications, safety education, and background screenings. The implementation of learned techniques, as well as vigilance, is also vital to managing risks. Gymnastics risk management seeks to inform, educate and inspire gymnastics professionals to understand and control: (1) risk of an injury (the primary concern), and (2) risk of a lawsuit.

Understanding the risk of injury requires information regarding to whom injuries occur; where, how, when and why injuries occur; and types of injuries.

Lawsuits are centered around liability. Liability means that one is held financially responsible for causing harm or damage. Liability may be based on the concept of negligence.

IN DEPTH

While this handbook is primarily focused on the risks of injuries, a secondary goal of risk management is avoiding lawsuits. Basic legal terms are listed below for your reference.

NEGLIGENCE: Negligence is failing to act as a reasonable and careful person would act under the circumstances. Proving negligence requires four things: (1) a duty was owed by one party (the defendant) to the other (plaintiff); (2) the duty was breached; (3) the breach caused an injury to the plaintiff; and (4) the injury resulted in damages.

STANDARD OF CARE: The standard of care refers to how an average or typical person would have behaved in the same circumstances. Gymnastics professionals are evaluated legally based on the concept of standard of care and, therefore, should always behave at or above the standard of care.

As noted at the outset, this handbook’s purpose is to provide general information, not to give legal advice. No legal advice can be given because the law varies from state to state, the law is in a constant state of change, and circumstances of particular merit that arise in gymnastics also vary widely and cannot be predicted in advance. For all of these reasons, every gymnastics club should retain its own local legal counsel to address all legal issues. Clubs should seek counsel regarding risk management prior to any incident and should also contact their counsel immediately after any incident for guidance and direction.

0 discussion of any substance - too general

What is Risk Management?

Risk management involves the intelligent selection and reasonable conduct of risky behaviors (383). Management involves directing, controlling, focusing, leading, governing, conducting, shepherding and regulating something. Risk is not completely predictable. Rewards almost always require some risk. Reward and progress require effort. We usually assume there is some kind of a relationship between the type and level of effort expended and the type and level of reward(s) achieved (254, 384). Risk management helps the gymnastics professional successfully walk a tightrope by maintaining a balance between risk and the pursuit of reward (236). When risk is managed well, everyone benefits (343).

athletes, facilities, skills, ages and environments. Each gymnastics situation is unique and requires context-specific judgment regarding safety. Gymnastics professionals often distill an enormous number of learning and performance variables down to a single decision of whether to proceed, stop or alter the direction of learning for a particular athlete. A typical coach or instructor will teach from a few to a dozen or more youngsters, all with unique capabilities, limitations and personalities. The coach or instructor must prepare and deliver a valuable and safe lesson to these young athletes while constantly monitoring their progress and ensuring their safety.

Gymnastics professionals should make every reasonable effort to ensure the gymnast's well-being.

RISK + MANAGEMENT = SAFETY & INJURY PREVENTION

Risk management is a process, not an outcome. Risk management is a method for identifying risks and developing and implementing programs to protect against those risks. An effective risk management program consists of four basic steps that are part of a continuing process. The listed steps are recommended for evaluating the current program and should be referred to often, especially if engaging in new activities and planning different events (342, 358).

- Assess - identify, analyze and prioritize potential risks
- Select methods to prevent injury and loss and develop the plan
- Implement the plan
- Monitor the results and revise as necessary

The gymnastics professional must be well trained and knowledgeable. Gymnastics professionals must cope with a myriad of

Chapter 1 Key Points

- Risk management is an approach to safety education.
- Risk management is necessary because gymnastics carries inherent risks.
- Through risk management the gymnastics professional hopes to reduce injuries.
- Risk management is a process and not an outcome.
- Risk management is a method of identifying risks and implementing programs to protect against those risks.
- The job of a gymnastics coach or instructor is a difficult one. Gymnastics professionals need to be knowledgeable and dedicated.

Section I: Risk Management

Chapter 2: A Model of Risk Management

“The purpose of models is not to fit the data but to sharpen the questions.”

– Samuel Karlin

Chapter Contents

- A Model
- Assessment
- Selection
- Implementation
- Monitoring
- Key Points

A Model

The challenge in a rapidly changing world is to ensure risk management is effective and keeps pace with change (265). As mentioned in Chapter 1, risk management is a continual process. The process of risk management can be described using a basic model consisting of four steps: (1) assessment, (2) selection, (3) implementation, and (4) monitoring (358). While other suitable models exist, this model provides simple, yet fundamental standards in the area of risk management.

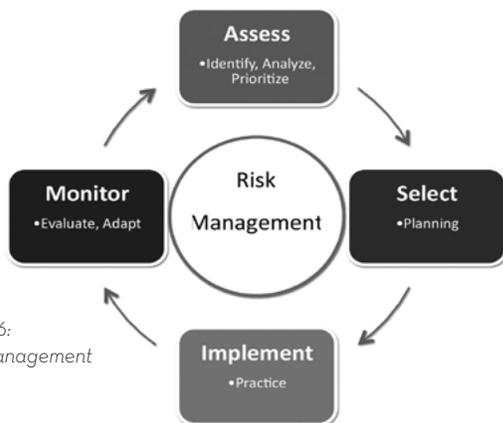


Figure 6:
Risk Management
Model

Assessment

The first phase of the risk management model is to assess the club's gymnastics program. Assessment simply means to look closely at all aspects of the program to identify, analyze and prioritize risks. Use a broad perspective when looking at the club's organization and programs so all potential risks can be addresses through this phase. Communicate with members of a safety team or seek input from staff, parents, athletes or others with knowledge of various aspects of the program. Be sure to specifically address the club's program as it may differ from other gymnastics programs and/or the examples offered within this handbook.



Figure 7: Blocked exit

Here's a look at various categories where risks may exist within a gymnastics program.

Facilities. Facilities include the building, routes of access, parking areas, architecture, and other environmental factors. Facilities must be in reasonably safe condition for the involved activities (See Appendix E). Reasonably safe facilities are assured by careful design, regular inspections, and appropriate maintenance. Figure 7 shows

a blocked exit. Exits should not be blocked. This text covers Facilities in greater detail in Chapter 3.

Apparatus & Equipment. Gymnastics involves a variety of apparatus and equipment. This handbook will consider those items that are used directly for competition to be "apparatus" and those items that are used for all other purposes will be termed "equipment" (Figures 8 and 9).

Gymnasts interact closely with apparatus and equipment, which often support the gymnast's body weight along with other performance forces. As such, these apparatus and equipment should be inspected routinely to ensure that they are in proper working condition (See Appendices E and R). Additionally, training in the proper use of the apparatus and equipment should be included in a risk management plan. Chapter 4 of this handbook explores the areas of apparatus and equipment further.

Figure 8: Uneven bars



Figure 9: Worn mat

Staffing. Staffing requirements should consider the number of personnel or staff needed to operate a facility safely and efficiently, as well as hiring plans and policies. The staffing of a gymnastics facility may include an owner, facility manager, front office staff, instructors, coaches, sports medicine professionals, janitorial staff and others. Hiring and staffing processes must follow all applicable regulations (e.g., Equal Employment Opportunity laws, Fair Labor laws, and Family Medical Leave Act).

Staff members should be competent, have all current certifications, receive “green light” status on background checks, comply with all pertinent laws and regulations, know their areas of responsibility, and participate in continuing education. Staff assignments should be made considering appropriate instructor/coach to athlete ratios, areas and levels of expertise, and supervisory roles. All staff assignments should ensure that the staff member is fully capable of meeting all the foreseeable demands of the assignment. Matching a staff member to an area with which he/she is unfamiliar invites problems. For example, assigning one athletic trainer to multiple locations that are widely dispersed in a competition venue does not match staff to the context-specific needs of the situation. Assigning an inexperienced preschool teacher to cover uneven bars with elite performers would also be inappropriate.

Supervision. Supervision involves the oversight of athletes. Supervision generally occurs on a continuum between two end points; at one end is direct supervision or instruction and at the other is indirect supervision. Both are explained in greater detail in Chapter 5.

Gymnastics always requires supervision at an appropriate level based on a myriad of circumstances within the context of the practice and/or performance setting (Figure 10). Unsupervised gymnastics (no competent instructor or coach is present) should not be allowed in contemporary gymnastics settings.



Figure 10: Example of indirect supervision

Policies & Procedures. Gymnastics professionals should teach, and constantly reinforce, safety policies and procedures. Administrators, instructors, coaches, judges and meet directors should do all they can to ensure that safety rules are followed.

Developing and utilizing an operations handbook assures attention to issues that may occur and outlines expected behaviors to minimize risk. While the development of policies and procedures may fall within the next phase of the risk management model, “Selection”, it is important to note that part of assessment should include looking at existing policies and procedures: are they working effectively, do they address all needs within the program, are they being followed by all staff and participants, etc.

Sports Medicine. Sports medicine involves injury prevention, the treatment of injuries, and the analysis of injury trends. Ideally, gymnastics professionals will have access to an athletic trainer and be supported by a team physician, physical therapist, and other community programs. However, instructors and coaches are often the first, and sometimes the only, means to injury prevention and treatment. When an instructor or coach is required to take on more of the sports medicine role, he/she should be prepared and trained. A Safety Team, which will be addressed in greater detail in the upcoming section, can be used to augment the ability of the gymnastics program to deal with all but the most serious and immediate emergency situations. Prior communication, planning and practice should occur so that everyone’s emergency roles are identified, practiced and implemented without hesitation. All communication, planning and employee emergency roles should be in writing. In addition, the gymnastics safety program should include pre-participation screening assessments, decision policies on return to activity following an injury, ample record keeping, and ongoing education of coaches and administrators.

All the safety is from the coach? What about athlete education?

IN DEPTH

Gymnastics coaches and teachers should use both direct and indirect supervision simultaneously when working with more than one gymnast at a time. The following is an example of a situation where an instructor is providing both direct and indirect supervision.

A teacher is instructing eight students on floor with the main objective of performing a backbend. The teacher sets up four stations of activities and positions him/herself at one of the stations to spot backbends. By spotting, the teacher is providing direct supervision to the student being spotted, meaning the teacher is working one-on-one with the student. However, the teacher is also responsible for overseeing, directing and providing feedback to the seven students at the other three stations. This is indirect supervision.

Organizational Culture. Psychological and sociological factors are involved in all sports programs (126). While precise cause and effect relationships between these factors and injury are difficult to identify, it is clear that gymnastics programs have a “culture” and a “dominant philosophy.” Gymnastics “culture” can be thought of as the “tone” or “character” of a program. For example, people are expected to behave in certain ways when they enter a library – libraries have a culture. Moreover, when entering a library, you will expect a “library culture” – generally quiet, lots of books, learning happening, and people reading. However, libraries also vary in their culture. Libraries that primarily serve children have a different culture than medical libraries. Hospitals have different cultures than doctors’ offices, and even within a hospital one can expect different cultures in the emergency room and the obstetrics area.

Gymnastics programs should have a dominant culture or philosophy that reflects the primary goal of gymnastics, teaching and performing gymnastics. If the culture of a gymnastics program shifts to “win at all costs,” “reckless abandon” or “play through pain,” then these cultures involve greater risks and potential for injury (199). Abusive cultures should be avoided. Psychological and social mistreatments are likely to increase the risk of injury. The normal psychological stresses that accompany competitive preparation appear to be related to gymnastics injury (126, 198).

USA Gymnastics has attempted to codify the type of “culture” that should be present in the gymnastics setting, including training and competition, via the USA Gymnastics *Code of Ethical Conduct and Safe Sport Policy*. Gymnastics professionals should be familiar with both of these resources. Employment and evaluations should include aspects of the *Code of Ethical Conduct and Safe Sport Policy*, and gymnastics professionals at all levels should be held accountable. The USA Gymnastics *Code of Ethical Conduct and Safe Sport Policy* are included in Appendices B and C, respectively.

After risks within a particular program have been identified, the next step in the assessment phase is to analyze those risks. The results of analysis would include data leading to a greater understanding of the possible likelihood, severity and frequency of an injury or incident. Utilizing this data, potential risks can be prioritized and addressed according to their significance.

Selection

The Selection phase includes researching and understanding available management and control methods, then determining which technique(s) may be most appropriate for each area of risk. This is the phase when the “plan” is formally developed.

Planning helps identify those areas where focused attention will achieve the best results. Advance planning should allow sufficient time to implement safety policies. Safety plans should be in place prior to commencing activities that require specific safety measures. Ideally, everything involving the gymnastics experience that can be planned and organized in advance, should be. Advance planning and preparation should involve all

members of the safety team, seek to avoid hazards, and manage foreseeable risks.

Various management and control techniques are available from policy and procedure development and staff education to methods of risk transfer (e.g., insurance and legal forms). Throughout this handbook, information and recommendations are provided to help clubs plan and develop risk control techniques, but a few are expanded upon here.

Emergency action plans are a critical risk control selection. Having a plan for emergency response, for as many contingencies as possible, will allow staff to prepare and react appropriately. Not only is it important to have a plan, clubs must also practice risk control selections to ensure they work as planned. Develop an action plan for each potential risk identified – fire, evacuation, injury, hazardous weather, workplace violence, etc. Engage local law enforcement or medical services in the development of these plans as necessary.

Particularly as it comes to risk transfer and management, it is wise to seek additional guidance from local professionals, such as an attorney and an insurance agent.

Insurance. Insurance is a vital part of risk management as it transfers the risk to a company specializing in managing risks. Unfortunately, the different types of insurance plans and policies can seem daunting (28). Insurance is available in a number of areas, including:

- liability insurance,
- accident and disability insurance,
- property and casualty insurance.

Liability insurance provides protection in the event a club and/or its owner are sued by an injured party. Accident and disability insurance provides protection when someone is injured by paying for medical expenses and loss of income due to the injury. Property and casualty insurance covers damages or loss of property, such as occurs with fire, theft, vandalism and weather damage.

A second but related issue involves who pays for, and is responsible for, the insurance. Generally, the sponsoring organization or program will provide insurance coverage. However, this is not always the case, and gymnastics professionals should check with the owner or program director regarding these issues when negotiating a position in gymnastics coaching and/or administration.

Secondary accident and liability insurance coverage are provided to USA Gymnastics members participating in sanctioned events. Procedures for sanctioning competition, exhibitions, clinics and other events are available through USA Gymnastics.

Insurance issues are further complicated by duplicate types of coverage when an athlete has his/her own coverage and the program insurance does not provide coverage until the athlete’s individual coverage is exhausted. Family coverage, work coverage, personal insurance, and coverage at USA Gymnastics sanctioned events add to the complexity of acquiring the optimum insurance for your needs.

This handbook cannot begin to cover all of the available insurance plans and their potential influence on the conduct of a gymnastics program. The gymnastics program should provide adequate information on the type and extent of insurance that is provided (or not provided) by the program. Staff and participants should know the extent and type of their insurance coverage so that they can make intelligent decisions regarding additional or different type(s) of insurance. You should contact an insurance professional who can counsel you on the best insurance for your needs.

Waivers, Hold Harmless, Indemnification and Release Forms.

A waiver and release reiterates the inherent risks involved in gymnastics and releases the gymnastics club and its agents from liability for any loss or injury. Waivers and releases are used to have the gymnast and his or her parents or legal guardians:

- document agreement to participate,
- acknowledge and assume the risks,
- release the sponsoring organization from responsibility for any injury that occurs.

The primary goal of the waiver or release is to avoid lawsuits altogether or dispose of them as quickly as possible. The law varies from state to state in its treatment of waivers and releases. Therefore, while we provide a form of Waiver and Release in Appendix D, you should consult your counsel regarding how to word a Waiver and Release form specific to your club and its activities. A quality document can help reduce the number and types of disagreements.

Of course, release and waiver forms do not relieve the gymnastics program from quality injury prevention and risk control measures. Rather, a release is an integral part of your overall risk management program.

Implementation

Implementation involves putting into action the management and control methods selected in the previous phase. Implementation requires a long-term commitment to safety. Once you have a plan, it is important that everyone follows it. There should be a vigorous commitment among participants to follow safety plans and procedures. Moreover, safety plan implementation should be practiced, monitored and recorded, which is addressed in the next phase of the process. Implementation requires vigilance to ensure that policies and procedures are being followed by each person involved in the gymnastics program. A safety team, written plans and checklists, inspections and practice are involved in implementation phase.

Written Plans. A safety plan that remains undistributed cannot be implemented. Distributing the safety plan requires that it be written down. While discussions and oral information are important, memories fail, interpretations may not match, spoken versions may not be consistent, and all members of the neces-

sary audience may not be present. Written plans are therefore very helpful. All written policies and procedures should be available to all staff and participants. Constant review, education and reinforcement of written policies are also necessary. As communication methods and technologies continue to evolve, safety communication can take advantage of other forms of communication, such as video, computer programs, presentations, websites and other media. Written lesson plans are one example, and a sample can be found in Appendix S.

Safety Team. One method of establishing and implementing safety policies and procedures involves forming a Safety Team. At the most general level, everyone involved in gymnastics, including the participants, should appreciate that they have an important role to play in keeping gymnastics activity as safe as possible. However, some gymnastics programs and events may benefit from a formal Safety Team. A Safety Team may consist of administrators, instructors, coaches, athletes, judges, parents, athletic trainers, physical therapists, physicians, and other health care professionals and may expand or contract with the needs of the gymnastics program. While these people may not be formally assigned to a team, they play key roles in developing and implementing safety policies and procedures. The Safety Team should be aware of the activities, safety needs, potential and existing injuries, and the administration of the gymnastics program. Moreover, they should be involved with each of the steps in the risk management process. One of the most important tasks of the Safety Team is to increase safety awareness (25).

Communication. A Safety Team is of little use unless communication is rich, open and often regarding the activities and needs of the gymnastics program. Communication should include the latest ideas and information on injury trends, safety measures, rehabilitation techniques, athlete idiosyncrasies, apparatus and equipment specifications, and other relevant safety and injury information. Safety is multifaceted and no single person is likely to know all safety areas equally well. Therefore, communication and sharing of information among members of the Safety Team are essential.

Parent & Public Education. Parents, guardians, spouses and other indirect participants should be informed of the purpose and goals of the gymnastics program; reminded of the inherent risks of the activity and reasons for safety rules and regulations; and given basic information about identifying, preventing and caring for injuries. Indirect participants should be informed of special nutritional needs, fluid replacement, home activities that may be helpful or harmful, expectations of the program, and the role they can play in enhancing the athlete's safety. Parents, spouses and significant others should be treated as partners with coaches and administrators in the process of gymnastics safety education.

Common Sense. The statement, “Just use your common sense,” may seem trite. However, few statements better embody the importance of maintaining good judgment in new situations. Sometimes mentally “stepping away” from the circumstance can help focus common sense and allow an objective perspective. Common sense cannot come from ignorance. Common sense is an emergent property arising from knowledge, experience and observation.

Practice. No coach or instructor would assume that an athlete can perform well and consistently without practice. Performance in the decisive moments of a competition requires practice. No instructor would assume that a child can demonstrate skill-competence without practice. No physical education teacher would assume that a student should be graded on skills he/she has not practiced. Practice is composed of a goal, instruction and repetition. Practice in preventing and dealing with potential injuries is essential.

People responsible for facilities, apparatus and equipment should be trained in their tasks and allowed to practice their inspections to ensure that they are aware of important specific characteristics of facilities, apparatus and equipment. For example, extrication (i.e., removal) of an injured athlete from a foam pit (150), from a trampoline or other rebound apparatus (56), or from a grip-locked hanging position (296) becomes more effective with practice. If such an injury occurs, dealing with the injury for the first time can be inefficient and increase the potential for further injury. Regular training, including practical exercise of emergency action procedures, is imperative to a successful risk management plan. Moreover, it is recommended to invite local emergency response units (e.g., paramedics, police and fire fighters) to the gymnastics facility to become familiar with the layout, aware of potential injury areas, such as trampolines, in-ground foam pits and resi-pits, and familiar with the process of extricating an injured athlete in a gymnastics environment.

Safety procedures require practice by all involved participants to be effective. Practicing procedures can help:

- Identify flaws in the plan,
- Give everyone a chance to be involved,
- Ensure that if an injury occurs, appropriate steps are taken,
- Ensure all staff and participants know what to look for.

Monitoring

Monitoring, continuously scrutinizing the results of the plan, and making adjustments as needed, are essential to the success of a risk management process.

Evaluation. Written review and evaluation are vital for improvement of safety plans and programs (See Appendix G). Some review and evaluation occurs on a daily basis, but the overall safety program should be evaluated periodically so that new

or modified policies and procedures can be implemented. The review should include feedback from formal assessments along with coach, instructor, teacher, athlete, administrator, physician, therapist and parent feedback. Preseason and postseason reviews are appropriate for those programs that have regular seasons. Most gymnastics clubs are active the entire year and may require different formal review schedules. For example, typical school breaks may be a logical time for program reviews. Review and evaluation should also occur following special

events, such as meets, recitals, shows and camps.

Maintain records.

Written plans and program records are very helpful in risk management (See Appendices D, E, F, G, K, L, M, N, O, Q and S).

Records should include: reviews of the risk management program; safety policies and procedures; apparatus and equipment inspection and maintenance logs; injury reports; teaching and coaching logs; and actions taken to deal with safety problems (Figure 11). Complete records of all staff and athletes should be maintained and updated regularly. Program records should be used to determine the overall effectiveness of safety plans and their implementation.

Ideally, records should include: (a) pre-participation screening information, (b) injury records, (c) health records, (d) other health-oriented information, (e) progress reports, and (f) conversations and communications with parent(s)/guardians. The system of record keeping should be simple, efficient, expedient and confidential.

Records should be maintained for at least four years following termination of the relationship with the program participant (101). However, keep in mind that an injured minor may be able to bring suit after he/she becomes an adult. Clubs and/or gymnastics professionals should seek local legal assistance in determining the proper length of time for retaining records.

Adaptability. A program that does not change to reflect current and future anticipated needs will have limited effectiveness. Safety problems constantly change, especially in gymnastics, due to increasing difficulty of skills, natural maturation of athletes, decline of apparatus and equipment, and the natural accumulated wear on facilities that occurs with long-term use. Risk management approaches require continual changes, updates and modification. Continue to revise the plans as needed.



Figure 11: Program materials and records

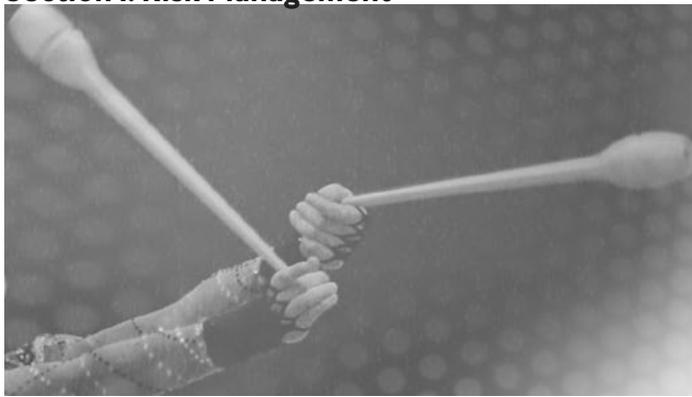
Then it's not common sense is it?

With the program assessed, policies developed and implemented, one may think monitoring is the culmination of the risk management process. But remember, risk management is ongoing. Through the monitoring phase, additional areas of risk may be identified; processes may need to be adjusted to meet changes in the program; or other factors may arise. Additionally, new activities within the club's gymnastics program should be addressed using the risk management model. Updates to policies or plans should be implemented and communicated as done initially. Let the process continue.

Chapter 2 Key Points

- Risk management can easily proceed from a model that involves assessment, selection, implementation and monitoring.
- Assessment involves identifying, analyzing and prioritizing risk throughout all aspects of the gymnastics program.
- The selection phase is when the plan is formally developed.
- Implementation should involve rich communication and education, occur well before activities begin, engage a safety team, establish policies and procedures in writing, and afford practice in safety plan implementation.
- Success of the risk management process is dependent upon continual review and evaluation with changes being made as needed.

Section I: Risk Management



Chapter 3: Facilities

“Order is never observed; it is disorder that attracts attention because it is awkward and intrusive.”

– Eliphas Levi

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- Periodic Inspections
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- Ancillary Areas
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Facility Risks

Facility refers to the building and grounds of the gymnastics program. The facility is one of the most important and controllable factors in risk management. In legal terms, facility risk management belongs under premises liability.

As with all questions regarding legal implications of maintaining a facility or business, clubs and gymnastics professionals should consult with an attorney to determine that state's laws and how those laws apply to the club/gymnastics professional. However, in general terms, the manager of a facility has a responsibility to those who participate in activities at the facility and may have responsibilities to those who merely visit the facility. Examples of the people who may enter the club include athletes, participants in other activities, coaches/instructors and staff, parents, friends and family members, spectators, potential clients and individuals who may wander in off the street.

The level of responsibility owed will usually vary depending on whether an individual has been invited into the premises, is allowed to enter the premises, or trespasses on the premises. Consult with legal counsel regarding responsibilities the state imposes regarding persons in all three categories, but in general, one should:

- keep the premises in safe repair
- inspect the premises in order to discover obvious and hidden hazards
- remove hazards

- anticipate foreseeable activities of those invited or allowed to enter the facility and take reasonable care to reduce or eliminate foreseeable hazards
- conduct activities with reasonable and safe care.

Additionally, gymnastics professionals should take care to allow only those individuals who have been educated about the safe use of the apparatus/equipment and have (along with parents) signed appropriate documentation, such as athletes or other participants, to use the apparatus and equipment. Spectators and other invited guests who visit the gym, such as parents, should be limited to observation. These individuals should not engage with the apparatus or equipment or interfere with the instruction or participation of the athletes. Those who enter a facility with no reason to be there, individuals who are not athletes, parents, spectators or potential clients, should be politely asked to leave.

What are hazards?

Hazards are causes of danger. Facility hazards usually come from: (a) poor planning and design and/or (b) poor facility management, but hazards can arise from a host of areas.

For example, sidewalks that are slippery due to ice, snow falling off a roof, uneven surfaces that cause tripping, low head clearance, glass doors, and doors opening into blind areas are typical facility hazards. Poor design and planning can be the result of architects who are unfamiliar with athletic facilities. Poor design and planning may also result when apparatus are placed poorly in an existing space that was converted to a gymnastics facility. Common design and planning problems in gymnastics facilities include inadequate safety zones around apparatus and performance areas, poor pedestrian traffic flow, lack of proper storage space, inappropriate building materials, and standard glass walls near activity areas. When designing a new facility for gymnastics, special care should be taken to ensure that all aspects of the facility will meet the needs of gymnastics activity, spectator areas, and other ancillary aspects of gymnastics programs (367, 370, 379, 383).

Safety problems due to poor facility management, particularly poor maintenance, are estimated as the number-one complaint in facility-related injury litigation (328). Identifying hazards and taking corrective action are the major goals of facility risk management. There are two courses of action

when a hazard is identified: (1) eliminate the hazard or (2) eliminate exposure to the hazard. Eliminating the hazard is most desirable. For example, broken glass, wood or other damaged building materials should be replaced. If a water spot is present on the floor, the water should be removed and the source of the water should be fixed. Eliminating exposure to a hazard is usually a temporary measure to control risk. For example, if a door is damaged in a windstorm, one should place a sign on the door indicating its dangerous condition and directing traffic to another door. Organizing and planning to discover and eliminate risks are jobs of facility risk management. Figures 12 and 13 show facility problems.



Figure 12.
(above)
Mat hazard

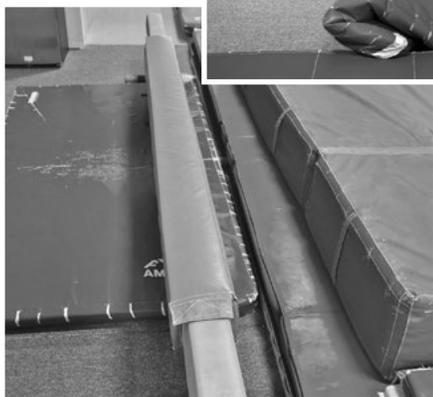


Figure 13. (left)
Untidy mats
around beam

Following the risk management model outlined in Chapter 2, the process presented here specifically addresses facility risks. The process of facility risk management should involve (328, 358):

- assessing risk regularly
- planning periodic inspections
- implementing preventive maintenance
- monitoring facility risk controls

Additionally, ongoing staff and participant education, specifically about the facilities, and development and implementation of safety rules related to the facility are key to managing these types of risks.

Risk Assessments

Risk assessments attempt to identify potential risks the facility may present. Risk assessments should include all areas of the facility, written records should be kept, and every possible activity that might occur in the facility should be considered (328). A team approach is often helpful. One reviewer may examine the facility with regard to class teaching, a second examines the facility for high performance workouts, a third may examine the facility as a potential competition site, and so on. A team approach, or separate reviews with differing orientations, can be very helpful in finding hazards that are overlooked when one's mindset is not considering all of the potential uses of a facility.

Hazards uncovered during the assessments should be listed and prioritized. The priority list determines the order and in what manner hazards will be eliminated or compensated. For example, important questions to ask include:

- how serious is the particular hazard?
- how many people will be exposed to a particular hazard?
- can the hazard be eliminated immediately?
- can the hazard be placed out of reach until it can be eliminated?

Of course, those hazards that may result in the most severe injuries to the most people are among those at the top of the priority list.

For example, a risk assessment of a competitive venue would seek to remedy a dangerous set of bleachers in the gymnasium before dealing with a small pothole in the parking lot. Finally, the risk manager should make a judgment regarding the likelihood of someone suffering from the hazardous condition. If no one is likely to interact with the hazard, the hazard may move down the priority list. Unfortunately, no simple recipe for risk assessments can be made for all facilities. Each facility is unique and should have modifiable ongoing risk assessments.

One of the primary goals of a risk assessment is to identify all of the potential hazards of a facility. The list of hazards and their relative priorities should be recorded and transferred to work orders (e.g., plans for remediation) and to safety checklists for future regular inspections. Inspection checklists are developed from initial plans and ongoing risk reviews so that inspections proceed efficiently and effectively.

IN DEPTH

As safety practices have evolved, a set of colors are considered standards when identifying areas of a facility (143). The colors and their uses are:

- Yellow – aisles or moving objects,
- Yellow and Black – indicate great danger,
- Orange – moving parts, typically on machines,
- Green – safety and medical equipment,
- White Cross on Green – first-aid equipment,
- Red – firefighting equipment,
- Blue – machines under repair,
- White – storage area.

Periodic Inspections

Risk assessments determine the plan. In this case, what to inspect, when to inspect, how often, by whom, and procedures for repair (See Appendix G). Inspections implement the objectives of risk assessments and are the application of systematic vigilance. Unique inspection lists and procedures should be developed for each facility (See Appendix E). The checklist should be relatively simple and short, balancing thoroughness with practicality. The more complex and time consuming the checklist, the less likely it will be used correctly.

Some facilities may require multiple checklists that address different areas of a facility.

The next step in inspections is schedule determination. The inspection schedule should again balance the needs for hazard discovery with the likelihood of changes occurring within the facility. The facility checklist should be placed on a form that includes the following: (a) name of the inspector, (b) date and time of the inspection, (c) location of the inspection, (d) inspector's signature, (e) problems discovered, and (f) recommended remedial action(s) for discovered hazards.

Preventive Maintenance

Ideally, maintenance and repair of a problem should occur before something actually breaks or creates a hazard. Moreover, one should not delay maintenance problems if they can be fixed early in the life span of the item. Manufacturers should provide maintenance and replacement guidelines with the apparatus and equipment they sell. These guidelines should be incorporated into the inspection checklist and followed. Preventive maintenance should also include cleaning, disinfecting, lubrication, testing and replacement of signage.

Staff and Participant Education

Facilities often present idiosyncrasies in design and use. All staff members should be aware of the potential hazards that are present in their area of involvement. Each staff member should identify facility hazards that arise and notify the owner/manager. Staff members should be trained in the use of all apparatus and equipment in their area and, most importantly, able to identify facility, apparatus and equipment problems. Written records of staff meetings and educational experiences should be maintained. A computer, binder, file or notebook is a helpful tool to keep track of annual administrative needs, such as meetings agendas and notes, memos, correspondences, etc. If records are kept electronically, be sure to avoid deletion. Keep a separate section for general, meetings, preschool, recreational, team, cheerleading, booster group, and other divisions of your business. The files should be kept in the main office and serve two important purposes: (1) documentation for future reference, and (2) communication between programs, office staff, employees and customers.

Safety Rules

Facilities and activities offer unique circumstances and contexts. Facility owners/managers should implement and enforce safety rules that arise from risk assessments and inspections.



Figure 14. Trampoline signage

Figure 15. No food signage

Figure 16. Coaches and athletes only signage

Once the safety rules have been established, appropriate control techniques, such as the use of signage, labels, barriers and communicated warnings, should be applied. For instance, applicable signage should be posted in plain sight at appropriate locations or doors leading into the gymnastics area should be closed establishing a barrier for spectators to enter this area of the facility. Examples of safety rules are: "no running," "athletes only beyond this point," "no glass containers," "no food," "no one allowed on apparatus or equipment without supervision," and "no spectators allowed beyond this point." Finally, all staff members should enforce the safety rules (Figures 14, 15 and 16).

Facility Areas - The External Building & Grounds

Facilities bring a level of permanence that makes them harder to modify once they are built and in use. Therefore, careful planning of facility areas is particularly important (101). Sports facilities commonly can afford only the bare essentials. However, budgetary concerns should not result in safety shortcuts or poor attention to hazards. While gymnastics does not require the most modern and expensive facilities, safety awareness should be present at all stages of planning and development. "It is essential to inspect facilities for hazards each day before commencing activity." (101, p. 34). In addition, apparatus and equipment should be inspected by the instructor or coach prior to usage. The inspection should be documented on the teacher's/coach's daily lesson plan.



Figure 17. External building and entrance

Risk management should also consider areas outside the facility. Areas of special concern include:

- street entrances and exits,
- traffic,
- parking areas,
- adjacent activities,
- delivery areas and loading docks,
- landscaping,
- sidewalks and walkways,
- entrances and exits to the building,
- environmental elements (e.g., rain, snow).

Street and parking access should be clearly marked so drivers follow a reasonable traffic pattern. Emergency vehicles should have reserved access and an obvious and unencum-

bered path to and from the building entrance. Handicapped parking and access routes are often required by regulation. Check regulations to ensure that parking areas meet local ordinances and that access to the building is easy for people with disabilities.

The exterior area of your building is not constant. Gymnastics facilities, like all facilities, have potential for deterioration (101). Weather, the presence of vehicles, plant growth and natural wear change the facility and may cause hazards. Ice and snow can turn the simplest parking lot or sidewalk into a hazardous area. In areas where winter snow and ice can be a problem, one should take all reasonable precautions so that falling snow and ice cannot injure people and parking areas and walkways into a facility are clear. In windy areas, ensure that doors cannot be forcefully blown open or shut, accidentally striking someone or getting broken. Facility management requires that reasonable care be taken to ensure that the exterior areas of the building are safe for those who seek to enter the facility.

Use signage to remind people about potential hazards and to direct vehicle and foot traffic. The signage should be easy to read, placed prominently in the appropriate areas, and checked periodically to ensure the signs are present and in good repair. Signs and barrier tape can also designate those areas that are not for public access or present a temporary hazard. Permission may be required for some signage. Signs should be available for typical, intermittent facility hazards, such as water, slipping, construction, and areas that are off limits.

Access to the facility must be controlled. Litigation has arisen from people who were injured while using athletic facilities, despite the fact they were not authorized for such use. While the facility doesn't have to be set up like a prison, the facility should be secured, signs should be posted, and a security system should be used (101). Inspections should include locks on windows, doors and gates. Athletes, parents, instructors, coaches and others should be discouraged from using facilities without supervision.

Facility Areas - The Building

Gymnastics facilities have ranged from warehouses to school gyms, from buildings designed and built specifically for gymnastics to facilities converted to gymnastics use. Many facilities can be used for gymnastics with appropriate care and reasonable precautions (29).

Walls, Ceilings and Floors. The physical components of the building that involve gymnastics should include the following (367).

- Wall, floor and ceiling colors should contrast with all gymnastics apparatus.
- Padding and/or warning tape should be used on all protruding objects and building parts.
- Cement floors should be sealed to prevent moisture from seeping up, making the floor slippery or damaging overlying wood structures.
- Apparatus floor plates should be securely anchored. When in doubt, consult an engineer or equipment company representative to ensure that floor plates are installed properly.



Figure 18. Gym set-up

- Recommended ceiling heights are (all of these are approximate): women's artistic gymnastics, 19 ft. 9 in.; men's artistic gymnastics, 23 ft.; rhythmic gymnastics, 26 ft. 3 in.; acrobatic gymnastics, 23 ft.; above-ground trampolines, 26 ft. 3 in.; in-ground trampolines, 21 ft. (184).
- Lighting usually comes from ceiling lights and windows. Gymnasts should not perform critical skills while looking into bright lights.
- Items, such as air ducts, ceiling fans, lights, electrical fixtures, pipes and beams, should not be within striking distance of the gymnast.
- Ceiling-mounted equipment, such as spotting belts, still rings and bungee rigs, should be fixed only to structures that are capable of supporting the forces inherent in their use.

Floor Plan. The planned activities of the facility should be reflected in the floor plan. The number of participants, number of simultaneous activities, class activities, and class organization should be considered when planning the distribution of apparatus and equipment. Different aspects of gymnastics require different floor plan considerations. For example, trampolines occupy a different size and shape "footprint" (floor area coverage) than a horizontal bar. The floor plan of a gymnastics facility is not easily changed once apparatus are in place, so careful planning is important. The floor plan should ensure that traffic patterns, areas of activity, exits, support columns, drinking fountains, restrooms and dressing rooms are considered. Movement around the facility should be efficient and safe.

Office, injury treatment, public (e.g., reception and lobby), spectator, childcare, "pro shop," storage, concession and other areas should be carefully planned, marked and managed (26). Traffic to and from these ancillary areas should not impede nor interfere with the movements of gymnasts. Blind spots should be avoided whenever possible. Blind spots include areas where doors open into traffic areas and where horseplay might occur out of sight of an instructor. Instructors should be able to view their entire instructional area without turning around.

Facility Areas - Locker, Dressing, Shower, Laundry, and Restroom Facilities

Areas of special concern include the dressing, shower and restroom areas (Figure 19). These areas require special consideration due to their use of water which can invite slipping and electrocution and because they are hidden from supervision by the opposite gender. All electrical outlets near water supplies should comply with Occupational Safety and Health Administration (OSHA) regulations. Electrical appliances near water should be connected via ground fault interrupter (GFI) outlets (20, 35). These outlets are inexpensive and help prevent electrocution in the event of an electrical accident. Injury treatment areas that include ice machines, whirlpools and other hydrotherapy equipment should always use GFI outlets (18).



Figure 19. Women's Restroom door

Monitoring locker and dressing areas, as well as other private and semi-private areas (e.g., offices, storage areas), is important. Locker rooms should be free of sharp protruding objects. Surfaces should be kept clean and dry to prevent slipping and spread of infection. Locker rooms should be well ventilated, and lockers should be secured to prevent tipping (18). Except for restrooms and locker rooms, all rooms and spaces in the facility should have windows or clear glass panels in the doors to eliminate complete privacy.

Ancillary Areas

Preschool Area. Preschool classes and curricula have become a major area of gymnastics education (108, 352). Preschool children may not be able to read signage, understand and appreciate many hazards, or otherwise behave like an adult. Traffic control, age appropriate activities and apparatus/equipment, and limited access to some areas become especially important with preschool children. Planning preschool areas should



Figure 20. Preschool area

involve careful use of color, reduction or elimination of distractions, warmer temperatures, apparatus and equipment that are properly sized for small children, and padding of surfaces where a student may fall (367).

Weight Training Area. Weight training has become more prevalent in virtually all sporting activities. Weight training and fitness areas are also incorporated in facilities that involve gymnastics and other fitness instruction. Facility management should embrace the following issues when considering a weight training and/or fitness facility (44).

- What are the specific training goals of the participants?
- What types of training do different participants require (e.g., circuits, machines, aerobic dance, free weights, lifting platforms, etc.)?
- What are the seasonal priorities? Does use vary depending on the time of year?
- What are the ages of the participants?
- What kinds of maintenance will be required?
- How should equipment be placed to best utilize the space while remaining safe and efficient?

All high-risk activities, such as technical lifts, overhead lifts, and spotted lifts, should take place away from windows, mirrors, exits and entrances. Training areas should not be hidden from view. Taller weight machines should be positioned near the walls so that shorter pieces can be placed near the center of the area to help maintain visibility across the facility. Weight machines should be spaced a minimum of two ft. apart with three ft. preferable (44). Overhead lifting areas should not be encumbered by pipes, air ducts, fans and other ceiling equipment. Access to the facility should be carefully restricted. Signage should indicate who is authorized to use the facility along with marking exits, usage policies, emergency procedures and operating hours. Sound systems can be helpful, but sound levels should be low enough to permit easy communication.

Injury Treatment Area. Athletes may be injured and require treatment for injuries. Injury treatment may involve everything from a band-aid to sophisticated medical equipment. Injury treatment areas should be considered medical areas within the training facility but separate from it. Sanitary conditions are extremely important in the injury treatment area. If the floors are not carpeted, they should be mopped frequently. First-aid supplies should be available along with a freezer for ice. Anything soiled with blood or body fluids should be handled using blood-borne pathogens precautions (392). Facilities should include appropriate disposal equipment for handling blood and other body fluids.

The injury treatment area should have all the materials necessary for handling an emergency, from equipment to telephone numbers. Records of injury treatment should be maintained and stored in the injury treatment area. Medicine, ointments, towels, tape, elastic wraps and other treatment materials should be stored in cabinets that are locked when not in use. All relevant coaches and instructors should have a key to the necessary first-aid equipment and supplies. Access to the injury treatment area should be reserved for authorized people. Signage should direct people to the treatment area. Restrictions on the use of any equipment or materials should be clearly posted. Treatment modalities (e.g., therapy equipment and

materials) should be cleaned and inspected regularly. Treatment modalities should not be used without proper training and/or certification.

Gymnastics Events and Facilities

Gymnastics commonly involves competitions, seminars, clinics and other events that take place either in your facility or in facilities away from the “home” facility. The responsibilities for safety do not change when the activities or the facilities change. When hosting different events at your facility, apparatus and equipment may be moved, additional spectator accommodations (e.g., seating and bleachers) may be installed, and facility hazards that are well known to the home team may be unknown to visitors. Extra precautions should be taken to assess, plan and implement safety rules specific to these events. Facility concerns for a public event are similar to those involved in a training facility with some important exceptions. Event plans should consider the following:

- local special use permits,
- local zoning ordinances,
- ticket sales and entrance enforcement,
- contestant services, accommodations and security,
- hospitality areas and liquor liability,
- operations – crowd control,
- site management - construction, electrical, maintenance and signage,
- concessions – licenses and taxes,
- support services - health and safety, communications, traffic control, transportation and parking,
- cash management.

Public Assembly Facilities. When hosting an event in a public assembly facility or other area away from the home gym, be aware that the facility may present unfamiliar areas that require careful inspection and attention. Before practicing or perform-



Figure 21. Public assembly facility

photo © Todd Bissonette

ing at a new site, careful inspection of the new facility should take place.

Operating a public assembly facility by leasing or borrowing requires special risk management procedures and policies (231). There is no substitute for experience in planning for a public event. Try to find and/or employ someone who has experience in planning for, and running, the proposed type of event.

Ticket Sales. Ticket sales should be planned to avoid long lines and frustrated spectators. Signage should direct those people picking up a ticket to the “will call” area. Signage should also direct spectators, contestants and others to their respective areas. If money is involved, ensure that procedures are in place to prevent unauthorized access and theft. Ticket sales areas can present serious safety problems in the event of an emergency because of the narrow “bottle neck” area often used for checking tickets because it forces spectators through a constrained space. Spectators must have easy access to exits in the event of an emergency, and many spectators often congregate around the ticket area and entrance. Also, be aware of the following potential problems: larger than anticipated crowds, spectators with disabilities, spectators who do not speak or read English, spectators who want to bring equipment (e.g., cameras, outside food, etc.), pets and lost children.

Hospitality. Hospitality areas are often provided for contestants and event workers. Food and beverages provided in these areas can be spilled, resulting in slippery spots and other damage. Ensure that someone is responsible for cleaning up spills promptly and completely. Clean-up materials should be available and communications to a clean-up person or crew should be available. Liquor availability presents a host of its own problems. Seek counsel before deciding whether liquor can be served.

Crowd Control. Crowd control is central to any public event. The public facility can simplify or seriously compromise all efforts at crowd control. Facilities that segregate spectator areas simply and obviously from competitive areas make the event director’s job much easier (Figure 21). The event director should exercise more care when the facility does not include obvious architectural boundaries for different areas and activities. For example, in those events that use objects that can be thrown or projected and possibly strike a spectator (such as rhythmic gymnastics), planners should be aware that spectator areas are often assumed to be safe areas.

The architecture of a given facility can greatly assist or detract from spectator safety. The event’s “public area” is the place where spectators can move freely. In addition to the public area, facilities for spectators that should be considered: first-aid services, restrooms, drinking fountains, facilities for the disabled, public telephones, and so forth. Plans should include sufficient facilities for the number of spectators expected and who attend. The “public area” should

be separate from the “performance area.” The performance area(s) should include a “backstage” area, separate restrooms and dressing rooms, and a pass-gate or check-point. The facility should also include “support personnel areas,” including places for police, emergency personnel and security personnel. The support personnel areas should be adjacent to public areas so that personnel have easy access and can remove a spectator simply and easily (290).

Security at public events has become a serious problem, and with escalating levels of violence, it is wise to be prepared for the worst (23, 290, 328). Brawls between players, fights among parents and officials, unruly fans and other acts of violence seem to be occurring more frequently and at all levels of youth sports. Recent senseless acts of violence and terrorism should add a sense of urgency and seriousness to all public event security (231). The gymnastics professional should use good judgment when planning a public event so that an appropriate level of security is provided. If security personnel are deemed necessary, they should be clearly designated by uniforms and/or badges, have radio access, and specific patrol areas. The facility should be mapped during the planning stages so that all areas of the facility are patrolled regularly and periodically. Safety rules and facility regulations should be posted prominently in areas that spectators will see prior to and after entry.

Public Events, Gymnastics Facilities and the ADA. The Americans with Disabilities Act (ADA) was signed into law in 1990. This law clearly prohibits discrimination against persons with disabilities. One of the most visible areas of this legislation can be seen in facilities (30). The goal of the ADA is mainstreaming, which allows persons with disabilities access to facilities and programs that were out of reach in the past. In general, attention may be required regarding seating, parking, sidewalks, entrances, restrooms and other areas. Gymnastics professionals should be aware of provisions of the ADA and consult with legal counsel when questions arise.

Facilities present challenges and opportunities for risk management. Careful planning and vigilant maintenance can alleviate many of the facility problems that arise. All participants should be made aware of potential facility problems so that hazards can be identified early and addressed appropriately.

Chapter 3 Key Points

- The facility is one of the most important and controllable factors in risk management.
- Only athletes or participants who have been educated about the safe use of the apparatus/equipment and have (along with parents) signed appropriate documentation should be allowed to use the apparatus and equipment.
- Hazards are dangers.
- The goal of facility risk management is to identify hazards and take corrective actions.
- Facilities should receive routine assessments, inspection and maintenance.
- Staff and participants should be educated and informed regarding specific safety issues for each facility.
- The facility can be divided into: (a) external areas and grounds, (b) the building, and (c) ancillary areas. Each area has unique characteristics that require specific inspection, maintenance and review policies and procedures.
- Gymnastics events, whether in your facility or a public facility, require the same kind of safety planning and vigilant use as other gymnastics facilities, as well as additional considerations.

Chapter 4: Gymnastics Apparatus & Equipment

“Duct tape is like the force. It has a light side, and a dark side, and it holds the universe together.”

– Carl Swanzig

Chapter Contents

- Introduction
- Product Liability
- Apparatus and Equipment Standards
- Personal Equipment
- Key Points

Introduction

Gymnastics injuries usually involve gymnastics apparatus. Even something as universal as the “floor” is an apparatus in gymnastics. Because gymnasts perform on and with apparatus, these apparatus interact with most injuries and are common targets for lawsuits (101). Gymnastics apparatus do not exist in a vacuum. The link between a faulty apparatus and an injury may pass directly through to an instructor, coach, judge or manager, who should have inspected or maintained the apparatus to prevent the injury (33).

Apparatus and equipment problems that lead to injury usually involve one or all of the following areas (101):



Figure 22. Torn mat

- defective design and/or construction,
- inadequate maintenance and/or repair,
- apparatus or equipment does not meet the required specifications of gymnastics,
- necessary apparatus or equipment was not provided,
- education about the limitations of the apparatus or equipment were absent or inadequate.

Product Liability

Product liability applies to those who design, manufacture, and/or sell products. Product liability emerged from the idea that those who build or sell products have special knowledge about the product that a consumer is not likely to have (101). Gymnastics programs are not “products” within the concept of product liability, but product liability concepts can be germane

to gymnastics programs. The following general recommendations should be considered.

Proper Use. Products, such as gymnastics apparatus and equipment, should be used for their intended purpose and without modification; also, if equipment is designed for use only by gymnasts of a certain age or size, its use should be limited accordingly. Carefully review and follow the instruction manuals and warranties that come with each apparatus and piece of equipment, as they provide guidance as to appropriate use. All manuals and warranties should also be retained in your files.

Regular Inspections. Gymnastics professionals should also inspect apparatus and equipment on a regular basis, such as monthly or at the beginning of each quarter/session. Additionally, some apparatus and equipment, such as mats and the carpet on the floor exercise area, may also need to be cleaned on a regular basis. Here again the manufacturer’s literature may provide helpful guidance regarding how, and how often, to inspect the apparatus and equipment. A plan for regular inspection, maintenance, cleansing, repair and replacement of apparatus and equipment consistent with the manufacturer’s recommendations should be followed. Records should be kept noting when apparatus and equipment inspections, maintenance, cleansing, repair and replacement were done.

Supervised Usage. Athletes and others should not be allowed to use gymnastics apparatus and equipment without supervision.

Different Environments. Gymnastics professionals should be mindful of the different mechanical behaviors of apparatus and equipment when they are used in different environments. Still rings behave differently when the cables are suspended from a fixed steel ceiling beam rather than a specifically designed still ring frame. Horizontal bar and uneven bars behave differently when the apparatus are placed on a competitive podium rather than a concrete floor. Portable gymnastics apparatus using heavy weights to provide stability behave differently than the same apparatus cabled to fixed floor plates. Rhythmic gymnastics and acrobatic gymnastics performed on a hardwood gymnasium floor without sufficient padding or “give” may result in increased exposure to lower extremity injury, such as stress fractures, shin splints and bruises.

Apparatus and Equipment Standards

The International Gymnastics Federation (FIG), USA Gymnastics, the National Collegiate Athletic Association, and other governing bodies have jurisdiction over apparatus and equipment standards within their specific areas of gymnastics. Apparatus and equipment standards change occasionally. Gymnastics professionals should consult the most appropriate governing body for apparatus and equipment specifications for their athletes. Within USA Gymnastics, apparatus and equipment specifications for sanctioned competitions are provided in each discipline's Rules and Policies. Figures 23 and 24 show various types of apparatus.

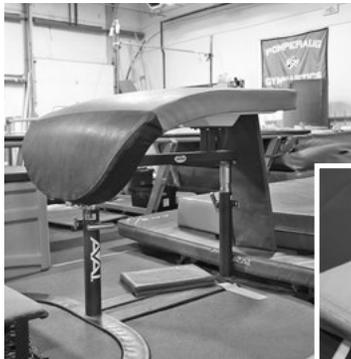


Figure 23. (left)
Vaulting table



Figure 24. (right)
Landing mat on floor exercise

IN DEPTH

Two organizations outside of gymnastics currently develop standards for athletic equipment. The National Operating Committee for Standards in Athletic Equipment (NOCSAE) conducts research on sports equipment and develops standards for equipment design and use. NOCSAE is particularly notable for its work on helmets. The American Society for Testing and Materials (ASTM) is much larger than NOCSAE and deals with many areas, not just athletic equipment (101). Although the work of developing standards for athletic equipment is slow and methodical, the gymnastics professional should be aware that the ASTM has developed standards for tumbling mats (48), wrestling mats (46), testing procedures for mats and floor exercise areas (49), consumer trampolines (50), trampolines (12), and landing pits for pole vaulting (47). Gymnastics program managers, coaches and instructors should be aware of these standards to ensure that new purchases of apparatus and equipment meet these specifications.

Personal Equipment

Athletes can use their own personal equipment (101). The administrator, coach or instructor should assist the athlete regarding personal equipment, which should fit properly and conform to the standards of acceptable use of all pertinent athletic equipment. An athlete's personal equipment may include clothing, hand grips, rhythmic gymnastics hand apparatus, shoes, slippers, braces, padding, hair devices, etc. (Figure 25, 26 and 27).



Figure 25. (above) Handgrips
Figure 26. (left) Wrist Guards
Figure 27. (below) Heel pads



Chapter 4 Key Points

- Product liability refers to the special legal considerations that are applied to apparatus and equipment. The behavior and use of apparatus and equipment should be monitored and inspected.
- Gymnastics apparatus and equipment should be adequate for the skills, ages, sizes and abilities of the gymnasts using the apparatus and/or equipment.
- Gymnastics professionals and athletes should use apparatus and equipment that meets the standards established by the relevant governing body for their area of gymnastics.
- Gymnastics professionals should adhere to the intended use of gymnastics apparatus and equipment.
- Gymnastics uses a number of different types of apparatus and equipment. Each of these items requires special consideration and specific care and maintenance.
- Gymnasts can use their own personal equipment. Coaches, instructors and athletes should work together to ensure the fit, safety and appropriate use of such equipment.
- Coaches, instructors, judges and athletes should develop a vigilant habit of checking the settings and condition of all apparatus and equipment routinely prior to use.

Section I: Risk Management



Chapter 5: Supervision & Instruction

“It’s not what you look at that matters, it’s what you see.”

– Henry David Thoreau

Chapter Contents

- Introduction
- Supervision
- Instruction
- Special Instruction Issues – Children
- Key Points

Introduction

Coaches and gymnasts interact via supervision and instruction. Because supervision and instruction are so universal in sports, it has been estimated by legal scholars that **more than 80% of athletic injuries involve a lapse of supervision and/or instruction** (17).

To instruct is to teach students who participate in gymnastics at a preschool and/or recreational level. Coaching is defined as instructing, guiding and preparing students for gymnastics competition.

Supervision

Supervision is defined as “overseeing the activities of participants” (101, p. 71). Supervision should ensure that safety measures are implemented (31). Regardless of skill level and previous experience, most gymnasts will be children or young adults. Injuries often result when young athletes behave immaturely. Supervision is designed to help prevent injuries due to horseplay, daredevil stunts and other inappropriate behaviors (215). Coaches and instructors should supervise accordingly (43). Setting up rotational groups, watching performance, and directing athletes to different activities are examples of supervision.

– It does not take “supervision” to supervise athletes, but it does require knowing how to scan, positioning yourself properly, and spotting red flags. Good supervision is that which prevents a foreseeable and unreasonable risk of harm to a participant by consistently using a controlled, planned method of observation and help (68).

Facility Supervision. Supervision should ensure that safety rules and policies are followed (367). Inspections and removal of hazards are parts of supervision (Figure 28). A supervisor should be familiar with the activity being supervised. Supervision should involve training areas, locker rooms, restrooms

Figure 28. Coach inspecting equipment



and equipment areas (101). When athletes transfer from one instructor to another, they should be escorted by the instructor to prevent a period of time with no supervision while waiting for the next instructor (20).

Supervisors should remind participants of the dangers involved in an activity (223). Such reminders may help prevent some injuries (43).

Special and reasonable supervision is recommended when athletes, particularly young athletes, must cross busy streets to get to and from training and competition facilities. Depending on the maturity of the athletes, a crossing guard may be necessary. If athletes arrange their own transportation, gymnastics professionals should ensure that parents are aware of these arrangements. Gymnastics professionals should not allow athletes to travel in unsafe vehicles or with unqualified drivers without parental consent (101).

Coordination of all program activities is part of supervision. Sometimes facilities are “multi-use” by necessity. When many programs must coexist in the same facility, conflicts arise and the need for coordinated use of the facility becomes important. For example, the ending of one class session running over into the warm-up period of the next session requires careful coordination and supervision to ensure that collisions are avoided. All aspects of the program should have reasonable and fair access to the facility and its various parts (101).

Class/Activity Supervision. Some states may have regulations regarding license, certification and education of people who regularly work with children. USA Gymnastics has developed this safety program, as well as certification programs for

coaches, instructors, judges and club owners/administrators, to ensure that everyone involved in gymnastics has a certain “body of knowledge.” The “body of knowledge” is a baseline or minimum knowledge that seeks a uniform level of competency in gymnastics. USA Gymnastics University certifications should be considered evidence of a minimum level of knowledge. Other evidence that demonstrates one’s competence or additional levels of knowledge as a supervisor, coach and instructor includes college level courses and degrees, continuing education credits from a recognized educational entity, CPR and first-aid certifications, and specific coaching education programs.

Gymnastics supervisors should be able to recognize hazards and potential injury mechanisms. Supervisors should position themselves so that they can see the entire area for which they are responsible, without turning around. When addressing the athletes, the supervisor should position him/herself so that the athletes’ backs are toward other activities. This approach helps the gymnasts listen to the supervisor and they are less likely to be distracted (e.g., by “looking past” the instructor or coach at the distracting activity). Gymnastics apparatus and other equipment should be set up properly, adequately matted and free of defects. Gymnastics supervisors should also ensure that gymnastics facilities are used properly by preventing horseplay, stopping dangerous activities, and making all participants aware of safety policies. Distractions, such as phone calls, discipline problems, and other intrusions, should rarely take an active supervisor away from his/her area of supervision. Procedures and policies should be in place to cover circumstances when an instructor or coach must leave an area (e.g., restroom visit) (101).

Supervision can be direct or indirect. Direct supervision implies a more engaged, more attentive and more closely involved supervisor and that the instructor or coach is in full command of all activities taking place. Direct supervision is controlled by the instructor or coach and very little athlete-selected activity occurs. A mark of direct supervision is that the instructor or coach can intervene in activities without hesitation and very little delay occurs between intervention and activity correction. Direct supervision often involves one-on-one instruction, such as spotting or teaching a new skill.

Indirect supervision implies that an instructor or coach is present but that he/she is not controlling all activities. Indirect supervision can fittingly be used for activities of lower risk where a supervisor’s engaged presence is all that is required



Figure 29. Coach supervising warm-up activity photo © Steve Lange

to maintain safety. The athletes are more “on their own” during indirect supervision. Indirect supervision is appropriate when the athletes have demonstrated performance competency to a point that they do not, or should not, have an instructor or coach intruding on the activity. An example of indirect supervision is watching a group perform a warm-up activity (Figure 29).

The nature of the activity dictates the level of supervision (367). Activities that are well learned, of low risk and predictable require less supervision than activities that are new, more dangerous and less predictable. One of the primary goals of gymnastics instruction is to allow the gymnast to reach a level of autonomy at which he/she can perform the activity without direct supervision.

Indirect Supervision	Direct Supervision
Less direct control	More direct control

Figure 30. Supervision Continuum

Of course, there is a wide range of supervisory levels between these two extremes. The reality of supervision is that coaches and instructors must adjust their level of supervision along the continuum many times during a practice or a class (68). Figure 30 illustrates the supervision continuum. The gymnastics professional should know where to position themselves, learn to regularly look up from direct supervision to perform indirect supervision, and select supervision levels that are appropriate to the risks involved, experience of the athletes, predictability of the activity, and so forth. The minimum level of supervision requires all activities be within the field of vision of the instructor or coach. To reiterate an important point from Chapter 2, unsupervised gymnastics (no competent coach present) should not be allowed in contemporary gymnastics settings.

IN DEPTH

Proper supervision includes:

- inspection and removal of hazards,
- enforcement of safety rules and policies,
- safety education,
- having an emergency action plan,
- overseeing practice sessions, as well as times before and after practice,
- transfers from one coach/instructor to another or from one station to another,
- activities on the gym floor, as well as ancillary areas, such as locker rooms, restrooms, lobby and others,
- properly trained coaches and instructors,
- positioning as to see the whole area and all participants under your care,
- movement along the continuum between direct and indirect supervision.

Gender-Sensitive Supervision. Supervision of the opposite sex is a potential problem area. Obviously, shower, restroom and locker room areas require supervision by the appropriate gender. Plans and policies for supervision of opposite gender athletes should be made, published and followed. Additional information in this area is provided in Chapter 6.

Supervision Before and After Class. Supervision begins when the athlete arrives at the facility and does not end until the athlete leaves the property. Supervision is required as long as athletes are present even when no gymnastics-specific activities are taking place (223).

Special care is also required when an athlete is stranded after a practice or class due to a communication mix-up or driving problem. As a general rule, a single coach or instructor should not be alone with a single athlete. Another adult, such as a club administrator, staff member or another parent should also remain at the gym until the child can be picked up. Coaches and instructors should anticipate when an athlete may be stranded and take appropriate steps to ensure the athlete is picked up as soon as possible. If an athlete is stranded or the parents/guardians cannot be found or do not immediately arrange for the athlete to be picked up, the final step is to have the athlete taken to the local police station. The supervising gymnastics professional should not take the athlete to a different location; a police car should be dispatched to bring the athlete to the police station. Procedures for these types of situations should be developed and communicated to all staff members.



Figure 31. Coach educating athlete

Non-custodial parents (i.e., responsible adults who are not parents), such as “car-pooling” parents, should be approved in writing by the parents or legal guardians of the athlete being transported. A list of “approved adults,” who are allowed to transport a particular athlete, should be kept on file or a parent could provide a note or permission slip when non-custodial parents will be transporting their child. Adults who are not approved by the athlete’s parents to transport the athlete should not be allowed to transport the gymnast from training or class. We suggest parents or legal guardians sign a document acknowledging that it is their responsibility to ensure the child is picked up on time and that they are aware of the policies for dealing with this situation when an athlete is stranded (101). See the sample Waiver and Release Form in Appendix D.

Emergency Supervision. Emergency plans and procedures are essential aspects of supervision. All gymnastics professionals should be aware of the emergency procedures, how to handle an injury, how to summon aid, and how to handle peripheral problems/issues while the injured athlete is attended to by the supervisor and later by emergency personnel. Emergency plans should be written and provided to all staff. Emergency procedures, telephone numbers and equipment should be readily available and clearly posted (101). Forms and checklists are included in the Appendices F and Q.

Safety Rules. Safety rules should also be explained and demonstrated along with the typical gymnastics skills of the activity. Falling with outstretched arms, landing on the head, using leather handgrips that are too long, and landing inappropriately are common problems in gymnastics. Instructors and coaches should explain and safely demonstrate why these and other behaviors are dangerous (43). Figure 31 shows an example of a coach reviewing the trampoline rules with a group of athletes.

Matching of Athletes and Coaches. Mismatching athletes usually arises in contact sports where physical maturity and body weight are important characteristics of performance. For example, matching a large athlete with a small athlete in wrestling invites injury. In gymnastics, problems of matching athletes of inappropriate weights may arise during spotting or partner-based activities, such as acrobatic gymnastics training or moves within group gymnastics. If athletes are assigned to help other athletes by supporting them, assisting them through a movement (i.e., spotting), or stretching, coaches and instructors should ensure that the “spotter” can perform the assistive task (223). Moreover, coaches and instructors should be matched with the size of the athletes they need to spot. The taller and stronger spotter can reach a gymnast through a greater range of positions, hold a heavier gymnast aloft with greater ease, and reduce the likelihood of a dangerous fall by simply imposing more force.

Acrobatic gymnastics participants should be matched so those athletes responsible for lifting or holding other athletes aloft can physically perform the task without undue stress or danger of falling. Figure 32 shows an example of appropriately matched athletes.

Spotting also involves some danger. While spotting, coaches and instructors have been known to rupture their biceps, break



Figure 32. Appropriate athlete match

noses, break fingers, break forearms, sprain thumbs, suffer from pokes in the eye, and suffer a number of other injuries. If gymnasts are allowed to spot each other, these issues become amplified. Simply knowing how to perform a skill does not make someone an expert spotter on the same skill. Moreover, since the spotter is partially responsible for the gymnast's safety, one should consider the potential psychological guilt if the gymnast is seriously injured due to a poor spotting effort. The gymnastics professional should use considerable caution and good judgment when assigning gymnasts to spot other gymnasts (161, 176, 310).

Another aspect to consider is the proper alignment of coaches, instructors and athletes in terms of skill level. It is



Figure 33. Coach spotting an athlete

important for a coach or instructor to be knowledgeable about the activity and the given level, as well as the athletes he or she is supervising and instructing. "No matter how great his supervision is on the gridiron, the 'Hall of Fame' football coach may not be the best person to substitute for the swimming coach," as stated by R. P. Borkowski (68). This same truth applies within the many levels of gymnastics instruction.

Athlete : Instructor/Coach Ratio. Athlete to instructor/coach ratios can range from one athlete with one or more

instructors/coaches to many athletes with one or more instructors/coaches. The number of athletes under the care and direction of an instructor or coach should be consistent with the:

- level of ability and experience of the instructor or coach,
- skill level of the athletes,
- age and gender of the athletes,
- type of tasks being practiced, and
- available space, type of equipment and other distractions in the facility.

Skills or tasks that require close attention or carry increased risk of injury should be conducted with closer supervision, which usually means a smaller number of athletes per instructor (21). In general, as the class size increases, so does the risk of injury.

Instruction

Instruction is defined as "providing athletes the information necessary to safely participate" (101, p 71). Instruction reaches almost all aspects of gymnastics and involves all participants. Instruction involves skill teaching, spotting and feedback. However, instruction also involves information about apparatus and

equipment, education on safety policies, ensuring that gymnasts comply with all safety rules, and training in areas of fitness and gymnastics preparation.

Of course, supervision and instruction overlap. Coaches and instructors skillfully and fluidly shift from the role of supervisor to instructor and back. Instruction involves more direct contact with the athlete and the tasks being prescribed. Instruction should involve correct information about the tasks being assigned. Coaches and instructors should make every attempt to stay up-to-date on the latest teaching approaches, drills, safety methods and lesson plans (101).

Health and Coaching/Instructing Focus. First and foremost, the coach or instructor should be both healthy and able to focus on gymnastics instruction. Illness, injury, medications, personal problems, inadequate experience, distractions and other factors may render a coach or instructor less effective. Gymnastics professionals should take all reasonable precautions to ensure that they are able to conduct their instruction competently.

What are the issues in teaching? The basic task of a gymnastics instructor or coach is to teach, thus helping athletes learn. Instructors and coaches are teachers. Teaching is the act of imparting knowledge or skill. Athletes who increase their skill level, thereby demonstrating success, have more fun and are likely to stay involved longer. Learning has been defined as a change in behavior that is a result of experience, not due to genetics or simple growth (335). Pedagogy is the "management" of teaching and learning so that the teaching and learning processes are organized and pursuing the appropriate knowledge or skills (335). Please note that the term teacher, used in the following sections, can be interchangeable with instructor or coach.

Stages of Teaching. As gymnastics instructors and coaches learn to be good teachers, they acquire their skills in five stages (335).

1. **Initial Discomfort.** New teachers are especially aware of their lack of a large repertoire of skills and knowledge about teaching. Although a new teacher may know gymnastics well, translating that knowledge to learning drills, appropriate feedback, and logical progressions is not easy. New teachers may rapidly fall back on the way they were taught to maintain orderly thinking and their perception of control. New teachers often repeat the same phrases, drills and class activities in spite of available better methods. This teacher is searching for "rules" of conduct for himself/herself and gymnastics activity. These rules are like "recipes" that permit the new teacher to prescribe an activity with a more or less guaranteed outcome (193, 272, 304, 387).
2. **Learning Techniques.** The second stage of teaching usually involves a rapid increase in the number and breadth of teaching skills. A second-stage teacher can provide richer feedback, include more praise, and do so with more athletes in less time. This teacher is able to organize smaller group activities and focus on the more important errors of performance. However, the teacher is still "rule-based." He/she

has more “recipes” for skill teaching, but is not able to handle multiple simultaneous activities (193, 272, 303, 387).

3. Multi-tasking. Multi-tasking involves being aware of several things at the same time. This is an important stage in the development of a teacher because the skills acquired here become more mature and allow the teacher to increase the breadth of his/her focus to encompass an entire class or group. During this stage, the teacher is able to organize activities with larger groups, focus on performance errors, and be aware of other things going on around him/her. For example, this teacher can be teaching one activity while supervising a second activity, such as occurs in a station-type lesson format where students rotate between activities. This teacher can quickly divert attention while maintaining contact with all activities to keep more than one learning activity going and productive. This stage of teaching shows the first signs of an “intuitive” ability to regulate learning activities and maintain order (335).
4. Seeing More Clearly. During the fourth stage, the teacher becomes adept at providing feedback that is more directed and relevant. This teacher can identify a subtle performance problem, identify the most serious problem, and prescribe a method to fix the performance problem. For example, this teacher might tell a gymnast to keep the weight more on the ball of his/her foot rather than something vague and general like “tighten up.” This teacher can predict some performance problems based on previous skills and techniques of the gymnast and can begin to anticipate when learning and performance errors will intrude on later learning (335).
5. Confidence and Anticipation. This teacher is an “expert” and at the final major stage of teacher development. He/she appears to operate intuitively at many levels. For example, body language and other nonverbal communication serve this teacher. He/she can anticipate the moment-to-moment needs of the gymnast and can fluidly alter the learning environment to foster the best results. The expert teacher relies

Teaching Styles, Their Characteristics, and Appropriate Uses

Teaching Style	Characteristics	Appropriate Uses
Command Style	Command style is probably the most common form of gymnastics instruction. Command style approaches are directed exclusively by the teacher. This style is usually efficient and effective while being most appropriate for athletes who have little experience with the skill and, therefore, cannot direct their own learning. The teacher can change skills at will and all athletes are doing the same skill. Command style teaching is most closely associated with direct supervision.	Effective when presenting a new skill to a group of athletes and for demonstrating and practicing the correct way to perform a skill. This approach can also be effective in specific unsafe situations and for larger class/team sizes.
Practice Style	The practice style is similar to the command style with the main difference being students are afforded some decision-making abilities, such as where they will practice and if they will be working with or without a partner. The teacher is still the primary decision maker, a demonstration is given, and then students are allowed to practice the skill being taught. The teacher observes the performance and offers feedback.	Also effective for teaching new skills and focusing on key elements of the skill.
Reciprocal Style	Athletes generally work in pairs or small groups during reciprocal teaching. The athletes are partially responsible for providing feedback and instruction to each other. Reciprocal style is rare in gymnastics education but may be found during choreography sessions and when athletes are trying to learn a movement sequence. There is usually a great deal of interaction, give and take, and two-way communication during this style. Reciprocal style teaching can emphasize creativity more than following directions. This style of teaching lies somewhere between direct and indirect supervision. The instructor or coach may begin or initiate the learning situation, but the learning will often meander in different directions based on the interaction of the participants.	Can be used when athletes understand the skills being practiced and they can serve as surrogate teachers, providing more feedback for other athletes.
Task Style	Task style often involves athletes learning different skills at the same time. The task-style teacher selects the skills, oversees the learning, and provides feedback. However, students can make decisions within the group of skills presented and have the opportunity to work at their own pace. Introducing new skills is difficult in a task-style approach because each student will likely need an individualized presentation. However, task-style teaching is helpful when students are working on different skills where they have reached a level of ability that does not require close direct supervision.	Can be used when athletes are practicing their own specific skills or lead-up activities.
Problem solving	The teacher poses a movement problem and then athletes attempt to solve the problem. Problem-solving approaches are also called “movement exploration” approaches, and this style is similar to “guided discovery”. Problem-solving approaches can be very creative, athletes are largely in control of their particular activities and movements, and there are few “wrong” answers. Skilled athletes tend to solve movement problems in complex ways, while poorly skilled athletes solve the movement problem in simpler ways. The teacher in this style is largely supervisory once activity begins, and athletes are permitted much more latitude. Skilled selection of movement problems can result in a great deal of critical thinking on the part of the athletes, and the more freedom of expression in this teaching style has made it popular with young children. Movement education approaches involve direct supervision while the movement problem is posed and explained and indirect supervision once the athletes attempt to solve the problem.	Can be used when creativity, variety, thinking and expressive freedom are desired rather than a specific outcome.

less on rules than on pattern matching (i.e., patterns of performance that are linked to other patterns of performance) (114, 120, 272). This teacher is so adept he/she gives the appearance and reality of being an “artist” at teaching.

Gymnastics instructors and coaches should be assigned or self-select skills, gymnasts and tasks that are in accordance with their level of teaching ability. Moreover, gymnastics instructors and coaches should realize that, while talent is important, developing expert levels of teaching ability requires considerable experience, practice and study.

Styles of Teaching. A teaching style is a way to organize and present the learning experience to an athlete (115). Teaching “styles” have been classified using a number of different criteria (335) and have evolved to serve the needs of the teaching-learning situation. Teaching styles fall along a continuum, where at one extreme is the direct, teacher-led approach and at the other lies a much more open-ended and student-centered style where the teacher acts only in a supervisory role (indirect). Teaching styles vary in their level of athlete control, athlete interaction, and task complexity.

Styles of teaching should match appropriately with the task, age, experience and other environmental factors. Teaching styles should be selected based on the lesson or practice content and the athletes’ learning styles (371). It is also beneficial to vary teaching styles as appropriate.

See table on page 31 for a select list of teaching styles, their characteristics, and appropriate uses (115, 335, 371):

Class/Practice Management. Class management refers to the procedures and routines that are used to keep the gym running smoothly. Good class management starts with an instructor or coach who is prepared, organized and consistent (371). Below are guidelines for ensuring a safe and organized class (335, 371).

- **Take ownership and be responsible.**
 - Be in charge at all times. Teachers must be in charge at all times and take responsibility for the outcome by clearly communicating class expectations to children and be consistent with enforcement.
 - Be proactive by enthusiasm, prompts and “hustlers.” Athletes should be kept moving and active as much as possible. Waiting time usually results in dissatisfaction, discipline problems, and horseplay. “Hustlers” refer to words of encouragement and motivation, such as “let’s hustle,” “move it,” “keep going,” and so forth.
 - Know each athlete’s name. Address each athlete by his/her first name. If remembering names is a problem, use name tag stickers or other memory prompts.
- **Prepare a safe class environment.**
 - Set-up apparatus and equipment. All apparatus and equipment should be in place before the start of class or practice. Coaches/instructors should walk through the gym to ensure all apparatus and equipment are placed safely (Figure 34). Athletes should know where to find, and how to use, task-relevant equipment. Additional props, hand equipment, and music should be readily available during classes/practice.



Figure 34. Coach doing a safety check

- Control entry activity. Athletes entering the gymnasium should have specific things to do. The initial tasks should be familiar and require indirect supervision only. Young children can be given a specific place to go. At their designated arrival area, the children can perform simple activities while waiting for their class to start.
 - Start the class or practice promptly. Coaches and instructors should be in the gym well before class or practice starts. Athletes and/or parents will come to expect the punctuality of class or training and behave accordingly. Moreover, by starting on time, the pace of the class or practice can be established early and efficiently.
 - Limit management/administrative activities during class. Management or administrative time during class is a necessary part of teaching but should be minimized to cover only necessary activities and promote safety. Do not take class time for roll call. Utilize other methods to take the attendance tasks out of class or practice time, such as allowing athletes to sign in, taking roll during initial warm-up activities, or having one instructor take roll while the other runs initial activities. Excessive management time usually invites discipline problems and horseplay due to the waiting involved. Horseplay is a common precursor of injury.
 - Avoid interruptions and breaks. Classes and practices should have a quick but relaxed pace. Interruptions, such as phone calls, parent conferences, and teacher discussions tend to destroy the “momentum” (i.e., motivation) of the activity. Moreover, interruptions almost always take attention away from the athletes and invite horseplay and activities that are hard to observe and prevent.
- **Have a lesson plan.** Coaches and instructors who are prepared, organized and flexible with their lesson plans will keep the students busy and on-task, and have fewer behavior problems.
 - Begin with a warm-up. Specific warm-up activities that do not require direct supervision are helpful, particularly for those athletes whose age and experience permit such activities.
 - Communicate high, but reasonable, expectations via specific and positive feedback. Gymnasts should know that the instructor or coach expects their best behavior and will consistently reinforce these behaviors using positive

feedback. Instructors and coaches should clearly indicate what they expect regarding class management, practice conduct and skill performance.

- **Establish protocols.**

- Gain attention and quiet. Instructors and coaches should have a signal that ensures that athletes will stop what they are doing, remain quiet, and direct their attention to the instructor or coach.
- Use specific and consistent signals and routines for class or practice conduct. Try to use the same signals and routines to rotate activities, gather, disperse, get equipment, and move from place to place. Be sure to practice these signals and routines initially.
- Teach “home base.” Athletes should know where “home base” is during every activity. Home base is usually near or with the instructor or coach, but athletes should know where to assemble for each activity.
- Identify boundaries. Activity boundaries should be clearly identified so athletes know where they are, and are not, allowed to be.
- Leaving the group or activity. Athletes should know the correct procedure for leaving the activity or group. For example, there should be a policy and/or signal for athletes to visit the restroom, get a drink, retrieve equipment, and other necessary actions away from the instructional or training group.
- Develop gym rules. Athletes should be dressed in appropriate attire; have hair secured away from the face; and not wearing jewelry or chewing gum. A document stating the gym’s protocols should be given to parents and students prior to the first class or practice.
- Walking the walk. Teachers must set a good example and follow the protocols established for the class as well!

Tasks of Teaching: Technique Errors. Most gymnastics skills can be performed correctly or incorrectly. Some technical errors are serious and need to be avoided early due to safety concerns. Some technical errors are not serious and merely reflect harmless variations of technique that are “passed-through” as learning proceeds. Coaches and instructors should know the difference between serious mistakes and harmless mistakes. Instruction should proceed from the simple to the complex, from the easy to the difficult. An instructor or coach should present correct techniques and take all reasonable steps to ensure that the athlete learns the appropriate techniques and skills (223).

Tasks of Teaching: Skill Progressions. Coaches and instructors are expected to implement skill teaching in a progressive format (367). Teaching progressions permit the gymnast to proceed in an orderly fashion from a novice level to a more advanced level in small, “bite-size” steps. Progressions in gymnastics are particularly important because they permit those athletes who are not capable of performing the complete skill to be identified during the early progressive steps. When a gymnast demonstrates that he/she cannot perform a lead-up step for a skill, the instructor should determine the source of

the error and provide additional drills and/or practice time to address the problem area (223). The gymnast can continue to work on other areas of the skill while the problem area receives additional attention. However, the gymnast should not be allowed to assemble all of the skill parts (i.e., attempt the entire skill) until all parts of the skill are well-learned. As the gymnast improves in the troublesome area of the skill, he/she can then progress to performing the complete skill.

Gymnastics teaching also involves the “part-whole method.” The part-whole method involves breaking a skill down into smaller parts and then teaching each of the parts separately prior to integrating the parts into the whole skill. Some sound teaching methods, however, involve moving from one progressive step to another, skipping a step, and then returning to the skipped step when the situation or experience of the gymnast warrants. Skipping a learning step is sometimes due to lack of an appropriate mat or drill. When the circumstances are changed, the instructor or coach should return to the skipped learning step and ensure that all steps are completed before allowing the gymnast to perform the complete skill.



Figure 35. Athlete performing a drill

Tasks of Teaching: Demonstrations. Instructors and coaches in gymnastics may demonstrate the skills or progressive drills themselves or they may get a more accomplished gymnast to demonstrate. Demonstrations should be correctly performed and given several times so that the gymnasts can see the movement from several directions. Demonstrations may include common errors and how to avoid them. Demonstrations may also be based on video presentations, computer simulations, and other visual methods.

Tasks of Teaching: Spotting. Spotting is such an integral part of instruction that the role of spotting will be considered here and again later in this handbook. The instructional role of spotting is based on helping the athlete “feel” the movement and protecting the athlete during a fall (66, 151, 248, 249, 381, 382). Spotting is either manipulating, supporting, and/or catching a gymnast during a skill, or simply being in a position to provide support. Spotters can manipulate the athlete’s body into appropriate positions or appropriate places. Since gymnastics involves unusual positions, often inverted, a spotter can be tremendously helpful in assisting the athlete into a new and unique position. While important, spotting is not a cure-all. Spotting can assist an athlete, but the ability of a coach to rescue a gymnast from an unanticipated fall is extremely difficult and not

a guarantee of safety (310, 312).

The primary job of a spotter is to keep the gymnast from falling onto his/her head and neck. The secondary job of the spotter is to prevent other injuries. The third job is to assist the gymnast through skills by manipulating the gymnast's body and reducing the harshness of landings.

Spotting is a skill and requires training. Spotting techniques are specific to the particular skill being spotted. Spotting requires some degree of strength and thus may suffer from fatigue. As a skill, spotting tends to improve with practice. Spotting is constrained by reaction and movement time; strength, size and experience of the spotter; and cooperation of the gymnast.

Spotting, like supervision, has a variety of levels. The fundamental goal of gymnastics is to be able to perform a skill independently (18). Spotting decisions should be driven by the momentary individual needs of the gymnast. Gymnasts learning and performing new skills may require more spotting assistance than someone who has performed the skill many times. Gymnastics skills are context-specific. There is no easily identifiable number of repetitions that will ensure successful performance. The individual instructor or coach should always use good judgment when determining an athlete's readiness for further learning and/or repetitions.

Spotting is not required for skill learning (298). However, as spotting interventions are reduced, the number, depth and breadth of progressions should increase to compensate. Clever drills, mat situations, long and thorough progressions, exposure to similar skills, and other factors may combine to reduce the need for spotting.

Spotting is perhaps the single physical "trade skill" that separates gymnastics coaches from coaches of other sports. Spotting cannot be learned from a book, and the judgment required to use spotting effectively comes from experience and common sense. Spotting should not be used as a substitute for sound judgment and proper teaching progressions.

Supervision and instruction are integral to coaching gymnastics. Both require vigilance, common sense, specialized knowledge and a safety-oriented mindset. Policies and procedures for supervision and instruction should be written and available to all gymnastics personnel. Risk management requires planning and constant assessment of supervisory and instructional techniques. Effective supervision and instruction are skills that can be learned and improved. Spotting is an integral "trade skill" of gymnastics coaches. As a skill, spotting requires practice and good judgment to be effective. However, even the best spotting is not a "fail-safe" or guarantee of injury prevention.

Tasks of Teaching: Feedback. Feedback is a crucial part of the learning process, as well as a means of maintaining a safe environment. Coaches and instructors are expected to give feedback to the athletes to provide direction for activities, help them make improvements in their performance, and commend them for performing or behaving well. As mentioned above, coaches and instructors should know the difference between serious and harmless mistakes and provide feedback accordingly. Unsafe behaviors should be promptly addressed. Feedback

should be focused on the most critical errors or parts of the skill performance first before addressing minor mistakes.

Feedback should be mostly positive, given in a calm manner, and consistent. Sincere, positive feedback given for good performance and behavior is an effective tool to motivate athletes and encourage them to continue positive behaviors (13).

Special Instruction Issues for Children

Gymnastics instruction usually involves children. Children pose particular challenges for teaching simply due to their immaturity. The gymnastics professional who teaches children should be mindful of the special needs and characteristics of children. Children are not miniature adults.

Coaches and instructors are aware of youngsters' differences in size and maturation. It is common to find youngsters of the same chronological age differing in size, maturity and weight by startling amounts. Moreover, because gymnasts tend to be small, people often drastically underestimate their age. Growing up is a complex process involving the interaction of growth (change in size - height and weight), maturation (change in maturity - usually measured by secondary sex characteristics), and development (psycho-social changes) (226). Gymnastics professionals who work with children should be familiar with these factors.

Growth Changes. Growth refers to change in size. Growth tends to occur in spurts. Children grow rapidly during infancy and early childhood, slowly during middle childhood, rapidly during adolescence, and finally slowly as they reach their adult height (63). Body weight tends to follow a similar pattern with wider variations due to individual differences in accumulation of fat. Girls tend to be approximately two years ahead of boys in growth changes. On average, girls tend to reach their maximum rate of growth at age 12, while boys reach theirs at age 14.

Children grow at different rates and by different amounts (147). For example, children have proportionally larger heads than adults. The limbs, trunk and head of the child grow at different rates. From birth to adulthood, the head increases to about two times its size at birth. The legs will increase about five times, the torso about three times, and the arms about four times their size at birth (361). Rapid periods of growth have been implicated in an increased incidence of injury (78). Moreover, the relatively larger head of young children raises their center of mass relative to their bodies and makes them less stable while standing, running and balancing.

Skeletal growth proceeds unevenly among children and among specific bones (147). Cartilage forms the early structures that eventually become bone. Bone growth proceeds by ossification. Ossification is the transformation of cartilage to bone. Primary ossification proceeds from the center of the shaft of bone outwards in both directions (increasing length and thickness). After birth, more than 800 secondary ossification centers appear at the ends of the shafts of long bones. These secondary ossification centers become growth zones or growth plates. Cartilage is gradually replaced in these growth plates until the entire bone is completely ossified. Thus, growing children tend to have bones with areas more vulnerable to fracture.

Most of the long bones reach full maturity in females by 16 to 18 years old, and 18 to 21 years old in males. Gymnastics professionals should be aware that growth plates, near the ends of long bones, are weaker than fully ossified bones; that periods of rapid growth may increase susceptibility to injury; and that training intensity may need to be reduced during rapid growth (147).

Changes in weight occur rapidly in early childhood. Body weight increases approximately seven times between birth and age seven. By age 10, most children will reach about one-half of their adult weight. The rapid weight gain of the adolescent growth spurt occurs in females between the ages of 12 and 13 years old. Males begin their major adolescent weight gain and growth spurt approximately one to two years later than females. On average, females will increase their weight approximately 35 pounds by early adulthood. Males will increase their body weight approximately 45 pounds by early adulthood. As growth proceeds, gymnasts encounter new learning and performance challenges (147). Early and late maturing gymnasts are involved at all levels of gymnastics. Competent gymnastics performance is achieved by gymnasts at widely varying levels and schedules of growth and maturation (227). The gymnastics professional should be sensitive to growth changes and modify training and performance expectations in concert with the changing capabilities of the growing child.

Physiological Changes. A number of physiological changes occur during growth in concert with changes in size and maturity.

Strength. Isometric strength tends to increase in a linear fashion in both boys and girls through childhood. Differences in strength expression between boys and girls during childhood are relatively small. During adolescence, boys show a marked increase in strength while girls show a lesser or no increase (140). Changes in strength are correlated with changes in size; therefore, larger males tend to have an advantage in maximal strength. The relative strength (strength relative to body weight) of girls can be as high as boys. Girls tend to show increased relative fatness during adolescence as compared to boys. On average, girls are at a disadvantage in the expression of absolute strength (strength without regard to body weight) (147). Research has shown that while national team female gymnasts increased their absolute strength throughout adolescence, on average, the increased strength did not keep pace with the athlete's increase in weight (302, 313).

Historically, scientists and physicians believed that strength training was unnecessary and ineffective for pre-adolescents. The reason for this view was that pre-adolescents had very low levels of circulating androgens (male hormones) (65). Moreover, early views of strength training for children thought that growth plates would be damaged and growth stunted. These views have been shown to be myths that were based on a lack of data and reliance on consensus views rather than research. Modern views of strength training and children indicate that strength training is not only possible but highly beneficial (65, 123, 393). Research has shown that pre-adolescents tend to develop less absolute strength. However, pre-adolescents develop relative strength on a par with their adolescent and young adult counterparts (65). General guidelines for strength

training include the following (65).

- Strength development must be supervised by a competent instructor/coach.
- Begin with exercises that use body weight and progress to resistance training (e.g., weight machines, elastic bands/tubing and free weights).
- Training loads should be individualized.
- Training should involve all major muscle groups.
- Exercises should usually involve a full range of motion.
- Training days should be alternated with rest days.
- Training should involve two to three sets and six to 15 repetitions per set.

Gymnastics professionals should appreciate increasing strength fitness as one of the most important means available to prevent injury (74). Young gymnasts will tend to increase strength throughout childhood (147). During adolescence, male gymnasts will continue to increase both relative strength (maximum exertion in relation to body weight or muscle size) and absolute strength (maximum force exerted by an athlete irrespective of size or weight) while females may show a decline in relative strength while absolute strength may continue to increase. Since gymnastics performance is highly dependent on strength, the gymnastics professional should tailor training demands and performance expectations to match the abilities of the young gymnast.

Muscular Endurance (anaerobic fitness). Anaerobic fitness refers to the ability of the gymnast to perform relatively shorter bouts of high intensity activity. Typically, anaerobic fitness is determined by work bouts that last from 15 to 90 seconds. Anaerobic fitness is also called muscular endurance. Children are distinctly less able to perform anaerobic work than adults (393). Males show an increase in anaerobic capabilities throughout childhood and adolescence. Females show an increase in anaerobic ability throughout childhood, similar to males. However, during adolescence, females show a leveling off or slight decline of anaerobic ability (182). The differences in anaerobic performance during adolescence are found in both absolute and relative muscular endurance (182). Therefore, differences in body size do not explain the differences between boys and girls in anaerobic fitness. The gymnastics professional should be aware of these differences and prescribe training appropriately. These differences become particularly important when training the muscular endurance involved in routines. Older female gymnasts may experience more physiological distress when developing routine endurance and thus require more time to develop routine-type endurance.

Cardio Respiratory Endurance (aerobic fitness). Aerobic fitness refers to the gymnast's ability to convert food to energy while using oxygen. Aerobic fitness can also be thought of as long-duration (performances longer than approximately two minutes) endurance. Children tend to rely more on aerobic energy than adults. However, when performing the same workloads, children tend to be less efficient in energy use than adults. Children tend to handle endurance tasks fairly well, but show more fatigue at higher work intensities (393). Children show a higher heart rate than adults doing the same workloads

(113, 393). Children also have lower respiratory (breathing) capacity than adults, sweat less, and take longer to acclimate to temperature extremes than adults. Gymnastics professionals should note that children tend to respond better to exercise activity that is of moderate intensity and relatively high volume. Use of extremely high intensity activities will be less tolerated by young gymnasts (113, 393).

Flexibility. Flexibility is defined as the range of motion of a joint or a related series of joints. Flexibility studies have shown that flexibility is specific to a joint; flexibility is not related to the length of limbs; strength does not reduce flexibility; and females tend to be more flexible than males (147). Longitudinal studies of children have shown that range of motion tends to increase during childhood up to about age 10 in boys and age 12 in girls; however, considerable variation has been observed (147). Gymnastics professionals should note that surprisingly little is known about the trainability of flexibility in young gymnasts. It is recommended that flexibility training proceed slowly and patiently. Young gymnasts should emphasize dynamic stretching, as well as static stretching (Figure 36) (113).

Perception and Information Processing. Gymnastics performance relies on the athlete's ability to perceive his/her surroundings and interpret sensory information. Children develop their perception and information processing capabilities as they grow and mature. Gymnastics can serve as an ideal environment to explore spatial orientation.

Vision. Experts have estimated that as much as 80% of sensory information that is used by people comes from vision (147). Static visual acuity (clearness of vision and the ability to detect small objects and detailed visual patterns) tends to mature earlier than dynamic visual acuity. Dynamic visual acuity is the ability to estimate the direction and velocity of a moving object or a static object in the visual field relative to a moving person. Dynamic visual acuity allows the gymnast to keep an item of interest in focus while the object, or the person viewing the object, are moving. Dynamic visual acuity increases throughout childhood until approximately 12 years of age (147).

Spatial Orientation. Spatial orientation refers to the ability to recognize an object's orientation in three dimensional space (147). Children 3 to 4 years of age are aware of most spatial dualisms (over-

under, in-out, top-bottom, etc.). However, these characteristics continue to develop throughout childhood.



Figure 36.
Athlete stretching



Figure 37. Back salto on trampoline

Most children can perceive the spatial orientation of objects by age 8. However, some children will have trouble making spatial orientation distinctions, such as recognition of mirror images or image reversals. These children may need more demonstrations of skills and the opportunity to see demonstrations from more perspectives (147).

The child's ability to detect his/her position in space or the position of limbs is called kinesthesia. Children tend to reach nearly adult levels of kinesthetic awareness by age 8, and reach full kinesthetic maturity by approximately age 12 (147). The child's ability to determine laterality (left vs. right directions) is usually developed by 8 years old, while the sense of lateral direction continues development up to approximately age 12. Children can perform static balance on one foot for three to four seconds by age 3 and up to 10 seconds by age 4. By age 6, most children can support their body while inverted. The gymnastics professional should be aware of these and other landmarks of orientation ability among children (147).

Giving instructions often relies on describing body orientations in space. Young gymnasts must be able to correctly interpret instructions and translate them into personal movement. The gymnastics professional should tailor his/her instructions, drills and demonstrations to match the perceptual and information processing capabilities of the gymnast.

Skill Acquisition. Skill refers to the proficiency of a movement (122). Infants and very young children rely on spontaneous motor patterns and reflexes. Learning in early childhood is the result of an interplay of reflexes, changes in size, increasing neural development and exercise. Generally, motor skills are learned in a progression from gross (large body movements involving limbs) to fine (small and precise body movements usually involving smaller muscles and limb segments). Motor skills are also learned in a "cephalocaudal" progression (head control occurs before torso control, and torso control occurs before arms and legs). Infants develop muscle control and the ability to move about by modifying postural control mechanisms (147). These early postural control mechanisms serve as the background for

the development of more sophisticated movement patterns, even through adulthood (147). For example, postural muscles must be initiated prior to other voluntary movement (122).

Reaching and grasping movements develop from large sweeping movements to more finely controlled movements during infancy. Object manipulation becomes more dominant following the initial refinement of reaching and grasping. Around 8 to 10 months of age, infants can manage a “means-ends” behavior, which allows them to succeed at goal-directed behaviors in acquiring, grasping, and manipulating objects (147). During the first years of life, children will acquire most fundamental movement patterns, such as running, throwing, catching, jumping and others. By age 6, most children have mastered these fundamental skills (122).

Reaction time tends to decrease rapidly from the early years until age 8 or 9. Following this period, reaction time tends to decrease more gradually until approximately 16 to 17 years old (147). Speed of movement tends to follow a similar pattern, showing rapid improvement between ages 2 and 6. From 6 to approximately 16 years old, improvement in speed is more gradual (122).

Children generally perform new skills awkwardly and with poor energy efficiency (147). Children performing skills, such as walking and throwing tend to proceed through learning stages. Learning generally proceeds rapidly at first, with more refined

performance following, and sometimes requiring years to reach perfection. For example, throwing may be largely acquired by age 4, but fully developed throwing may not be completely developed even in seventh-grade students (approximately 12-13 years old) (122).

Gender differences in skill acquisition have been noted. Girls tend to outperform boys in fine motor skills throughout childhood. Visual pursuit-type tasks have shown boys to continue improving throughout childhood, while girls tend to level off during grades nine through 12. Boys also tend to outperform girls on gross motor movements, such as flexed arm hangs, vertical jumps, and throwing throughout childhood (147). Moreover, on these tasks, the differences between boys and girls increase with age. Girls tend to show superior flexibility and balance at all ages (147).

Gymnastics instructors and coaches must retain their good judgment while they develop as professionals and their athletes develop as gymnasts. Supervision and instruction should be tailored to meet the specific needs of all concerned. Growing up is a complex process. Children bring a number of challenges to the teaching and learning environment. Gymnastics professionals should be aware of the special needs of children so that individually tailored teaching and safety measures can be taken.

Chapter 5 Key Points

- Supervision is essential in all aspects of gymnastics. All athletes should be supervised at all times.
- Supervision ranges from direct supervision to indirect supervision. Direct supervision implies a more strict and coach/instructor-driven teaching-learning situation. Indirect supervision can be used for activities of lower risk where a supervisor’s engaged presence can maintain safety. Coaches and instructors must adjust their level of supervision along the continuum many times during a practice or a class, based on the needs of the situation.
- Gymnastics professionals should be aware of special circumstances of supervision, such as opposite gender supervision and policies for handling a stranded gymnast.
- Athletes and coaches should be matched appropriately to the tasks being taught and spotting tasks required.
- Instruction must be undertaken by qualified gymnastics professionals.
- Information conveyed during instruction should be correct and appropriate to the age and skill of the athlete.
- Gymnastics professionals should understand the stages and styles of teaching. Inexperienced and unskilled teachers should not be placed in situations beyond their experience and expertise. Different teaching styles should be matched with different learning and training situations.
- Safety can be enhanced by knowing and employing specific teaching methods and procedures that are matched to the needs of the situation.
- Spotting is an important skill for most gymnastics coaches and instructors. Spotting is not required for the safe teaching of skills; however, if spotting is not included, clever progressions and other methods must be used to maintain safety.
- Children are not miniature adults. Growing up is a complex process that is replete with size, physiological, perceptual and motor changes that occur as the child grows and matures.



Preventing Child Abuse in Gymnastics

Chapter Contents

- Zero Tolerance
- The Coach-Athlete Relationship
- Sexual Misconduct
- Prevention
- Intervention
- Key Points

Zero Tolerance

Sexual abuse of gymnastics students is wrong, unacceptable and illegal. No gymnastics professional or gymnastics club should tolerate abuse.

USA Gymnastics' has adopted the *Safe Sport Policy*, see Appendix C, to set forth the efforts it is undertaking to promote a safe gymnastics environment in partnership with member clubs, parents, gymnasts, the gymnastics community, and the U.S. Center for SafeSport ("Center"). The welfare of gymnastics participants is of paramount concern. USA Gymnastics is committed to promoting a safe environment for its members, gymnasts, participants, coaches, officials, volunteers and staff in all gymnastics disciplines.

Each member club is required to have a policy consistent with USA Gymnastics' *Safe Sport Policy* that affirms its commitment to the welfare of gymnastics participants in its organization. USA Gymnastics Member Clubs also must adopt USA Gymnastics' Proactive Policies and are strongly encouraged to enforce more comprehensive Proactive Policies tailored specifically to their club.

The Coach-Athlete Relationship

Regardless of age or skill level, every athlete's experience is shaped by one common element: a coach. Athletes recognize coaches as role models and people who care about them both as athletes and as individuals. In fact, athletes often view their coach, and particularly their relationship with their coach, as the single most important contributor to their performance.

A successful coach-athlete relationship is built on trust and power.

Trust is the confidence placed in someone else. For example, an athlete trusts that the coach's methods will

improve his/her performance; an athlete accepts the coach's determination of the lineup because he/she trusts the coach to put the team in the best position to succeed.

Power is the ability to give or take away something of value, something deeply cared about. For example, coaches decide who makes the team, which skills to train, and when progressions are made to the next level. Coaches directly or indirectly have power over just about everything a competitive athlete values in sport, and thus have considerable power.

Trust and power are an inevitable part of sport. The imbalance of power between coaches and athletes helps teams succeed. However, as trust and power increase, so does the potential for misconduct. If misused by a coach, athletes get hurt.

Recognizing the exploitation of trust and power can be difficult, which is one reason it is important to understand that trust and power are inherent in the coach-athlete relationship: one needs to understand the nature and characteristics of the relationship so he/she can recognize when a coach is misusing his/her trust and power. For example, gymnastics professionals should be alert to whether a coach seems to understand boundaries – the rules or limits that define each person's personal privacy. Does the coach have appropriate boundaries with an athlete or does he/she ignore them or refuse to let the athletes set their own boundaries around personal space? Does the coach follow the rules of the organization even if he/she does not agree, or is the coach unwilling to follow the rules or seem to think rules are only for other people? Does the coach respect the organization/club, staff, athletes and other participants?

A healthy coach-athlete relationship sets the stage for a rewarding gymnastics experience for both the athlete and the coach. Care should be taken by the coaches to earn and use wisely the trust and power they enjoy by virtue of their position (351).

Physical Abuse

Please see the *Safe Sport Policy* (Appendix C and any subsequent version posted on USA Gymnastics' website) for discussion of behavior that may be considered physical abuse. Appendix L provides guidance on appropriate physical contact

between coaches and athletes, as well as a sample policy that can be used by clubs to address this concern in their facilities.

Sexual Abuse and Misconduct

Please see the *Safe Sport Policy* (Appendix C and any subsequent version posted on USA Gymnastics' website) for discussion of behaviors that may be considered sexual abuse or misconduct.

As mentioned at the beginning of this chapter, an imbalance of power always exists between an athlete and coach. The coach has considerable power over athletes, which if used inappropriately, can lead to sexual misconduct or abuse. Coaches should not introduce sexually-based interactions into the coach-athlete relationship.

Sexual misconduct can have a devastating effect on the athlete(s) involved. It also impacts the entire team or program. Even if a coach's and athlete's sexual relationship is consensual and age appropriate, it inevitably affects team morale and raises questions about the misuse of power. Relationships that may be legal in the eyes of the law may not be acceptable in the sports setting because the imbalance of power often exploits the athlete. Sexual misconduct has no place in gymnastics.

IN DEPTH

Sexual misconduct and abuse are often difficult to comprehend and little discussed, which may lead to misconceptions and biases. Don't rely on what "you think you know" about this devastating problem. Find out the facts and get educated regarding prevention and intervention measures. See Appendix A for a list of Child Welfare Organizations providing additional information.

Prevention

Clubs, coaches, parents and athletes can take steps that will help prevent sexual abuse. Most current prevention efforts fall into two categories: (1) understanding, watching for and interrupting predatory tactics, such as grooming; and (2) eliminating or minimizing opportunities for abuse. If an individual suspects abuse, he/she should take steps to intervene and report.

Predators. Offenders are often adept at deception. Like many successful professionals, offenders can be highly qualified, intelligent, patient and have good interpersonal skills and a positive self-image.

Some professionals separate offenders into two categories, situational offenders and preferential offenders.

- The situational offender does not have a sexual preference for children. Abuse of children happens for other reasons, such as other stressors in their lives or out of simple insecurity or curiosity.
- The preferential offender has a true sexual preference for children. Studies show that a high percentage of sex offenders are preferential offenders, and they often engage in observable patterns of behavior.

"Grooming." There is no "checklist" that can be used to identify an offender. However, there are red flags that can help coaches and athletes recognize predatory behaviors that may lead to abuse. "Grooming" is a term used to describe the prolonged and purposeful tactics of a predator to target and gain the trust/compliance of the victim, the victim's family, and community.

Predators spend considerable time in the grooming process - weeks, months or even years. They gain trust and maintain control of a victim through a combination of attention, affection and gifts. The difficulty is that individual behaviors may occur that can seem like grooming without being part of a predatory process. Excellence in gymnastics can require coaches to devote considerable attention to athletes and athletes to spend extensive time in the gym. As a result, close relationships can form between athletes and coaches. Understanding the six stages of grooming can help distinguish between a proper relationship and predatory behavior.

Stage 1. *Targeting a victim* - a predator may look for many things in a victim, but vulnerability in a child is often targeted. It is important to note that any athlete may be preyed upon by a kind and affectionate adult.

Stage 2. *Gaining trust* - a coach will work to gain the trust of the athletes, as well as those around the athlete, such as the parents. Because of the nature and characteristics of the coach-athlete relationship, a coach is in a unique position to gain an athlete's trust.

Stage 3. *Recognizing and filling needs* - the predator gets to know the athlete, develops a special relationship with him/her, and learns what the athlete values. To exert greater power over the athlete, the coach may give gifts, extra attention, affection, positive reinforcement or other things the athlete values (e.g., a position in the line-up or preferential treatment for scholarship opportunities). Then the predator begins to try to control the athlete, even outside the gym.

Stage 4. *Isolating the child* - the predator makes the relationship seem "special" or "unique," he/she shares secrets, tells the child that he/she is the only person who understands, and/or creates situations in which he/she is alone with the athlete. The predator's behavior draws the athlete closer to himself/herself, while contemporaneously separating the athlete from peers emotionally, socially and physically.

Stage 5. *Sexualizing the relationship* - the predator breaks down psychological and physical barriers by testing the athlete through the use of manipulation strategies, such as extreme alternations between praise and criticism. In this way, the coach can learn how much the athlete is willing to deal with and if he/she can progress with the misconduct. The predator then sexualizes the relationship using tactics, such as accidental nudity, pornography, desensitizing the child to touch, and/or confusing the child about the nature of the touch. Once the predator has gotten to this point, the stage is set for sexual abuse or misconduct.

Stage 6. Maintaining control – using secrecy and blame, the predator is able to control the victim. Basically, the better the coach is at picking a victim and breaking down the psychological and physical barriers, the less overt the coach has to be in keeping the secret. It becomes inherent in the relationship.

IN DEPTH

On the surface, grooming behaviors can appear quite innocent and may even give the perception that the individual is good with children. But grooming can lead to sexual abuse unless the predator's process is disrupted. Here are examples of questions to ask and behaviors to look for (91).

- Is this person befriending a youngster and their family to slowly gain trust?
- Does this person do things to gain trust from an athlete's parents?
 - Offer to pick up the athlete for practice
 - Offer to babysit, including overnight trips or sleepovers
 - Mentor the athlete through academic problems
 - Convince the parents that their child has a promising athletic future and there's a need for more training and one-on-one coaching
- Does this person give gifts or money to an athlete for no reason?
 - Buy expensive gifts
 - Give money
 - Pay for trips
 - Provide special favors
 - Offer special privileges
- Is this person promoting the notion that the relationship with the athlete is special?
 - Encouraging harmless secrets, laying the foundation for future sexual secrets
 - Taking pictures or video of the child
 - Communicating with the boy or girl excessively through texting, emailing or calling
- Does this person try to separate the athlete from teammates/parents or find ways to be alone with the athlete?
 - Tutoring
 - Extra coaching sessions
 - Meetings
 - Special training or competitive trips
- Is this person testing the athlete or desensitizing him/her to sexual contact?
 - Testing an athlete's boundaries by using inappropriate language and/or telling dirty jokes
 - Desensitizing the child through nonsexual touching, such as "accidental" touching of privates and/or walking in on bathroom or dressing time
 - Playing body contact games like tickling, backrubs or wrestling
 - Introducing pornography to initiate sexual interest or normalize the behavior

- Does this person make alcohol or drugs available to the youth?
- Does this person spend all of his/her time with children and not seem to have adult relationships (351)?
- Does this person often have a "special" relationship with one child (351)?

As noted above, individual behaviors may occur without being part of a predatory grooming process. They certainly require attention, but do not necessarily mean the person is abusive. It is important to understand these red flags so that gymnastics professionals can closely observe such individuals and, when needed, intervene to disrupt and/or report abuse in an effort to protect the athlete.

Minimize high-risk opportunities. Abuse is most likely to occur when the athlete is isolated from family, friends and teammates and alone with an adult. The following are USA Gymnastics' Proactive Policies USA Gymnastics Member Clubs must adopt.

1. One-on-one interactions.
 - An unrelated Covered Adult shall not be alone with a Minor (a) in a private setting, and (b) in any place that is inappropriate to the professional relationship (i.e., a social setting outside the training or competitive environment). A gymnastics activity conducted within the view and/or earshot of another adult is not considered a one on-one interaction if it presents a meaningful opportunity for interruption.
 - Gymnasts may not reside with an unrelated Covered Adult, nor may a Covered Adult reside with a gymnast's family.
2. Travel.
 - When traveling, an unrelated Covered Adult shall not be alone with a Minor.
 - For overnight travel, assign gymnasts to hotel rooms with age-appropriate, same-sex teammates.
 - Do not allow an unrelated adult to share or be alone in a sleeping room with gymnasts.
3. Social Media and Electronic Communications.
 - All e-mails, texts, and posts must be transparent, professional and related solely to gymnastics activities or events. Covered Adults may not have out-of-program contact with gymnasts on social media. (For example, general communication regarding a gymnastics activity or event via a club's social media account is acceptable, but private communication via a coach's and/or an athlete's personal social media account is not acceptable.)
 - Covered Adults must distribute electronic and mobile communications to minor gymnasts openly and publicly; for example, with a copy to the parent(s)/guardian(s) and/or to the entire team transmitted simultaneously.

- Parents and guardians have the right to request that (a) their child not be contacted in any form of electronic communications, or (b) certain information about their child that they designate not be distributed in any form of electronic communications. All such requests will be honored.
4. Photography/Videography.
- Photographs or videos may only be taken (a) in public view; (b) if they observe generally accepted standards of decency; and (c) are both appropriate for and in the best interest of the gymnast.
- Examples of photos that should be edited or deleted:
- Open straddle positions
 - Any image where the genital area is prominent
 - Images with misplaced apparel or where undergarments are showing
- Suggestive or provocative poses
 - Without a parent's (or legal guardian's) consent in the case of a Minor gymnast, or a gymnast's consent in the case of an adult gymnast (a) gymnasts may not be photographed or filmed; and (b) no images of gymnasts may be posted publicly or privately. If consent is given, it may be revoked at any time.
5. Locker Rooms/Changing Areas.
- Interactions between Covered Adults and gymnasts should not occur in any room where there is a reasonable expectation of privacy such as the locker room, restroom or changing area. A second adult should be present for any necessary interaction between an adult and a gymnast in any such room.
 - The use of recording devices of any kind in any such room is strictly prohibited.
6. Gifting
- Gift-giving or providing special favors or privileges to individual gymnasts is prohibited.
7. Massage/Icing/Taping.
- Any rubdown or massage performed on a gymnast by any unrelated Covered Adult must be conducted in open/public locations and must never be done with only a gymnast and unrelated Covered Adult in the room.
 - Icing and taping must be conducted in open/public locations and must never be done with only a gymnast and unrelated Covered Adult in the room.
 - Icing and taping near the intimate areas of the body is not permitted by any unrelated Covered Adult – unless it is done by a licensed medical professional – and must never be done with only a gymnast and unrelated Covered Adult in the room.

8. Stretching and Other Physical Contact.

Covered Adults should take care to prevent any compromising positions while stretching or closely interacting with gymnasts and must avoid:

- Laying or sitting on top of the gymnast
- Facing the gymnast while he/she is in a static straddle position
- Lap sitting
- Pats on the bottom
- Physical contact that is reasonably intended to coach, teach or demonstrate a gymnastics skill or to prevent or lessen injury (e.g., spotting, catching) is permissible.
- Infrequent, non-intentional physical contact, particularly contact that arises out of an error or a misjudgment on the part of the gymnast, participant or coach, does not violate this policy.

Intervention

Signs to look for. Eyewitness evidence of abuse is rare. Most sexual predators are skillful at concealing their actions and masking abuse, and athletes rarely disclose abuse. Therefore, recognizing how an athlete reacts when abused can help in efforts to protect athletes.

- Most signs of sexual abuse are behavioral, so the key is to be aware of any sudden behavioral changes in the athletes.
- Athletes' attitudes and behaviors – such as a loss of enthusiasm for their sport or lack of desire to practice or put in extra work like they used to – should raise concern.
- Self-defeating behavior like discontinuing their effort so their performance will decline and they will not be selected for team.
- Inclination to avoid a certain person or location.

Abused athletes also can exhibit other behavioral changes, including:

- Depression, anxiety,
- Becoming reserved and withdrawn, and
- Interacting with people differently.

Sometimes signs and symptoms of abuse are immediately apparent, allowing others to interrupt that abuse and intervene to protect the athlete; sometimes changes may be subtle.

Intervention and Action – Sexual Abuse

If you see concerning behavior:

- By recognizing the signs and symptoms of abuse and grooming, and by asking questions, gymnastics professionals can offer athletes support and a chance to tell whether anything inappropriate is going on. Have a conversation with the athlete. Begin by telling the athlete what has been observed (e.g., unexplained outbursts, decline in performance, skipping team activities without an explanation, etc.). Next, ask if anything is

wrong. Specifically ask if something is going on around the club or with practice or competition. Then, offer to help the athlete with whatever the issue is.

The gymnastics professional may not get a direct answer from the athlete the first time the question is asked. If the athlete says nothing is wrong, continue to monitor his/her behavior and raise the concerns again, if necessary.

If you see a Proactive Policy violation:

- Interrupt/disrupt the conduct
- Report to gym owner

Disclosure of sexual abuse:

- Respond to child. Share your concern with the victim using terms like:
 - "I believe you"
 - "It's not your fault"
 - "I'm here to help you"
- Report to local law enforcement (where the incident occurred)
- Notify U.S. Center for SafeSport

If you have suspicion of sexual abuse:

- Report to local law enforcement (where incident occurred)
- Notify U.S. Center for SafeSport

Reporting suspected or confirmed abuse to legal authorities

1. Covered Adults must report suspected child abuse or neglect (including Sexual Misconduct) to the appropriate legal authorities, which is separate from notification to the Center, USA Gymnastics, or a Member Club. For state-by-state reporting information, see www.childwelfare.gov.
2. USA Gymnastics will report suspected child abuse or neglect (including Sexual Misconduct) to the proper authorities in all instances and without exception.

3. In the event the disclosure is initially made to USA Gymnastics, USA Gymnastics will forward the information to the Center.
4. Notification to the Center and/or USA Gymnastics DOES NOT satisfy many legal reporting requirements under state or federal law. Covered Adults are required to report suspected sexual misconduct to legal authorities prior to notifying the Center.
5. The Center has the exclusive authority to investigate and resolve conduct involving Sexual Misconduct, as well as prohibited conduct under the Code that is reasonably related to the underlying allegation of Sexual Misconduct.

IN DEPTH

Barriers to reporting abuse can impede disclosure and cause victims, as well as adults who could report abuse, to remain silent. Barriers may be organizational, social or personal. The following table lists examples for each category of barrier.

Whatever the barriers, whatever the fears, nothing trumps the obligation to report abuse to protect the youth. So, how do gymnastics professionals overcome these barriers and report suspected abuse?

- Provide strong leadership throughout all levels of the organization to emphasize that promoting athlete safety is a priority.
- Write policies that sensitize everyone to abuse.
- Train staff annually in abuse prevention and intervention.
- Implement and enforce athlete protection and reporting policies to prohibit and prevent sexual abuse.
- Provide guidance on how to stop abuse from happening.
- Provide safety information to parents.

How to Reduce Barriers

Organizational barriers	Social barriers	Personal barriers
<ul style="list-style-type: none"> • Sending a signal, perhaps inadvertently, that the organization doesn't take abuse seriously if the club doesn't establish a culture of communicating and enforcing clear athlete protection policies. • Tolerating conduct violations for a successful coach or star athlete to benefit the prestige of an organization. <p>Solution:</p> <ul style="list-style-type: none"> • Zero-tolerance abuse policies • Prevention policies (<i>Proactive Policies</i>) • Enforce all policies equally for all employees • Follow reporting laws 	<ul style="list-style-type: none"> • "I'll lose credibility or standing in the community if I report or get involved." • Fear of social stigma (may be felt by the victim or the reporter). <p>Solution:</p> <ul style="list-style-type: none"> • Put the safety of a child as the top priority • Legal responsibility to report • Reporting suspected abuse is the right thing to do 	<ul style="list-style-type: none"> • Shame, embarrassment. • Fear of retaliation. • Fear of false reporting - "What if I'm wrong; I don't have clear evidence." • Fear of the impact on others - other athletes, teams, coaches, clubs, etc. • Victims think they are at fault; fear they won't be believed. • May not realize they are victims of abuse, especially those with a limited understanding of sexuality. <p>Solution:</p> <ul style="list-style-type: none"> • Put the safety of a child as the top priority • Legal responsibility to report • Reporting suspected

Reporting Other Safe Sport Misconduct

- Members of USA Gymnastics are required to provide notification of conduct by a Covered Individual that could constitute Other Safe Sport Misconduct:
 1. Directly to USA Gymnastics
 2. Notification to USA Gymnastics DOES NOT satisfy any legal reporting requirements under state or federal law. If the suspected conduct may also be criminal, persons are required to report to legal authorities prior to notifying USA Gymnastics.

Chapter 6 Key Points

- Zero tolerance: no gymnastics professional or club should tolerate physical, sexual, emotional, or verbal abuse, bullying, hazing or harassment.
- Have a policy that affirms the club's commitment to the welfare of gymnastics participants and includes, at a minimum, a description of conduct that will not be tolerated; standards of behavior for staff/volunteers that promotes participant welfare; and a process for receiving and handling complaints regarding conduct that violates policy.
- A successful coach-athlete relationship involves trust and power. Coaches must take care not to abuse that trust and power.
- Interrupting "grooming" (the prolonged and purposeful tactics of a predator to target and gain the trust/compliance of the minor and avoid detection) and eliminating or minimizing high-risk opportunities are keys to preventing sexual abuse and misconduct.
- Eliminate private situations (both physical and electronic) that may make abuse possible.

National Helplines

Childhelp National Child Abuse Hotline

800.4.A.CHILD (800.422.4453)
www.childhelpusa.org

Darkness to Light

866.FOR.LIGHT (866.367.5444)
www.d2l.org

Stop It Now!

888.PREVENT (800.773.2362)
www.stopitnow.org/usagym

National Center for Missing & Exploited Children

800.THE.LOST (800.843.5678)
www.missingkids.com • www.safetocompete.org

For Sexual Abuse or Misconduct



U.S. CENTER FOR
SAFESPORT

WE'RE HERE TO HELP

Promote respect. Prevent abuse.



PHONE
866.200.0796



ONLINE CHAT
SafeSportHelpline.com



MOBILE APP
SafeSport Helpline
Available via iOS &
Android App Stores

Phone: 720.524.5640

Online: SafeSport.org

(online reports are accepted 24 hours a day, 7 days a week)

Regular Mail:

U.S. Center for SafeSport
C/O Response and Resolution Office
1385 South Colorado Boulevard, Suite A-706
Denver, CO 80222

For Misconduct other than Sexual Abuse



Reporting to USA Gymnastics:

Phone: 317.237.5050

Email: SafeSport@usagym.org

Regular Mail:

USA Gymnastics
Attn: Safe Sport
130 E. Washington Street, Suite 700
Indianapolis, IN 46204

Section I: Risk Management



Chapter 7: Miscellaneous Risk Management Issues

“What may look simple to someone accustomed to a context may be hard to someone new to that context.”

– Edward Redish

Chapter Contents

- Ethics
- Officials
- Other Activities in the Gym
- Key Points

Ethics

From a risk management perspective, general ethics play an important role in safety. Ethical practices are a risk control technique. Unethical activities can directly result in injury, abuse, and/or legal claims against you or the gym. Doing the right thing at the right time can protect you and others.

Ethics is a broad term that is used to describe the moral behavior of an individual that often affects the organization. A gymnastics professional's ethics will be evident in their dealings with students, business associates, parents, colleagues, clients, employees and the community. A person's ethics is a set of principles that guides their conduct when interacting with others. How an individual responds to an ethical dilemma says a lot about their character. Because laws only set minimum standards for ethical behavior, most organizations often set policies or codes, expecting a higher level of conduct. These policies usually reflect the gym's culture and values, such as accountability, respect, fairness, and explain what those guidelines mean in operation.

Gymnastics professionals may be faced with a number of different ethical decisions on a regular basis. From whether or not to accept tips or gifts to business decisions and dealing with customers and students, gymnastics professionals are not exempt from ethical dilemmas. Consider business promises not kept or made in bad faith, fraud, even theft. False representation, favoritism, harassment, false advertising, discrimination, not reporting coworkers, all represent possible ethical risk exposures.

As explained in Chapter 2, every gym develops an “organizational culture” that defines the character of the operation. USA Gymnastics has attempted to codify the type of “culture” that should be present in the gymnastics setting, including training and competition, via the USA Gymnastics *Code of Ethical Conduct and Safe Sport Policy*. Gymnastics professionals should

be familiar with both of these resources (See Appendices B and C). Hiring, employment and employee evaluations should include aspects of the *Code of Ethical Conduct and Safe Sport Policy*, and gymnastics professionals at all levels should be held accountable.

IN DEPTH

Gymnastics professionals create their gymnastics culture. Injury seems to be related to the gymnastics program's culture. The relationship of culture to injury prevention can be classified into predisposing, enabling and reinforcing factors (112).

Predisposing factors are items that tend to lead to the occurrence of something. Predisposing factors for injury can include such characteristics as a lack of attention to detail, disregard for common-sense safety measures, denial, or trivializing gymnastics risks.

Enabling factors provide the means for something to occur. Enabling factors for injury may involve coaches or instructors who do not inspire and reinforce safety awareness, athletes who are poorly trained in safety measures, apparatus and equipment that is poorly maintained, over-emphasis on daring, and lack of open communication.

Reinforcing factors strengthen the possibility of some behaviors or occurrences. Reinforcing factors for injury may involve a “win at all costs” tradition, imitating adult-level motivational techniques with children, and simply ignoring safety measures.

The culture of safety in gymnastics likewise involves predisposing, enabling and reinforcing factors. Predisposing factors for injury prevention may include detailed communication, educational experiences, and access to experts in various areas of training and performance. Enabling factors in injury prevention may include pre-participation evaluations, access to medical personnel, abundant matting, access to water, and full awareness of the potential problems of particular tasks. Reinforcing factors in injury prevention may include safety lectures, safety posters, acknowledging staff actions that remedy safety problems, recognition for athletes who volunteer information on their injuries, and many others.

USA Gymnastics also requires criminal background checks for all Professional and Instructor members over the age of 18. This process also includes all USA Gymnastics staff and Board of Directors members. USA Gymnastics also recently initiated a “Clubs Care Campaign” to help educate clubs about child abuse issues and promoting a safe environment for athletes. These steps are an important part of helping raise the level of professionalism and accountability in the sport of gymnastics. Abuse is a topic that falls within “Ethics,” but we devote much more to this subject within Chapter 6.

Officials

Meet directors, meet referees, judges and others involved in the conduct of gymnastics competitions are important members of the safety team. Officials are responsible for the enforcement of the rules of gymnastics. By enforcing the rules, officials help ensure a safe experience. As members of the safety team, officials are responsible to assist with and assess the safe placement, setup and configuration of apparatus. The 2000 Olympic Games in Sydney clearly demonstrated the potential catastrophe that can occur when apparatus are not set properly (378).

Officials should ensure that apparatus configurations meet the specifications of the governing body overseeing the competition and may be responsible if an injury is caused by inappropriate or inaccurate apparatus setup.

When coaches, athletes, partisan spectators, or others interfere with the safe conduct of a competition, the officials of the competition should enforce the rules of gymnastics limiting unsportsmanlike conduct. Moreover, if a serious safety issue and impending injury can be averted by intervention from an official, the official should do so. The official should not assume the role of a coach and make coaching decisions. However, when a situation arises that endangers a gymnast, and the situation does not involve a coaching decision, the official should intrude. For example, during a run-up to the vault, a spectator drops something that rolls onto the vault runway. An official should not hesitate to stop the gymnast's approach. If mats have become separated and increase the danger of stepping into a crack, the official should use his/her best judgment regarding when to intervene and then ensure that the mats are placed properly. As a member of the safety team, officials should take all reasonable steps to ensure that competitions are conducted safely and fairly for all athletes.



Figure 38. Officials at a competition

photo © Max Morse

Role definitions and duties for officials, as well as apparatus and equipment specifications, rules governing sanctioned events and proper conduct, can be found in the “USA Gymnastics Rules and Policies” for each gymnastics discipline.

Other Activities in Gymnastics

Alternate activities that can take place in a gym setting include cheerleading, gymnastics for athletes with special needs, preschool gymnastics, dance classes, birthday parties, field trips and others. These activities may or may not exist in any given gymnastics program. Gymnastics professionals involved in these areas are encouraged to pursue safety information from the literature and associations for these specific activities.

USA Gymnastics offers additional education in the areas of preschool gymnastics, special needs participants, cheerleading, dance, business best practices, and more through USA Gymnastics University. Online and live courses are available and a wide variety of topics are covered at the Regional and National Congresses.

Chapter 7 Key Points

- Ethics is the moral behavior of an individual that often affects the organization and plays an important role in safety.
- Officials are part of the safety team. When officials detect an unsafe situation, they should use good judgment and intervene when and where appropriate.
- If involved with alternate gymnastics activities, additional safety education should be sought in those areas.

Section II: Injury Prevention and Care



Chapter 8: Preparation for Gymnastics

*“I will prepare and some day
my chance will come.”*

– Abraham Lincoln

Chapter Contents

- Introduction
- Gymnastics IS Injury Prevention
- Philosophical Preparation
- Physical Preparation
- Technical Preparation
- Tactical Preparation
- Psychological Preparation
- Key Points

Introduction

Gymnastics professionals should know the limitations and skills of their athletes and properly match them to the skill level in the sport. Preparation for gymnastics participation in general, as well as for specific skills within the sport, is a key aspect that will be discussed in this chapter. Preparation for gymnastics occurs in several areas including philosophical, physical, technical, tactical and psychological. Gymnastics professionals should keep in mind that through gymnastics participation, they are teaching athletes physical skills (e.g., strength, flexibility, coordination, balance, agility and endurance), as well as mental and social skills. Proper preparation in each of these areas is a means of injury prevention.

IN DEPTH

What is an injury? Injuries in gymnastics are usually skill-specific (238, 315, 325), meaning that the gymnast simply cannot perform a particular skill. For example, the gymnast can usually guard the injured body part by training on a different apparatus, avoiding landing on the injured body part, or receiving special spotting so that the stress to the injury is removed.

Injury Epidemiology. Injury epidemiology is the study of the distribution and determinants of varying rates of injuries for the purpose of establishing procedures to prevent their occurrence. An informed gymnastics professional is aware of how, when, where and to whom injuries occur. Awareness of the likely scenarios that result in injury is part of risk management. By knowing when, where, how and to whom injuries have occurred in

the past, as well as factors associated with increased risk of injury, the gymnastics professional is forewarned of circumstances and factors more likely to be related to increased risk of injury. Changes in apparatus and equipment and rules may lead to different injury patterns and risk of injury (86). See Appendix P for additional information on injury epidemiology in gymnastics.

Gymnastics IS Injury Prevention

Gymnastics programs simultaneously prepare athletes to participate in gymnastics and to avoid injury. Gymnastics preparation is extremely context-specific. The general title “gymnastics” can encompass instruction of preschool children, dance, conditioning, recreational/instructional classes, physical education classes, cheerleading activities, diving activities and many others. Virtually none of these activities look anything like what the typical layperson sees at the Olympic Games and during televised gymnastics competitions. Gymnastics may involve things as simple as walking on a two-by-four on a classroom floor, sliding down a “mat hill,” catching a ball or climbing a rope. Gymnastics may also involve performing a cross on the still rings, a quadruple somersault, group routines involving a few to dozens of athletes, and tossing and catching people (i.e., acrobatic gymnastics) and/or equipment (i.e., rhythmic gymnastics). Attempts to classify gymnastics movements into skill taxonomies (i.e., classification schemes) have largely failed due to the diversity and complexity of the movements (72). Gymnastics activities have simply grown too diverse to be adequately characterized by any simple paradigm. The sheer complexity of gymnastics movements has made preparation for gymnastics a highly specialized area.

Much of the appeal of gymnastics comes from its diversity. With the diversity of the sport, a practical view of injury prevention in gymnastics must come from a broadly conceived overview that will lose some detail.

The purpose of the following discussion is to help the gymnastics professional develop a mindset that will enhance and inspire good judgment and vigilance in preventing injury, without getting lost in the details of specific gymnastics con-

texts. In keeping with the idea of a practical overview, gymnastics injury prevention can be divided into five preparation areas (Figure 39) (303).

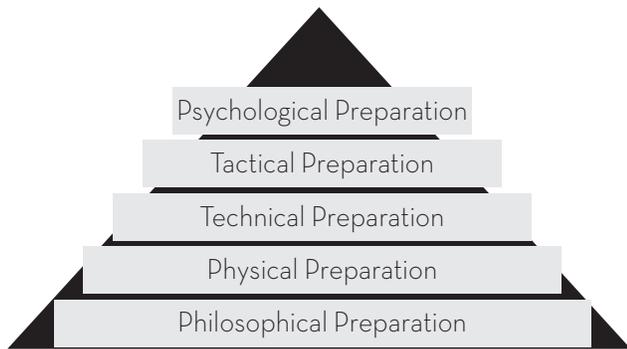


Figure 39. Pyramid model

Philosophical Preparation

Philosophical orientation is often the most important, and perhaps the most underemphasized, aspect of risk management in gymnastics and is at the heart of gymnastics preparation. Philosophical orientation can be thought of as common sense, good judgment, thinking ahead or having a “safety mind-set.” A safety mind-set and a philosophical orientation towards safety is a fundamental step in enhancing the safety of gymnastics participation. This handbook is based on the underlying philosophical assumption that enhancing gymnastics professionals’ safety awareness will likely result in prevention of injuries.

Philosophically, safety awareness is paramount to preventing injury and ensuring a valuable experience for everyone involved in gymnastics. Safety awareness requires vigilance and commitment. A safety mindset should be incorporated into all program policies and decisions. The gymnast should also be encouraged to develop these same philosophical views (303).

IN DEPTH

An organization’s philosophy is a summary of the organization’s purpose and objectives. The philosophy is an overall guide of the organization’s values and should direct how business is conducted by owners, leadership, staff and volunteers.

A gymnastics program’s philosophy should include the following (223):

- A mission statement that addresses safety;
- Policies and procedures that ensure adequate supervision;
- Instructional activities that are planned and carefully scrutinized for safety;
- Frequent inspections of the physical environment;
- Timely repair or removal of identified hazards;
- Education of athletes on safety aspects of the specific skills and activities that they undertake;
- Provisions for medical care;
- Coaching knowledge that is equal to the instructional tasks and upgraded continuously;

- Instruction that is up-to-date and properly applied to all skills;
- Planning and instruction that considers the individual strengths and weaknesses of each athlete; and
- Records of all program activities.

QUESTIONS

Below is a list of questions the gymnastics professional should ask to determine if the philosophical preparation and status of the gymnasts and the coaches/instructors are commensurate with a reduced risk of injury (303).

- Does the gymnast appreciate his/her role in achieving a safe training and performance environment?
- Do all participants feel free to express concerns about safety?
- Are consequences for safe and unsafe behaviors applied?
- Is safety always held in higher regard than horseplay and other unsafe behaviors?
- Program factors encompass policies and procedures surrounding what gymnasts actually do.

Program factors encompass policies and procedures surrounding what gymnasts actually do. The gymnastics program is the interface between the goals of the athletes, coaches, instructors and administrators, and the gymnasts’ physical and psychological preparation to achieve these goals. Gymnastics professionals create, update and monitor the gymnastics program to ensure that gymnasts are progressing toward gymnastics competence.

Physical Preparation

Physical preparation forms the foundation upon which the remaining preparation areas (technical, tactical and psychological) are built. Physical fitness is perhaps the single most practical means of injury prevention. Gymnasts come in all shapes and sizes. Some size and weight characteristics of gymnasts may lead to a greater incidence of injury. A review of gymnastics injury studies indicates that taller, heavier, older and earlier maturing gymnasts may be more susceptible to injury (81). Periods of rapid growth may also be responsible for an increased incidence of injury (81). While these factors may seem self-evident, the real issue may be that older, heavier and taller gymnasts are also performing more difficult skills and are therefore more likely to be exposed to an increased risk of injury. Higher level gymnasts also appear to be more susceptible to injury (81, 106, 312).

Specific areas of physical preparation to consider with regard to gymnastics activities include readiness for athletic participation, warm-up activities, physical fitness and nutritional concerns. Each of these areas will be addressed in greater detail on the following pages.

Participation Readiness. Physical preparation begins with a healthy athlete. Eligibility for sport participation, including gymnastics, is based on the idea of an “apparently healthy” athlete.

There are multiple ways to verify a participant’s readiness for participation. The most thorough option is a physical/medical examination by a licensed physician, which is referred to as a pre-participation physical exam (PPE).

The purpose of a PPE is to ensure athletes are fit for their sport and without apparent disorders, which place them or other athletes at risk for injury or death (280). PPEs should include a health/medical history and a physical exam. The physician conducting the examination should provide clearance and indicate in writing that the athlete is apparently healthy and fit for gymnastics participation.

Other options to verify participation readiness may include health waivers on registration forms and self-administered health history surveys, such as the Physical Activity Readiness Questionnaire (PAR-Q). The American College of Sports Medicine recommends that pre-participation self-administered questionnaires, such as the PAR-Q can be effective in determining readiness for physical activity. If any of the questions on the PAR-Q are answered with a “yes,” the athlete should be referred to a physician for further evaluation prior to participation (156, p. 224). See Appendix O for a modified PAR-Q list of questions. At minimum, program registration forms should include a section where the participant and/or parent/guardian can indicate the date of the last physical examination by a licensed physician, as well as any known medical conditions or problems. If it has been more than three years since the last physical or if certain medical conditions exist (see In Depth: When should a PPE be required?), the participant should be referred to a physician for further evaluation and clearance. See Appendix D for an example of a registration form containing a health waiver statement.

Regardless of the option used, participant readiness and any pertinent medical conditions should be:

- Confirmed prior to participation.
- Reassessed on a regular basis after the initial clearance. Gymnasts and/or parents should be instructed to notify gymnastics staff if a change in health status arises between assessments.
- Communicated to the appropriate coaches and instructors to ensure proper instruction and handling of medical emergencies, while keeping confidentiality concerns in mind.

IN DEPTH

When should a PPE be required? Although caution dictates that children should have had a health-oriented physical within one to three years prior to their participation in gymnastics (116), PPEs performed by licensed physicians are not considered necessary for all gymnasts (156). However, if any of the following symptoms or characteristics is present, a PPE and/or examination by a physician should be required prior to participation (116).

- Atlantoaxial instability (instability of the neck bones just below the head)
- Acute illness
- Cardiovascular disease
- Congenital heart disease
- Detached retina or loss of one eye
- Absence of a kidney
- Enlarged liver
- Musculoskeletal disorders
- History of serious head or spine injury
- History of a concussion
- Convulsive disorder
- Respiratory insufficiency
- Asthma, exercise-induced bronchi spasm
- Skin disorders: boils, herpes, impetigo, scabies
- Enlarged spleen

Readiness for participation also involves the return to activity following an injury. A physician should be involved in return to activity decisions following any injury that could compromise future training and performance. Many injuries require a course of rest, treatment modalities (e.g., ultrasound, electrical stimulation, hydrotherapy and massage) and rehabilitation exercises to regain strength and flexibility, heal properly, and reduce the risk of re-injury (370). Once the gymnast’s health has been determined and the athlete has been cleared by a physician for activity, the participant may re-enter a general conditioning program and resume specific gymnastics skills.

If a gradual return to activity is recommended by the physician, it is good practice to document all communications with the physician and ensure that all appropriate staff members are notified of the athlete’s limitations/restrictions. Documentation should be read, signed and dated by all appropriate coaches/instructors and kept in the athlete’s file. This process should continue until the athlete is cleared for full gymnastics participation.

Gymnastics warm-up. Warm-up prior to activity is recommended by virtually everyone interested in enhancing physical activity (134, 206, 229, 293, 300, 332, 376). In spite of the relative “common sense” in using a warm-up, the role of warm-up in preventing injury is not well studied, and the type of warm-up may interact with injury prevention (205, 277, 334, 350). Moreover, stretching may do nothing to prevent injury (277, 334).

However, in spite of mixed research results, warm-up activities should be included prior to gymnastics training and performance. Warm-up activities should be tailored to meet the demands of the subsequent exercises. A general warm-up should consist of a period of increasingly vigorous activity that increases body temperature (179, 300, 332). General warm-up activities may include running, aerobic activities, rope skipping, dance and other activities. Increased body temperature is usually indicated by the onset of sweating. Following the increase in temperature, the gymnast should attempt to move each body part through increasingly larger and more vigorous motions (Figure 40). A specific warm-up should follow the general warm-up. Specific warm-up activities usually involve skill or movement

rehearsal leading to subsequent training and performance. For example, tumbling skills performed prior to a tumbling rotation are specific warm-up skills. Arching and shoulder flexion (e.g., raising the arms forward and overhead) movements are specific warm-up activities for bridging and walkovers. Arm swings, hanging, swinging and support positions are specific warm-up activities for still rings.



Figure 40. Warm-up

Gymnastics Physical Fitness. Gymnastics can be a very stressful activity. Artistic gymnastics involves impact loads on the body reaching more than 16 times body weight (71, 270). Gymnastics training schedules can vary greatly. Training times range from one hour per week for the recreational participant, to more than 40 hours for elite athletes (81). Artistic gymnasts typically perform between 250,000 to 500,000 elements (i.e., skills) per year (304-306). High-level gymnasts need to be in spectacular physical condition to withstand such training loads. Gymnasts in recreational classes are often constrained in their learning due to a lack of fitness. Fitness levels often determine the ability level of the gymnast (189, 321).

Although current studies of the role of fitness in injury prevention cannot prove cause and effect, together these studies support the premise that fitness is important in injury prevention (73, 74, 106, 312, 383). Fitness refers to strength, power, flexibility, muscular endurance, cardio-respiratory endurance, and body composition. These characteristics contribute quite specifically to the overall ability of the gymnast to train, perform and avoid injury (252, 294, 295).

IN DEPTH

The five basic components of fitness are as follows.

1. Cardio-respiratory endurance (aerobic endurance) - The ability to do moderately strenuous activity over a period of time. It reflects how well an individual's heart and lungs work together to supply oxygen to the body during exertion and exercise.
2. Muscular endurance - The ability to hold a particular position for a sustained period of time or repeat a movement many times.
3. Muscular strength - The ability to exert maximum force, such as lifting the heaviest weight possible, one time. It

is possible to have muscular strength in one area, for example the arms, while lacking strength in another area, such as the legs.

4. Flexibility - The ability to move a joint through its full range of motion; the elasticity of the muscle.
5. Body composition - The proportion of fat in the body compared to bone and muscle. It does not refer to an individual's weight in pounds or figure.

Additional information on strength, flexibility, muscular endurance, and aerobic endurance and special consideration for children were presented in Section I, Chapter 5.

At a deeper level, each gymnastics activity has its own optimal fitness profile. Moreover, different gymnastics events emphasize different types of fitness and areas of the body. For example, still rings tends to emphasize strength fitness of the arms and torso while tumbling tends to emphasize power fitness of the legs. Gymnastics professionals should identify the particular fitness profile that is most effective for each particular activity and each individual athlete.

Younger, less experienced and novice athlete fitness profiles will likely differ from the ideal fitness profile. Conditioning programs should bring the current fitness profile of the gymnast in line with the ideal profile for a given activity (Figure 41). By targeting specific deficiencies, the gymnast does not waste time and energy on fitness characteristics he/she already possesses in abundance, and it ensures more rapid development of areas that are needed for the specific activity being practiced or performed. For example, a gymnast who is already highly flexible but weak will spend his/her time more profitably on strength training while maintaining his/her flexibility.



Figure 41. Strength development

Specific areas of fitness have been shown to be related to gymnastics injury. Both excessive flexibility and inadequate flexibility have been cited as injury risk factors (203). A study by Steele and White (347) showed that injury proneness in female artistic gymnasts was related to inadequate shoulder flexion (ability to raise the arms overhead) and excessive lumbar hyperextension (arching). However, it is unclear whether these characteristics caused or resulted from the injury (106). Wrist injuries have been linked to age, training intensity and age of starting training (110). Strength is considered an essential fitness characteristic for gymnastics. Insufficient strength has been considered a risk factor for performing and learning ap-

appropriate techniques and for dealing with fatigue (81, 315).

Avoiding routine-specific fatigue in gymnastics is based on the fitness characteristic of muscular endurance. Fatigue is considered a risk factor for injury (106). A long-term study of gymnastics injury showed that injury was more common during the initial phase of training when the athletes had not acquired an adequate physical condition and later when the athletes made the transition from skill training to routine preparation (322). A study of competition injuries showed that the majority of injuries occurred early in the competition season, presumably when the athletes are less fit and routines are less well-learned (301). A specially designed back conditioning program conducted for two years showed a reduction in back injuries among Australian gymnasts (106). Clearly, more work needs to be done to determine predictive relationships between injury and gymnastics fitness. However, fitness remains one of the most important means of preventing injury (74).

Gymnastics provides participants a means to increase their physical fitness. With societal concerns over childhood obesity and reduced physical activity, gymnastics professionals should continue to emphasize the benefits of gymnastics participation, which provides the foundation for abilities, such as rhythm, balance, coordination, speed, power and strength (372, p.1).

Nutritional Fitness. Nutrition is how food nourishes the body. Nutrients are classified into six main groups (carbohydrates, protein, fat, vitamins, minerals and water) and have specific roles in helping to maintain an active lifestyle and preventing certain diseases (372, p.12). The type, amount, composition and timing of food intake can dramatically affect performance, recovery from exercise, body weight and composition, and health. When exercise or physical work increases to more than one hour per day, the importance of adequate energy and nutrient intake becomes more critical (230).

Nutritional fitness is an optimization problem. Gymnasts may expend up to eight times more energy than age-matched non-gymnasts (107). Most studies of elite gymnasts have shown that energy intake is less than energy expenditure (57-60, 67, 90, 109, 111, 121, 132, 154, 177, 202, 218, 219, 251, 286, 287, 366, 377). Gymnasts, in fact all people, require more than 50 nutrients each day (344). Gymnasts should eat all of the daily nutrients that they need every day. Nutritional plans and dietary approaches that prevent gymnasts from a complete nutrient intake each day are unacceptable. However, eating more than the necessary nutrients is not better. Nutrition in gymnastics often receives attention beyond its practical influence. Unless the gymnast is malnourished, nutritional interventions will not make an elite athlete out of an average athlete. However, poor nutrition can take an elite athlete and make him/her an average athlete. Gymnastics professionals should be aware of nutritional issues but are usually lacking in sufficient training to counsel gymnasts adequately in their nutritional needs (90, 111, 118, 220).

Hydration is another key factor to proper nutrition and optimal performance. Athletes should begin practice/class sessions well hydrated, drink water or sports drinks to maintain hydration during practice, and correct any fluid loss with post-exercise hydration (86).

Female gymnasts, dancers, distance runners, and many other athletes and young females are susceptible to a constellation of factors called the “Female Athlete Triad” (FAT) (61, 191, 262, 269, 279, 297, 374). The FAT consists of disordered eating (which results in low energy availability), amenorrhea (irregular or absent menstrual cycle), and osteoporosis (thinning and reduced density of bone). While men obviously do not suffer from amenorrhea, the incidence of disordered eating among men has increased in recent years (14, 362). Gymnasts appear to be prone to FAT symptoms (219, 261, 273, 286, 386) and the potentially irreversible consequences of these conditions emphasize the critical need for prevention, early diagnosis and treatment (8).

IN DEPTH

Diagnosis of the FAT is complex and requires considerable education and training. However, gymnastics professionals should be aware of FAT symptoms. Amenorrhea and osteoporosis are not likely to be investigated by a coach. However, physicians serving female gymnasts should be aware of maturation and training issues surrounding menarche and menstruation. Excessive training loads and intense training prior to puberty have been linked to menstrual problems (139, 225, 346). Inadequate hormone production has been linked to menstrual problems and to serious bone mineral deficiencies (61). However, artistic female gymnasts appear to maintain and enhance their bone mineral content (171, 188, 250, 341). Moreover, work by Dr. William Sands and colleagues (319) indicates that adult female artistic gymnasts do not suffer from menstrual problems more often than adult non-gymnasts, nor fail to reach adult height similar to their mothers. Suspicions of osteoporosis often only arise when a gymnast suffers repeated stress fractures. For prevention and early intervention, education of athletes, parents, coaches, trainers, judges and administrators is a priority. Athletes should be assessed for the FAT at the pre-participation physical exam or annual health screenings (8).

Gymnastics professionals are likely to be involved in detecting and preventing disordered eating. Disordered eating and an eating disorder are not the same thing. Disordered eating is a behavior and an eating disorder is a diagnosis. Gymnastics does not cause anorexia or bulimia (112, 354). However, gymnasts and other athletes in sports favoring leanness can be vulnerable to disordered eating behavior (8, 219, 261, 273, 286, 386). Disordered eating consists of an entire spectrum of dysfunctional eating behaviors ranging from excessive exercising or fasting to binge-eating, purging, and the use of medications. Disordered eating behaviors are risk factors for eating disorders (8).

Eating disorders are clinical mental disorders. Anorexia nervosa is a condition where the gymnast becomes obsessed with body weight and food avoidance. Anorexics may employ secrecy, starvation, forced vomiting, laxatives, diuretics, diet pills, and/or compulsive exercise (367). Bulimia refers to a constellation of symptoms, such as abnormal craving of food, secrecy,

dramatic episodes of overeating, self-induced vomiting, lack of control with overeating, and extreme concern about body size and shape (98). Diagnosis and treatment of these disorders is not within the training of a typical coach or instructor. A multidisciplinary treatment team should include a physician, registered dietician, and a mental health practitioner, along with a support system including coaches, parents and other family members (8).

IN DEPTH

Gymnastics professionals are often uniquely positioned to observe the telltale and early behaviors of disordered eating (118). Physical and psychological symptoms of the eating disorder anorexia nervosa are listed below (362).

Symptoms of Anorexia Nervosa

Physical Symptoms

- amenorrhea
- dehydration
- unusual fatigue
- gastrointestinal problems
- hyperactivity
- hypothermia (cold intolerance)
- lanugo (fine hair on face and arms)
- weakness
- overuse injuries
- dramatic weight loss
- stress fractures
- low body weight

Psychological Symptoms

- anxiety
- avoidance of everything to do with eating
- “feeling fat” in spite of being thin
- rigid thinking with regard to eating
- depression
- excessive exercise
- exercising even while injured
- inability to sleep
- restlessness
- excessive dieting
- withdrawal from social situations
- unusual weighing behavior (e.g., overly concerned about scale weight)

Physical and psychological symptoms of the eating disorder bulimia are listed below (362).

Symptoms of Bulimia

Physical Symptoms

- callus or scrapes on the back of the hand from using the hand to cause vomiting
- dehydration
- tooth decay and gum problems (e.g., bleeding)
- widely fluctuating weight
- gastrointestinal problems
- low weight in spite of eating excessive or normal amounts of food
- irregular menstrual cycle
- muscle cramping

Psychological Symptoms

- binge eating
- depression
- excessive dieting
- vomiting that is unrelated to illness
- excessive exercise
- abrupt, secretive and excessive use of the restroom
- extremely critical of one’s self and body
- secretive eating
- substance abuse (drugs used for increasing metabolism, decreasing food cravings, and/or increasing waste excretion)
- inappropriate use of laxatives or diuretics

Gymnastics professionals should consider that these symptoms are not an automatic indication of an eating disorder. Moreover, being thin and small is also not an automatic indication of an eating disorder. However, the items listed above are potential warning signs that should alert the gymnastics professional and cause him/her to increase surveillance of the gymnast to determine if other symptoms exist.

If a coach, instructor, parent or fellow athlete believes that the gymnast is suffering from an eating disorder, the athlete should be medically evaluated as soon as possible. Treatment of eating disorders is beyond the training and expertise of gymnastics professionals. While gymnastics professionals can be extremely helpful in supporting and assisting treatment approaches prescribed by medically trained personnel, the gymnastics coach should not consider him/herself qualified to take on such treatment (353).

Of course gymnastics coaches should not recommend unhealthy weight control practices. USA Gymnastics’ *Code of Ethical Conduct* (Appendix B) describes such mistreatment and indicates that professional members, clubs and business of USA Gymnastics are not behaving consistently with their obligation to the mission of USA Gymnastics if they are failing to act in the best interest of the athlete (368).

QUESTIONS

Below is a list of questions gymnastics professionals should ask to determine if the gymnast is physically prepared for the given level of participation in the sport (303).

- Is the athlete currently in good health?
- Is the athlete strong enough to perform the task at this particular moment?
- Is the athlete flexible enough to perform the task at this particular moment?
- Does the athlete have the necessary body composition to perform the task at this moment?
- Is the athlete fresh enough at the moment (not suffering from undue fatigue)?
- Has the athlete warmed up sufficiently for this task?
- Is the athlete currently free of any injury that might interfere with the task?

Technical Preparation

Techniques are integral to all skills in gymnastics. Technical preparation is the “engineering” of gymnastics. Athletes must conform to a technical “recipe” of a skill to perform it. Each skill requires certain body positions, motions and forces, performed in a certain sequence and with a particular timing - a movement “recipe.” When aspects of the movement requirements of a skill are modified or missing, the nature of the movement pattern is changed. Movements may be modified due to fatigue as discussed above, by unwittingly performing incorrect techniques, and by movement errors.

Techniques are fragile when first learned (221, 329, 388). Techniques should be taught through the use of pictures (i.e., demonstration, video, drawings), as well as word descriptions/directions and lead-up progressions and drills. Repetitive practice is used to help solidify performance techniques. The gymnast should be familiar with the techniques and have performed the techniques long enough that a degree of “habit” has developed (303).

Fatigue is considered a risk factor for technical errors (106). Fatigue and technique may interact when performance deteriorates, producing altered loading characteristics on the body and exposing the body to injury (264). Fatigue is prevented and treated by rest and increased fitness. Gymnasts require rest during training to insure they can focus on the skill being learned and bring all the necessary muscular force to the movement. Increased fitness helps gymnasts persist in movements for longer periods and resist fatigue-related technique deterioration.

Coaches and instructors spend considerable time describing and defining appropriate techniques for skills. Much of a coach’s or instructor’s expertise lies in his/her knowledge of appropriate techniques for a given skill. Coaches, instructors, judges and gymnasts may make errors in their technique assumptions. For example, the 1969 Code of Points listed a

hecht to front somersault vault. Although the vault was listed in the international rulebook for men’s gymnastics, the vault was (and is) a physical impossibility to perform as described (169). Accepted gymnastics techniques are not permanent. Techniques change and improve due to changes in style, changes in accepted methods of performance, changes in athlete fitness, and changes in apparatus specifications.

Gymnastics techniques can involve whole skills, such as the hecht vault described above, or parts of skills, such as the body position or limb motions within a skill. Two omnipresent technical aspects of gymnastics that appear to be related to injury are landings and posture.

Landings. Landings involve impacts that can reach more than 16 times body weight (270). Gymnasts must learn to dissipate the enormous forces of landing impacts by adopting an appropriate posture for landing and by possessing the necessary strength to reduce and/or halt the impact forces. Proper landing techniques should be taught using landing drills and safety rolls (Figures 42 and 43). Include these activities in lesson plans, practice them before the event, and base them on specific skills.



Figure 42. Safe landing position Figure 43. Safety roll

Posture. Poor posture is also a risk factor for gymnastics injury (206). Poor posture can result from muscular weakness, deformity, fatigue, incorrect training and laziness (106, 131). Hyperextension (arching) of the spine is commonly related to lower back problems (187). Peak forces during arching movements, such as a back walkover or front walkover, have been shown to occur near the time of hand and foot impact, respectively (162). Dance injuries have been linked to technical flaws (77). Dance has long understood the value and crucial nature of correct posture in performance and injury prevention (45, 148, 266, 271, 333).

Techniques have been shown to be related to injury in a variety of sports. Football has outlawed spearing (a form of tackling); baseball requires helmets; gymnastics limits skill difficulty in lower level competitions; and boxing requires headguards and gloves. Gymnastics techniques are particularly difficult to assess because skill difficulty tends to escalate from year to year, making gymnastics techniques a moving target (312). Gymnastics professionals should stay up-to-date on injury trends and reports provided by USA Gymnastics and other sources (See Appendix A).

QUESTIONS

Below is a list of questions gymnastics professionals should ask to determine if the gymnast's technical preparation and status are commensurate with a reduced risk of injury (303).

- Is the gymnast familiar with this task?
- Has the gymnast developed a strong performance “habit” that is evidenced by his/her consistency in performance of this task?
- Has the gymnast's progress on the task leveled off, indicating that learning and performance are more stable?
- Does the gymnast know how to miss the skill if he/she makes a mistake?

Learning to Fall. One of the major benefits of gymnastics instruction for gymnasts and non-gymnasts is learning to fall and avoiding injury by falling skillfully. Because falling is common in gymnastics, all gymnasts should learn how to fall safely. The difference between a fall and a landing is often only initial intent. Gymnastics falls are also controlled by mats, spotting, training pits, and support/spotting equipment.

The primary skill for gymnastics falls is rolling. Gymnasts should practice falling and rolling to absorb the force of a fall over a large distance and area. Falls generally occur forward and backward, with sideward falls less frequent. The force of falls can be dissipated by rolling (forward roll for a forward fall, backward roll for a backward fall, and sideward shoulder roll for a sideward fall). Gymnasts should learn to perform rolls so that they avoid landing on outstretched arms. Falling on an outstretched arm can result in elbow dislocations and arm fractures. Falling drills (safety rolls) and landing drills should be written in lesson plans and practiced frequently on every event.

Tactical Preparation

Tactics refers to strategies. Tactics can involve rules, skill selection, skill sequencing, music selection, skill progression (lead-up) selection, routine construction and choreography, age-appropriate skill learning, competitive approaches, and so forth. Tactical selection of appropriate drills for gymnasts may depend on the gymnast's particular learning style (104, 298, 356). Tactical selection of appropriate skill sequences may depend on the experience and overall fitness of the gymnast.

Age-appropriate Skill Learning. Preschool-aged children have limited experience with movement and therefore respond to instruction differently than older children. In younger and less experienced children, developmental limitations exist in all three domains of learning (physical, cognitive, and social/affective). Lesson plans should take into account the age, ability and individual differences of the athletes and provide for variations in the skills to match the level of the athletes. Figure 44 shows a boy practicing skills on a “mushroom” before moving to the pommel horse.



Figure 44. Pommel skill progressions

photo © Steve Lange

Skill Selection and the Role of Difficulty. Gymnastics performances are governed by difficulty and execution. Difficulty refers to the level of risk (i.e., of a fall, not of injury), complexity, or inherent performance variability of skills and sequences of skills. Of course, all other things being equal, the gymnast who performs the most difficult skills with the fewest execution errors should win. However, the gymnastics professional should carefully weigh the role of difficulty in achieving performance goals (309). Gymnastics professionals should be constantly checking to ensure that the pursuit of ever increasing difficulty is not made at the expense of sound fundamentals, correct execution, and long-term progression.

The “Code of Points” and other gymnastics rule books contain lists of skills, combinations of skills, and their associated difficulty ratings, as well as exercise requirements and composition (185). These rule books are not teaching texts and are therefore not well suited for developing teaching progressions and methods (312). Since increasing skill difficulty usually carries an increased risk of injury, the gymnastics professional should carefully balance the pursuit of increased difficulty with the safety, stability and real scoring potential of the gymnast. In most cases, a more difficult skill performed poorly results in a lower score and increased risk of injury than an easier skill performed optimally (309).

Execution refers to how well, or technically correct, the gymnast performed the skill or series of skills. Unlike other sports, gymnasts can complete a skill effectively and safely but still not meet the execution goals for the skill. Since execution of a skill may vary from one attempt to another, precise definitions of “correct” skill execution are difficult. However, the gymnastics

professional should ensure that gymnasts are able to perform skills with proper execution in addition to simply completing the skill safely.

Learning Interference. Learning one skill may interfere with another skill (298). Skill learning has been shown to interfere with subsequent skill learning when only some contextual factors are similar (93, 222, 390, 391). For example, learning a round-off to flic-flac is often more difficult if the gymnast learns a round-off to back salto first. The round-off is largely the same, but the take-off for the back salto and the flic-flac are quite different. The gymnast accustomed to a round-off back salto often performs the flic-flac too high in a round-off flic-flac sequence. Gymnastics professionals should be mindful of the sequencing of skill learning to avoid conflicts in learning and performance that arise from skills that have similar movements in the beginning and different movements at the end (324). These conflicts can result in learning problems and increase the potential for injury.

Routine Composition. Routine composition should reflect the ability of the gymnast to handle longer sequences of difficult skills. Selection and sequencing of skills should maximize potential score while minimizing potential injury. Loading a routine with too many difficult skills or too many difficult skill sequences invites fatigue and injury. In a study of routine error distributions, floor exercise showed an unusual pattern of errors with a majority of errors occurring in the earliest part of the routine (315). It appears that the cause of the early errors was a fall or other major mistake on the first tumbling pass. Given that fatigue is not an issue during the first tumbling pass, the study appears to demonstrate that coaches and athletes made a tactical error by selecting an opening tumbling pass that was too difficult for the gymnasts in the competition.

Forward Somersaults and Dive Rolls. Forward somersaulting skills are common in most areas of gymnastics. Forward somersaults and dive rolls from somersaults (e.g., Arabian 1 & 3/4) should involve increased vigilance and attention to detail (137). Research has shown that detecting an upright vertical body position (right-side-up) is more reliable than an inverted vertical body position (up-side-down) and that subjects tend to think they're



Figure 45. Balance beam pad

vertical considerably earlier than they really are (307, 308). Moreover, the landing phase of a forward somersault is often less visual, which places greater emphasis on the spatial awareness of the gymnast. This information indicates that those skills that require sensitive spatial orientation (such as forward somersault landings) are more prone to error than skills that allow the athlete a clear and relatively early view of the landing surface.

Caution is warranted when the margin of error in a particular skill is small. The safety margin in some dive roll skills, especially dive rolls at the end of multiple somersaults (e.g., 1 and 3/4 front somersault to dive roll), shrinks due to difficulty locating the floor and clearing the head and neck (370).



Figure 46. Landing mat on floor

Training Surfaces and Landing Areas. The selection of training surfaces should be based on the fitness and technical needs of the athlete. Performances and training on surfaces that are hard or unforgiving may result in increased risk of injury (77). Fitness-type dance injuries have been linked to practice and performance surfaces (133, 210, 245, 283). Although softening the training or performance surface may seem like the automatic choice to prevent injury, research has shown that

solutions to these issues are more complex. Gymnasts tend to modify their landing strategies depending on drop height, mat composition, somersault direction, and other factors (237-243). Generally, softer landing surfaces are more conducive to safe impacts, but there are exceptions. More research is needed to determine the relationships between surface stiffness and safety. Gymnastics professionals should monitor landings and impacts carefully to ensure that the gymnast is within his/her tolerance level for handling impacts on a particular surface.

Foam pits, landing mats, and other padding are used in gymnastics to reduce impact-related injury (47, 186, 204, 318). Gymnastics professionals should select appropriate landing and training areas based on the experience of the athlete, difficulty of the skill, and the potential for overuse-type injuries. Tactical selection of an appropriate learning environment can prevent many injuries that result from unplanned falls or collisions. Figures 45 and 46 show methods of reducing impact loads.

Tactics also involves the selection and use of the calendar and clock. Based on two consecutive years of insurance

company data, Sands (301) showed that competition injuries peaked during the same month each year (January during that particular competitive program schedule). This study showed that injuries peaked early in the competition season, which may indicate that lack of preparedness was responsible for an increased risk of injury.

QUESTIONS

Below is a list of questions gymnastics professionals should ask to determine if the gymnast's tactical preparation and status are commensurate with a reduced risk of injury (303).

- Has the gymnast reached the current task or skill using sound progressions?
- Does the gymnast have an "escape" planned for the most common performance errors and can he/she execute it?
- Are those skills that require the most concentration and least fatigue being performed during a period of practice that meets the needs of the skill?
- Is the landing or possible falling surface capable of stopping the gymnast's fall without injury?
- Has the gymnast learned the skill sufficiently so that contextual interference will not occur?
- Can the gymnast land the skill safely?
- Is the skill developmentally appropriate for the gymnast?

Psychological Preparation

In many important ways, psychology embraces all aspects of gymnastics. The role of psychology in injury has been investigated since the 1960s (199). The psychology of injury consists of two primary areas: injury proneness and psychological resiliency. Injury proneness refers to psychological precursors or predictors of injury. Psychological resiliency refers to the emotional reaction of the gymnast to an injury. Injury prone athletes are more likely to become injured. Psychologically resilient athletes are more likely to recover from an injury in minimum time and without incurring additional injury. A number of psychological factors have been investigated regarding injury, such as personality, self-concept, reactions to stress, and coping. Gymnastics professionals should be aware of psychological factors and the potential interaction of these factors with injury prevention (126).

Personality. Injury-prone personalities have been demonstrated in some studies and not in others (199). At present, there have been no clear indications that an injury-prone personality exists. However, there is speculation that some personalities are more prone to exaggerated emotional responses. Therefore, personality may indirectly lead to injury (385).

Self-concept. The individual's sense of self, perception of self, or view of self is the "self-concept" (196). An athlete's self-con-

cept is important to his/her performance. Research has shown that athletes with low self-concepts may be willing to take more risks and are thus injured more often than athletes with higher self-concepts (331). Sport psychologists have speculated that athletes with low self-concepts may use injury as something to blame to avoid failure (331). Gymnastics professionals should be aware of their contribution to an athlete's healthy self-concept and well-being. One of the most important goals of gymnastics training is the enhancement of an athlete's self-concept by setting and meeting challenges and overcoming hardships.

Reactions to Stress. Stress is defined as a stimulus that causes a reaction (329). Stress can be good (eustress) or bad (distress). Athletic activity and skill learning cause stress. How the athlete reacts to stress is perhaps more important than the stress itself. Psychological responses to stress may include reduction of coordination, generalized muscle tension, reduction of flexibility, narrowing of the visual field (tunnel vision), inability to attend to critical aspects of performance, and increased emotionality. An athlete's response to stress can result in deteriorating performance. Performance deterioration occurs when the athlete perceives that his/her ability to handle the demands of the situation are inadequate. Athletes with fewer coping skills (inability to control arousal, concentrate, and think clearly under stress) have been shown to be more injury prone (339). Evidence from "life-stress events" leading up to competition has shown a moderate relationship between these life-stress events and injury among gymnasts (197, 198).

Coping Skills. The ability to cope with stress (i.e., deal with stress more efficiently and effectively) involves emotional adjustments and social networks. Emotional adjustments to stress are often linked to personal resources, such as arousal control, rest, vacation periods and ability to concentrate. Studies have shown that coping skills are important to injury prevention (15).

Support Network. Social support appears to be very important in both alleviating the impact of daily hassles that may lead to injuries and helping an injured athlete return to form rapidly (199). Injury-prone athletes have also been shown to lack a social support system during major life events (378).

The athlete's social support network (i.e., coaches, instructors, teammates, family, friends, etc.) becomes extremely important when the athlete is injured. A serious injury can be one of the most psychologically traumatic events a young athlete ever experiences (199). The injured athlete needs social support and a realistic appraisal of the injury. The injured athlete also needs to know what to expect with regard to pain, time to heal and rehabilitation. The injured athlete will often respond to an injury with depression, tension, anxiety and other emotional disturbances. Athletes will vary considerably in their psychological response to injury. Some athletes will see an injury as a disaster, while other athletes may see the injury as a test of personal strength. Self-esteem may be damaged following an injury, which may lead to further injuries (199). Gymnastics professionals should be aware of psychological issues that accompany

injury prevention and return to activity following an injury. Professional assistance in the form of a sport psychologist may be important to help athletes return to training and performance with minimal repercussions.

QUESTIONS

Below is a list of questions gymnastics professionals should ask to determine if the gymnast's psychological preparation and status are commensurate with a reduced risk of injury (303).

- Can the gymnast concentrate/focus enough to ensure that his/her attention is devoted to the task?

- Can the gymnast control his/her emotions? While fear may be a natural consequence of performing a new or difficult skill, can the gymnast prevent being overwhelmed by fear?
- Can the gymnast describe the skill in a meaningful way? Can the gymnast conjure a mental image of the skill?
- Is the gymnast trustworthy when faced with a difficult situation? Will the gymnast pursue the task to the end without hesitating or aborting unsafely in the middle?
- Does the injured gymnast have a social support network that will come to his/her aid following an injury and during rehabilitation?

Chapter 8 Key Points

- Gymnastics professionals should know the limitations and skills of their athletes and properly match them to the skill level in the sport.
- When done properly, gymnastics training is a potent means of preventing injury.
- Philosophical preparation is perhaps the most important part of gymnastics preparation. A safety mindset and a philosophical orientation toward safety is a fundamental step in enhancing the safety of gymnastics preparation.
- Physical fitness is perhaps the single most practical means of injury prevention. Physical preparation forms the foundation of all the other preparation components.
- Athletes should document their readiness for participation in gymnastics via a pre-participation physical exam, a self-administered health history survey, or health waiver on a registration form.
- Athletes should undergo a warm-up prior to activity.
- Nutritional fitness involves acquiring all of the various nutrients needed by the athlete every day and maintaining proper hydration. Dietary approaches that involve excessive restriction of nutrients are inappropriate.
- The Female Athlete Triad is a constellation of three disorders: disordered eating, amenorrhea and osteoporosis. While gymnastics does not cause the FAT, the gymnastics professional needs to be aware of the FAT and its symptoms because gymnastics is an area where it may develop. The gymnastics professional should seek competent medical help when confronting a suspected FAT problem.
- Techniques are integral to gymnastics performance. Gymnastics professionals should be schooled in all the relevant techniques involved in his/her area of coaching or instruction.
- Landings and posture are particularly important areas for observation and care when instructing and preventing injury.
- Learning to fall correctly and skillfully is an essential aspect of gymnastics education. All gymnasts should learn to fall safely.
- Gymnastics professionals should be aware that the tactical selection of skills and routine composition may be related to injury exposure.
- Some gymnastics skills may require more vigilance than others due to differences in difficulty and risk.
- Careful selection of landing surfaces is important to ensure that repeated impacts do not result in overuse-type injuries.
- Psychological aspects of the gymnast may interact with injury. Gymnastics professionals should seek to enhance the self-concept of the gymnast. Individual reactions to stress and coping skills will vary. The gymnastics professional should be aware of these factors and seek to enhance the personal coping skills and social support network of the gymnast.

Section II: Injury Prevention and Care



Chapter 9: Sports Medicine

“The art of medicine consists in amusing the patient while nature cures the disease.”

– Voltaire

Chapter Contents

- What is Sports Medicine?
- Sports Medicine Personnel
- Caring for Gymnastics Injuries
- Emergency Medical Plans
- Preparing for Non-Catastrophic Injuries
- Preparing for Catastrophic Injuries
- Key Points

What is Sports Medicine?

Although sports medicine involves diagnosis, treatment and rehabilitation of injury, the primary job of sports medicine is injury prevention. Injury prevention in sports medicine is the result of education, identification of risk behaviors, correct diagnosis, and proper treatment and rehabilitation (101). The gymnastics program administrator should attempt to build a sports medicine team to care for injuries that arise (18).

Sports medicine professionals are often among the first to learn new taping, bracing and padding techniques or other factors that can reduce the risk of injury. Moreover, they are in contact with other sports medicine professionals, allowing them to receive the first reports on risky behaviors and injury consequences of specific activities. Risk management is incomplete without a sports medicine team or sports medicine awareness.

Sports Medicine Personnel

Team Physician. Physicians are trained in a variety of specialties. Sports medicine has become a viable and respected medical specialty. Team physicians usually serve on a voluntary basis or on a “fees for services” basis. Sports medicine physicians are typically orthopedists, but many medical specialties now include sports medical preparation. Below is a list of the typical duties of a team physician. The team physician (18, 101):

- provides oversight for the entire sports medical program and other health-related issues of the athletes;
- performs the pre-participation physicals of the program’s athletes;
- is the gate keeper in helping injured athletes get into the medical system rapidly, seeing the appropriate specialist, and developing or assisting in the development of injury-handling plans;
- serves as the primary contact person for all health-oriented problems that the athletes may encounter;

- makes decisions regarding return to activity;
- compiles and maintains medical histories of the athletes;
- supervises sports medicine personnel;
- provides treatment to injured athlete;
- is “on call” for emergencies; and
- attends competitions or directs sports medical coverage of competitions.

Athletic Trainer. Athletic trainers have repeatedly proven themselves to be an invaluable asset to all types of athletic programs (18). The term “athletic trainer” is used differently in America than most other countries. An “athletic trainer” or “trainer” in most countries is the coach. In the U.S., an athletic trainer is someone trained in the diagnosis, treatment and rehabilitation of athletic injuries. Athletic trainers are certified by the National Athletic Trainers Association (NATA) Board of Certification. Their job is to perform first aid, provide rehabilitation, apply taping and bracing, and make decisions regarding return to activity (19), usually in consultation with the team physician (101).

Physical Therapist. Physical therapists are valuable members of the sports medicine team. Their primary role is to provide pain relief and restore function for musculoskeletal and neurological conditions. Therapists use modalities, such as cold and heat therapy, e-stim (electrical stimulation, TENS, NMES, etc.), ultrasound, manual and exercise therapy, and rehabilitation. Some have additional training and certification to include, but not limited to: advanced techniques for use with neck and back, massage, advanced soft tissue management (ASTM), kinesio tape, Graston, and dry needling. Some therapists will also have a certification as athletic trainers and can provide event coverage for acute injuries, as well as treatment of the athlete during the event. It is very helpful to work with a physical therapist that understands gymnastics so that he/she can provide the doctor and the athlete with a rehabilitation program that fits into gymnastics progressions, enabling the athlete to return to participation as quickly and safely as possible.

Coaches, Instructors, Supervisors and Administrators.

Coaches, instructors and other gymnastics professionals are involved in daily contact with athletes and are often the first line of defense when an injury occurs. It is important that these

people are trained in some aspects of sports medicine. It is recommended that at least one person certified in first aid and CPR be present at all gymnastics activities. First aid and CPR training is important for all gymnastics professionals. Gymnastics professionals should be aware of medical, legal and ethical constraints in dealing with injuries (144). Sports medicine professionals should direct and instruct coaches and instructors in injury prevention and recognition, and how to design and implement an injury emergency plan (101).

The role of coaches, instructors, supervisors, administrators and officials in emergency medical situations includes recognizing that an emergency exists, deciding to act, calling the local emergency number (e.g., 911), and providing care until help arrives. In non-emergency medical situations, the gymnastics professional should provide basic first aid (e.g., rest, ice, compression and elevation). If pain persists, the injury should be evaluated by a trained medical professional.

Caring for Gymnastics Injuries

The process of injury care consists of injury prevention, injury recognition and treatment, and injury rehabilitation. Of course, there is a great deal of overlap between these areas (101).

An important concern for injury management is the stark contrast between the ideal injury management program and the reality of most sport programs (not just gymnastics). Gymnastics coaches and instructors often find themselves in a difficult situation due to the confusing nature of recommendations from sports medicine, legal and safety organizations. While it is easy for recommendations to state that trained medical personnel should always be present at training, competition and class situations, the reality is quite different. According to Herb Appenzeller, the reality is that there simply are not enough medically trained athletic injury specialists to meet these demands. The reality is that coaches are, and will likely always be, the first line of defense when it comes to injury (18). Having a physician, athletic trainer or physical therapist to manage every single injury in gymnastics is simply impossible. If Appenzeller is correct, then education of coaches and instructors in the medical aspects of injury is essential. Moreover, the legal, medical and safety communities need to appreciate the practical limits of the reach of medical care into the sports community.

Injury Prevention. Many sections in this handbook discuss injury prevention. Gymnastics coaches, instructors, administrators and gymnasts should be aware of current injury prevention methods. Gymnastics professionals should be well-schooled in their ability to prepare gymnasts for the demands of gymnastics training and performance. Perhaps the best approach to injury prevention available to the coach and instructor is intelligent and thorough preparation for gymnastics.

IN DEPTH

Preventing Injuries and Accidents

“The best way to treat an injury is to avoid one” (359):

- Preparation for gymnastics participation, including pre-participation screenings or surveys;
- Properly inspected and maintained facilities, apparatus and equipment;
- Proper skill development;
- Knowledge of common injury factors in gymnastics;
- Importance of prompt medical care for injuries, as well as assessments by licensed medical professionals, and adequate rest and rehabilitation time;
- Appropriate supervision;
- Planning and organization of program activities;
- Use of stations or other activities to keep children moving so classes are fun and there is little time for horseplay or misbehavior;
- Clearly communicate instructions, safety and other information to athletes;
- Utilize safe hiring practices.

Injury Recognition and Treatment. Once an injury has occurred, a coach, instructor, athletic trainer, physician or administrator must initiate an appropriate response to the injury. All parties in gymnastics programs should be able to contact and initiate emergency medical services.

Injury Rehabilitation.

Injury rehabilitation involves returning an injured athlete to activity by the safest, most efficient, and most effective means. Injury rehabilitation should occur under the direction and supervision of a trained sports medicine professional. Coaches can provide injury rehabilitation care to an athlete, but should follow the instructions of the physician exactly even if a coach provides care, such as ice packs, whirlpool, massage, or active and passive stretching.



Figure 47. Athlete rehabilitation

The gymnastics professional should consult with a trained medical person when the slightest doubt exists as to the nature and/or extent of an injury. The gymnastics professional

should not try to practice medicine. When an injury occurs, after rendering first aid and engaging the emergency medical system (if necessary), the gymnastics professional should work on the injury with guidance from a trained medical person. It is simply prudent for the gymnastics professional to rely on those who are medically trained to deliver any kind of injury care or rehabilitation.

Injury rehabilitation also involves decisions regarding return to activity. Sadly, reinjury following return to activity is a serious problem in athletics and results in prolonging recovery and delaying full return to activity. All return to activity decisions should be made by the relevant injury care professional (101).

It is good practice to have communication between the medical professional and the coach/instructor. Ideally, the medical professional would write a note detailing the athlete's limitations and the exact exercises and skills he/she is permitted to practice. On each visit to the physician or other medical professional and until the athlete is released to full participation, the athlete should obtain a new note with updated information on the injury status and allowed activities. Each note should be read, signed and dated by all coaches/instructors who work with the athlete and then kept in the athlete's file. This communication and documentation is important for complete rehabilitation of the injury and in case of a lawsuit.

Emergency Action Plans

Clearly the most effective way to deal with an injury-emergency is to plan ahead and to practice the appropriate procedures (100). An emergency action plan is a written plan of action defining responsibilities, areas of coverage and step-by-step procedures, as well as including other pertinent information, such as emergency phone numbers and incident report forms. In addition to injuries, emergencies may include illnesses and other medical conditions (e.g., heart attack, stroke, poisoning, diabetic reactions, heat stroke, allergic reactions, etc.) and can result from weather-related conditions (e.g., hurricanes, tornadoes, earthquakes, flooding) or other events, such as power outages, fires (11) and gun violence. Each emergency action plan must be tailored to the specific needs of each program (101). Emergency plans should attempt to cover all possible emergency scenarios (141). For example, an emergency plan may work poorly during severe weather or during a holiday. Gymnastics professionals should be aware of potential difficulties in engaging emergency services and plan accordingly. Plans should be communicated with all individuals involved and reevaluated on a regular basis (11).

Injuries requiring emergency care include, but are not limited to: head, neck or spine injuries; broken bones and dislocations; unconsciousness; severe brain injuries (e.g., concussions); severe bleeding; internal bleeding; cardiac arrest; and/or lack of breathing. The team physician and/or athletic trainer should be in charge of establishing an emergency plan for injuries and other medical conditions. In lieu of these people, gymnastics professionals should contact local qualified health care professionals for assistance. Communication with emergency medical service providers, local hospitals, and emergency-care physi-

cians is warranted and recommended (101). If the program is in a large metropolitan area, then most efforts at emergency preparedness involve engaging emergency medical services. If the program is in a rural area or an area with less dependable or less available emergency medical care, then additional consideration should be given to ensure proper handling of an injury-emergency (101).

IN DEPTH

Emergency Action Plans. An emergency action plan should be pre-established, written, and communicated to all staff members. According to the National Athletic Trainers' Association, the following list of items should be included in an emergency action plan (9).

- Who will provide emergency first aid?
- Who and how will emergency medical services be summoned?
- Who will monitor non-injured athletes during the emergency?
- How will parents be notified in the event of an emergency?
- Is there an adequate communication system in place at all practices and competitions?
- Is documentation with emergency contact information and a list of each athlete's medical conditions readily available?

One should not assume that emergency services and emergency plans away from the home facility will be adequate. If emergency plans are well established, it is wise to use them. If, however, local emergency capabilities are deficient, then the gymnastics professional is still responsible for ensuring proper handling of an emergency situation. Gymnastics professionals should be alerted to potential problems that are more likely to occur when away from the home facility even when conducting social and/or non-gymnastics activities (40).

When designing an emergency plan, factors, such as roles, emergency services, consent to treat, post-injury steps, notification and communication, spokesperson, and practicing the plan should be considered. A sample emergency action plan is included in Appendix Q.

Roles. An emergency action plan should clearly define roles and assign responsibilities among staff members for emergency situations. Individuals should be identified to call for emergency medical care; provide care to the injured athlete; supervise other athletes; control bystanders; meet and direct medical personnel; and when appropriate, transport an injured athlete (11). Special situations where staff members may not be available, such as days off, after hours and holidays, should be taken into account.

First and foremost, when a serious injury occurs, the first task is to contact emergency personnel. The senior-most trainer or gymnastics professional should deal with the injured gymnast. The second-most senior person should be sent to summon aid.

If an injury occurs with only one person present and no one else besides the injured athlete, then the coach or instructor should perform standard emergency first aid by checking the scene and the injured party, calling for emergency medical assistance, and providing care. If the injured party is not breathing, the coach or instructor should seek aid and initiate the emergency action plan, even if he/she must leave the injured party, then provide care, such as rescue breathing or CPR. The exception is for children under age nine, provide rescue breathing or CPR care for two minutes before calling for help (359).

Cooperate with Emergency Services. When emergency services arrive, every effort should be made to enhance their ability to deal with the injured athlete. An athletic trainer or first responder may have been tending to the athlete prior to the arrival of emergency personnel. Once emergency personnel arrive, the attending people should immediately and efficiently turn over the care of the athlete to emergency personnel. The first responder, athletic trainer or attending coach should remain in the area to answer questions and assist, but only at the request of the emergency personnel.

Gymnastics facilities are often unique. Emergency personnel should be informed about the activities that take place in the facility. It is wise to invite the local emergency response team to the facility outside of an emergency situation so that they can become familiar with entrances, exits, apparatus, extraction scenarios, possible injuries, and so forth. For example, extrication of an injured athlete from a foam pit or a trampoline requires special skills, and practice is extremely helpful (56, 150, 383).

Consent to Treat. Healthcare providers and applicable law generally require the consent of a parent or guardian before treating a minor. Therefore, athletes should have a current “consent to treat” document on file that is accessible by the coach, instructor, program administrator and/or medical personnel. These documents should accompany an athlete whenever athletes travel to other facilities for classes, training or competition. An example of a “consent to treat” form is included in Appendix N. Because the law varies from state to state, the gymnastics club should consult its local attorney to create its own “consent to treat” form.

Post-injury Steps. Follow the direction of the legal counsel and insurance company regarding how to preserve information about an accident. Rely upon the legal counsel and insurance company because they are professionals in this field. In the case of minor injuries, discuss with the club’s legal counsel and insurance company the use of an incident report form that may be completed and kept on file at the club for documentation. A sample Incident Report Form can be found in Appendix F.

Notify Parents/Guardians, Club Administration, Insurance Carrier. The club owner, program director or head coach should call the parents or guardians and inform them of the injury and arrange transportation for them to the appropriate medical facility (100). The coach, administrator and/or athletic trainer(s) should have appropriate telephone numbers to

contact the athlete’s parents or guardians. Emergency travel arrangements should be investigated prior to any competition or other trip away from the home facility. Do not provide details or assign blame. The issue of blame is a matter for your legal counsel and insurance company who are professionals in that field. Rather, the coach’s purpose is to inform the parents or guardians that an injury has occurred and to arrange rapidly for transportation to the medical facility.

If the club owner or program administrator was not present at the site, then the next call must be to these people (100). A serious injury is usually devastating to the entire community. Appropriate administrators should be contacted to ensure that the entire situation is handled with sensitivity, courtesy and caring.

The coach, administrator, and/or athletic trainer should have all pertinent insurance information for each athlete. Most insurance carriers have a 24-hour emergency number for such calls. The insurance carrier will likely assign a case manager to ensure that every aspect of the injury is handled properly (27).

Designate a Spokesperson. When an injury occurs at a public event, there is often a great deal of media interest. Designate a single spokesperson to inform the media of the nature of the injury. It is best, if possible, to consult legal counsel and the insurance company before providing an explanation of the injury and medical information. The primary focus of remarks should be care and concern for the athlete and his/her family. Here again, details and assigning blame are matters that should be left to legal counsel and insurance company as professionals in that field. Moreover, parental and/or athlete consent must be obtained before detailed medical information can be provided. No private interviews with the spokesperson should be allowed (100).

Communicate with Other Athletes and Teammates. Coaches, instructors and athletes should meet together following the injury to discuss the accident and anything else that relates to the injury (100). Athletes may need professional counseling following a serious injury or fatality. Athletes, other coaches, instructors and parents should refrain from making comments to the media or other interested people. They should be encouraged to refer those interested in the injury to the designated spokesperson.

Communicate and Practice the Plan. Personnel and athletes should know and practice emergency responses. When an injury occurs, those professionals who are present should provide aid to the injured athlete (37). Others not directly involved with servicing the injury – other athletes, coaches, instructors, supervisors and program administrators - should understand and practice their role in an emergency (168). All personnel should know how to activate the emergency plan (168). Telephones or other communication equipment, such as radios, should be known to all personnel. When contacting emergency services, 911 should be called first. Information to direct emergency services to the facility and the injured party should be known to all professionals and/or displayed prominently with all emergency communication devices. All parties should know the location of emergency equipment and be able to summon first responders or provide first-aid assistance to the injured athlete (168).

Preparing for a Non-Catastrophic Injury

Non-catastrophic injuries are those that are not life- or limb-threatening. These injuries typically do not require immediate emergency medical intervention. Non-catastrophic injuries include bruises, blisters, small cuts, strains and sprains. Non-catastrophic injuries will likely occur in gymnastics activities. The gymnastics professional should be prepared to deal with these types of injuries (370).

The primary preparation for non-catastrophic injuries is provided by basic first-aid training. While most seemingly minor injuries can be handled by basic first aid and wound management, the gymnastics professional should follow-up on all injuries to ensure that they are healing in a timely fashion.

First-aid Kit. Competent management of minor injuries requires basic first-aid equipment. Every gymnastics program should have a first-aid kit. First-aid kits should be maintained and inspected regularly. If athletes have access to the first-aid kit, then no medications should be placed in the kit. Medications should not be given to minors without parental consent or medical direction. Appendix T contains a list of suggested items for a gymnastics first-aid kit and Figure 48 shows a typical first-aid station in a gymnastics facility.



Figure 48. First aid station

photo © Michael Taylor

Rendering first aid and using a first-aid kit properly requires training. Training for the majority of first-aid procedures is beyond the goals of this handbook, but gymnastics professionals should be trained in first aid. It is recommended that at least one first-aid trained gymnastics professional be present during all gymnastics activities.

R.I.C.E.D. One of the first-aid procedures that gymnastics coaches can deliver is so universal that it has been encoded in the acronym R.I.C.E.D., which stands for rest, ice, compression, elevation and diagnosis. (359)

The R.I.C.E.D. first-aid procedure is most commonly used for minor injuries, such as strains, sprains, bruises and other traumas that do not result in a major injury or life-threatening injury. The R.I.C.E.D. procedure can be used with both macro-trauma (acute injury due to a single application of excessive force, e.g., sprains, strains, fractures, etc.) and micro-trauma (injuries due

to repetitive strain over time, e.g., overuse injuries) (370).

An acute injury that requires ice usually requires medical assessment. Accurate diagnosis is imperative for proper care and rehabilitation of an injury (11). An injured athlete should be referred to appropriate medical care.

R – Rest. Rest an injury by limiting movement (11). All acute orthopedic-type injuries should be rested. If a fracture is severe, it should be immobilized where it lies, and emergency medical services should be contacted to treat the injury further. If a fracture is compound (the broken bone has broken through the skin), then this is a medical emergency and treatment should be undertaken by emergency medical personnel as soon as possible. Gymnastics professionals should not try to reduce dislocations or fractures. In some cases, immobilization simply means leaving the limb alone.

I – Ice. Ice reduces inflammation and pain caused by injuries (11). Most orthopedic injuries, during the initial stages, should have ice applied immediately. Obvious exceptions include compound fractures (when a broken bone protrudes through the skin), eye injuries, and other injuries that include open wounds that may become infected. Ice should be applied for 20 minutes or less and is most effective when applied immediately and during the initial stage of the injury. Gauze or cloth should be used as a barrier between the ice and skin to prevent cold burns or skin damage (11). Chemical-type ice packs can reach temperatures that result in cold injury. Ice packs should not be taped to a limb and left for extended periods.

C – Compression. Compression refers to the use of snug bandages that reduce swelling, bleeding and can provide support. Compression should be applied evenly across the swelling area. Compression is not the same as a tourniquet. A tourniquet is used to cut off all blood supply to an area; compression should not result in cutting off the blood supply to the limb.

E – Elevation. Gravity has considerable influence on the accumulation of swelling. If the injured limb is left below the body, gravity assists in helping the area swell with fluid. Elevating the injured limb, ideally above the heart, helps reduce the magnitude of swelling. Elevation should not be used when the act of raising the limb aggravates the existing injury.

D – Diagnosis. If significant improvement has not occurred within 48 hours, seek medical attention. Accurate diagnosis is imperative for proper care and rehabilitation of an injury.

Preparing for Catastrophic Injuries

Catastrophic injuries are those severe injuries that are serious threats to life and health. Catastrophic injuries include spine, heart, lung, head and neck injuries. The most important aspect of dealing with a catastrophic injury is activating and engaging the emergency medical action plan. Catastrophic injuries are extremely time-sensitive. The quicker the injured athlete can enter the medical system, usually the better the prognosis. In light of this, the most important piece of emergen-

cy equipment in the gymnastics facility is the telephone - to contact emergency services. Telephone preparation consists of the following (370):

- ambulance, police and fire telephone numbers (usually 911) should be placed prominently at each telephone;
- post the name of the facility, address, location of the telephone (e.g., what floor or room), and the nearest cross street prominently near each telephone;
- post the name, address and telephone number of the nearest hospital emergency room;
- post the name, address and telephone numbers (pager, cell, home, etc.) of the team physician; and
- post the telephone number for local poison control.

When traveling to a different facility, the information listed above should be obtained prior to attending the event. Gymnastics coaches should also keep medical information, telephone numbers, personal physician numbers and names, allergies, and other medically important information in a file that is readily accessible in the training facility and goes with all coaches when they travel to competitions.

C.A.B. “C.A.B.” is an acronym that stands for Compressions, Airway, Breathing. The C.A.B. acronym is a helpful prompt to guide an appropriate first-aid response for an unresponsive gymnast, who is not breathing or is not breathing normally (gasping). The American Heart Association promotes a team approach for this type of response. Untrained bystanders, not familiar with cardiopulmonary resuscitation (CPR), should call 911 and place the phone on speaker. If the responder is alone (a single rescuer), 911 should be called first. Chest compressions should then be immediately started without delay. High-quality compressions should be at least 100/min, allowing the chest to completely recoil after each compression. If the rescuer is adequately trained in rescue breathing, or if a second rescuer is available and is adequately trained, rescue breaths can be given. The chest compression to breath ratio should be 30 chest compressions followed by 2 breaths. If no one is adequately trained in giving rescue breaths, then Hands-Only CPR should be provided by giving continuous chest compressions maintained at the recommended 100 compressions/minute pace. Due to the nature of gymnastics-type injuries, if the injury or collapse was not witnessed, the CPR rescuers should assume that a neck injury is present. Rescuers should also be suspicious of cardiac arrest in any gymnast showing seizure-like activity. If an automated electronic defibrillator (AED) is available onsite, rescuers trained in the use of the AED should follow recommended guidelines and attempt defibrillation within 3-5 minutes, if emergency medical services have not yet arrived. (359)

Head and Neck Injury. The potential dire consequences of head and neck injuries require special consideration. Gymnastics professionals should always take precautions to prevent head and neck injuries. When an athlete is suspected of having a head or neck injury, the gymnastics professional should assume a serious injury and engage the emergency action plan.

Head Injury. If an athlete suffers a blow to the head (e.g., severe traumatic brain injury or concussion), the athlete should not be allowed to continue participation without medical assessment. Some head injuries appear deceptively mild. An athlete who suffers a head injury should, therefore, be evaluated by a physician as soon as possible. More information on concussions is provided in Chapter 12.

If an athlete is rendered unconscious due to a head or neck injury, one should assume that a serious injury has occurred and the emergency medical system should be activated. If the athlete is conscious following a head injury, the following symptoms indicate that the injury requires immediate medical attention and 911 should be called (87):

- headache that gets worse;
- continued confusion, restlessness or agitation;
- amnesia or trouble recognizing people or places;
- weakness, numbness or decreased coordination;
- repeated nausea or vomiting;
- sleepiness;
- slurred speech;
- convulsions or seizures; and/or
- signs of cervical spine injury (see below).

Cervical Spine (Neck) Injury. Neck injuries in gymnastics usually result from a fall onto the head and/or neck. Sometimes falls that did not initially appear to be traumatic (glancing-type blows) may result in serious cervical injuries. The C.A.B. acronym above should be invoked when dealing with a cervical spine injury. Following C.A.B., attention shifts to engaging emergency medical services and immobilization. Immobilization is essential because extraneous movement following the initial injury can cause further damage. If a cervical spine injury is suspected, the athlete should never be moved unless CPR is required to restore breathing and heart function.

Rescuers should assume that all gymnasts with multiple injuries, a head injury, a facial injury, or a gymnast who is unconscious has a spinal injury. This assumption helps guard against the problem of increasing the harm to an already injured gymnast (129).

Sports medicine has become an essential part of all athletic programs. Athlete care, from prevention to decisions regarding return to activity, should be made by trained personnel. Coaches are the first line of defense in injury and should be trained accordingly. Emergency plans should include all aspects of handling an injury.

Chapter 9 Key Points

- A number of professionals are medically trained to handle sports-related injuries.
- The primary sports medicine personnel are team physicians, athletic trainers, physical therapists and coaches/instructors.
- Care for injuries involves injury prevention, injury recognition and treatment, and injury rehabilitation.
- Gymnastics coaches and instructors should work under the guidance of a physician or other trained sports medicine personnel when rendering aid to a gymnast.
- Emergency action plans should be formed and in writing. Emergency plans should include all potential emergencies.
- Gymnastics professionals should understand their role in an emergency by rendering aid when appropriate and smoothly relinquishing their position when emergency medical personnel arrive.
- Consent to Treat documents should be available for all athletes.
- Notification of important parties following an injury should proceed according to a pre-determined plan.
- Gymnastics professionals should be aware of and practice emergency medical procedures.
- Non-catastrophic injuries do not involve life or limb threatening injuries. These injuries are usually easily treatable using the R.I.C.E.D. protocol.
- Catastrophic injuries are life- and limb-threatening and require immediate activation of local emergency medical services. First responders should use the C.A.B. protocol.

Section II: Injury Prevention and Care



Chapter 10: Other Medical Concerns

“It is a wise man’s part, rather to avoid sickness, than to wish for medicines.”

– Thomas More, Utopia [sic]

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- Overuse Injuries
- Heat Injury
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Concussions

What is a Concussion? A concussion is formally defined as a complex pathophysiological process affecting the brain, induced by biomechanical forces secondary to a direct blow to the head or an impulsive force transmitted to the head (235). In other words, a concussion is a type of traumatic brain injury that affects the way the brain functions due to an indirect or direct force applied to the brain. Any part of the brain function can be affected. Concussions should be taken seriously.

Causes of Concussions. As mentioned above, a concussion can be sustained by direct force (e.g., bump, blow or jolt to the head) or indirect force (e.g., blow to the body, which causes the head to move rapidly back and forth). Direct contact with safety mats or apparatus/equipment is frequently the cause of this injury. The whiplash affect of cervical flexion and extension (head forced forward and backward) may result in a concussion and is the most common type of mechanism of injury. Rotational forces of the head and neck (head forced to the right or left) are not as common but may lead to more severe symptoms. Direct, indirect and rotational impacts are all possible in the sport of gymnastics.

Gymnasts may land hard on their buttocks and sustain a concussion through impulsive forces transmitted up the trunk and spinal column to the brain. This would be an example of an indirect force to the brain creating a concussion. Imagine slightly loosening a cap to a 2-liter bottle of soda pop and then forcefully slamming the bottom of the bottle against a table top. Even though the bottom of the bottle made contact with the table, the force would create an explosion of soda pop out through the top of the bottle. This would be similar to how the forces would be transmitted up the spine to the brain when landing hard on the buttocks.

IN DEPTH

Epidemiology research on gymnastics has shown from less than one percent to as high as 30 percent of gymnasts sustain a concussion (267). The data is variable depending on how a concussion is classified, especially since there has been a significant change in these criteria over the past five to 10 years. In addition, due to the recent heightened attention placed on concussions, the recognition of this injury has been increasing in recent years creating increased reporting.

Recognition of Concussions. Concussions do not appear on a CT Scan or magnetic resonance imaging (MRI) of the brain because a concussion is a disturbance of the brain’s neuro-metabolic dysfunction rather than structural brain injury. A concussion affects the function, not the structure of the brain. This would be similar to having the hard drive on your computer crash. You can take apart the computer and all the parts look normal but it still does not function properly.

Recognition of concussions often occurs through (1) observing an injury (e.g., blow to the head) and (2) noticing changes in the gymnast’s behavior, thinking, or physical functioning. Additionally, the gymnast may report symptoms to a coach, instructor or parent. This form of brain injury results in a complex mixture of physical, cognitive, emotional and sleep-related symptoms, which may include (also see Appendix U):

- Headache (most common symptom),
- Confusion,
- Disorientation,
- Inability to think clearly,
- Memory problems or loss of memory,
- Showing mood, behavior or personality changes,
- Decreased balance or dizziness,
- Loss of consciousness,
- Nausea or vomiting,
- Blurry or double vision,
- Sensitivity to light and/or noise,
- Sleep disturbance.

The gymnast may experience one or more of these symptoms. Symptoms may appear immediately or hours or days after the injury. Concussions may or may not involve a loss of consciousness or loss of memory. If these do occur, they indicate a more significant concussion.

Response to Concussions. The evaluation and treatment of a concussion has progressed through international consensus statements (235). The coach should not be expected to know how to determine the severity of a concussion. The coach's/instructor's role is to recognize when the gymnast has been injured and recommend that the gymnast seek appropriate medical care. The coach may also notice a disturbance in the gymnast's performance (e.g., decreased balance and/or air awareness) or find that symptoms are exacerbated during training.

Depending on the severity of the symptoms, the gymnast may need immediate evaluation in the emergency department. Severe concussion symptoms, such as a headache that gets worse, weakness or numbness, repeated vomiting, and/or slurred speech, may be cause to seek emergency medical attention (87, 235). It is recommended that clubs include traumatic brain injuries in emergency action plans. For less severe concussions, medical evaluation within 24 hours of the injury is recommended. Remember, a gymnast with a concussion must be medically evaluated and receive medical permission to return to practice. Therefore, the sooner the medical evaluation, the sooner the athlete and coach will understand the steps and estimated time to return to practice and competition.

Coaches should be aware of the signs and symptoms of concussions, recognize if an athlete is displaying these signs and symptoms, and remove the gymnast from participation. If a concussed gymnast is allowed to go back to practice or competition, further injury may occur. Gymnastics requires the athlete to be able to think clearly and exhibit precise timing and balance otherwise significant injury can result. A gymnast that falls and develops a headache may likely have a concussion and his/her risk for further injury is high. The best treatment is to rest the gymnast's brain. Just like when an athlete sprains an ankle, the coach sits them down and places ice on the ankle, restricting vaulting and tumbling activities. The same applies to a concussion, sit the athlete down, preferably in a quiet place with little or no sensory stimulus to the brain, and contact the athlete's parent or emergency contact person. The athlete should not be allowed back to practice until a healthcare professional, experienced in evaluating concussions, deems it safe to return to gymnastics activity.

Many states now have laws protecting athletes with concussions. It is important for coaches to investigate if their state has a law and what that law entails (see Appendix A for information on organizations, such as the CDC, SafeKids USA, NFHS, and KnowConcussion that provide information on concussion laws). State laws determine the standard of care for a concussed athlete and should help direct the safe return of an injured gymnast.

Treatment and Recovery. Recovery may take several days, weeks, months or even longer in more significant cases. Fortunately, most concussions result in neurologic dysfunction that resolves quickly. However, even if the gymnast falls, hits his/her head, gets a headache that lessens in a few minutes and the gymnast tells the coach he/she is feeling fine, the gymnast may still be at risk for greater injury if activity resumes. There may be other deficits in brain function besides what the athlete feels. In

addition, exercise, especially the flipping and twisting in gymnastics, may cause the symptoms to re-occur. Following a fall, if a concussive injury is not initially recognized and the gymnast returns to practice, the coach should continue to closely monitor the gymnast to see if symptoms occur or performance decreases. If this occurs, then the gymnast should immediately cease practice until their concussion can be medically evaluated.

The treatment for concussions is focused on physical and cognitive rest until the gymnast no longer has symptoms. This means rest, even from simple activities, such as conditioning, is essential or the condition may be worsened or re-aggravated. The average amount of time for an adolescent to resolve symptoms is seven to 10 days. During the initial rest phase, it is beneficial for the gymnast to avoid reading, texting, keyboarding, video/computer games, watching television, loud music, bright lights and, of course, physical activity in and out of the gym. This may require the school-aged gymnast to stay home from school to rest the brain. A medical professional experienced in the care of concussions should oversee and guide the treatment. Once the gymnast is asymptomatic, then the brain may be challenged again, similarly to the way you would gradually add exercises to an injured joint.

As mentioned above, the medical professional will advise when to start the brain's recovery process. Firstly, the gymnast should add back stimuli outside the gym, including all daily living activities, such as reading, texting, keyboarding, and a return to school work. Next, the gymnast should add back light aerobic activity to increase his/her heart rate to a maximum of 70 percent of his/her predicted maximum heart rate. The next steps will be to add sport-specific gymnastics exercises. The coach should receive a note from the physician allowing the gymnast to return to training before the coach becomes involved in the recovery process. Unfortunately, many medical personnel who are not trained in the care of concussions will just clear the gymnast back to athletic participation; therefore, it is up to the coach to gradually return the gymnast back to full gymnastics training.

Here is a guideline that may assist a coach in returning a concussed gymnast back to practice. Gradually add the activity listed in each step to the gymnast's workout. Allow 24-48 hours after the successful completion of a step before advancing the gymnast to the next step. Advance through each step only if the gymnast remains symptom free. The protocol below was developed through the collaboration and expert opinion of the USA Gymnastics Medical Task Force.

Concussion - Gymnastics Exertion Protocol

- STEP 1** No activity, physical and cognitive rest, until all symptoms resolve
- STEP 2** Limited activity – stretch; non-impact aerobic activity, i.e. stationary bike (15-20 min); no strength
- STEP 3** Gym-specific activity (low risk) – limited inversion; no twisting; no flipping
 - Artistic: basics on FX, BB, PH, PB (FX/BB – leaps, jumps, and dance; BB – always start on low beam and progress to high beam)

- Rhythmic: basic dance – no arching, no pirouettes
- T&T: land drills
- Acro/Group: limited lifts and choreography

STEP 4 Gym-specific activity (high risk) – increased inversion; basic flipping; no twisting/pivots

- Artistic: add basics on UB/SR/HB (no giants); start VT drills
- Rhythmic: add strength, advance dance (no pivots)
- T&T: basic jumping with single-skill flipping; start basics on tumbling, timing drills on double-mini
- Acro/Group: basic tumbling; start balance skills and lifts

STEP 5 Partial clearance

- Artistic: skill progression all events; start strength training; higher difficulty flipping; no twisting
- Rhythmic: add throws and pivots – FULL CLEARANCE
- T&T: skill progression; start strength training, higher difficulty flipping; no twisting; increase tumbling difficulty (no twisting)
- Acro/Group: advance tumbling/dynamic skills; advance balance skills/lifts; start strength training; no twisting

STEP 6 Partial clearance

- Artistic: increased strength; start twisting; continued skill progression
- T&T: increased strength; start twisting; start back landings; continued skill progression
- Acro: tumbling with twisting, full balance skills, full lifts and strength training – FULL CLEARANCE

STEP 7 Partial clearance

- Artistic: return to normal strength training and skill work, add sequences & partial routines
- T&T: return to normal strength and skill work, add partial sequences & partial routines, full double mini

STEP 8 Full Clearance:

- Artistic: complete skill work; full routines – FULL CLEARANCE
- T&T: complete skill work; full sequences/routines – FULL CLEARANCE

STEP 9 Injury Prevention:

- Strengthening neck muscles can help to minimize the risk of concussion.

Legend: FX=floor exercise; BB=balance beam; PH=pommel horse; PB=parallel bars, UB=uneven bars, SR=still rings; HB=horizontal bar; VT=vault)

Remember, it is important that the gymnast not become disoriented or lose balance. The gymnast should be able to stay focused on the assigned skills, and the coach should closely monitor all activity to ensure concussion symptoms do not return.

Prevention. Gymnastics professionals play a key role in helping to prevent concussions and responding properly when they occur. Consider the following steps in your preparation for concussive injuries (88).

- Create a concussion action plan. Check with state laws, local medical professionals, and online resources listed in this

handbook to aid in development of the plan. Communicate this plan with all staff members.

- Educate athletes and parents about concussions. Provide information on the signs and symptoms, as well as action steps. Teach athletes that it is not safe to train or compete with a concussion.
- Insist that safety comes first. Teach proper techniques, encourage adherence to the rules, use correct gear, apparatus and equipment, etc.
- Monitor your athletes' health. Watch for signs following an injury, remove the athlete from participation, and insist the athlete seek medical evaluation. These steps can help to prevent long-term problems for the athlete.
- Review your plans. Keep track of concussions throughout the season and review your policies and action plans.

Research has also indicated neck strength as an important factor for preventing or decreasing the severity of a concussion (105). The neck muscles are able to assist in absorbing the traumatic forces, thereby decreasing brain pathology. Neck muscles are able to support the head and absorb the forces with flexion/extension motion patterns better than in a rotational pattern. This may be one explanation why cervical rotation may create a more significant concussion than experienced with cervical flexion and extension. Commonly, males have stronger neck muscles and proportionally smaller heads than the female gymnast. The male gymnast may sustain greater forces and yet have a milder concussion if his neck musculature is able to absorb the forces well. Coaches may choose to strengthen their gymnasts' necks in an effort to decrease the incidence or severity of a concussion.

Overuse Injuries

Basically, there are two types of injuries: acute injuries and overuse injuries. Acute injuries are usually the result of a single, traumatic event. Examples include fractures, sprains and dislocations (258, 259). Overuse injuries are, just as the name implies, injuries that usually develop over time and are the result of repetitive micro-trauma to the tendons, bones and joints. Overuse injuries are common and can be challenging to diagnose and treat (259). Typically overuse injuries include tendonitis, shin splints, stress fractures and bursitis.

Recent data indicates that 30-50 percent of all youth sports injuries are the result of overuse (359). The American Orthopaedic Society for Sports Medicine lists the following factors as contributors to overuse injuries (259).

- Training errors. Training errors include rapid acceleration of training intensity, duration or frequency of activity. Overuse injuries can also happen when returning to a sport or activity after injury and trying to make up for lost time. In general, training should not increase more than 10 percent per week. Allow adequate time for the body's recovery and response.
- Technical or biomechanical errors. Even slight variations in form or technique can lead to overuse injuries. The use of proper technique is critical.

- **Individual factors.** Anatomical factors, such as imbalances between strength and flexibility around certain joints, or body alignment problems, such as knock-knees, bow legs, unequal leg lengths and flat or high-arched feet can predispose athletes to injury. Additionally, young athletes are often predisposed to overuse injuries, because growth cartilage is more easily damaged than the cartilage in older athletes, and muscles and tendons tend to be tighter due to rapid bone growth (11).
- **Apparatus and equipment factors.** Appropriate landing surfaces and other equipment choices can aid in protecting athletes from overuse injuries.
- **Reporting and recognition.** Athletes often fail to report pain and injuries to coaches/instructors, and coaches/instructors often fail to recognize the signals of overuse injuries. Encourage a positive response when athletes report pain and injuries, and inform parents of risk factors, specific stress areas, and signals of overuse injuries (11).

IN DEPTH

Stages of overuse injuries (11)

1. Pain occurs only after the activity.
2. Pain begins to occur during and after the activity.
3. Pain occurs throughout the activity.
4. Pain occurs during gymnastics and non-gymnastics activities.

Heat Injury

While heat injury is not a common problem in gymnastics, the gymnastics professional should be aware of the symptoms and circumstances. Moreover, because heat injuries are well understood, these types of injuries are preventable. The basic problem in heat stress is that the body is producing heat faster than it can be dissipated (233). The keys to preventing heat injury lies in acclimation of the athlete to the heat and curtailing activities that take place in hot humid environments (21).

Types of Heat Injuries or Illnesses. Heat injury types are based on the level of “threat” that has been imposed by the extreme temperatures.

- **Heat cramps.** Heat cramps involve involuntary muscle spasms. Usually, the spasms occur in the exercised muscles. Body temperature may not be elevated. Prevention of heat cramps is achieved by drinking large amounts of water and including a small amount of salt in the diet (233).
- **Heat exhaustion.** Unacclimatized people, during the first heat wave of summer and the first workout on a hot day, are the most likely to show heat exhaustion. Symptoms of heat exhaustion are a rapid pulse, low blood pressure when standing, headache, dizziness, and general weakness. Sweating may be reduced, but body temperature is not raised to dangerous levels. When a gymnast shows these symptoms, activity should be stopped, the athlete should move to a cooler environment, and fluids should be administered (233).

HEAT STRESS INDEX

	Air Temperature, °F										
	70°	75°	80°	85°	90°	95°	100°	105°	110°	115°	120°
Heat Sensation											
0%	64°	69°	73°	78°	83°	87°	91°	95°	99°	103°	107°
10%	65°	70°	75°	80°	85°	90°	95°	100°	105°	111°	116°
20%	66°	72°	77°	82°	87°	93°	99°	105°	112°	120°	130°
30%	67°	73°	78°	84°	90°	96°	104°	113°	123°	135°	148°
40%	68°	74°	79°	86°	93°	101°	110°	123°	135°	151°	
50%	69°	75°	81°	88°	96°	107°	120°	135°	149°		
60%	70°	76°	82°	90°	100°	114°	132°	149°			
70%	70°	77°	85°	93°	106°	124°	144°				
80%	71°	78°	86°	97°	113°	136°					
90%	71°	79°	88°	102°	122°						
100%	72°	80°	91°	108°							

Heat Sensation

90° - 105°

105° - 130°

130°+

Risk of Heat Injury

Possibility of heat cramps

Heat cramps or heat exhaustion likely
Heat stroke possible

Heat stroke a definite risk

- **Heat stroke.** Heat stroke is the most serious heat injury and can be fatal. When temperature regulation fails, sweating stops. The skin of a heat stroke victim becomes dry and hot. However, some heat stroke victims may retain the ability to sweat (172). Body temperature can rise to more than 104 degrees Fahrenheit (40 degrees Celsius). Symptoms of heat stroke are: rise in body temperature, excessive sweating or lack of sweating, irritability, irrational behavior, confusion, weakness, and loss of consciousness (172). Heat stroke is a medical emergency. The degree and duration of heat stroke determines the danger. The longer an athlete has a severely elevated body temperature, the greater the potential damage. Immediate medical attention is warranted for anyone suffering from heat stroke. Emergency medical service should be contacted immediately if heat stroke is suspected. Cool the athlete by using the following methods: move him/her to a shady or air conditioned space; cover the athlete with damp sheets or spray the athlete with cool water; fan the athlete; and/or cool the athlete with icepacks (359).

How Hot is Too Hot? Heat injuries are caused by a combination of exercise, heat and humidity. The table below shows the interaction of heat and humidity in a Heat Stress Index (233). When the combination of heat and humidity reaches a level that exceeds 90-105 degrees of heat sensation, then reduction of strenuous activities is warranted.

Gymnastics professionals should not hesitate to stop activity when heat injuries are possible. Fluids should be available to all athletes at all times, and athletes should be allowed to acclimate to hot and humid environments for several days before implementing strenuous training.

Preventing Heat Illnesses. In warmer and more humid temperatures, the following tips can help prevent the onset of heat illnesses (314).

- **Stay hydrated.** Maintenance of body fluids is essential to maintaining proper body temperature. Replenish fluids before, during and after exercise.
- **Reduce exercise intensity.** Exercise intensity should be reduced at least until the athlete is acclimated to the higher temperatures.
- **Watch the temperature.** Use the Heat Stress Index to determine the risks of exercise at various levels of temperature and humidity. Consider moving practices to a time of day when the "Heat Sensation" is lower.
- **Increase your fitness.** Physical training and heat acclimation can increase blood volume and help regulate body temperature more effectively.
- **Wear appropriate clothing.** Wearing minimal clothing allows for greater skin surface area for heat dissipation.
- **Know when to rest.** Use common sense when training in high heat and humidity. Stop or postpone practice when necessary.

Blood-Borne Pathogens

Athletic activity occasionally results in a cut or blister that bleeds. Blood can provide a route of microorganism transmission from one person to another. The most common concerns for blood-borne pathogens (disease causing organisms) are hepatitis B (HBV), hepatitis C (HBC), and the human immunodeficiency virus (HIV) (195). These and other infectious viruses have increased throughout the world and pose a significant health threat to anyone exposed to the viruses. HBV and HIV are most often transmitted via sexual contact, direct contact with infected blood, or from a mother to her perinatal baby. Other behaviors, such as body piercing and tattoos can also lead to infection (392).

Hepatitis B (HBV). Hepatitis is a blood-borne pathogen. Infection afflicts the liver and symptoms may range from nothing to mild flu-like symptoms. HBV can be fatal in a small percentage of those infected. Chronic infection with HBV can also lead to liver cirrhosis and cancer. HBV is a problem in sports because those who are infected can transmit the disease to someone who encounters blood or bodily fluids from the infected person. The newly infected person may not be aware of the infection for some time.

Human Immunodeficiency Virus (HIV). HIV is a virus that afflicts the immune system and thus predisposes the infected person to other infections and ailments. Unfortunately, someone infected with HIV may be free of symptoms for years, but they can still serve as a carrier of the virus (183).

Transmission. Athletic settings do not serve as a likely place for the transmission of blood-borne pathogens (183). Perspiration (sweat) is not known to carry HIV (195). Athletes who engage in high-risk behaviors for HBV and HIV should be directed to counseling. Routine testing of athletes for HBV or HIV is considered unwarranted. The most common means of transmission of HIV is through unprotected sex and intravenous injections.



Figure 49. Hand with a rip

Dealing with Blood and Bodily Fluids. Fortunately, dealing with blood and bodily fluids is relatively straightforward. Bleeding or oozing wounds should be treated aggressively. A bleeding athlete should not be allowed to participate until the bleeding is controlled, and all blood is cleaned off of all surfaces. Blood on a uniform should be cleaned and disinfected before returning to activity (32). Wounds should be covered prior to participation so that blood and fluids will not leak and come in contact with surfaces or other athletes. Officials, coaches, instructors and administrators who note blood or bleeding

should intercede and control the blood using the guidelines of Universal Precautions for blood and bodily fluids (392). Anyone directly contacting blood, urine, vomit or other bodily fluid should use sterile gloves. Sterile gloves should be changed after treating each participant. After removal of gloves, the hands should be washed. Any surface that is contaminated with blood or bodily fluids should be cleaned in accordance with Universal Precautions for blood-borne pathogens as outlined by the Centers for Disease Control and Prevention (195). This includes wearing sterile gloves; containing the blood or bodily fluids in the smallest area possible; removing the blood or bodily fluids using absorptive materials; cleaning the area with a decontaminate solution; and disposing of all blood or bodily fluid contaminated materials in a receptacle designed for blood-borne pathogens.

Containers for blood and bodily fluids are available from hospital supply stores and others sources. The containers should be labeled with the international symbol for biohazards and disposed of properly. Blood-soiled items should be bagged separately and laundered appropriately. Uniforms that are soiled with blood should be hygienically laundered.

Athletic settings do not pose an increased likelihood for disease transmission. Using *Universal Precautions* when dealing with exposed blood are generally adequate for dealing with blood-borne pathogens (Figure 49). When bleeding is apparent, the athlete should be removed from the activity until the bleeding is controlled and appropriate dressings are used to prevent contact of the athlete's blood with other athletes or equipment. Blood-soiled items should be thoroughly cleaned with an appropriate decontaminate.

MRSA in the Gym (278)

Methicillin-Resistant *Staphylococcus aureus* (MRSA) is a highly drug-resistant strain of *Staphylococcus* bacteria that causes a variety of skin lesions from boils and pustules, to wound infections, blood poisoning and even death. It is a product of drug resistance through the overuse of antibiotics for viral

infections and is now one of the major reasons why doctors are much less likely to write prescriptions for simple sore throats, bronchitis and other classic viral illnesses.

It often takes root in small scratches, wounds, abrasions or cracks in the skin so small they may not even be noticed. But once the bacteria takes hold, it causes a variety of skin infections that often require surgical drainage. In addition, because the organism is resistant to most classic antibiotics, it is very hard to eradicate, and in many instances, a person must receive multiple doses of intravenous antibiotics to fight the infection.

Most cases of MRSA can be prevented by a combination of good hygiene and attention to the behaviors that permit the spread of this organism. The Center for Disease Control (CDC) has a comprehensive guide for the prevention of transmission of MRSA in your facility. Below are adopted guidelines from the CDC to help prevent the spread of this disease.

- Practice good hygiene (e.g., keeping your hands clean by washing with soap and water or using an alcohol-based hand sanitizer and showering immediately after participating in exercise).
- Cover skin trauma, such as abrasions or cuts, with a clean dry bandage until healed.
- Avoid sharing personal items (e.g., towels, razors) that come into contact with your bare skin; and using a barrier (e.g., clothing or a towel) between your skin and shared equipment, such as weight-training benches.
- Maintain a clean environment by establishing cleaning procedures for frequently touched surfaces and surfaces that come into direct contact with people's skin.

While the presence of a case of MRSA may spark concern, rest assured most cases are readily treatable, and the spread to others can be prevented without closure of the facility. With the proper hygiene, maintaining a clean environment, and the promotion of safe handwashing practices, most cases can be prevented and make for a more enjoyable gym experience for everyone.

Chapter 10 Key Points

- Concussions are a type of traumatic brain injury that affects the way the brain functions and should be taken seriously.
- If a concussion is suspected, the gymnastics professional should remove the gymnast from participation, inform the gymnast's parents/legal guardians, and ensure evaluation by an experienced healthcare professional.
- Overuse injuries usually develop overtime and are the result of repetitive micro-trauma to the tendons, bones and joints. Overuse injuries are common in gymnastics. Coaches and instructors should know the risk factors for these types of injuries, enforce proper technique, use appropriate training programs, help athletes develop overall fitness, and encourage athletes to report pain and injuries.
- Heat injuries/illnesses are rare, but gymnastics professionals should not hesitate to reduce strenuous activity when gymnasts are not acclimated and/or performing in a hot humid environment.
- Blood and bodily fluids should be handled by standard Universal Precautions. Gymnastics professionals should be prepared with sterile gloves, appropriate bandages, decontaminate materials, and proper disposal equipment to deal with blood and bodily fluids. When items are soiled with blood or bodily fluids, they must be cleaned, laundered and/or discarded appropriately.
- MRSA is a highly drug-resistant strain of *Staphylococcus* bacteria that causes a variety of skin lesions, from boils and pustules, to wound infections, blood poisoning and even death. With proper hygiene, maintaining a clean environment, and the promotion of safe hand washing practices, most cases can be prevented.

Section III: Special Gymnastics Safety Factors



Chapter 11: Spotting & Acrobatic Support Devices

*“I find that the harder I work,
the more luck I seem to have.”*

– Thomas Jefferson

Chapter Contents

- Spotting - Revisited
- Issues in Spotting
- Learning to Spot
- Types of Spotting
- Key Points

Spotting - Revisited

Spotting was discussed previously in reference to instruction and supervision. This chapter seeks to explore more fully spotting and related spotting support methods and devices. The term “spotting” has come to mean a variety of different things. Unfortunately, the same word is often used to describe quite different behaviors (381). The two major areas of spotting are “hand spotting” and “belt spotting.” Both of these involve manipulating, supporting, catching a gymnast during a skill, or simply being in a position to provide support. The term “spotting” is also used in reference to visually sighting a particular “spot” and using that visual information to achieve spatial orientation or knowledge of body position in space. Visual spotting is not the topic of this chapter.

Spotting was defined by Dr. Gerald George as: “any form of physical assistance that a gymnast receives during the execution of a skill or a series of skills” (152, p. 1). Also, according to George, spotting requires skill, knowledge, practice and experience. Spotting skills are learned in much the same way that gymnastics performance skills are learned - from the simple to the complex and after considerable practice (152). “Spotting is not 100% fail-safe. Even under the very best of conditions, the window of foreseeability is never fully opened and the element of risk is forever present” (152, p. 1).

Goal of the Spotter. The primary goal of the spotter is to prevent the gymnast from sustaining a serious injury, such as falling onto his/her head and neck. The secondary goal of the spotter is to prevent other falls and/or injuries. The first two goals seek to reduce the injury, or if a skill is performed so badly as to be unsalvageable, to reduce the magnitude of the injury (381). By removing or reducing a fear of falling and injury, the spotter enhances the gymnast’s ability to practice a skill while concentrating on technique and not simply focusing on avoiding a fall.

The tertiary (i.e., 3rd) goal of spotting is to manipulate and support the gymnast so that he/she completes the skill with an

added sense of confidence or in a more appropriate body position. Spotters can manipulate the athlete’s body into appropriate positions or appropriate places. Since gymnastics involves unusual positions, often inverted, a spotter can be tremendously helpful in assisting the athlete into the correct position. Spotting can also help to reduce the harshness of some landings.

Spotting Fits within the Overall Goals of Gymnastics Instruction. The primary goal of spotting as instruction is to help the gymnast perform the skill independently. Spotting

is merely an aid to independent skill performance. Spotting should not be used as a substitute for sound progressions.

Spotting is not required for skill learning (298). However, as spotting is reduced, the number, depth and breadth of progressions should increase to compensate. Clever drills, mat situations, long and thorough progressions, exposure to similar skills, and other factors may combine to reduce the need for spotting.

Issues in Spotting

In spite of some limitations and other issues, spotting is an essential skill for gymnastics coaches and instructors. Below are spotting related issues to consider.

Strength of the Spotter. Effective spotters are strong enough to catch a falling gymnast and either:

- support the weight of the gymnast entirely,
- slow the descent enough to prevent an injury, or
- redirect the fall to a softer area or away from the head and neck.



Figure 50. Coach spotting athlete on beam

In order to make effective use of the spotter's strength, the spotter should understand the intricacies of the skill being performed. The spotter should skillfully assist the gymnast without interfering with the gymnast's movements. A spotter that "gets in the way" of the skill is sometimes worse than no spotter. Repeatedly catching gymnasts during gymnastics training has been known to rupture the biceps tendon of more than one spotter, amplifying the need for considerable strength among spotters. Thus, spotters are not immune from injury. Sprains, strains, and bruises plague spotters, who must sacrifice their personal safety in order to serve as the gymnast's "safety net."

Skill of the Spotter. Spotting is a skill that requires training. Spotting techniques are specific to the particular skill being spotted. As a skill, spotting tends to improve with practice and experience.

Spotting, like gymnastics, has a variety of levels. Spotting decisions should be driven by the momentary individual needs of the gymnast. Gymnasts learning and performing new skills may require more spotting assistance than someone who has performed the skill many times. Gymnastics skills are context-specific. There is no easily identifiable number of repetitions that will ensure successful performance. The individual instructor or coach should always use good judgment when determining an athlete's readiness for further learning and/or repetitions.

Fear and Negotiation. Some athletes do not require much physical spotting and rely on their confidence and innate skills to perform movements. Other athletes may become dependent on spotting at one or more stages of learning and present considerable reluctance to perform the movement without a spotter. Each of these situations is specific to the individual context of the athlete, skill and progression. Unfortunately, no simple and foolproof method exists for dealing with athletes who are reluctant to progress further in their skill levels even when they have demonstrated that they can perform the skill easily (381). Spotting, like many things in gymnastics, is an optimization problem. Too little spotting obviously can lead to unprotected falls and injury. Too much spotting can lead to over-dependence on spotting, thus inhibiting the progress of the gymnast. Coaches and instructors should exercise caution when moving a gymnast from a spotted situation to a non-spotted situation. When in doubt, the coach should err on the side of patience.

Response Time. There are a number of constraints on the ability of one human being to catch or rescue another from falling. People cannot react instantaneously to a hazard. There is a "lag time" between perception of a hazard and the movements that will reduce or eliminate the hazard. Typical driver education classes often discuss the issue of response time when a driver must stop or avoid a hazard on the road. Driver education instructs that a driver who follows too closely diminishes his/her ability to react effectively to a threat while driving. Spotters face the same issues.

Not only does a spotter need skill and strength to catch or support the gymnast during a fall, but the spotter must also be

able to detect a serious flaw and then select a means of effectively intervening to protect the gymnast. Motor learning and control studies have shown that anyone reacting to a situation similar to spotting a failed skill will go through three information processing stages: (a) stimulus-identification, (b) response-selection, and (c) response-programming (192, 324, 349, 389).

IN DEPTH

More on Response Time: Stimulus-Identification, Response-Selection and Response-Programming

Practice and clarity of the stimulus (performance cues) increases the speed of the stimulus-identification stage. The spotter must quickly recognize a failed skill. If the spotter is standing very close to the gymnast, which is often required in order to be effective in reaching and catching the gymnast, then the spotter's view of performance cues is obscured. Short of practicing the spot many times, it is very difficult to gain practice in the spotter's perspective of the skill and gymnast performance errors that might lead to a serious fall (310). A clear understanding and familiarity with performance cues (stimulus identification) will, therefore, enhance the speed and effectiveness of the spotter.

The response-selection stage occurs either following, or in parallel with, the stimulus-identification stage (310). During the response-selection stage, the spotter must choose an appropriate response to the perceived performance cue. The Hick-Hyman Law indicates that as the number of response choices increases (i.e., what the spotter might do to intervene), the time required to select an appropriate response also increases. On average, the Hick-Hyman Law has shown that choice reaction time increases approximately 150 milliseconds (0.15 seconds) every time the number of response choices doubles. Note that a single stimulus-response pairing is called "simple response time." Typical response times for people seeing a light and pushing a button are around 0.20 seconds (192, 324, 349, 389). When stimulus-response situations become more complex, the durations of the different processing stages are additive. For example, the time required for neural transmission from the activated sensor to the brain is approximately 0.10 seconds (389). The time required for recognition of the stimulus may be as long as 0.40 seconds. Decision time may require up to 4.0 seconds. Movement time in order to respond to the perceived, identified and classified performance problem may be as long as 6.0 seconds (389). Common response times have been determined for: moving the eyes (0.48 seconds), walking one step (0.60 seconds), and standing up from a sitting position (1.62 seconds) (389).

The response-programming stage involves the actual movement time that occurs after the previous two stages. If a gymnast falls from a height of ten ft., the time from beginning the fall to striking the floor will be approximately 0.79 seconds based on simple Newtonian mechanics

(170). The gymnast will be traveling approximately 14 miles per hour (20.3 ft./second) at impact (310). The gymnast must be caught well before he/she strikes the ground because the spotter's body position determines in large part how effective any intervention will be. If the spotter is unable to reach the gymnast as he/she falls below the spotter's chest, the ability of the spotter to catch the gymnast becomes seriously compromised. Gebauer, working on a lawsuit, attempted to simulate a fall and a spot on vaulting and found that "... for some complicated movements in gymnastics no effective protection can be given to prevent severe injuries. Moreover, by trying to influence the movement you have to calculate an increased danger of injury by disturbing the motion" (149, p. 291). The constraints of catching a rapidly falling gymnast were also emphasized by Roethlisberger in a discussion of parallel bars safety: "Performers should be made aware that the greatest danger of slipping off the parallel bars occurs just as the body passes through the vertical swinging position. Should this occur, the body would be rotating rapidly through a very low trajectory and the potential for serious injury becomes high. Such a predicament is almost impossible to spot" (285).

This information on the issues and limitations related to spotting simply points out that human constraints can severely limit the ability of a spotter to catch a gymnast during an unplanned fall. Spotting remains an important asset in teaching and protecting gymnasts; however, spotting is not a cure-all.

Learning to Spot

Gymnastics coaches and instructors do not start out with spotting skills. These skills must be learned and perfected. Whitlock recommends the following guidelines for learning to spot (381).

- Prepare physically (i.e., warm-up and stretch) and mentally for the spotting techniques.
- Know the mechanics of the skill being performed.
- Know the areas of potential performance problems so that the spotter is forewarned.
- Work with the athlete throughout the entire learning process so that earlier drills and sub-skills are spotted for practice.
- Use smaller and lighter gymnasts to practice spotting before progressing to bigger and heavier gymnasts.
- Use gymnasts who can already perform the skill so that the spotter can learn the speed, timing and positions of the skill.
- Use extra spotters or "backup spotters" so that the new spotter can practice while the experienced spotter helps ensure safety.
- Observe others spotting and practice the hand motions and positions similar to "shadowing" or observing in a mirror.
- If a foam pit is available, practice while the gymnast is performing the movement into a foam pit.

Types of Spotting

Manipulation and Assistance Spotting. Manipulation and assistance are generally used in the earlier stages of learning. In this type of spotting, the gymnast receives a great deal of help and support while performing the skill. As the gymnast gains more confidence and becomes able to perform more of the skill on his/her own, then the degree, level or amount of assistance is reduced (381). During this type of spotting, the spotter should be very close to the gymnast, physically touching the gymnast, or providing external support for some or all of the movement.



Figure 51. Assistance from instructor

Safety spotting. The coach or instructor is physically near the gymnast during a safety spot, or the gymnast is still in a spotting belt. The coach or instructor may touch the gymnast simply to maintain contact or may continue to hold the ropes with some tension applied to the belt; however, the amount of support provided to the gymnast is greatly reduced. During safety spotting, the gymnast is performing the skill almost entirely on his/her own but may need the physical presence of the spotting belt or spotter in order to enhance his/her confidence (381). Safety spotting requires considerable judgment and communication on the part of the instructor or coach and athlete. While external spotting support is gradually reduced, the gymnast takes on more and more of the responsibility for the skill.

Hand Spotting. Hand spotting refers to a method of spotting where an instructor or coach places his/her hands on the gymnast and lifts, manipulates, and/or supports the gymnast during a skill (Figure 52). Hand spotting can be used for both manipulation/assistance spotting, as well as safety spotting.

IN DEPTH

Guidelines for hand spotting (152).

- Learn to spot basic skills first.
- Allow sufficient time and practice to become proficient at spotting.
- Be sure that communication is open and that both the gymnast and the spotter understand the skill being attempted.
- The spotter's position should be close enough to be able to reach the gymnast effectively.
- The spotter should be able to competently spot (i.e., assist the skill).
- The spotter should be physically capable of catching the gymnast in the event of an unplanned fall.
- The spotter's primary job is to protect the gymnast's head and cervical spine.
- Be prepared for unanticipated or unexpected movements from the gymnast.
- Be sure that the difficulty level of the skill is commensurate with the abilities of the gymnast.
- Spotters should avoid wearing watches, rings, and other jewelry that may interfere with supporting the gymnast or may cut or bruise the gymnast. Spotters should also trim long fingernails.
- Spotters should wear appropriate attire so that clothing does not impede the spotter's ability to catch a falling gymnast.

All spotting should result in minimal touching support, and athletes should be informed about the potential for touching while being spotted (142). Unnecessary touching should not be used, particularly when the spotter is male and the gymnast is female (367). Gymnasts and parents/guardians should be aware that from time to time a slip may occur and the gymnast will be touched on the buttocks, crotch or chest. The instructor or coach and gymnast should understand that such touching is accidental, and it should not occur repeatedly. If the coach or instructor accidentally touches one of these areas, he/she should be sensitive to the situation and indicate that the touch was an accident by a brief apology and then return to instruc-



Figure 52. Hand spotting

tion. When a coach or instructor is performing a rescue-type spot, then concern about touching a private area is obviously trivial in comparison to the consequences of an unprotected fall.

Spotting Belts. The spotting belt is used to support a gymnast during a skill by means of two ropes attached to a belt placed around the gymnast's waist. The ropes can be held by two spotters who follow the gymnast through a skill and hold him/her up in the event of a fall. The ropes can also be attached via pulleys to the ceiling and then to a single spotter holding the ends of the ropes. The spotting belt should fit the gymnast very snugly. The use of "filler" materials to get a larger belt to fit a smaller athlete should be avoided (201). Gymnasts have been known to suddenly fall out of their belt, particularly twisting belts, while inverted. The belt, buckle, metal attachments, and security of the fasteners should be inspected regularly. The inspection should be documented (383).

IN DEPTH

Guidelines for spotting ropes. One type of successful spotting rope is made of a cotton hemp to prevent damage to the spotter's hands. Spotting ropes can be approximately 3/8 inch in diameter. Spotting ropes should be strength- or failure-rated at a minimum of 1,700 pounds (383).

Uniaxial spotting belt.

Spotting belts can be fairly simple, involving a leather or canvas-type belt with metal rings attached at the sides. The ropes are usually fastened to the metal rings of the belt by metal clips, screw-links, or snap-hooks. The metal connections from the rope to the belt should be of a variety that will swivel and turn as the gymnast rotates



Figure 53. Uniaxial spotting belt on overhead rig

(201). The metal connections to the belt have been known to fail occasionally resulting in a gymnast swinging from one rope or being supported only on one side. Therefore, inspection of the various parts of the spotting belt is essential. A simple spotting belt permits the gymnast to rotate about one axis and perform somersaulting skills. By wrapping the ropes around the gymnast counter to the direction the ropes will unwind during the movement, the gymnast may perform limited turns or twists. The extent of such turns or twists is usually a half turn or full turn.

Biaxial spotting belt. A spotting belt can also be complex and allow the gymnast to twist freely while he/she is airborne. A twisting-type belt involves an outer metal ring and an inner leather or canvas-type belt. Thus, a twisting belt allows rotation

about two axes simultaneously - twisting and somersaulting. The inner belt is attached to the outer ring via ball bearings or other mechanism allowing the gymnast to twist or spin freely within the outer metal ring. The outer metal ring is connected to ropes via metal rings and hooks or snaps. Twisting belts are more complex and thus require more vigilant maintenance to ensure that they turn easily and will not result in entangling the gymnast in the supporting ropes.



Figure 54. Gymnast in spotting belt

Hand spotting belt. A gymnast using a hand spotting belt is placed in a non-twisting or twisting belt with the ropes held by two spotters. The two spotters must run along or otherwise move with the gymnast in concert with the gymnast's movements. When the gymnast performs the difficult or flight phase of the skill, the spotters raise and hold the spotting ropes so that the gymnast is held off the floor. Effective use of

a hand spotting belt requires spotters that can run or move as fast as the gymnast. A tumbling gymnast can often move faster horizontally than a sprinting spotter. Therefore, care should be exercised when using a hand spotting belt. Several practice runs or "timers" should be done before the target skill is executed to ensure that everyone can keep up and the gymnast is not hampered by the spotters (299).

Overhead spotting rig. An overhead spotting rig simply replaces the human spotters of the hand spotting belt with longer ropes that are connected to the ceiling via pulleys and then a single spotter holds the ends of the ropes. The ropes travel from the gymnast's belt to the ceiling and then to a spotter standing near the side of the gymnast. The same issues of synchronizing with the gymnast are important when using an overhead spotting belt, particularly on the trampoline. An overhead spotting rig may be fixed at the ceiling by pulleys that are anchored to a beam or other ceiling structure. An overhead spotting rig can also move when the pulleys are themselves attached to horizontal cables so that the entire belt and rope system can move horizontally. The overhead traveling rig allows a single spotter to follow a gymnast through a skill or series of skills.

When using any kind of spotting rig, the spotter should attempt to maintain optimal tension on the ropes. The goal is to avoid too much or too little slack. Slack allows the gymnast to fall too far prior to the ropes being pulled and preventing the gymnast from striking the floor or apparatus. On the other hand, too much tension will impede the gymnast's movement (299). Controlling the slack or slight tension of the ropes requires considerable practice (200, 246). As a gymnast rises,

the ropes must be pulled to remove slack; as the gymnast descends, the rope tension must be reduced so that the gymnast can descend without jerking the ropes, jerking the spotter, or disrupting the movement (200, 246). The spotter should hold the ropes with the dominant hand above the non-dominant hand and employ a hand-over-hand movement in order to remove slack or reduce tension (200).

The overhead spotting rig should include pulleys and a support structure capable of supporting the entire weight of the athlete and forces applied during performance. Pulleys should move freely and permit the ropes to move easily. Inspection of the pulleys and ropes should be undertaken regularly. Frayed ropes and stiff pulleys should be repaired and/or replaced.

IN DEPTH

The steel cables used for a traveling overhead spotting rig should be a minimum of 3/8 inch diameter, and a minimum of eight ceiling clamps (four for each cable) should be used to secure the cables to the ceiling (383). In order to support the gymnast during a difficult or dangerous part of a skill, the spotter needs only to pull down on the rope. Pulleys should be attached securely and capable of supporting the weight of the gymnast and forces applied during performance. The pulleys should be attached to the ceiling such that an approximate angle of 35 degrees is formed between the taut rope and the belt of the performer (246). The angle of 35 degrees is based on the need to keep the ropes away from the gymnast's arms during movements, while maintaining a sufficient upward angle of pull such that a spotter can easily prevent the gymnast from falling. The center of the pulleys or cables should be above the target area for performance. A more precise way to determine the pulley placement is to:

1. Determine the height from the floor to the ceiling attachment (in ft.) and then subtract 3.5 ft. (the approximate height of the waist of a performer),
2. Multiply the distance determined in #1 by the tangent of 35 degrees (.70),
3. Multiply the value determined in #2 by 2 (to determine the second pulley placement),
4. Add 1.5 ft. to the value determined in #3 (the approximate horizontal distance of the waist of the gymnast),
5. The value determined in #4 is the horizontal distance between the two ceiling pulleys or two horizontal cables for a traveling spotting belt. The distance determined in #4 will ensure a 35 degree angle of the ropes to the spotting belt.

Example Calculation

If a gymnasium has a ceiling height of 25 ft., then the horizontal distance between the two pulley placements on the ceiling is 31.6 ft. (200, 246).

$$25' - 3.5' = 21.5' \times .7 = 15 / 5' \times 2 = 30.1' + 1.5' = 31.6'$$

Bungee spotting rigs. Recent advances in elastic materials have provided an abundance of new approaches to suspending people from an overhead structure. Bungee equipment has been used with success in thrill rides, circuses, and major theatrical performances. Bungee spotting apparatus have also been used successfully for instruction in gymnastics, trampoline and aerial skiing. The spectacular heights that can be achieved by using an elastic band attached to a spotting belt (usually a more elaborate spotting belt including a climbing harness) are astonishing. Bungee-type spotting systems were designed to assist athletes in gaining extraordinary “air-time” for multiple twisting and somersaulting skills.

When used properly, benefits of a bungee spotting system include increasing the number of safe repetitions that a gymnast can perform, reducing the risk of landing on the head or neck, reducing fear of landings, and eliminating injuries to the spotter. Precautions when using a bungee system should include the following.

- Setup should follow the manufacturer specifications exactly.
- Students should not be left unsupervised in the bungee rig.
- Six or more bungee cords should be used in all assemblies.
- The same number of bungee cords should be used for each assembly.
- Bungee systems should not be used by people weighing more than 200 pounds.
- Bungee assemblies should be inspected routinely and cords that show wear should be replaced.
- Bungee harnesses should fit the gymnast snugly and support the athlete while upright and inverted.

Bungee spotting systems are not foolproof. Non-material-failure injuries from bungee jumping are beginning to appear in the medical literature, along with spinal loading and other orthopedic concerns (125, 373). Perhaps most importantly, a bungee system, while certainly providing an increase in air-time, inverts the normal falling properties of an athlete. Since the athlete slows as he/she stretches the elastic material of the bungee system, the athlete actually decelerates during the descent rather than accelerating as would normally happen due to gravity. This marked difference in the speed of descent should be emphasized to athletes using such equipment and expecting to move from the bungee system to a “real” descent.

Throw-In Spotter Mat. Trampoline and other disciplines’ instruction sometimes use a soft mat for catching a gymnast while performing a difficult skill. The spotter mat is used to deaden

the bounce of the gymnast as he/she completes the skill and thus avoid an uncontrolled and dangerous bounce from a poor landing (323). A spotter mat should be constructed of medium density foam, approximately 5.5 ft. long by 3.25 ft. wide by 4 in. thick (323). Obviously, the use of a spotter mat requires a skilled instructor or coach who knows precisely when the mat should be shoved onto the trampoline. A coach should communicate with the athlete in order to ensure that the spotter mat is not mistimed and thus serves no purpose or interferes with the athlete’s bounce.

Spotting is a very important skill that all gymnastics coaches and instructors should learn to some extent. As a golf instructor may stand behind a golfer and physically manipulate the hands and arms to show how to swing a golf club, a gymnastics coach/instructor can often enhance learning by manipulating the gymnast through important positions. More importantly for gymnastics is that a spotter can serve as a human safety net for gymnasts, much like a trapeze artist’s safety net. A skilled spotter in the right place at the right time can often prevent injury. Spotting is not a fail-safe however. Since spotting involves human skills, the act of spotting is constrained by human biology.

Chapter 11 Key Points

- Spotting is an important skill, but spotting is not a failsafe.
- The goals of spotting are, (1) keep the gymnast from landing on his/her head, (2) prevent other serious falls, and (3) manipulate the gymnast’s body position and position in space to enhance skill learning.
- Spotting can be overused. The goal of gymnastics instruction is to prepare the gymnast for independent performance of skills. Over-reliance on spotting can work against independent performance.
- Response time severely limits the ability of a human spotter to react to a falling gymnast in an effective way. Gymnasts often fall too rapidly for a human spotter to react and prevent the fall.
- There are a variety of spotting methods and devices. The gymnastics professional should select and use the method and device that are most appropriate to the needs of the particular learning circumstance.
- Spotting is a skill that must be learned and practiced before competent performance is achieved.

*“All men can fly, but sadly,
only in one direction.”*

– Anonymous

Chapter Contents

- What is a Training Pit?
- Loose Foam Pits
- Solid Foam Pits
- Using a Training Pit
- Extricating an Injured Gymnast from a Foam Pit
- Key Points



Figure 55. Gymnast in loose foam pit

What is a Training Pit?

A training pit is a large open area that is filled to overflowing with loose foam pieces or a large, thick and soft foam mat. Pits were adapted from European gymnastics training facilities (228). Training pits serve as soft landing areas for planned and unplanned falls. Softness is the pit's primary asset. Pits absorb the force of impact by distributing the force over a large distance. Pits allow the gymnast to decelerate slowly over a greater distance and thus reduce the magnitude of the deceleration and the harshness of the impact. Foam pits come in two varieties: loose foam and solid foam. Loose foam pits are composed of hundreds to thousands of small foam pieces (Figure 55). Solid foam pits are composed of thick mats of varying construction and materials.

Loose Foam Pits

Loose foam pits require “fluffing” or redistribution of the foam pieces so that the pieces are loosely configured rather than packed tightly at the bottom. Research of consecutive drops of

gymnasts performing a “backdrop” landing into loose foam pits has shown that penetration depths into the pits ranged from 76 cm to 32 cm over the course of 15 falls (317). The deepest penetrations of the foam pits occurred during the first few drops, due largely to the early loose/non-packed nature of the foam pieces. The more falls into a pit, the more tightly packed the foam pieces become. Research has shown that even after three to five falls into the pit, the absorptive quality of the pit is reduced. Therefore, fluffing of the pit should occur frequently if the maximum softness of the landing is to be maintained. Acceleration of a falling gymnast into foam pits has averaged around eight Gs (1 G = the acceleration of earth's gravity) (317). The highest acceleration due to impact that was experienced in pit falls reached only 41% of the peak values experienced on thick landing mats (317).

While no established safety standards exist for the construction and use of foam pits, suggested guidelines have been offered (204, 383).

- The structure of a foam pit, whether built into the floor or built from a raised platform, should be carefully planned to meet the needs of the pit's intended uses.
- Foam pits can be built in a wide variety of dimensions using a wide variety of approaches and materials. The selection of dimensions, methods and materials should reflect the nature of the activities that will be performed into the pit.
- Before digging a hole, it is wise to consult an architect to determine the relative strength of the floor, side walls, water table level, and so forth.
- If the pit is to be built into a raised platform, ensure that the ceiling is high enough to accommodate the pit, apparatus placed on the platform, and flight clearances for the gymnasts who perform on the platform.
- Ladders or stairs to the top of platforms should comply with Occupational Safety and Health Administration (OSHA) standards.
- Pits should be constructed so that impact forces are reduced over a relatively large distance (i.e., distance of penetration).
- Pits should be filled with foam so that the gymnast cannot contact the bottom floor of the pit. A variety of methods can be used to achieve this protection.

- Side walls of pits should be covered with padding or matting. The padding or matting should cover all areas of the pit wall that a gymnast might strike during a fall. The matting of the floor should run continuously to the wall matting of the pit, ensuring that no gaps can develop that expose the edge of the pit.
- Bungee-type pits using a trampoline in the bottom of the pit should use padding on the trampoline frame or otherwise ensure that the gymnast penetrating the foam cannot strike the frame of the trampoline.
- The foam pieces should fill the pit to overflowing. The foam pieces should be of a size and compressibility such that the impact of a falling gymnast is safely absorbed.
- Foam colors should contrast with surrounding matting, walls and ceiling.

- Some foam deteriorates or “crumbles” with continued use and exposure to light. Investing in high quality foam saves a great deal of time and frustration by reducing the problems of foam particles being tracked about the gymnasium and getting into the eyes and mouths of the gymnasts. Deteriorating foam pieces should be replaced (Figure 56).



Figure 56. Deteriorating foam

- Foam is made of plastic. Plastics are often made from a cyanide process. If the chemical processing of the foam does not result in making the cyanide inert, then some free cyanide may be present. The levels of cyanide in foam will be small, but skin rashes and other side effects can occur. If a fire should consume the foam pit, and/or other foam mats, the cyanide is released posing a serious threat to firefighters and others in the building. Some states require that all foam be non-flammable. Consult local and state laws to determine appropriate foam properties.
- Foam pits should be cleaned periodically, at least once per year. Cleaning involves the complete emptying of the pit, discovery and discarding of torn or flaking foam pieces, and complete cleaning of dirt and debris.
- Coaches and athletes should always use proper handwashing technique after training in foam pits.

Solid Foam Pits

Solid foam pits serve to reduce the harshness of a fall by absorbing the force of impact over a large distance. Solid foam pits, as the name implies, are constructed from a large, thick and soft mat. Installation of a solid foam pit should follow the manufacturer’s guidelines (383). Although not fully comparable, the pole vault pit has been studied by the ASTM (47), and these standards may serve as a useful comparison for solid foam gymnastics pits. The ASTM standards for pole vault pits calls for a material that will not allow deformation/penetration of the foam farther than 75% of the total thickness of the pit and peak deceleration should not exceed 20 Gs when tested according to ASTM standard methods.



Figure 57. Athlete landing on solid foam pit

Whitlock has provided guidelines for solid training foam pits (383).

- The top surface of the solid foam pit should be level with the floor or adjacent matting.
- Overall pit dimensions should be the same as those listed above for loose foam training pits.
- Floor areas surrounding the solid foam pit and the side walls within the foam pit should be padded. The padding should be placed to prevent a gymnast from striking the support structure of the pit or the floor surrounding the pit.
- The color of solid foam pit landing mats should contrast with the surrounding floor, ceiling and walls.
- A solid foam pit requires maintenance and regular inspections. As a mat ages, the ability of the mat to decelerate the gymnast is compromised. The foam should be replaced when the foam no longer decelerates the gymnast appropriately. The covering of the solid foam pit should be free of rips and holes.

Using a Training Pit

Training pits have become a welcome and important asset to gymnastics equipment. Many skills would be much more difficult to teach and learn without pits. The foam pit is similar in purpose to the sparging system or “bubble machine” in diving (130). Gymnasts’ careers have probably been lengthened due to the forgiving nature of landings in foam pits. While foam pits have greatly increased our ability to teach complex skills, serious and catastrophic injuries have occurred in foam pits.

Guidelines for use of foam pits have been provided below (204).

- Pits should be used only under supervision.
- Athletes should enter a pit one at a time, and coaches/instructors should establish safe procedures to ensure that gymnasts do not land on each other when entering a foam pit.
- Loose foam pits require fluffing. Fluffing consists of loosening the foam pieces by physically entering the pit and lifting up the packed foam pieces. Failure to fluff the pit results in a less forgiving landing surface.
- The best landing position in a pit is on the middle of the back. Landing feet first, in an “open tuck” or sitting position are also recommended.
- The gymnast should never attempt to land head first in a foam pit.

- The gymnast should never attempt to land in an arched position, on the chest or stomach in a foam pit.
- Foam pits should not replace sound and thorough progressions.
- Horseplay should not be allowed.
- Spotters at the edge of a pit may be needed when the gymnast must travel horizontally for some distance before landing in the pit.
- When tumbling or performing a take-off from the edge of the pit, the gymnast should carefully establish his/her starting position so that take-offs occur from a solid footing. Apparatus should be stable and properly positioned for skills, such as dismounts or vaults, performed from the apparatus into a pit.
- Jewelry, gum, hair items, and other objects that may come off in a pit should not be worn.



Figure 58. Landing on back in pit

Training pits have arisen as an important piece of equipment for higher level gymnastics training. However, foam pits are not essential for all gymnastics activities. Most gymnastics training can take place on regular mats using traditional progressive learning approaches. Foam pits should not be considered a failsafe for eliminating injury. Serious and catastrophic injuries have occurred in foam pits, in spite of the soft and forgiving appearance of landings in the pit. Pit safety should be included in lesson plans and reviewed with the athletes prior to use.

Extricating an Injured Gymnast from a Foam Pit

An injured gymnast in a foam pit presents a special problem. Immobilization of the injured body part is a crucial step in rendering aid, and when the gymnast has suffered a spinal injury, immobilization is essential. If a gymnast becomes injured and is rendered immobile by the injury (e.g., unconscious, paralyzed, or other serious injury), there is no recourse but to go to the gymnast and render aid. Handling spinal injuries in a pit that moves easily and fluidly under the weight of the rescuer presents serious problems when trying to keep the gymnast's body still. Clearly, any movement by a rescuer that threatens the stability of the gymnast's spine should be avoided.

Any program using foam pits should have emergency plans for pit rescues. Guidelines for removing an injured gymnast from a foam pit have been provided. Although it is impossible to cover every type of injury rescue scenario, the following guidelines are offered as a potential means of rescuing a seriously injured gymnast from a foam pit. Rescuing a gymnast from a foam pit, while trying to maintain cervical spine immobilization, could be extremely challenging and difficult.

Trained emergency medical service personnel should be involved in the removal of a seriously injured gymnast from a foam pit (129). It is recommended that local EMS be invited to the gym to become oriented with the gymnastics facility, apparatus and equipment, to practice extrication procedures, and to help identify any potential problems with emergency plans and procedures. Extrication guidelines are provided below to help orient gymnastics professionals so they can assist EMS personnel who likely have little understanding of soft foam pits (129).

Guidelines for Removal of a Gymnast with a Suspected Cervical Spine Injury from a Foam Pit (129, 314)

These guidelines are based on the example of a gymnast who is suspected of having a cervical spine injury, but is conscious and breathing well. The technique explained here assumes the gymnast is face up and a side log roll is performed onto the spine board. Different techniques may be preferred based on the position of the athlete, location in the pit, available equipment, and his/her medical condition (i.e., conscious or unconscious, breathing, etc.).

1. If an injury is suspected, stop all activity into the pit and check the injured athlete utilizing the S.T.O.P. technique (129)
 - Stop all activity into the pit.
 - Talk to the injured gymnast from outside the pit. Ask questions of the gymnast (e.g., Are you OK? Are you breathing alright?) and give instructions and reassurance (e.g., Remain still, do not move, help is on the way).
 - Observe the gymnast. Is he/she conscious, alert, confused, able to talk? Is the gymnast moving? Is there any obvious bleeding? Check for breathing.
 - Prevent further injury by properly approaching and managing the injured athlete. Resist the urge to jump into the pit and reach the athlete as quickly as possible.
2. Activate the Emergency Action Plan
 - Call 911 or your local emergency number.
 - Ask for additional assistance from the most experienced staff member in caring for the injured athlete until EMS personnel arrive.
 - Stop all activity in the gym, provide supervision for all uninjured athletes, and move them away from the injury site. Other staff members should do this immediately.
3. Stabilize the gymnast
 - Place a mat (e.g., sting mat, 4-inch mat, or air floor strip) into the pit near the gymnast. This provides a somewhat stable surface for a rescuer to enter the pit and gain access to the injured athlete. (Note: Air floor strips proved to be the best surface for this type of rescue. Larger landing mats may be too difficult to maneuver in the pit and strip mats are too unstable.)
 - Clear the foam blocks away from the athlete's face.
 - Immobilize the head and neck. This is done by firmly holding the head and neck with both hands, without moving or straightening the neck. Protect the athlete in the position found. Support the head and neck in a manner that the gymnast will be comforted and feel protected until EMS arrives.

- Monitor the athlete's condition, breathing and consciousness. Do not allow the athlete to move. Talk to and reassure the athlete, helping him/her remain calm. Watch for signs of shock.
 - Place additional mats into the pit for more rescuers. Additional rescuers assist in clearing away foam blocks to fully visualize the athlete's entire body.
 - Clear obstacles from the path of entry or exit for EMS personnel.
4. Arrival of Emergency Medical Service providers (EMS). Once EMS personnel arrive, authority should be relinquished to them and all further rescue activities should be at their direction.
 - Meet the EMS personnel at the door, direct them to the pit and explain what happened. Explain the nature of the incident, as well as the stability issues of the foam pit.
 - EMS personnel enter the pit using the mats as support. The addition of a small spotting block may provide additional support for the EMS at the head of the gymnast.
 - If needed, clear any remaining foam blocks away to keep the entire body of the gymnast visible.
 5. Apply the cervical collar. EMS personnel should perform this step.
 6. Fix the gymnast to the spine board.
 - The head EMS person should direct all aspects of fixing the athlete to the board and removal from the pit.
 - The spine board is brought into the pit in a position to side log roll the gymnast onto the board by a second EMS person. (Note: Based on the position and location of the gymnast, it may be better to remove him/her by performing a long axis slide onto the spine board.)
 - At the command of the EMS person at the gymnast's head, the gymnast is rolled onto his/her side.
 - The board is slid into place.
 - The gymnast is rolled back onto the spine board, keeping the body, neck and head as straight as possible.
 - The gymnast is strapped to the spine board.
 - The gymnast is lifted out of the pit and placed on the gurney and secured with additional straps.
 - The EMS personnel should then readjust the tape and supports to make sure the gymnast is ready for transport to the hospital.
 - The gurney is supported on all four corners by the gymnastics staff and EMS personnel as the gymnast is rolled out of the gym to the ambulance. The coaches should ensure there is a clear pathway to the exit door of the gym.

Guidelines for Removal of a Gymnast From a Foam Pit Requiring Rescue Breathing or CPR (129, 314)

If the gymnast is not breathing, he/she should be quickly removed from the pit to begin rescue breathing or CPR. The gymnast's breathing must take the highest priority. The rescuers

should still try to minimize disturbances to the athlete but must reach the gymnast quickly to render aid.

1. Activate the S.T.O.P. procedure, emergency action plan, and call 911.
2. Prepare to quickly remove the gymnast from the foam pit. Each gym should have a plan for removing a gymnast quickly and smoothly from a foam pit.
 - An efficient way to do this is to use a spring vaulting board as a ramp with a 4-inch mat placed over top. Typically a long axis slide is the quickest method to pull the gymnast out.
 - Using the long axis slide, the gymnast is pulled by his/her arms (utilizing the arms as a splint to the head and neck) onto the 4-inch mat. Once on the mat, the mat is pulled out of the pit onto a solid surface. The gymnast's body should slide over the spring vaulting board, which is acting as a ramp out of the pit.
3. Once the gymnast has been removed from the pit, check his/her breathing and pulse. Begin rescue breathing or CPR as necessary until EMS arrives.

As you might gather from the steps listed above, practicing these procedures is extremely important in order to perform a rescue from a foam pit. The time required to perform an effective pit rescue is a potential problem for a seriously injured gymnast. Therefore, prior rehearsing, availability of mats and other equipment, and practiced EMS personnel will dramatically improve the likelihood of a safe and efficient pit extrication.

Chapter 12 Key Points

- Training pits are large open areas that are filled with foam pieces or a large foam slab.
- The purpose of training pits is to reduce the harshness of impacts by decelerating the gymnast over a large distance.
- Loose foam pits require periodic fluffing to maintain the softness of the landing.
- Pits should be used only under supervision.
- Only one athlete should enter a pit area at a time.
- Gymnasts should never attempt to land head first in a foam pit.
- Pit edges and sides should be padded.
- Extrication of an injured athlete from a foam pit is difficult, particularly from a loose foam pit. Extrication procedures should be practiced and local emergency medical units should be informed of the challenges and involved in any rescue efforts. Whenever possible, local emergency medical personnel should be invited to practice extrication of an injured gymnast.

*“In a crisis, you don’t rise to the occasion.
You sink to the level of your training.”*

– John Rennie

Chapter Contents

- What is a Rebound Device?
- Trampolines
- Mini-Trampolines
- Tumbling Trampolines
- Inflatable Rebound Devices
- Extrication of an Injured Athlete from a Trampoline
- Key Points

What is a Rebound Device?

Rebound devices include trampolines, mini-trampolines, double mini-trampolines, backyard-type trampolines, tumbling trampolines, and inflatable rebound devices. Rebound devices help the gymnasts achieve greater “air time” in order to practice acrobatic skills. In trampoline and tumbling, team gymnastics, and competitive group gymnastics, rebound devices are not only equipment but apparatus on which competitions are conducted.

The primary premise behind rebound devices is that a performer can “bounce” on the device and store energy in the elastic characteristics of the device. The stored energy in the device is used to propel the athlete into the air. Extra height translates to extra time in the air. The extra air time is used by the gymnast to perform additional somersaults and/or twists. The term “extra” implies more air time than the athlete could achieve on other apparatus that are used for competition. For example, a gymnast practicing twisting multiple somersaults on floor exercise or tumbling might have difficulty learning the skill. By using a rebound device, the gymnast simply has more time to perform aerial movements and thus learns skills more easily. A secondary premise behind rebound devices is that a gymnast can perform more repetitions of a given skill, thus enhancing learning, while limiting wear and tear on the gymnast’s body. In some very important respects, rebound devices actually help prevent injury, particularly overuse injury.

Trampolines

Trampoline rules and regulations fall under the auspices of USA Gymnastics’ Trampoline and Tumbling program (323). Trampolines have been evaluated for standardization, and their construction should follow the standards of the ASTM (12). According to the ASTM standard, a trampoline is a “rebound device activated by vertical jumping, upon which gymnastics

skills are performed” (12, Addendum 2, p. 1). Trampolines are composed of a horizontal framework, a flexible bed that serves as the performance surface, a suspension system of spring-like devices that connect the bed to the frame and permit jumping, and frame pads that protect the gymnast from striking the frame directly.

Competitive trampolines are different from traditional backyard-type trampolines. Competitive trampolines have webbed or string beds (Figure 59). Backyard trampolines tend to have a “solid” bed (not webbed). The frame and springs of competitive trampolines are entirely covered by shock absorbing padding. Backyard trampolines may vary in their padding methods. Competitive trampolines also have matted tables called “end decks” placed at both ends of the trampoline. The end decks are used for mat placement, spotters, and coaching observation (323). The competitive trampoline has a frame length of 16 ft. 10 in. and width of 9 ft. 9 in. The competitive trampoline bed is 14 ft. long, 7 ft. wide, and suspended 3 ft. 10 in. from the floor (323).

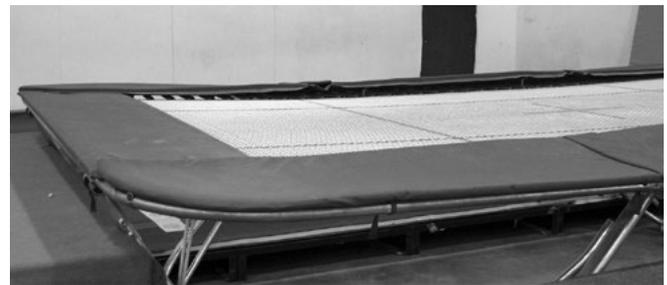


Figure 59. Above ground trampoline

IN DEPTH

Trampolines have recently undergone considerable scrutiny (5, 89, 146, 336, 363). The International Trampoline Industry Association (ITIA) has been developed to deal with trampoline related issues, particularly consumer trampolines. Given the concern regarding consumer trampolines, as well as industry concerns regarding safety, Failure Analysis Associates, Inc. (in conjunction with ITIA) studied certain issues involved in trampolining (124). Their studies showed that marking the center of a trampoline bed did not appreciably improve the gymnast’s ability

to bounce in the center of a trampoline and that injury trends that alarmed the medical community appeared to mirror an increase in trampoline sales (124).

Trampoline scrutiny has arisen in the past, largely in conjunction with the unsupervised use of trampolines in recreational and commercial settings. The gymnastics professional using trampolines should be trained in trampoline use and exercise caution and vigilance in order to prevent injury.

Maintenance. Trampolines should be inspected prior to each use and all defective or worn parts should be identified and replaced. The items in the following list are considered hazards. If a hazard is discovered, it warrants removal of the trampoline from use until it can be fixed or replaced (12).

- Holes, tears or separated webs of the trampoline bed
- Deterioration of the stitching of the bed
- Bent or broken frame or parts of the frame
- Broken, missing or ruptured springs
- Missing or poorly attached frame pads
- Sagging bed
- Sharp or protruding hazards
- Spring hooks not pointing toward the floor (323)
- Surface under the trampoline that is not level (i.e., trampolines should be placed on a level surface) (2)
- Wearing of the metal on spring hook attachments (NOTE: Spring hook attachments to the trampoline frame should be inspected regularly due to the potential for wearing through the metal.)



Figure 60. Coach inspecting trampoline

Use. Trampolines may require special insurance policies. Gymnastics clubs and professionals should investigate whether their current insurance covers trampoline use. Gymnastics professionals, as well as trampoline athletes, should follow the guidelines below for the use of trampolines (12).

- Opening and closing a trampoline can be difficult and dangerous. Trampolines are heavy and require careful handling.
- Proper warm-up should precede trampoline use.
- Beginning students can learn many skills with very small bounces or no bounce.

- The most important aspect of performance on a trampoline is control. Uncontrolled bouncing should not be allowed.
- All athletes should learn to perform a “check” bounce or taught to “freeze,” which involves flexing the knees when the gymnast lands on the trampoline bed. Flexing the knees results in immediate cessation of the bounce. This landing position should be reinforced with each lesson.
- New users of the trampoline should begin by simply walking around the trampoline bed to get a feeling of the flexibility of the bed.
- Athletes should wear proper clothing when using a trampoline. An athlete’s attire should not impede movement. Shoes should not be worn on trampolines. Socks may be a problem on solid-type (polypropylene) beds because of the inherently slippery nature of socks on such beds. On competitive webbed trampoline beds, gymnastics shoes or socks are recommended.
- Athletes should learn fundamental bounces and body positions before attempting more advanced skills.
- Athletes should climb on and off the trampoline. Athletes should never jump from the trampoline to another object, another trampoline, or to the floor. Proper entry and exit from the trampoline should be included in each lesson plan.
- Only one person should bounce on a trampoline at a time. An exception to this rule involves “on-bed” spotting methods, which should only be used by experienced and skilled trampolinists, coaches and instructors.
- Gymnasts should bounce only as high as they can easily control.
- Gymnasts should attempt to bounce near the center of the trampoline bed.
- Gymnasts should not attempt to step or land on the springs.
- Gymnasts should not bounce when they are overly fatigued. Keep turns short.
- Most serious trampoline injuries occur during a somersault. Somersault maneuvers should be reserved only for qualified athletes under close and careful supervision (6, 166, 174, 275, 281, 323).
- Somersaults to anything but a landing on the feet should be practiced only under careful and close supervision.
- Trampolines should only be used when instructed by a competent coach or instructor.
- Trampolines should not be used when the performer is ill or under the influence of medication.



Figure 61. Freeze position

- Objects should not be placed under the trampoline.
- Generally, trampolines should be surrounded by mats, some form of restraining equipment that prevents the gymnast from falling off a trampoline, and spotters; or the athlete should perform all difficult skills in an overhead spotting belt (173).
- Spotters and other athletes should not sit or lean with the arms on the trampoline frame while another athlete is jumping.
- Knee drops should not be permitted without proper instruction.
- Stomach drops should not be permitted without proper instruction.

IN DEPTH

Research evidence indicates that when two people bounce simultaneously on a trampoline there is a disharmonic (out of rhythm) movement of the trampoline bed (70). The disharmonic rhythm, along with disparate forces from two bouncers, has been shown to fracture the tibia (lower leg) of children (70) and cause anterior knee dislocation (213). Whether a tumbling trampoline can be used by two or more people simultaneously remains controversial and no clear scientific studies currently exist. Gymnastics professionals should proceed cautiously when using a tumbling trampoline with more than one bouncer.

Mini-Trampolines

The primary difference between mini-trampolines and full-size trampolines is the size and intended use (Figure 62). Some mini-trampolines are used for jogging in exercise programs (jogging mini-trampolines), proprioceptive rehabilitation, and teaching drills (39, 52, 117, 194, 214, 320, 360, 375, 380). Gymnastics skills should not be performed on the jogging- or exercise-type mini-trampoline.



Figure 62. Mini-trampoline

Gymnastics mini-trampolines can be divided into two basic types: the relatively smaller round or square mini-trampoline and the double mini-trampoline (323). The smaller round or square mini-trampoline commonly used by cheerleaders in the past is not a competitive gymnastics event but is sometimes involved in skill teaching. The smaller mini-trampoline usually has a bed that measures less than approximately 24 in. in diameter or on the side. Gymnasts perform only one skill from the small mini-trampoline to a landing mat. Typically, a gymnast using a small mini-trampoline performs a short running approach, hurdles to land on the mini-trampoline bed on both feet, performs a jump from the mini-trampoline bed, performs some type of somersault, and lands on a landing mat or in a foam pit (6, 159, 253, 256, 260, 345, 365).

The small mini-trampoline should be used under direct supervision by a competent coach or instructor. Somersaults should not be performed from a small mini-trampoline without careful spotting. Spotting athletes who are performing on a small mini-trampoline is particularly difficult due to the relatively high horizontal speeds resulting from the running approach (260).

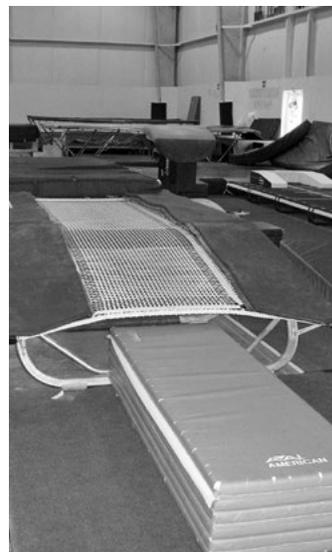


Figure 63. Double mini-trampoline

Double mini-trampoline.

A double mini-trampoline is a competitive event in trampolining and involves a trampoline with a long and relatively narrow bed (Figure 63). Competitive performances on the double mini-trampoline involve a running approach and hurdle to land on the “mount end” of the double mini-trampoline. The gymnast then jumps and performs a somersaulting and/or twisting skill from the mounting end to a landing on the “dismount end.” Following landing

on the dismount end, the gymnast performs another jump with somersault and/or twisting movements to land finally on a landing mat on the floor (323).

The competitive double mini-trampoline is 9 ft. 6 in. long and 2 ft. 5 in. wide. The double mini-trampoline bed is slanted near the mounting end with the near edge 1 ft. 5 in. from the floor. The dismounting end of the double mini-trampoline is 2 ft. from the floor. A matted landing area is provided at the dismount end of the double mini-trampoline with dimensions of 18 ft. by 10 ft. by 12 in.. The approach area for mounting the double mini-trampoline is limited to 66 ft. in length.

Guidelines for use of the double mini-trampoline include all of the guidelines for a full size trampoline plus the following (323):

- Because opening and closing the double mini-trampoline can be hazardous, slow and careful preparation, involving experienced users, should be undertaken when opening and closing the double mini-trampoline.
- Only two-foot landing skills should be used.
- Only one person should bounce at a time.
- The mounting runway should be free of obstructions.
- The frame bars beneath the double mini-trampoline should be padded.
- The landing mats should be in good condition and appropriately placed.
- No obstructions should be placed within 10 ft. of the landing mat area.
- The area around the double mini-trampoline should be matted with standard 1 1/4 inch mats.

Tumbling Trampolines

Tumbling trampolines have become popular additions to gymnastics facilities (Figure 64). No standards for the design and use of tumbling trampolines currently exist. Tumbling trampolines have attempted to combine the assets of a trampoline with the needs of tumbling (i.e., conditioning, training drills, etc.). The trampoline bed provides a more forgiving surface for performing tumbling movements. Tumbling trampolines are usually designed in sections that are assembled to make a long tumbling surface ranging from approximately 10 to 60 ft. or longer. Tumbling trampoline beds are typically a solid surface (i.e., not webbed or string) and involve widths ranging from approximately 70 in. to approximately 83 in. Tumbling trampolines use a frame that supports the trampoline bed via springs along the side, while the ends of the tumbling trampoline may not have a frame. The absence of the end frame prevents a gymnast from landing on the end frame while tumbling. Landing mats or pits may also be included at the end of the tumbling trampoline where dismounts are performed.



Figure 64. Tumbling trampoline

Due to the lack of scientific or consensus standards, the use of a tumbling trampoline should follow the general guidelines of trampolines listed above. In addition, the following guidelines have been proposed (370):

- Use only under proper supervision.
- Gymnasts and instructors should be familiar with the inherent risks of tumbling trampolines.
- Gymnasts should be familiar with basic trampoline bounces and jumps and basic tumbling skills.
- Gymnasts should be able to perform skills in a straight line.
- Students should receive ample opportunity to practice familiar skills on the tumbling trampoline to learn the tumbling trampoline's unique characteristics.
- The tumbling trampoline should be inspected and receive necessary maintenance daily.
- Landing or dismount mats at the end of the tumbling trampoline should be at least as high as the bed as of the tumbling trampoline.
- Special attention and supervision should be provided when these devices are utilized by multiple participants at the same time. While the general guideline for trampolines

(only one bouncer at a time) is still a good rule of thumb, there is a general lack of scientific evidence indicating whether two or more simultaneous bouncers are at greater risk of injury. At a minimum, multiple bouncers should be far enough apart to prevent striking each other while bouncing.

Inflatable Rebound Devices

Inflatable rebound devices have recently become popular in both gymnastics training and recreational settings. These devices serve many of the same purposes as their trampoline counterparts described above. Inflatable tumbling rebound devices are approximately 9 ft. wide, 22 in. high, and range from 15 ft. to more than 50 ft. in length. These devices are generally held in a firm inflated state by a powerful fan and air ducting system. Major assets of these types of devices include that they can be manufactured to almost any size and shape, are portable, easy to setup, and appear to be a cost-effective alternative to tumbling trampolines.

IN DEPTH

Inflatable devices conform to several physical principles. The more powerful the fan, generally the stiffer the surface. The edges of inflatable devices are generally not as stiff as the center. Previous experience with inflatable pole vaulting and high jump landing pits demonstrated that injuries could occur when someone landed on the edge of the landing pit. Due to the nature of the plastic material, when an inflatable device becomes wet the chance of slipping increases dramatically (338). When multiple people jump on inflatable devices, the resulting movements of the device are unpredictable.

Injury information resulting from inflatable rebound devices is beginning to make its way into the medical literature (268, 338). Although the currently published studies reflect only recreational/commercial use of inflatable devices, it is recommended that the gymnastics professional use inflatable rebound devices following the guidelines for trampolines and tumbling trampolines.

Extrication of an Injured Athlete from a Trampoline

Similar to foam pits, removing an injured athlete from a trampoline presents a unique challenge for emergency medical personnel. The problems of a trampoline are even more apparent when the injured athlete may have a spinal injury. The inherent instability of the trampoline bed and the sag created by the weight of the gymnast on the trampoline make it very difficult to stabilize an injured gymnast.

As with pit extrication, trained emergency medical service personnel should be involved in the removal of a seriously injured gymnast from a trampoline. It is recommended that local EMS be invited to the gym to become oriented with the gymnastics facility, apparatus and equipment, to practice extrication procedures, and to help identify any potential problems with emergency plans and procedures. Extrication guidelines are provided below to help orient gymnastics professionals so they can assist EMS personnel (56, 85, 130).

These guidelines are based on the example of a gymnast who is suspected of having a cervical spine injury but is conscious and breathing well. Different techniques may be preferred based on the position of the athlete, location on the trampoline, available equipment, and his/her medical condition (i.e., conscious or unconscious, breathing, etc.).

1. If an injury is suspected, utilize the S.T.O.P. technique.
 - Stop all activity on and around the trampoline.
 - Talk to the injured gymnast. Ask questions of the gymnast (e.g., Are you OK? Are you breathing alright?) and give instructions and reassurance (e.g., remain still, do not move, help is on the way).
 - Observe the gymnast for C.A.B.s. Is there obvious bleeding or other injuries?
 - Prevent further injury by properly approaching and managing the injured athlete. Resist the urge to reach the athlete as quickly as possible.
2. Activate the Emergency Action Plan.
 - Call 911 or your local emergency number.
 - Ask for additional assistance from the most experienced staff member in caring for the injured athlete until EMS personnel arrive.
 - Stop all activity in the gym, provide supervision for all uninjured athletes, and move them away from the injury site.
3. Stabilize the gymnast.
 - Create a frame around the gymnast using 2 ft. x 12 in. sturdy boards. The frame allows access to the gymnast without disturbing the trampoline bed. The gymnast's head and neck can be stabilized from the frame.
 - Build a platform underneath the trampoline to horizontally level and stabilize the trampoline bed. Utilize spotting blocks and mats to build the platform. A backboard or plywood board that is approximately 4 ft. wide, 8 ft. long and 3/4 in. thick should be placed directly under the injured athlete and slowly raised to provide stabilization. EMS personnel should assist in building this platform.
 - Immobilize the head and neck. This is done by firmly holding the head and neck with both hands without moving or straightening the neck. Protect the athlete in the position found. Support the head and neck in a manner that the gymnast will be comforted and feel protected until EMS arrives.
4. Arrival of EMS. Once EMS personnel arrive, authority should be relinquished to them and all further rescue activities should be at their direction.
5. Application of the cervical collar. EMS personnel should perform this step.
6. Fixing the gymnast to the spine board.
 - The head EMS personnel should direct all aspects of fixing the athlete to the board and removal from the trampoline.
 - The gymnast is lifted off of the trampoline, placed on the gurney, and secured with additional straps.
 - The gurney is supported on all four corners by the gymnastics staff and EMS personnel as the gymnast is rolled out of the gym to the ambulance. The instructors/coaches should ensure there is a clear pathway to the exit door of the gym.

If the gymnast is not breathing, he/she should be attended to quickly to begin rescue breathing or CPR, this may include moving the injured athlete to a firm surface. The gymnast's breathing must take the highest priority. The rescuers should still try to minimize disturbances to the athlete's head and neck as best they can.

All parties potentially involved in extricating an injured gymnast from a trampoline should practice the procedures, work as a team, and reinforce their skills periodically.

Trampolines have a rich and impressive history in assisting training of gymnasts and as a competitive sport. While trampolines can serve gymnasts greatly, they require special precautions due to their ability to project a relatively unskilled athlete to unaccustomed heights. Gymnastics professionals should approach all trampoline activities with a safety mindset and a vigilant commitment to injury prevention.

Chapter 13 Key Points

- Rebound devices are used to propel an athlete higher so that he/she has more air time.
- Rebound devices are used to reduce the repetitive stress of acrobatic activities on normal competitive surfaces.
- Rebound devices tend to be heavy and difficult to move. Care should be exercised when setting up and dismantling these devices.
- The integrity of the trampoline bed is vital to safety. A worn bed or missing springs can result in a dangerous and unpredictable bounce or fall.
- Athletes should learn fundamental bounces and landings prior to progressing to more difficult skills. Controlled bouncing is more important than height.
- Only one person should use a rebound device at a time.
- Objects should never be placed under a trampoline bed.
- Extrication of an injured gymnast from a rebound device should include help from EMS personnel and be practiced to reach proficiency.

Section III: Special Gymnastics Safety Factors



Chapter 14: Responsibilities of the Gymnast

*“I am always willing to learn, however
I do not always like to be taught”*

- Winston Churchill

Chapter Contents

- Part of the Burden of Safety
- The Gymnasts' Role in Safety
- Key Points

Part of the Burden of Safety

Gymnasts must share part of the burden of ensuring safety and managing risk. Gymnasts' responsibilities in preventing injury should be based on the gymnast's age, experience, and the specific situational context. Communication about gymnastics training and performance should be rich, constant, and presented in a way that promotes understanding. Dietrich Harré of the former German Democratic Republic (GDR) considered athlete awareness of all aspects of training to be essential to efficient and effective development of the athlete (165). As such, Harré elevated the idea of athlete awareness of training to the level of a “training principle.” Risk management can be significantly enhanced by ensuring that athletes are well informed regarding their training and all factors that ensure their safety.

The Gymnast's Role in Safety

In light of the responsibilities of gymnasts in training and performance, gymnasts should be aware of the following points.

- Appreciate the risk of the activity. Gymnasts should be familiar with the skills or activities they are performing and understand the difficulty level and risk involved. The climate of training should encourage gymnasts to investigate those aspects of skills that they do not understand. Instructors/coaches should take a moment when introducing a skill or drill to inform the gymnast of what might happen if the gymnast does not follow instructions or if the gymnast fails to perform the drills correctly.
- Be supervised. Gymnasts should never engage in activity without supervision. By definition, if gymnasts are unsupervised then they are not being instructed. Through supervision and instruction, coaches, instructors and others are able to supply gymnasts with feedback and spot errors in technique. Waiting for supervision implies that a gymnast knows that unsupervised practice is unacceptable. Once the gymnast knows that unsupervised practice is unacceptable, then he/she should always wait for a competent instructor before beginning activity. Gymnasts should also

vigorously discourage horseplay among themselves and others.

- Dress appropriately. Gymnasts should wear appropriate attire for all activities. Clothing, whether too baggy or too tight, can impede movements and reduce safety. Gymnasts should not wear jewelry. Even simple earrings can be caught on a sleeve during an arm swing and tear the skin of the ear. Rings can become caught in chalk and cut fingers.



Figure 65.
Proper attire for girls



Figure 66.
Proper attire for boys

- Control personal grooming. Gymnasts should wear their hair so that vision is not impaired. Hair appliances can become a dangerous projectile, cut the scalp during gymnastics movements, or, particularly items that dangle, become a serious danger when the gymnast swings his/her head about. Ponytails and items in long hair can strike the gymnast in the eye following a violent head movement. Fingernails and toenails should be trimmed to prevent cutting the gymnast or a spotter. Eyeglasses should be secured to prevent slipping (370). Pierced body parts should be treated cautiously. Dangling jewelry from a pierced body part may become entangled in clothing or with a spotter and result in injury.
- Check apparatus and equipment. Gymnasts should visually survey and physically check apparatus and equipment to ensure that they are securely set and ready for use. Gym-

nasts rapidly develop a good feeling for the correct settings of equipment and apparatus. Gymnasts should report equipment and apparatus problems to the instructor/coach without hesitation.

- **Check personal equipment.** Gymnasts should routinely check their personal equipment (e.g., gymnastics shoes, braces, handgrips, weights, pedestals, etc.) for fit, wear and tear. Artistic gymnasts may wear handgrips. These handgrips are made of a variety of material, usually leather. Grips come in two major varieties: regular grips and dowel grips. Regular grips cover the palm of the hand with finger holes to hold one end of the grip and a wrist strap to hold the other end. Dowel grips are similar in concept, but the leather palm section is much longer. Dowel grips are worn so that the finger holes are kept at the middle section of the finger bones. Dowel grips use a small dowel, usually made of wood, in the finger-end of the grip to serve as a “hook” that holds the bar more securely in the grip. Leather handgrips stretch with continued use and should be broken-in prior to any practice that requires them. Handgrips have been known to break during use and, if allowed to stretch too far, may completely encircle the bar or rail and “lock” during swinging movements (263, 296). Gymnasts should check their handgrips daily to ensure that there are no cuts that may cause the grip to tear and break and that the grip is not too long. It is usually a good idea for gymnasts to have a reserve pair of handgrips in the event one pair breaks or becomes unusable.



Figure 67. Hand grips

- **Communicate clearly.** A key aspect of good communication is listening to the coach or instructor. Athletes should clearly understand and follow instructions. Gymnasts should also question instructions they do not understand. Clear communication is particularly important when the gymnast is being spotted. Spotting requires a sensitive timing between the athlete and the spotter. Coaches and instructors cannot read minds. If gymnasts have a concern or question, they need to tell the instructor/coach.
- **Be prepared to participate.** Gymnasts who are ill, angry, fatigued, frustrated, worried or otherwise unable to concentrate invite injury. Gymnasts should be physically, mentally

and emotionally ready to perform; gymnasts or their parents should report to the coach or instructor anything that will compromise their ability to participate. Gymnasts taking medication should obtain clearance from a physician that indicates that the medication will not interfere with gymnastics activity. Gymnasts suffering from an illness should inform the coach, obtain clearance from a physician prior to participation, and closely monitor their condition and ability to perform.

- **Master basic skills.** Gymnasts should know how to perform basic skills prior to learning more advanced skills. Gymnasts should communicate their comfort level with skills as they are presented and mastered. Additionally, gymnasts should follow proper progressions in learning new and more difficult skills.
- **Know the skill.** Gymnasts should thoroughly and completely understand all skills they attempt. Gymnasts can study skills by experiencing the skills and lead ups themselves. Gymnasts can also study skills by viewing video or film of the skill, watch other athletes performing the skills, and other methods.
- **Commit to the entire skill.** Gymnasts should always follow through and perform the entire skill. When a gymnast stops in the middle of a skill, regardless of the reason, he/she increases the risk of injury to both herself/himself and to a spotter.
- **Know personal limitations.** Personal limitations may involve skill, experience, illness, injury, and other factors. Gymnasts should not pursue skills or activities that exceed their current abilities.

IN DEPTH

Though not a new phenomenon, bullying is receiving considerable attention currently. Bullying and “hazing” behavior can include a wide range of aggressive conduct - physical abuse, verbal attacks, exclusion, spreading rumors, intimidation and harassment. The National Crime Prevention Council reports that bullying affects six out of 10 youth at least once a day, and even witnessing bullying can be harmful. Bullying can escalate and has been proven to be gateway behavior for suicide or violence - by the bully or the victim. Bullying should not be ignored.

Bullying can be dangerous on many levels. It is often difficult to recognize and even more difficult to correct, but bullying is another risk, facing gymnastics that requires management. Bullying can occur with students (of any age or level), with staff (which should be addressed by an anti-harassment personnel policy), and even with parents. Gymnastics professionals should be aware of the bullying problem and prepared to address negative behaviors. Here are a few helpful steps to consider (also see Appendix J).

- Educate yourself and your staff on how to handle bullying situations.

- Establish a safe environment for your athletes and customers.
- Know your obligations and responsibilities.
- Respond when bullying occurs, by using problem-solving, communication and conflict resolution skills.
- Adopt rules and a code of conduct to help maintain a positive culture in the gym.

Gymnasts should be informed of their responsibilities and coaches/instructors should reinforce responsible behavior when it occurs. Gymnasts should consider themselves essential members of the safety team and take their training and performance safety very seriously.

Chapter 14 Key Point

- Gymnasts should be trained so that they are aware of, and thus partially responsible for, the safe conduct of gymnastics. As such, gymnasts can enhance their own safety by becoming a better educated member of the safety team.



Conclusion

Risk management seeks to prevent injury and associated litigation. Risk management also helps gymnastics professionals be more organized and systematic in the conduct of their programs. Throughout the review process for this handbook, the phrase “raising the bar” was used many times. It is the purpose of this handbook to continue to “raise the bar” of safety and risk management in gymnastics. Gymnastics is perhaps the most beautiful, challenging and rewarding of all competitive sports. It is incumbent on all gymnastics professionals to continue to increase their knowledge, skills and professional conduct so that their legacy will allow youngsters for generations to come to become *gymnasts*.

- Ability:** characteristic that contributes proficiency in one or more skills.
- Absolute Strength:** the maximum force an athlete can exert without regard to body size or weight.
- Acceleration:** the rate of change of velocity.
- Access:** the extent to which a facility or participation is available.
- Acclimatization:** a physiological response to an environmental change such as temperature, altitude, or location.
- Action:** a lawsuit or case brought by one party against another.
- Acuity:** sharpness of vision.
- Acute Injury:** an injury with an immediate onset.
- Adolescence:** a period of life between childhood and adulthood, usually marked by the onset of secondary sex characteristics.
- Aerobic:** conditions or processes requiring oxygen.
- Aerobic Energy System:** metabolic system or pathway involving a series of chemical reactions that convert food to energy and using oxygen in the process.
- Affect:** an emotional response.
- Affidavit:** written statement or declaration of facts sworn by the maker of the document, taken before an official person.
- Amenorrhea:** absence of menstrual periods.
- Anaerobic:** conditions or processes that do not require oxygen.
- Anaerobic Energy System:** metabolic pathway where glucose is converted to energy rapidly and without the use of oxygen.
- Anatomy:** the science of describing structural characteristics of the body.
- Anorexia Nervosa:** a potentially fatal illness that is characterized by a severe reduction in weight and loss of appetite.
- Anthropometry:** measurement of size and proportions of human bodies.
- Anxiety:** a subjective feeling of fear or apprehension.
- Apophysis:** a prominent structure protruding from a bone, usually the site of tendon attachment.
- Arousal:** a dimension of human emotion that refers to a level of excitement or activation. Not the same as anxiety.
- Artificial Resuscitation:** restoring normal breathing and heart actions.
- Assumption of Risk:** if a party voluntarily places him/herself in a dangerous situation, and the party knows the situation is dangerous, then the party has consented to be in the situation and assumes the risk of injury.
- Asthma:** respiratory disorder characterized by attacks of difficult breathing due to increased resistance to airflow.
- Atlantoaxial Joint:** joint between the atlas and axis of the cervical spine which allows the head to rotate left and right.
- Atrophy:** reduction in size or wasting of a tissue.
- Attention:** selective focusing of concentration.
- Average:** sometimes a vague term that refers to a normal or typical amount.
- Ballistic Stretching:** stretching method to enhance flexibility that involves jerking movements in the extreme range of motion.
- Baseline:** a level of performance or fitness that has been stable for some time.
- Body Composition:** relative percentages of fat, muscle, bone, and other tissues.
- Brace:** a support used to hold a body part in a correct or desired position.
- Brief:** written statement prepared by an attorney. Contains a summary of facts about the case or a summary of published opinion from previous similar cases.
- Bruise:** contusion. Accumulation of blood in a tissue, usually due to an injury.
- Capacity:** the maximum amount something can contain.
- Cardiac Arrest:** cessation of heart function.
- Cartilage:** flexible and tough connective tissue which forms bone via a process of ossification. Also serves as the surface of joints.
- Center of Mass:** a point where the mass of the body can be said to be concentrated. Forms the axis for rotation when the body is unsupported.
- Choice Reaction Time:** reaction time for a task in which the performer must choose a correct response from a number of possible responses.
- Circuit Training:** a form of training, usually involving conditioning, where the participants move from one station to another and perform some exercise or task at each station.
- Civil Law:** area of law that deals with private rights. Not the same as criminal law.
- Coach:** teacher of an athlete.
- Coercion:** the act of achieving some purpose by the use of force or pain, or the threat of force or pain.
- Command Style:** teaching style where the coach/instructor makes all the decisions and regulates all aspects of learning or training.
- Communication:** any imparting or exchange of information between two or more people.
- Comparative Negligence:** measures negligence in terms of a percentage. In most states, a plaintiff can recover damages even if he/she was partially negligent, but the damages may be reduced based on the relative contribution of the plaintiff's negligence to the injury. In some states, the contributory negligence provided by the plaintiff may bar him/her from recovery of damages unless his/her contribution to the injury is slight. Some states follow the comparative negligence idea only in some circumstances (171).
- Competition:** action in which one or more people vie for a goal against another or others.
- Complaint:** the first formal pleading made by a plaintiff against a defendant. The complaint will provide a concise statement of the facts that the plaintiff will use as his/her basis for action against the defendant.
- Concentration:** the ability to sustain or persist in directing attention.
- Concussion:** a type of traumatic brain injury that affects the way the brain functions due to an indirect or direct force to the brain.
- Confidence:** a positive belief in one's abilities.
- Constraint:** limiting factor.
- Contempt of Court:** any act calculated to embarrass, hinder, or obstruct a court in the administration of the courts duties.
- Contributory Negligence:** In some states, even a slight contribution of negligence on the part of the plaintiff will bar him/her from recovery of damages.
- Cool-Down Exercise:** light to moderate activity used to reduce the intensity of vigorous exercise in a controlled fashion.
- Correlation:** an association between two or more things or variables.

CPR: Cardio-Pulmonary-Resuscitation. A combination of cardiac massage and assistive breathing designed to restore breathing and/or support a person suffering from respiratory and cardiac arrest.

Crowd Behavior: the behavior of people in large groups.

Culture: the ways a society behaves. Includes common codes of conduct, manners, language, terminology, slang, rituals, and other behaviors.

Damages: monetary compensation awarded by a court for an injury caused by an act of another person.

Defendant: the person accused of committing the wrong.

Deposition: form or oral testimony taken by an opposing attorney in advance of a trial during discovery.

Diabetes: a metabolic disorder that involves impaired carbohydrate metabolism.

Diaphysis: shaft of a long bone.

Directed Verdict: an instruction by a judge to a jury to return a specific verdict.

Dislocation: complete separation of bones, usually at a joint.

Dressing: material applied to a wound.

Dynamic Flexibility: movement through the extreme range of motion of a joint.

Effectiveness: the degree to which a goal is achieved.

Efficiency: in human movements, the relationship between energy invested and physical work performed.

Elastic: the property of something returning to its original shape after it has been deformed by an external force.

Elite Athlete: an athlete who has reached the highest levels of performance and competition.

Endurance: the maximum duration that someone can sustain something.

Environment: the surroundings in which something takes place.

Epidemiology: the study of the incidence and distribution of diseases and injuries.

Epiphysis: end of a long bone.

Error: inaccurate or incorrect.

Ethic: a belief or attitude regarding correct behavior.

Fatigue: exhaustion due to prolonged exertion or overstimulation.

Feedback: information provided to an athlete by an instructor or coach designed to enhance performance.

Fine Motor Skill: a skill or movement that involves small muscles and precise movements.

Fitness: ability of an individual to meet the demands of a given circumstance.

Flexibility: range of motion of a joint or a related series of joints.

Flic-Flac: A move where a gymnast takes off from one or two feet, jumps backward onto the hands and lands on the feet; also known as a “back handspring” or “flip-flop”.

Foreseeability: the ability to predict or anticipate something.

Fracture: broken bone.

Fundamental Motor Skill: a skill that is the basis of many sports or many activities.

Gender: the social and cultural differences between men and women.

Goal: reward or the end towards which actions are directed.

Growth Spurt: period of accelerated growth and/or physical development.

Handedness: tendency of an individual to prefer a particular hand when performing a movement or skill.

Health: state of physical, mental, and emotional well-being.

Hearsay: evidence not proceeding from the personal knowledge of a witness, a rumor.

Heat Cramps: painful muscle cramps due to exposure to excessive heat.

Heat Exhaustion: fatigue condition associated with exposure to excessive heat.

Heat Stroke: potentially fatal condition caused by exposure to excessive heat for prolonged periods.

Humidity: measure of the amount of water vapor in the atmosphere.

Ideal: highly desirable and possible, not required.

Impeachment of Witness: an attack on a witness by an attorney, that results in the witness losing credibility.

Inflammation: swelling due to injury or illness.

Injury: a physical hurt or damage to a body part.

In Loco Parentis: Latin for, “in the place of a parent.” Applies to people who stand in for a parent or guardian.

Intensity: a measure of the difficulty of an exercise or activity.

Interference: conflict between two or more tasks that are executed simultaneously.

Interlocutory: provisional, not final, temporary.

Invitee: Someone who enters a premises of someone else to conduct business. Customers and spectators are invitees.

Isometric: muscle tension does not result in movement of the associated bones of the joint or shortening of the muscle.

Joint: junction of two bones.

Judgment: in legal settings, the official decision of a court.

Kinesthesia: sense of position and/or motion.

Laceration: skin damage, usually a cut.

Lactic Acid: by product of anaerobic metabolism.

Lead-up: a task or activity that is designed to lead the learner to a new skill or enhance a skill's performance. Also called a drill.

Liability: responsibility for something, or fault with an accompanying responsibility to pay for damages due to a wrong.

Licensee: someone who is allowed on a premises to conduct business that is of no interest to the owner. Someone who enters a premises to sell something to employees or to fetch a lost child is a licensee.

Ligament: connective tissue that connects bone to bone.

Litigation: the bringing of a lawsuit.

Manager: person who leads, organizes, and coordinates something.

Menarche: initial onset of menstruation.

Menstrual Cycle: mature reproductive preparation cycle of the female.

Menstruation: process of discharging blood and uterine contents during menstrual cycle.

Mesomorphy: muscular build based on somatotyping.

Metabolism: total of all chemical reactions in the body.

Motor: involving muscular movements.

Negligence: failure to use reasonable and prudent care under some circumstance.

Orthopedics: branch of medicine dealing with the musculoskeletal system.

Overload Principle: physiological principle indicating that hypertrophy of a muscle can only occur if the load on the muscle exceeds the loads to which the muscle is already accustomed.

Overtraining: training beyond the physical and psychological reserves of athlete.

Overuse Injury: injury that occurs due to the accumulation of stress in a tissue.

Paradigm: generalized system of rules or perspective on something.

Pediatrics: branch of medicine dealing with the health needs of children.

Periodization: training organization dividing the training year into periods and using work-rest cycles.

Percipient Witness: an eyewitness.

Plaintiff: the person who brings a suit against another party.

Precedent: a decision made by a court that is followed by later courts and decisions when the later circumstances are similar or the same.

Prepubescence: period of late childhood, prior to adolescence.

Professional: person requiring special training, an expert, someone paid for their work.

Proximate Cause: the first or primary cause of an injury.

Reaction Time: the time from the perception of a stimulus to the initiation of a response.

Reasonable Person: a conceptual “average” or “standard” person whose conduct is used as a basis to compare behaviors.

Rehabilitation: healing and returning an athlete his/her activity.

Relative Strength: the maximal force an athlete can exert relative to his/her body weight or size.

Response Time: the time from the perception of a stimulus to the conclusion of a response.

Resuscitation: returning to consciousness.

Risk Management: a specialization within management that deals with protection against injury and loss.

RM: repetition maximum, the maximum weight that can be lifted in all-out attempt.

Screening: testing to determine if a person meets some criteria.

Self Concept: one’s view of one’s self.

Self Esteem: view of one’s competency or worth.

Significant Other: a person in an individual’s life who is likely to influence an individual’s values, beliefs, and behaviors.

Skeletal Age: a measurement of the age of an individual, usually by x-rays, that determines the stage of growth and maturity of the skeletal system. A measure that is more stable and precise than chronological age.

Somatotype: the characteristic shape and size of a person.

Static Stretching: form of stretching where the athlete puts a joint in an extreme range of motion and holds the position for several seconds.

Statute: a law. Different from a judge’s decision or a precedent. Laws are created by legislative bodies such as Congress or legislatures.

Summary Judgment: a court decision that is determined without a trial. The decision indicates that there is no real dispute.

Subpoena: process to order a witness to appear and give testimony.

Talent: special aptitude or ability.

Technique: pattern of movement

Tendon: connective tissue that attaches muscle to bone.

Testimony: oral evidence given by a witness under oath.

Tort: a wrongful act. Usually an act that results from a violation of a legal duty.

Transfer of Learning: effect of learning one skill on a second subsequent skill.

Trauma: physical damage, usually caused by an impact or blow.

Trespass: an unlawful interference with a person, his/her property, or his/her rights.

Vestibular Apparatus: organs of the inner ear, vision, and joint and muscle sensors that provide information about location in space to the central nervous system.

Warm-up: physical exercises or passive warming of the body prior to more intense activity.

Writ: an order issued from a court requiring the performance of some act.

Additional Sources of Safety Information

Governing Bodies

International Gymnastics Federation (FIG)

Avenue de la Gare 12
1003 Lausanne
Switzerland
Phone: +41 21 321 55 10
www.fig-gymnastics.com

National Collegiate Athletic Association (NCAA)

700 W. Washington Street
P.O. Box 6222
Indianapolis, IN 46206
Phone: 317-917-6222
www.ncaa.org or www.ncaa.com

National Federation of State High School Associations (NFHS)

PO Box 690
Indianapolis, IN 46206
Phone: 317-972-6900
www.nfhs.org

United States Olympic Committee (USOC)

27 South Tejon
Colorado Springs, CO 80903
Toll free: 888-222-2313
www.teamusa.org
Publications: *Olympic Coach E-Magazine*

USA Gymnastics

132 E. Washington Street
Suite 700
Indianapolis, IN 46204
Phone: 317-237-5050
Toll free: 800-345-4719
Fax: 317-237-5069
www.usagym.org
Publications: *USA Gymnastics, Technique*

Youth Sports and Physical Education Organizations

American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD)

National Association for Sport & Physical Education (NASPE)

1900 Association Dr.
Reston, VA 20191
Phone: 703-476-3400
Toll free: 800-213-7193
www.aahperd.org

American Council on Exercise (ACE)

4851 Paramount Drive
San Diego, CA 92123
Phone: 858-576-6500
Toll free: 888-825-3636
www.acefitness.org

American Red Cross (National Headquarters)

2025 E Street
Washington, DC 20006
Toll free: 800-733-2767
www.redcross.org

American Sport Education Program (ASEP)

1607 N. Market Street
P.O. Box 5076
Champaign, IL 61825
Toll free: 800-747-5698
www.asep.com

Institute for the Study of Youth Sports

Michigan State University
308 W. Circle Drive
Room 210
East Lansing, MI 48824
http://edwp.educ.msu.edu/isys

National Alliance for Youth Sports

2050 Vista Parkway
West Palm Beach, FL 33411
Phone: 561-684-1141
Toll free: 800-688-KIDS
www.nays.org

National Center for Sports Safety (NCSS)

2316 First Avenue South
Birmingham, AL 35233
Phone: 205-329-7535
Toll free: 800-508-NCSS
www.sportssafety.org

National Council of Youth Sports (NCYS)

7185 SE Seagate Lane
Stuart, FL 34997
Phone: 772-781-1452
www.ncys.org

Sports Medicine and Health Organizations

American Academy of Family Physicians

11400 Tomahawk Creek Parkway
Leawood, KS 66211
Toll free: 800-274-2237
www.aafp.org

American Academy of Orthopaedic Surgeons

6300 North River Road
Rosemont, Illinois 60018
Phone: 847-823-7186
www.aaos.org

American Academy of Pediatrics

Sports Medicine Committee
141 NW Point Blvd
Elk Grove Village, IL 60007
Toll free: 800-433-9016
www.aap.org

American Academy of Podiatric Sports Medicine (AAPSM)

109 Greenwich Drive
Walkersville, MD 21793
Toll free: 888-854-FEET
www.aapsm.org

American College of Sports Medicine (ACSM)

401 W. Michigan St
Indianapolis, IN 46202
Phone: 317-637-9200
www.acsm.org
Publications: *ACSM Fit Society® Page*

American Medical Society for Sports Medicine (AMSSM)

4000 W. 114th Street
Suite 100
Leawood, KS 66211
Phone: 913-327-1415
www.amssm.org

American Orthopaedic Society for Sports Medicine (AOSSM)

6300 North River Rd., Ste 500
Rosemont, IL 60018
Phone: 847-292-4900
www.sportsmed.org

American Osteopathic Academy of Sports Medicine (AOASM)

2424 American Lane
Madison, WI 53704
Phone: 608-443-2477
www.aoasm.org

Centers for Disease Control and Prevention (CDC)

1600 Clifton Road
Atlanta, GA 30333
Toll free: 800-CDC-INFO
www.cdc.gov

International Society for Sport Psychiatry (ISSP)

316 North Milwaukee Street
Suite 318
Milwaukee, WI 53202
Phone: 414-271-2900
www.sportpsychiatry.org

KnowConcussion

www.knowconcussion.org

National Athletic Trainers Association (NATA)

2952 Stemmons Freeway #200
Dallas, TX 75247
Phone: 214-637-6282
www.nata.org
Publications: *Journal of Athletic Training*

National Strength and Conditioning Association (NSCA)

1885 Bob Johnson Drive
Colorado Springs, CO 80906
Phone: 719-632-6722
Toll free: 800-815-6826
www.nasca-lift.org

St. Vincent Sports Performance Center

8227 Northwest Boulevard
Suite 160
Indianapolis, IN 46278
Phone: 317-415-5747
www.sportperformance.stvincent.org

US Department of Agriculture (USDA)

Center for Nutrition Policy and Promotion
3101 Park Center Drive
Alexandria, VA 22302
Toll free: 888-779-7264
www.choosemyplate.gov

Children's Advocacy Organizations

American Humane Association

1400 16th Street NW
Suite 360
Washington, DC 20036
Toll free: 800-227-4645
www.americanhumane.org

Childhelp, USA

National Headquarters
15757 N. 78th Street, Suite B
Scottsdale, Arizona 85260
Phone: 480-922-8212
Childhelp National Child Abuse Hotline:
800-4-A-CHILD
www.childhelpusa.org

Child Lures Prevention / Teen Lures Prevention

5166 Shelburne Road
Shelburne, Vermont 05482
Toll free: 800-552-2197
www.childluresprevention.com

Child Welfare Information Gateway

U.S. Department of Health and Human Services
Children's Bureau/ACYF
1250 Maryland Avenue, SW
Eighth Floor
Washington, DC 20024
Toll free: 800-394-3366
www.childwelfare.gov

Darkness to Light

7 Radcliffe Street, Suite 200
Charleston, SC 29403
Phone: 843-965-5444
National Helpline: 866-FOR-LIGHT
www.d2l.org

The Kempe Foundation for the Prevention and Treatment of Child Abuse and Neglect

The Gary Pavilion at Children's Hospital
Colorado
Anschutz Medical Campus
13123 E. 16th Avenue, B390
Aurora, CO 80045
www.kempe.org

National Center for Missing & Exploited Children

Charles B. Wang International Children's
Building
699 Prince Street
Alexandria, Virginia 22314
Phone: 703-224-2150
Hotline: 800-THE-LOST
www.missingkids.com

Prevent Child Abuse America

228 South Wabash Avenue
10th Floor
Chicago, IL 60604
Phone: 312-663-3520
www.preventchildabuse.org

SafeSport

1 Olympic Plaza
Colorado Springs, CO 80909
www.safesport.org

Stop It Now

351 Pleasant Street, Suite B-319
Northampton, MA 01060
Phone: 413-587-3500
Helpline: 888-PREVENT
www.stopitnow.org/usagym

Standards Organizations

American Society of Testing & Materials (ASTM)

100 Barr Harbor Dr
PO Box C700
West Conshohocken, PA 19428
www.astm.org

National Operating Committee on Standards for Athletic Equipment (NOCSAE)

11020 King Street
Suite 215
Overland Park, KS 66210
Phone: 913-888-1340
www.nocsae.org

Miscellaneous Organizations

From the Gym to the Jury

Editor: Herb Appenzeller
7503 Somersby Dr.
Summerfield, NC 27358
Phone: 336-643-4620
www.gym2jury.com

Safe Kids USA

1301 Pennsylvania Ave, NW
Suite 1000
Washington DC 20004
Phone: 202-662-0600
www.safekids.org

Sports & Fitness Industry Association (SFIA)

8505 Fenton Street
Suite 211
Silver Springs, MD 20910
Phone: 301-495-6321
www.sfia.org

U.S. Consumer Product Safety Commission

4330 East West Highway
Bethesda, MD 20814
Phone: 301-504-7923
Toll free: 800-638-2772
www.cpsc.gov

USA Gymnastics Code of Ethical Conduct

(Updated, December 2012)

I. Introduction

The mission of USA Gymnastics is to encourage participation and the pursuit of excellence in all aspects of gymnastics. USA Gymnastics grants the privilege of membership to individuals and organizations committed to that mission. USA Gymnastics may, therefore, withdraw the privilege of membership or discipline a member where USA Gymnastics determines that an individual or organization's conduct is inconsistent with the mission of USA Gymnastics or the best interest of the sport and those who participate in it.

To better serve the interests of those who participate in gymnastics, USA Gymnastics has adopted the Code, which follows. This Code is not intended to establish a set of rules that will, by inclusion or exclusion, prescribe the appropriate behavior for members in every aspect of their participation in the sport. Rather, the Code offers general principles to guide the conduct, and the judicious appraisal of conduct, of all USA Gymnastics members (individuals, organizations and clubs/businesses, which are collectively referred to as "Members" and individually as a "Member") in situations that have ethical implications.

This Code cannot further ethical conduct in the sport of gymnastics; that can only come from the personal commitment of the participants in the sport to behave ethically. This Code is offered instead to guide and to affirm the commitment of all Members to safeguard the best interests of the sport by acting ethically at all times.

II. Elements of the Code

A. Participant Relationships

Members of USA Gymnastics are charged with the responsibility for contributing to an environment that makes participation in the sport a positive and rewarding experience. To achieve that result, each professional and club/business Member has a special obligation to make decisions based on the best interest of the athlete. It is inconsistent with this obligation for any Member to:

1. Fail to follow the safety guidelines established by USA Gymnastics, or otherwise knowingly subject a participant to unreasonable physical or emotional risk.
2. Engage in conduct that is unfair including, in particular, attempting to injure, disable or intentionally interfere with the preparation of a competitor.
3. Engage in conduct toward another participant in the sport that is abusive. USA Gymnastics recognizes that the process for training and motivating athletes varies with each coach and each athlete, but it is nevertheless incumbent on everyone involved in the sport to support the development and use of motivational and training methods that avoid conduct that is, or is likely to be perceived as being, abusive.
4. Attempt to intimidate, embarrass or improperly influence any individual responsible for judging or administering a competition.

B. Non-Discrimination

Any USA Gymnastics activity or event should be open to any Member properly qualified under the rules of that activity or event. It is inconsistent with this obligation for any Member to:

1. Restrict the ability of a Member to qualify for or participate in competition because of the Member's association with a particular

organization or individual or because of that Member's race, sex, creed, sexual orientation, age, national origin or mental or physical disability.

2. Discriminate in the provision of resources or opportunities to any Member or prospective Member on the basis of race, sex, creed, sexual orientation, age, national origin or mental or physical disability.

C. Participation

Every Member participating in a USA Gymnastics activity or event has an obligation to participate to the best of his/her abilities. It is inconsistent with this obligation for any Member to:

1. Knowingly participate as a judge, coach, athlete or administrator in any activity or event where that judge, coach, athlete or administrator is inadequately prepared, unable to participate or fails to participate to the best of his or her ability.
2. Engage in behavior that is so disorderly or inappropriate as to interfere with the orderly conduct of the activity or other Members' participation in, or enjoyment of, the activity or event.

D. Commitment to Integrity

A Member of USA Gymnastics has a responsibility to uphold the integrity of the sport of gymnastics and the rules and regulations that govern it, and to act honestly, openly, fairly and competently. It is inconsistent with this obligation for any Member to:

1. Knowingly misrepresent the policies or actions of USA Gymnastics or its authorized representatives.
2. Act on behalf of USA Gymnastics or a Member without appropriate authorization.
3. Alter, falsify or omit any information, record or document to intentionally make a false or exaggerated claim or statement or to mislead.
4. Fail to resort in the first instance to the established procedures for challenging a competitive result, contesting a team selection decision, complaining about the conduct of another Member, or attempting to alter or reverse a policy adopted by USA Gymnastics.
5. Breach the duty to maintain appropriately established confidences of USA Gymnastics or any Member.
6. Knowingly make false certifications on membership or event sanction applications or otherwise regarding the involvement of any person permanently ineligible for USA Gymnastics membership, or any person who is listed on a federal or state sex-offender registry, with regard to club/business, event, or advertised activities.
7. Engage in business practices directed toward another Member that are determined by a court, or other similar adjudicatory body, to be unethical, illegal or a breach of contract.
8. Incur expenses in furtherance of USA Gymnastics' business that are unreasonable, unnecessary, or unsubstantiated.
9. Fail to avoid both actual and perceived conflicts of interest in the conduct of business.
10. Participate in the deliberation or decision-making process about any issue for which the Member has a direct financial interest, unless full disclosure of that interest and meaningful consent is obtained prior to participation.

E. Communication

Members of USA Gymnastics have a duty to communicate honestly and openly with USA Gymnastics and Members. It is inconsistent with this obligation for any Member to:

1. Misrepresent competitive achievements, professional qualifications, education, experience, eligibility, criminal record or affiliations.
2. Knowingly disseminate false or misleading information about another Member.
3. Misrepresent actions taken or not taken in an effort to show compliance with USA Gymnastics' policies or procedures.
4. Withhold from athletes information or resources likely to enhance the athletes' enjoyment of the sport or reduce their risk of injury or illness.
5. Fail to consult with or inform fully the athlete or the athlete's parents about opportunities made available to the athlete involving competitions, commercial activities or recognition.
6. Misrepresent the nature or extent of an injury in order to decline an invitation to participate in or withdraw from a competition, training camp or other similar activity.
7. Misrepresent the nature or extent of an injury in order to participate in (or cause an athlete to participate in) a competition, training camp or other similar activity when such participation is inconsistent with the appropriate medical response to the injury.

This section applies to all forms of communication, including social media.

F. Alcohol and Drug Abuse

Members of USA Gymnastics must ensure that the sport is conducted in an environment free of drug or alcohol abuse. It is inconsistent with this obligation for any Member to:

1. Use or provide to a third party any drug proscribed by applicable federal, state or municipal law.
2. Assist or condone any competing athlete's use of a drug banned by the International Olympic Committee, United States Olympic Committee, Federation Internationale de Gymnastique, World Anti-Doping Agency, United States Anti-Doping Agency, USA Gymnastics, or National Collegiate Athletic Association, or, in the case of athletes, to use such drugs or refuse to submit to properly conducted drug tests administered by any of those organizations.
3. Provide alcohol to, or condone the use of alcohol by, minors; abuse alcohol in the presence of athletes or at USA Gymnastics' activities; or consume alcoholic beverages while a minor.

G. Criminal Conduct

Members of USA Gymnastics are expected to comply with all applicable criminal codes. This obligation is violated by any Member who:

1. Has been listed on any State or Federal sexual offender list or registry.
2. Has been declared a sex offender in any applicable State or Federal jurisdiction.
3. Has been convicted of or has entered a plea of guilty or no contest to a criminal charge or indictment directly or indirectly involving or relating to sexual misconduct, child abuse, or conduct that is a violation of a law or regulation specifically designed to protect minors.

Depending on the nature of the crime, this obligation may be violated by any Member who has been convicted of or has entered a plea of guilty or no contest to any felony charge or indictment involving conduct other than that specifically described above.

H. Sexual Misconduct

Members of USA Gymnastics are expected to promote a safe environment for participants, coaches, officials, volunteers and staff in all gymnastics disciplines, which includes an environment free from sexual misconduct. It is inconsistent with this obligation for any Member to:

1. Solicit or engage in sexual relations with any minor.
2. Engage in any behavior that utilizes the influence of a professional Member's position as coach, judge, official or administrator to encourage sexual relations with an athlete or participant.
3. Engage in sexual harassment by making unwelcome advances, requests for sexual favors or other verbal or physical conduct of a sexual nature where such conduct creates an intimidating, hostile or offensive environment.

I. Sexual Relationships

Professional Members of USA Gymnastics must protect the integrity of the sport and the interests of the athletes they serve by avoiding sexual relationships with athletes except where the capacity and quality of the athlete's consent to enter that relationship is beyond question.

III. Enforcement of Code

Compliance with this Code depends primarily upon understanding and voluntary compliance, secondarily upon reinforcement by peers, and, when necessary, upon enforcement through disciplinary action.

Any Member ('Complainant') who believes that another Member of USA Gymnastics has failed to meet such Member's obligations under this Code is, under all but the most egregious circumstances, encouraged to first address that concern directly to that Member. If that action does not result in a satisfactory resolution, the Complainant may file a written complaint with the President, program director or other appropriate staff member of USA Gymnastics. That complaint must be signed and state specifically the nature of the alleged misconduct. Upon review of the complaint and, where appropriate, additional discussions with the Complainant and/or Member who is the subject of the complaint, the President may:

1. Determine that the complaint does not merit further action,
2. Counsel the Member who is the subject of the complaint and record both the complaint and the nature of the counseling in the Member's permanent record,
3. Refer the complaint, as appropriate, to the state or regional chairs/committees or affiliated organization, or
4. Process the complaint under Article 9 and/or 10 of USA Gymnastics' Bylaws.

USA Gymnastics Safe Sport Policy

(f/k/a Participant Welfare Policy)

Updated June 2017; Safe Sport Code updated December 2017

The Safe Sport Policy, formerly known as the Participant Welfare Policy, is part of USA Gymnastics' safe sport initiatives and incorporates the authority and jurisdiction of the U.S. Center for Safe Sport. USA Gymnastics policies and procedures related to misconduct are presently under review, and updates to this policy may be necessary in the near future. Available online at usagym.org/SafeSport, changes are effective immediately unless otherwise noted in the policy.

Consistent with the mission of USA Gymnastics,¹ the welfare of gymnastics participants, especially minors, is of paramount concern. When any member - gymnast, participant, coach, official, volunteer or staff member - is subjected to or engages in abuse or misconduct, it undermines the mission of USA Gymnastics and is inconsistent with the best interests of the sport of gymnastics and of the gymnasts USA Gymnastics serves.

USA Gymnastics is committed to promoting a safe environment for its members, gymnasts, participants, coaches, officials, volunteers and staff in all gymnastics disciplines. USA Gymnastics has developed and adopted this policy to set forth the efforts it will undertake to promote a safe gymnastics environment, both solely and in partnership with other necessary parties, including member clubs, parents, gymnasts, the gymnastics community, and the U.S. Center for SafeSport ('Center').

Gymnastics participants must promote a safe, misconduct-free environment for members, gymnasts, participants, coaches, officials, volunteers and staff in all gymnastics disciplines. As such, a "Covered Individual" (as defined below) in accordance with the requirements of the U.S. Center for SafeSport:

- a. is responsible for knowing the information, policies and procedures outlined in:
 - the Center's *SafeSport Code for the U.S. Olympic and Paralympic Movement* ('Code' or 'SafeSport Code') and its related policies;
 - USA Gymnastics' rules, policies, Bylaws, and Code of Ethical Conduct;
- b. shall refrain from engaging in or willfully tolerating any of the forms of Misconduct and Prohibited Conduct described in the Center's SafeSport Code and USA Gymnastics Safe Sport Policy;
- c. is subject to the Center's jurisdiction and must comply with the Center's policies, procedures, and SafeSport Code, including with respect to reporting suspected Misconduct and violations of Proactive Policies (as defined below); and

¹ The mission of USA Gymnastics is to encourage participation and the pursuit of excellence in all aspects of gymnastics.

- d. is subject to USA Gymnastics' jurisdiction and must comply with USA Gymnastics' rules, policies, Bylaws, and Code of Ethical Conduct, including with respect to reporting suspected misconduct and violations of Proactive Policies.

A "Covered Individual" is:

- a. Any individual who currently is, or was at the time of a possible SafeSport Code Violation, within the governance or disciplinary jurisdiction of USA Gymnastics or who is seeking to be within the governance or disciplinary jurisdiction of USA Gymnastics (e.g., through application for membership), including:
 - Current members (professional, jr. professional, instructor, athlete, introductory athlete)
 - Applicants for membership
 - Individuals who were members of USA Gymnastics at the time of any suspected Misconduct or Prohibited Conduct described in the Center's SafeSport Code or USA Gymnastics Safe Sport Policy
 - USA Gymnastics staff and Board members
- b. Any individual who is an Athlete or Non-Athlete Participant that USA Gymnastics formally authorizes, approves or appoints to a position of authority over Athletes or to have frequent contact with Athletes, such as persons compensated and/or appointed by USA Gymnastics to perform services at sanctioned activities run by USA Gymnastics National Office or its State and Regional Committees, such as camps, competitions, and educational events, including for example:
 - Events staff - Individuals with access to the field of play
 - Medical personnel
 - Chaperones
 - National Team Training Center support staff
 - Any other contracted individual working with or around athletes

A "Covered Adult" is a Covered Individual who is 18 years of age or older.

An "unrelated Covered Adult" is a Covered Individual who is not an immediate family member of the gymnast.

A "Covered Minor" is a Covered Individual who is under the age of 18.

An "Athlete" is an athlete member of USA Gymnastics.

A "Non-Athlete Participant" is any of the following members of USA Gymnastics: coach, team staff, medical or paramedical personnel, administrator, official, or other athlete-support personnel, employee, or volunteer who participates in amateur sports programs offered or sanctioned by USA Gymnastics or the U.S. Olympic Committee.

Part I. Misconduct and Prohibited Conduct.

USA Gymnastics has agreed to comply with the safe sport policies of the U.S. Center for SafeSport ('Center') and has incorporated into this Safe Sport Policy the provisions of the *SafeSport Code for the U.S. Olympic and Paralympic Movement ('Code' or 'SafeSport Code')* by reference. The Center may update its policies at any time and the changes are effective when published. For the most current safe sport rules, policies and procedures, go to www.safesport.org.

USA Gymnastics has adopted the definitions of misconduct and prohibited conduct from the Center's SafeSport Code as follows.

A. Sexual Misconduct.

Sexual Misconduct is within the exclusive authority of the Center.

A Covered Individual shall not engage in Sexual Misconduct as defined in the SafeSport Code.

B. Other Safe Sport Misconduct.

Other Safe Sport Misconduct – Physical Misconduct, Bullying, Hazing, Harassment, or Emotional/Verbal Misconduct - is within the authority of USA Gymnastics. Upon USA Gymnastics' request, the Center may, at its discretion, accept a matter involving Other Safe Sport Misconduct.

A Covered Individual shall not engage in Prohibited Conduct, including Physical Misconduct, Bullying, Hazing, Harassment or Emotional/Verbal Misconduct as defined in the SafeSport Code. USA Gymnastics recognizes the process for training and motivating gymnasts varies with each coach and each gymnast. Nevertheless, it is incumbent on everyone involved in the sport to support the development and use of motivational training methods that avoid conduct that is, or is likely to be perceived, as being abusive.

C. Misconduct Related to the Resolution Process.

Misconduct related to the resolution process is within the authority of USA Gymnastics and/or the Center.

The following behavior by a Covered Individual may be considered misconduct as defined in the SafeSport Code: Abuse of Process, Failure to Report, Intentionally Making a False Report, or Retaliation. Any such conduct, including after the resolution of a matter is final, is a violation of this policy and/or the Center's SafeSport Code.

D. Proactive Policies Protecting Against Sexual Misconduct.

Except as set forth in Part II, violations of the Proactive Policies described herein are within the authority of Member Clubs.

USA Gymnastics has adopted the recommendation of the Center to establish Proactive Policies Protecting Against Sexual Misconduct ('Proactive Policies') tailored specifically to the sport of gymnastics that (i) set standards for professional boundaries, (ii) minimize the appearance of impropriety and have the effect of preventing boundary violations and (iii) prohibit grooming tactics.

USA Gymnastics Member Clubs must adopt USA Gymnastics' Proactive Policies outlined below. In addition, Member Clubs are strongly encouraged to adopt more comprehensive Proactive Policies tailored specifically to their club.

1. One-on-one interactions.

- An unrelated Covered Adult shall not be alone with a Minor (a) in a private setting, and (b) in any place that is inappropriate to the professional relationship (i.e., a social setting outside the training or competitive environment). A gymnastics activity conducted within the view and/or earshot of another adult is not considered a one-on-one interaction if it presents a meaningful opportunity for interruption.
- Gymnasts may not reside with an unrelated Covered Adult, nor may a Covered Adult reside with a gymnast's family.

2. Travel.

- When traveling, an unrelated Covered Adult shall not be alone with a Minor.
- For overnight travel, assign gymnasts to hotel rooms with age-appropriate, same-sex teammates.
- Do not allow an unrelated adult to share or be alone in a sleeping room with gymnasts.

3. Social Media and Electronic Communications.

- All e-mails, texts, and posts must be transparent, professional and related solely to gymnastics activities or events. Covered Adults may not have out-of-program contact with gymnasts on social media. (For example, general communication regarding a gymnastics activity or event via a club's social media account is acceptable, but private communication via a coach's and/or an athlete's personal social media account is not acceptable.)
- Covered Adults must distribute electronic and mobile communications to minor gymnasts openly and publicly; for example, with a copy to the parent(s)/guardian(s) and/or to the entire team transmitted simultaneously.
- Parents and guardians have the right to request that (a) their child not be contacted in any form of electronic communications, or (b) certain information about their child that they designate not be distributed in any form of electronic communications. All such requests will be honored.

4. Photography/Videography.

- Photographs or videos may only be taken (a) in public view; (b) if they observe generally accepted standards of decency; and (c) are both appropriate for and in the best interest of the gymnast.

- Examples of photos that should be edited or deleted:
 - Open straddle positions
 - Any image where the genital area is prominent
 - Images with misplaced apparel or where undergarments are showing
 - Suggestive or provocative poses
- Without a parent's (or legal guardian's) consent in the case of a Minor gymnast, or a gymnast's consent in the case of an adult gymnast (a) gymnasts may not be photographed or filmed; and (b) no images of gymnasts may be posted publicly or privately. If consent is given, it may be revoked at any time.

5. Locker Rooms/Changing Areas.

- Interactions between Covered Adults and gymnasts should not occur in any room where there is a reasonable expectation of privacy such as the locker room, restroom or changing area. A second adult should be present for any necessary interaction between an adult and a gymnast in any such room.
- The use of recording devices of any kind in any such room is strictly prohibited.

6. Gifting.

Gift-giving or providing special favors or privileges to individual gymnasts is prohibited.

7. Massage/Icing/Taping.

- Any rubdown or massage performed on a gymnast by any unrelated Covered Adult must be conducted in open/public locations and must never be done with only a gymnast and unrelated Covered Adult in the room.
- Icing and taping must be conducted in open/public locations and must never be done with only a gymnast and unrelated Covered Adult in the room.
- Icing and taping near the intimate areas of the body is not permitted by any unrelated Covered Adult - unless it is done by a licensed medical professional - and must never be done with only a gymnast and unrelated Covered Adult in the room.

8. Stretching and Other Physical Contact.

Covered Adults should take care to prevent any compromising positions while stretching or closely interacting with gymnasts and must avoid:

- Laying or sitting on top of the gymnast
- Facing the gymnast while he/she is in a static straddle position
- Lap sitting
- Pats on the bottom

Physical contact that is reasonably intended to coach, teach or demonstrate a gymnastics skill or to prevent or lessen injury (e.g., spotting, catching) is permissible. Infrequent, non-intentional physical contact, particularly contact that arises out of an error or a misjudgment on the part of the gymnast, participant or coach, does not violate this policy.

Part II. Reporting, Jurisdiction and Processing Complaints.

A. Reporting Suspected Abuse to Legal Authorities.

1. USA Gymnastics will report suspected child abuse or neglect (including Sexual Misconduct) within 24 hours to the proper authorities in all instances and without exception, unless it is aware that authorities have already been notified.
2. Covered Adults must report suspected child abuse or neglect (including Sexual Misconduct) within 24 hours to the appropriate legal authorities, which is separate from notification to the Center, USA Gymnastics, or a Member Club as outlined below. For state-by-state reporting information, see www.childwelfare.gov.

B. Reporting Sexual Misconduct.

Covered Adults are required to provide notification of conduct of which they become aware that could constitute (a) Sexual Misconduct, (b) misconduct that is reasonably related to the underlying allegation of Sexual Misconduct, and (c) retaliation related to an allegation of Sexual Misconduct as set forth in the Code:

1. Directly to the Center.
2. In the event the disclosure is initially made to USA Gymnastics, USA Gymnastics will forward the information to the Center.
3. Notification to the Center and/or USA Gymnastics DOES NOT satisfy any legal reporting requirements under state or federal law. Covered Adults are required to report suspected sexual misconduct to legal authorities as required by State law or Federal law, prior to notifying the Center.

C. Reporting Other Safe Sport Misconduct.

Members of USA Gymnastics are required to provide notification of conduct by a Covered Individual that could constitute Other Safe Sport Misconduct:

1. Directly to USA Gymnastics.
2. Notification to USA Gymnastics DOES NOT satisfy any legal reporting requirements under state or federal law. If the suspected conduct may also be criminal, persons are required to report to legal authorities as required by State or Federal law, prior to notifying USA Gymnastics.

D. Reporting Misconduct Related to the Resolution Process.

Covered Adults must provide notification of suspected Misconduct Related to the Resolution Process:

1. Directly to the Center, if the Center was the entity that had jurisdiction over the original allegation.
2. Directly to USA Gymnastics, if USA Gymnastics was the entity that had jurisdiction over the original allegation.

E. Reporting Violations of Proactive Policies

Members of USA Gymnastics must provide notification of conduct by a Covered Individual that may constitute a violation of Proactive Policies.

1. Directly to the Member Club.

2. Member Clubs are required to inform USA Gymnastics when they receive notification of suspected violations of Proactive Policies by Covered Individuals in their clubs, and the resolution of the matter. USA Gymnastics will also notify the Center of any such notification and its resolution.
3. If reporting a suspected violation by a Covered Individual to the Member Club does not result in a satisfactory resolution, the reporting individual may request that USA Gymnastics review the matter. USA Gymnastics will also notify the Center of any such matter and its resolution.
4. Notification to USA Gymnastics DOES NOT satisfy any legal reporting requirements under state or federal law. If the suspected conduct may also be criminal, Covered Adults are required to report to legal authorities as required by State or Federal law.

F. Jurisdiction.

1. *Sexual Misconduct.* The Center has the exclusive authority to investigate and resolve conduct involving Sexual Misconduct, as well as prohibited conduct under the Code that is reasonably related to the underlying allegation of Sexual Misconduct.
2. *Other Safe Sport Misconduct.* Other Safe Sport Misconduct is within the authority of USA Gymnastics and within the discretionary authority of the Center. Upon the written request of USA Gymnastics, the Center may, in its discretion, accept jurisdiction over alleged violations of Other Safe Sport Misconduct.
3. *Related Violations.* Alleged violations of Misconduct Related to the Resolution Process will be resolved by either the Center or USA Gymnastics, depending on which entity has/had jurisdiction over the original allegation.
4. *Proactive Policies.* Violations of Proactive Policies are within the authority of the Member Clubs. However, if reporting the suspected violation to the Member Club does not result in a satisfactory resolution, an individual may request that USA Gymnastics review the matter. Additionally, upon the written request of USA Gymnastics, the Center may, in its discretion, accept jurisdiction over alleged violations of Protective Policies.

G. Telephone Inquiries.

At least two USA Gymnastics staff members, one of each gender, shall be trained to receive telephone inquiries regarding misconduct. The staff members shall:

1. Advise the caller that they, as well as USA Gymnastics has an obligation to report suspected child abuse or neglect to the proper authorities within 24 hours, unless it is aware that the authorities have already been notified.
2. Inform the caller that allegations of Sexual Misconduct must be reported to the Center and provide the caller with the information necessary to notify the Center and/or forward the information the caller has provided directly to the Center on their behalf.
3. Inform the caller that if the matter has not been referred to the Center, a written and signed complaint must be received for a USA Gymnastics member to initiate a grievance against another member of USA Gymnastics pursuant to its Code of Ethical Conduct and/or Articles 9 and/or 10 of USA Gymnastics Bylaws, and offer to provide a copy of the relevant documents to the caller.
4. Encourage that the victim(s) seek professional help, if appropriate.

5. Written summaries detailing the call will be indexed by the alleged perpetrator and will become a part of any applicable file to use as part of the resolution process.

H. Implementation of USA Gymnastics' Misconduct/Grievance Procedures.

At least two USA Gymnastics staff members, one of each gender, shall be trained in the proper implementation of the member misconduct and grievance procedures contained in the Center's SafeSport Code, USA Gymnastics Code of Ethical Conduct, and/or USA Gymnastics Bylaws.

1. A trained staff member will be designated to implement the procedures for each complaint.
2. The designated staff member will determine whether or not the accused is a Covered Individual.
 - a. If the accused is a Covered Individual, the matter will proceed in accordance with the existing applicable policy.
 - b. If the accused is not a Covered Individual, the staff member will notify the complaining party, as a courtesy, that USA Gymnastics is unable to pursue the matter internally.
3. The designated staff member will "shepherd" the complaint through the process set forth in the USA Gymnastics Code of Ethical Conduct or its Bylaws.

I. Referral to the Center.

1. One staff member will be designated as USA Gymnastics' safe sport liaison to the Center.
2. The designated staff member will:
 - a. If the matter involves possible Sexual Misconduct, report that matter to the Center.
 - b. As appropriate, make requests for the Center to resolve a complaint that is within the Center's discretionary authority.
 - c. Notify the Center of suspected violations of Proactive Policies by any Covered Individual and resolution thereof.

J. Confidentiality and Privacy.

1. Due to reporting requirements, and in consideration of any potential or ongoing safety risk, USA Gymnastics cannot guarantee confidentiality in safe sport matters. However, USA Gymnastics will treat such matters with as much confidentiality as is possible under the circumstances and with the sensitivity they deserve.
2. Information will only be shared on an as-needed basis with the concerned parties.
3. Parents/guardians of gymnasts may be notified, as necessary, of any possible health or safety risk.

Part III. USA Gymnastics' Additional Safe Sport Measures.

A. Criminal Background Screening of Individual Members.

As a condition to being granted the privilege of membership in USA Gymnastics, individuals applying for professional membership must submit to criminal background screening pursuant to USA Gymnastics' Criminal Background Screening Policy. Individuals given a "Green Light" or "meets the screening criteria" consistent with that policy fulfill the background-screening requirement for membership in USA Gymnastics. Individuals given a "Red Light" consistent with that policy means criminal history has been sourced that "does not meet the screening criteria."

USA Gymnastics will continually monitor and review the individuals who are subject to criminal background searches, with the primary goal of safeguarding gymnasts and other participants through proactive measures while conforming to legal norms and industry best practices.

B. Permanently Ineligible for Membership List.

USA Gymnastics maintains a list of individuals and clubs who are permanently ineligible for membership, available at usagym.org/ineligible. Persons and clubs who are sanctioned with a lifetime ban are restricted from involvement or association with USA Gymnastics and Member Club activities.

C. Code of Ethical Conduct.

The Code provides guidance and affirms the commitment of all members to safeguard the best interests of the sport and its athletes by acting ethically at all times.

D. Athlete Member Advisement.

Upon obtaining membership in USA Gymnastics, an enclosure is mailed with the Athlete Membership Card advising Athletes of the organization's initiatives to promote a safe environment including awareness of this Safe Sport Policy, his/her role in maintaining the Athlete's own safety, and available safe sport resources.

E. Professional Member Advisement.

Upon obtaining membership in USA Gymnastics, an enclosure is mailed with the Professional Membership Card advising the member of the organization's initiatives to promote a safe environment for gymnasts and other participants including awareness of this Safe Sport Policy, the member's obligation's in maintaining a safe environment, and available safe sport resources.

F. Member Clubs.

As a condition for the privilege of membership in USA Gymnastics as a Member Club, a club must agree to and comply with the following requirements for the entirety of the club's membership period, and a certification of compliance must be made annually.

1. Have a policy consistent with USA Gymnastics' Safe Sport Policy that affirms the club's commitment to the welfare of gymnastics participants in its club and includes, at

minimum, a description of conduct that will not be tolerated, standards of behavior that promote participant welfare, and a process for receiving and handling complaints regarding conduct that violates its policy.

2. Must adopt USA Gymnastics “Proactive Policies” into the club’s policies and be able to provide written documentation of compliance no later than January 1, 2018.
3. Certify that no persons permanently ineligible for USA Gymnastics membership and no persons listed on a federal or state sex-offender registry are or will be associated with the club or its activities in any way.
4. Maintain current commercial general liability insurance that includes at a minimum, participant liability and participant accident medical insurances.
5. Maintain a current Professional membership for the owner of a private gymnastics facility and/or the managing director of a public/non-profit facility.
6. Have a mission statement consistent with USA Gymnastics’ mission to encourage participation and the pursuit of excellence in all aspects of gymnastics.

G. Recommendations to Member Clubs.

USA Gymnastics strongly encourages local clubs to join with USA Gymnastics in taking affirmative steps beyond those described in Section F to promote a safe environment for all gymnastics participants by:

1. Adopting additional “Proactive Policies” to foster a safe gymnastics environment and to prevent abusive situations, and by training staff and volunteers to implement such policies;
2. Implementing a thorough hiring process including, for example, reference and criminal background checks;
3. Encouraging parents/guardians to become as active as reasonably possible in his/her child’s gymnastics activities; and
4. Otherwise implementing policies and procedures to lessen the likelihood that an abusive situation could develop.

H. Event Sanctions.

As a condition for being granted a USA Gymnastics sanction for an event, the applicant must certify that no persons permanently ineligible for USA Gymnastics membership, and no persons listed on a federal or state sex-offender registry, will be associated with the event in any capacity, including, but not limited to, volunteers and meet support personnel. Sanctioned events may only be hosted by Member Clubs.

I. Advertising/Trade Shows.

As a condition to place advertising in USA Gymnastics publications, on its web site or through other USA Gymnastics media platforms/publications, or to participate in USA Gymnastics Congress Regional/National Trade Shows, advertisers, vendors and exhibitors must certify that no persons permanently ineligible for USA Gymnastics membership are or will be associated with the advertiser’s gymnastics-related activities, the position, activity, or event it intends to publicize; or the vendor or exhibitor’s on-site activities.

J. Hiring/Training of USA Gymnastics Staff/Volunteers.

1. USA Gymnastics staff members must complete criminal background screening consistent with USA Gymnastics' "Background Screening Policy." Individuals not given a "Green Light" consistent with that policy prior to their employment may not be hired. Individuals not given a "Green Light" on any subsequent criminal background screening may be subject to dismissal.
2. USA Gymnastics shall also check at least two (2) references for each applicant.
3. All USA Gymnastics staff members will be informed about the Safe Sport Policy, which is included as an appendix in the *Employee Policies & Procedures Handbook*, and made aware of its importance to our members and our organization.
4. The members of the USA Gymnastics Board of Directors must submit to criminal background screening consistent with the Criminal Background Screening Policy. Individuals not given a "Green Light" consistent with that policy may be subject to removal.

K. Education of the Gymnastics Community.

USA Gymnastics will provide education for members of the gymnastics community geared toward promoting a safe gymnastics environment by:

1. Requiring members to complete a designated safe sport course every two years.
2. Designating a section of its website, usagym.org/SafeSport, with educational and safe sport content that is updated as necessary;
3. Featuring articles on athlete safety online and in its magazines;
4. Conducting a live presentation at each National and Regional Congress;
5. Providing online or electronic access through the Safety/Risk Management Certification or other USA Gymnastics University courses;
6. Providing brochures and/or posters to members and Member Clubs;
7. Addressing the topic at minimum annually in designated Athlete meetings, with designated Athletes' parents, and with USA Gymnastics' staff members.
8. Including information in its publications, where appropriate, including the *Safety/Risk Management Handbook* and each discipline's *Rules and Policies*.

L. Professional Development.

Professional and Instructor members of USA Gymnastics should strive to increase their level of proficiency and skill by remaining current on safety, health and training developments relevant to the sport and by seeking advice and counsel of colleagues and experts whenever such consultation is in the best interests of the gymnast.

M. Communication.

USA Gymnastics will consistently communicate:

1. Its mission and that misconduct is inconsistent with its mission and the best interest of its participants and the sport of gymnastics.
2. Its commitment to, and working toward, a safe environment for all gymnastics participants.

N. Document Retention.

USA Gymnastics will permanently retain misconduct / grievance files and materials.

O. Policy Review.

Safe Sport policies will be reviewed at least annually and updated as necessary.

Sample Waiver/Release Forms

Sample Form #1: Registration Form with Waiver and Release

Note: Legal forms must be evaluated by local counsel in light of applicable state laws. Always consult with an attorney before using these or other forms.

Participant Registration Form

Before participation in any activity, this form must be signed by at least one of the participant's parents or legal guardians if the participant is not yet 18 years old. Participant's signatures are required if 18 years of age or older and are helpful when age-appropriate.

Participant name: _____ Gender: Male Female

Age: _____ Date of birth: _____

Mother's name: _____ Father's name: _____

Legal guardian(s)' name: _____

Address: _____ City: _____ State: _____ Zip: _____

Phone: (_____) _____ Cell: (_____) _____ Emergency: (_____) _____

E-mail address: _____

Are there any medical conditions of which we should be aware? Check one: Yes No

If yes, explain: _____

Has the participant had a physical examination in the last three years? Check one: Yes No

(_____ recommends that every student complete an annual physical examination.)
insert gymnastics club's name

Physician name: _____ Phone (_____) _____

Dentist name: _____ Phone (_____) _____

May we use the gymnast's photo on our website or in advertisements? No names will be disclosed. Check one: Yes No

Eligibility to participate in class at _____ *insert gymnastics club's name* requires a completed gymnast registration form with release of liability, a consent to treatment form and full tuition on or before the first day of class.

Gymnast: _____ Date: _____

If gymnast is not yet 18 years old, at least one parent or legal guardian of such person also must sign:
 We certify that the information provided above is correct.

Printed name of parent/guardian

Signature of parent/guardian

Date

Printed name of parent/guardian

Signature of parent/guardian

Date

LIABILITY RELEASE AND INDEMNIFICATION: Prior to participation, this form must be signed by at least one of the participant's parents or legal guardians if the participant is not yet 18 years old. Participant's signatures are required if 18 years of age or older and are helpful when age-appropriate.

Name of participant: _____ (the "gymnast") DOB _____

Address: _____

Home phone: _____ Alternate phone: _____

Parent/guardian name (print): _____

Other parent/guardian name (print): _____

In consideration of _____ [insert gymnastics club's name] allowing the gymnast to participate in sports activity, class, competition, team, including non-gymnastics activities such as dance, cheerleading, swimming and playground activities (hereinafter referred to as the "Activity"), I, and if I am not yet 18 years old my parents or legal guardians, agree to be bound as follows (the term "I" in this release refers to both the gymnast and his or her parents or legal guardians):

(1) **Acknowledgment and Assumption of Risks.** I understand that the Activity involves risks of serious bodily injury, including permanent disability, paralysis and death, which may be caused by the gymnast's actions or inactions, those of others participating in the Activity, the conditions in which the Activity takes place, the negligence of the "Released Parties" named below, or other causes. I further understand that there may be other risks either not known to me or not readily foreseeable at this time. I fully accept and assume all such risks and all responsibility for losses, cost and damages that may result from the Activity. I hereby give my approval of and consent to the gymnast's participation in the Activity. I assume all risks and hazards incidental to the Activity and to transportation to and from the Activity.

(2) **Representation of Ability to Participate.** I understand the nature of the Activity, and I represent that the gymnast is qualified, in good health, and in proper physical condition to participate in the Activity. Should I ever believe that any of the above representations have become untrue, or if I should ever believe that the Activity is not safe or is no longer safe for the gymnast, then it will be my responsibility immediately to discontinue the gymnast's participation in the Activity.

(3) **Release.** I hereby release, acquit, covenant not to sue, and forever discharge _____ [insert gymnastics club's name], its owners, officers, administrators, employees, agents, volunteers, sponsors, advertisers, coaches and supervisors, and the owners or lessors of any facilities within which the Activity is conducted, their respective agents and employees and all other persons providing facilities or assisting in the conduct of the Activity and in the transportation of participants to and from the Activity (collectively the "Released Parties") of and from any and all actions, causes of action, claims, demands, liability, losses or damages of whatever name or nature, including but not limited to those arising from or in any way related to the negligence of any of the Released Parties, that arise out of or are connected in any way to the gymnast's participation in the Activity and the transportation of the above named gymnast to and from the Activity (collectively the "Released Claims").

(4) **Indemnification.** I will defend, indemnify and hold harmless the Released Parties from (that is, to reimburse and be responsible for) any loss or damage, including but not limited to costs and reasonable attorney's fees (including the cost of any claim I might make or that might be made on my behalf or the gymnast's behalf that is released in this document), arising out of or connected in any way with any of the Released Claims.

I have read the Policies and Procedures for parents, spectators and participants in the Activity and/or the Team Handbook, and agree to abide by all rules and conditions set forth therein and to accept the judgment of the program officials in this regard.

I HAVE READ AND UNDERSTOOD THIS ACKNOWLEDGMENT AND ASSUMPTION OF RISKS, REPRESENTATION OF ABILITY TO PARTICIPATE, RELEASE AND INDEMNIFICATION. I UNDERSTAND THAT BY SIGNING THIS DOCUMENT, I AM GIVING UP SUBSTANTIAL RIGHTS. I AM EXECUTING THIS DOCUMENT VOLUNTARILY AND WITH FULL KNOWLEDGE OF ITS SIGNIFICANCE.

Gymnast

Date

Signature of Parent/Guardian

Date

Signature of Other Parent/Guardian

Date

Sample Form #2: Gymnastics Party Sign-in and Waiver

Note: Legal forms must be evaluated by local counsel in light of applicable state laws. Always consult with an attorney before using these or other forms.

_____ **Birthday Party** **Birthday Child's Name:** _____
insert gymnastics club's name

Party Date: _____ **Time:** _____

RELEASE OF LIABILITY AND INDEMNIFICATION

I am aware that gymnastics is a dangerous activity that could result in injury, paralysis or even death. I assume all risks of injury or loss to myself or my child arising from the above activity. If the participant is a minor, I also give my permission for his/her participation in the above activity, and for any necessary medical treatment. I further agree that Participants involved in _____ [insert gymnastics club's name] programs/activities may be photographed and such photographs may be used to publicize _____ [insert gymnastics club's name] programs/activities.

In exchange for my child being allowed to participate in the above activity, I release, discharge and agree to indemnify and hold harmless _____ [insert gymnastics club's name], its employees, officers or agents (the "Released Parties") from any liability, loss or damage, including but not limited to that arising from the negligence of any of the Released Parties, which may result to me or any minor child of mine.

Parent/Guardian Signature: _____ Child's Name: _____

Sample Form #3: Release and Indemnification Form for Visitors, Parents Participating in Classes and Non-Employees

Note: Legal forms must be evaluated by local counsel in light of applicable state laws. Always consult with an attorney before using these or other forms.

LIABILITY RELEASE AND INDEMNIFICATION: Prior to entry on the practice floor, this form must be signed.

Name of individual: _____ Date of birth: _____

Address: _____ City: _____ State: _____ Zip: _____

Home phone: _____ Alternate phone: _____

In consideration of _____ [insert gymnastics club's name] allowing the individual on the practice floor or to participate in sports activity, class, competition, team, including non-gymnastics activities, such as dance, cheerleading, swimming and playground activities (hereinafter referred to collectively as the "Activity"), I agree to be bound as follows:

- 1. Acknowledgment and Assumption of Risks.** I understand that the Activity involves risks of serious bodily injury, including permanent disability, paralysis, and death, which may be caused by my actions or inactions, those of others participating in the Activity, the conditions in which the Activity takes place, the negligence of the "Released Parties" named below, or other causes. I further understand that there may be other risks either not known to me or not readily foreseeable at this time. I fully accept and assume all such risks and all responsibility for losses, cost and damages that may result from the Activity. I assume all risks and hazards incidental to the Activity and to transportation to and from the Activity.
- 2. Representation of Ability to Participate.** I understand the nature of the Activity, and I represent that I am qualified, in good health, and in proper physical condition to participate in the Activity. Should I ever believe that any of the above representations have become untrue, or if I should ever believe that the Activity is not safe or is no longer safe, then it will be my responsibility immediately to discontinue my participation in the Activity.
- 3. Release.** I hereby release, acquit, covenant not to sue, and forever discharge _____ [insert gymnastics club's name], its owners, officers, administrators, employees, agents, volunteers, sponsors, advertisers, coaches and supervisors, and the owners or lessors of any facilities within which the Activity is conducted, their respective agents and employees, and all other persons providing facilities or assisting in the conduct of the Activity and in the transportation of participants to and from the Activity (collectively the "Released Parties") of and from any and all actions, causes of action, claims, demands, liability, losses or damages of whatever name or nature, including but not limited to those arising from or in any way related to the negligence of any of the Released Parties, that arise out of or are connected in any way to my participation in the Activity and the transportation of the above named individual to and from the Activity (collectively the "Released Claims").
- 4. Indemnification.** I will defend, indemnify and hold harmless the Released Parties from (that is, to reimburse and be responsible for) any loss or damage, including but not limited to costs and reasonable attorney's fees (including the cost of any claim I might make or that might be made on my behalf that is released in this document), arising out of or connected in any way with any of the Released Claims.

I HAVE READ AND UNDERSTOOD THIS ACKNOWLEDGMENT AND ASSUMPTION OF RISKS, REPRESENTATION OF ABILITY TO PARTICIPATE, RELEASE, AND INDEMNIFICATION. I UNDERSTAND THAT BY SIGNING THIS DOCUMENT, I AM GIVING UP SUBSTANTIAL RIGHTS. I AM EXECUTING THIS DOCUMENT VOLUNTARILY AND WITH FULL KNOWLEDGE OF ITS SIGNIFICANCE.

Individual: _____ Date: _____

Sample Facility Inspection Form

It is recommended owners/directors design a session or quarterly Facility Inspection Form specific to the business. Inspection should be done by the owner, manager or program director(s) who are safety certified. In addition, it is recommended that the apparatus and equipment be inspected by a representative from a reputable apparatus/equipment company.

For each item or area listed below, include the condition and any work required.

Date of inspection: _____ Time: _____

Exterior

	Safe	Problems Discovered / Comments	Remedial Action & Date
Roof			
Gutters/Down Spouts			
Drain Tiles			
Septic/Sewer			
Exterior Walls			
Paint/Siding			
Doorways			
Sidewalks			
Trash/Dumpster			
Parking			
Curbs			
Signage			
Entrance/Exit Signs			
Parking Signs			
Handicap Parking			
Handicap Access			
Delivery Entrance			
Landscaping			

Inside

	Safe	Problems Discovered / Comments	Remedial Action & Date
Heating/Cooling			
Emergency Lights			
Gym Lights			
Office Lights			
Locker-room Lights			
Stairwells/Stairwell Lighting			
Outlets			
Sound System			
Plumbing			
Toilets/Urinals			
Showers			
Sinks			
Drinking Fountains			
Fire Sprinklers			
Office Floor			
Gymnasium Floor			
Exits Visible/Marked			
Fixtures Padded			
Fire Alarms			
Fire Extinguishers			
Flammable Materials			
Cleaning Materials			
Garbage Cans			
Pro Shop			

Program Areas

	Safe	Problems Discovered / Comments	Remedial Action & Date
Dance Studio			
Aerobics Area			
Weight Training			
Preschool Area			
Classrooms			
Floor Exercise			
Pommel Horse			
Still Rings			
Parallel Bars			
Horizontal Bar			
Vault			
Uneven Bars			
Balance Beam			
Trampoline			
Double Mini-Trampoline			
Mini-Trampoline			
Tumbling Strip			
Tumbling Trampoline			
Training Pits			
Spotting Belts			
Bungee Cords			
Pulleys/Ropes			
Signage			
Mirrors			

Gymnastics Apparatus and Equipment

	Safe	Problems Discovered / Comments	Remedial Action & Date
Floor Exercise Clearance Carpet Foam Rebound System Mats Signage Displayed			
Pommel Horse Surface T Handles Pommels Base Mats Signage Displayed			
Still Rings Ring Frame Cables Turnbuckle Straps Floor Plates Mats Signage Displayed			
Parallel Bars Rails Upright Connections T Handles Height Adjustment Mats Signage Displayed			
Horizontal Bar Rail Height Adjustment Cables Turnbuckles Uprights Floor Plates Mats Signage Displayed			
Uneven Bars Rails Height Adjustment Width Adjustment Cables Cable Tensioners Turnbuckle Uprights Floor Plates Mats Signage Displayed			

Balance Beam Surface Attachment to Legs Height Adjustment Mats Signage Displayed			
Vault Table Surface Attachment to Legs Height Adjustment Mats Runway Signage Displayed			
Vaulting Boards Surface Rebound System Safety Zone Nuts and Bolts Springs Signage Displayed			
Trampolines Mechanism for securing when not in use Clearance Springs Frame Frame Pads Bed Spotting System Signage Displayed			
Mats Stitching Handles Covers Cushioning Foam Signage Displayed			
Loose Foam Training Pits Clean Clearance Edge Padding Bottom Padding Foam Signage Displayed			
Resi-Pits Stitching/Handles Covers Cushioning Foam Signage Displayed			
Bungee System Spotting Platforms Signage Displayed			
Spotting Belts Stitching Webbing Buckles Twisting belt Movement D Rings and Clips Turning and Support Mechanisms Signage Displayed			
Overhead Spotting System Clearance Ceiling Clamps Traveling Cables Ropes Clips/Swivels Signage Displayed			

Name of inspector: _____

Signature of inspector: _____ Date: _____

Sample Incident Report Form

Note: Legal forms must be evaluated by local counsel in light of applicable state laws. Always consult with an attorney before using these or other forms.

Attach additional pages if necessary.

Date of report: _____

Date of incident: _____

Time: _____

Individual involved in incident (check one):

Gymnast

Instructor/Coach

Spectator

Other _____

Name: _____

Age: _____

Gender: _____

Address: _____

City: _____

State: _____

Zip: _____

Home phone: _____

Other phone: _____

Level: _____

Club: _____

Emergency contact: _____ Phone #: _____

INCIDENT:

Site of incident (if not club): _____

Location or event where incident occurred: _____

Activity, apparatus and equipment involved: _____

Full description of incident, including injured body part: _____

Has this problem occurred before? YES NO UNSURE

Action taken, including first aid or other treatment: _____

WITNESS:

First name: _____

Last name: _____

Address: _____

City: _____

State: _____

Zip: _____

Home phone: _____

Cell phone: _____

OFFICE USE ONLY

Person Making Report: _____ Person in Charge: _____

Director's Acknowledgement / Date: _____

Owner's Acknowledgement / Date: _____

Follow-up Call Date: _____

Follow-up Information: _____

ATTACH A COPY OF PHYSICIAN'S RELEASE

NOTE: If this incident occurred at a USA Gymnastics sanctioned event, an Accident Insurance Report Form must also be completed and sent to USA Gymnastics' insurance provider.

Safety Self-Audit Checklist (17)

Administration of Gymnastics Activities

Safety Responsibilities

Are safety considerations, safety training, and safety experience included in job descriptions of the following positions?

1. Program Administrators
2. Coaches
3. Athletic Trainers
4. Instructors/Teachers

Program Policies

1. Do policies exist concerning alcohol and drug use/abuse?
2. Do policies exist concerning supervision of athletes by opposite gender coaches/instructors?
3. Do policies exist concerning the disposition of athletes/students who are not picked up in a timely manner?
4. Are safety policies and procedures written and available to all relevant personnel?
5. Are facility inspections routinely scheduled and carried out?
6. Is a first-aid and CPR-certified coach/instructor present at all gymnastics activities?
7. Are safety policies and procedures reviewed regularly?
8. Are equipment and apparatus needs regularly reviewed for safety?
9. Has the club implemented the recommendations for gymnastics clubs in the USA Gymnastics Safe Sport Policy?

Facilities

1. Is there a formal annual review of the condition of facilities and appropriate actions for maintaining or fixing the facilities?
2. Is there a designated person or persons who is (are) responsible for facility inspections?
3. Are staffing plans available that ensure complete coverage of all gymnastics activities?
4. Is there a regular inventory of the facility and its contents?
5. Is access to the facility regulated and/or secured so that unauthorized use is not allowed?
6. Are special crowd control policies available for public events?
7. Is signage clearly visible?
8. Is someone available to handle facility-related mishaps, such as a spill or a broken piece of furniture?

Hazard Recognition and Inspections

1. Are inspection forms available and updated regularly?
2. Are facility inspections conducted regularly?
3. Are apparatus inspections conducted regularly?
4. Are equipment inspections conducted regularly?
5. When a hazard is discovered, is the hazard handled appropriately and quickly?
6. Are inspection reports filed appropriately?

Apparatus/Equipment

1. Is a formal review of all apparatus and equipment regularly conducted?
2. Is there a person who is responsible for the maintenance, repair and replacement of apparatus and equipment?

3. Is a regular inventory conducted to determine the status of apparatus, equipment and other disposables?
4. Are all participants and coaches/instructors required to participate in an orientation regarding the safe use of new apparatus and equipment?
5. Does insurance cover all the apparatus and equipment in the facility?

Transportation

1. Are written policies available regarding who can drive to and from outside activities (qualifications, etc.)?
2. Are procedures in place to determine the credentials of drivers to and from outside activities?
3. Are those people with serious driving infractions excluded from driving?
4. Are certificates of insurance available for all transportation situations?
5. Is there a policy regarding the use of personal vehicles for transportation?
6. Are accident report policies established?

Employment

1. Are employment arrangements reviewed by an attorney?
2. Are attorneys consulted prior to discipline and before termination?
3. Are assistant coaches and/or instructors terminated at will by the head coach?
4. Do arrangements specify various "perks," such as vehicles, tickets, summer camps, etc.?
5. Are coaches and instructors covered under the insurance of the gymnastics program?
6. Are coaches subject to a "probationary period" prior to final hiring?
7. Do you specify prerequisite certifications, skills, background screening or education prior to hiring?

Waivers and Releases

1. Are waivers required for participation?
2. Has the wording of the documents been reviewed by an attorney?
3. Do these documents conform to league rules and local statutes?
4. Are parental acknowledgements and release documents required?
5. Are consent documents for medical treatment available?
6. Are medical waivers readily available in an emergency?

Insurance

Do insurance and/or other policies cover the following?

1. Liability for all personnel
2. Property
3. Automobiles
4. Worker's compensation
5. Athlete medical
6. Coach/instructor medical
7. Volunteer
8. Medical malpractice
9. General liability
10. Employment
11. Fire

Use of Your Facilities by an Outsider

1. Are policies in place to determine who can use the facility and when?
2. Is there a contract or clear delineation of who is responsible for what?
3. Assuming a contract is needed, are policies in place to require insurance from the outsider?
4. Are there specific policies indicating who can approve outside use of the facility?
5. Are there specific policies indicating security measures that are required for a given use?
6. Are there specific policies to handle complaints, injuries, accidents, etc.?
7. Are there specific policies regarding coordination with emergency services for special use of the facility?

Injury/Incident Reporting

1. Do you confer with counsel regarding how to complete injury/incident reports and determine whether corrective actions are required?
2. Are injury/incident reports routinely reviewed by the program director?
3. Is there a procedure for implementing corrective actions following an injury/incident?
4. Do administrators/coaches/instructors follow-up after an injury to ensure that responses were proper and care was adequate?
5. Are emergency policies and procedures regularly reviewed?
6. Is there a regular meeting regarding safety and injury prevention?

Training

COACH/INSTRUCTOR TRAINING

1. Are coaches and instructors trained in safe techniques for their program area?
2. Are coaches and instructors trained in emergency procedures?
3. Are coaches and instructors trained in hazard recognition?
4. Are coaches and instructors trained in the use of emergency equipment?
5. Are coaches and instructors trained in reporting an injury/incident properly?
6. Are coaches and instructors trained to handle a catastrophic injury?
7. Are coaches and instructors trained to handle parents, spectators, etc.?

PARTICIPANTS

1. Are participants trained in proper techniques?
2. Has an attorney reviewed all relevant waivers, releases, consent to treat, and other documents?
3. Are participants screened by a pre-participation self-assessment questionnaire or by a pre-participation physical examination?

Emergency Procedures

1. Are telephones and emergency numbers easily available?
2. Are suitable medical personnel available during events?
3. Are emergency transportation plans available?
4. Are consent to treat forms signed and available?
5. Is at least one first-aid and CPR-trained person present at all activities?
6. Are coaches and instructors trained in emergency procedures for extricating an injured athlete from a pit and a trampoline?
7. Have emergency personnel been contacted regarding the special injury problems they will encounter in a gymnastics facility?
8. Have emergency personnel and program personnel practiced extrication procedures for athletes injured in a foam pit or a trampoline?
9. Are policies in place to check credentials of medical personnel involved with the program?
10. Is the documentation appropriate for athlete participation examinations?
11. Are athletes and parents notified regarding the level of insurance coverage available to them in the event of an injury?
12. Are credentials checked for those responsible for rehabilitation services?
13. Is there a policy regarding when an athletic trainer or other personnel should be present at an event?
14. Are emergency procedures practiced?
15. Are policies available for contacting relatives of an injured athlete?
16. Is a well-equipped first-aid kit available?
17. Is there a policy and plan for determining when heat and humidity require a reduction in training intensity or time?
18. Are fluids available for drinking at all times?

Attorney Review

1. Is counsel involved in drafting documents, reviewing policies, and reviewing injuries?
2. Has an attorney reviewed employment arrangements?
3. Has an attorney reviewed contracts that involve outside use of the facility?
4. In the event of a serious injury, has legal counsel been informed of an injury and previously planned how to deal with an injury?

Special Safety Considerations for Athletes (205)

Listed below are important safety considerations for the athletes to know and understand. Coaches and instructors should educate and remind athletes of these rules and responsibilities.

Proper Attire

- Hair should be tied away from the face.
- Jewelry of any type should not be worn.
- Girls should wear a gymnastics leotard with no attached skirts.
- Boys should wear a t-shirt tucked into shorts or pants that are not too baggy.
- Socks are unsafe in the gym because they are slippery on the apparatus/equipment, mats and hard floors. Bare feet or gymnastics shoes (i.e., beam shoes) are recommended.

Prior to Class

- Parents should talk to their child about staying in line, listening carefully to the coach/instructor and refraining from any talking or horseplay while in class.
- Plan to arrive 5-10 minutes early for class. Students should wait for the coach/instructor to escort the athletes into the gym.
- Keep all siblings off the equipment and watch for other students running or playing on the equipment.
- All parents should remain in the observation area and not enter the main gym.
- Please take your child to the bathroom BEFORE class! If they have to use the restroom during class, they should notify their instructor. Parents of preschoolers should accompany their child to the restroom.
- Coaches and instructors should educate the students about safety in the gym.

During Class

- Be prepared to participate – physically and mentally. Warm up properly. Let your coach/instructor know of any potential problems, such as injuries, sickness, fatigue or frustrations.
- Be supervised – there must be a coach/instructor present for students to be on the equipment.
- Only one person should be on the equipment at a time.
- There should be absolutely NO HORSEPLAY or running around on the equipment or in the gym.
- Make sure to look around before you cross in front of other groups.
- Athletes should check apparatus and equipment, as well as personal equipment, for proper setting and fit. Report problems to the coach/instructor.
- Communicate clearly with the coach/instructor.
- Use proper skill progressions, master basic skills first before progressing to more difficult skills.
- Know the skills you are performing.
- Commit to the entire skill and follow through.
- Know your personal limitations – do not attempt skills you are not capable of performing.
- Use proper landing technique and safety rolls when falling.

Special Apparatus/Equipment Precautions

BARS

- No hanging on supports.
- Swing in the middle of the rails, not near the sides.
- Never touch the spin locks or cables.
- Remember: You won't fall off unless you let go!

BALANCE BEAM

- Remember: If you feel like falling, jump off!
- Bend your knees upon landing.
- Tell your instructor if you are afraid of the high beam.

TRAMPOLINES

- Always climb on and off the above-ground trampoline, and walk on and off the in-ground trampoline.
- Never stop on or near the springs.
- There should be only one person on the trampoline at a time.
- Always jump and stay in the middle and stay in control while bouncing.
- Do not perform skills you are not capable of – use proper progressions.
- Learn how to “freeze” and stop bouncing.
- NEVER use the trampoline without a coach/instructor present.

TUMBLING TRAMPOLINES

- Don't follow too closely to the student ahead of you.
- Tumble down the middle of the trampoline bed.
- NEVER use the tumbling trampoline without a coach/instructor present.

PITS

- Enter the pit one at a time.
- Use safe landing positions – feet first, middle of the back, “open tuck” or sitting position.
- NEVER land head first or in an arched position on the stomach or chest.
- Enter the pit from solid footing or a stable apparatus.

Safety Guidelines for Instructors and Coaches

USA Gymnastics recommends posting this information in the staff office or other place where it can be reviewed by staff prior to beginning daily activities.

Dress code (recommendation)

- Staff shirt neat, clean and tucked in
- Athletic pants or shorts (professional in length)
- Athletic shoes or socks alone
- Hair should be neat in appearance and be securely tied back
- Minimal or no jewelry

Properly plan the activity

- Written daily lesson plans are important!
- Provide several stations to maximize activity time per event

Provide adequate and proper apparatus and equipment

- Prior to teaching an event, double check the following
 - Hardware used to tighten the apparatus is secure
 - Mats are properly placed and secured, no gaps
 - Obstacles are not in the vicinity of the activities
- Ensure personal equipment fits properly and is used appropriately

Know your students

- Name
- Medical conditions
- Longevity in program
- Prior experience
- Skill level

Provide proper instruction

- Continually review falling and landing drills on each event
- Review basic skills and positions
- Teach with proper progressions
- Provide safety education regularly

Supervise ALL activities

- Keep ALL of your students within your “field of vision”
- Reposition yourself or the piece of equipment/apparatus to oversee all students and activities
- Use direct and indirect supervision as needed

Keep adequate records

- Lesson plans
- Progress reports
- Individual file per student
 - Incident Report Forms
 - Notes from parent/guardian
 - Medical information

Sample Disciplinary Rules and Procedures

(Adapted from SafeSport - March 2013)

While _____ [insert gymnastics club's name] endeavors to provide support and guidance to participants on a day-to-day basis, it is also important for [insert gymnastics club's name] to have a formal procedure for disciplinary action to address alleged violations of its policies and other inappropriate behaviors.

APPLICATION: This policy is used to address the following allegations against staff members, athletes, participants and/or volunteers.

- Violations of [insert gymnastics club's name]'s policies.
- Child abuse (emotional, physical or sexual) that does not involve an ongoing legal investigation or criminal prosecution.

_____ [Insert gymnastics club's name] will not investigate an allegation of child physical or sexual abuse if it undermines or interferes with a pending legal investigation or criminal prosecution.

DISCIPLINARY RULES: [Insert gymnastics club's name] recognizes that there are varying levels of misconduct. For example, physical and sexual misconduct are serious violations that may result in immediate dismissal. In contrast, a youth participant who tells a single sexually risqué joke constitutes less serious misconduct and depending on the circumstances, might be dealt with more appropriately through dialogue and an oral warning. In all cases, [insert gymnastics club's name]'s disciplinary procedures and actions will be applied fairly.

DISCIPLINARY PROCEDURE: On receipt of an allegation, [insert gymnastics club's name] will determine in its discretion the appropriate steps to address the conduct based on several factors, including (i) the age of the complainant or victim, (ii) the age of the accused and (iii) the nature, scope and extent of the allegations.

_____ [insert gymnastics club's name] will address allegations against a staff member and/or volunteer under this policy and other Employment Policies and Procedures.

_____ [insert gymnastics club's name]'s disciplinary response will depend on the nature and seriousness of the incident and in extreme cases, misconduct will result in immediate summary dismissal. If the accused individual is a minor, [insert gymnastics club's name] will contact his or her parents or guardians.

DISCIPLINARY ACTION: In addition to day-to-day guidance, the [insert gymnastics club's name] may take the following disciplinary actions, without limitation.

- Inform the individual's direct-line supervisor or, in the case of a youth participant, the youth's parent or guardian.
- Provide the individual with guidance, redirection and instruction.
- Suspend, temporarily, from competition.
- File a formal incident report.
- Issue an oral warning.
- Issue a written and/or final written warning.
- Implement a limited access agreement (e.g., limiting an individual's access to certain buildings or to youth).
- Provide informed supervision, where at least one staff member is informed of the allegation and is instructed to supervise the accused participant or stakeholder vigilantly in his or her interactions with the program and/or organization.
- Engage in restorative practices (e.g., creation of a respectful and safe dialogue when a misunderstanding or harm has occurred).
- Suspend or terminate employment or membership.

ONGOING EMPLOYMENT AND/OR PARTICIPATION: On receipt of a credible and specific allegation of child abuse or other serious misconduct (e.g., physical and sexual abuse as defined in our Safe Sport Policy), [insert gymnastics club's name] may immediately suspend or terminate the accused individual to ensure participant safety.

COMPLAINANT PROTECTION: Regardless of outcome, [insert gymnastics club's name] will support the complainant(s) and his or her right to express concerns in good faith. [Insert gymnastics club's name] will not encourage or tolerate attempts to retaliate, punish or in any way harm any individual(s) who report(s) a concern in good faith. Such actions will be grounds for disciplinary action.

BAD-FAITH ALLEGATIONS: Any individual who alleges misconduct under the Participant Handbook that, upon review, is determined to be malicious, frivolous or made in bad faith will be a violation of our Participant Handbook.

Sample Guidelines regarding Physical Contact with Athletes

Appropriate physical contact between athletes and coaches, staff members, contractors or volunteers is a productive and inevitable part of sport. Athletes are more likely to acquire advanced physical skills and enjoy their sport participation through appropriate physical contact. Guidelines for appropriate physical contact can reduce the potential for misconduct in sport and should be a part of employee manuals.

APPROPRIATE PHYSICAL CONTACT:

_____ [insert gymnastics club's name] adheres to the following principles and guidelines in regards to physical contact with our athletes.

Common Criteria for Appropriate Physical Contact

Physical contact with athletes – for safety, consolation and celebration – has multiple criteria in common, which make them both safe and appropriate. These include:

- the physical contact takes place in public,
- there is no potential for, or actual, physical or sexual intimacies during the physical contact, and/or
- the physical contact is for the benefit of the athlete, not to meet an emotional or other need of an adult.

Safety

The safety of our athletes is paramount and in many instances we make the athletic space safer through appropriate physical contact. Examples include:

- spotting an athlete so that they will not be injured by a fall or piece of equipment,
- positioning an athlete's body so that they more quickly acquire an athletic skill, get a better sense of where their body is in space, or improve their balance and coordination,
- making athletes aware that they might be in harm's way because of other athletes practicing around them or because of equipment in use, and/or
- releasing muscle cramps.

Celebration

Sports are physical by definition, and we recognize participants often express their joy of participation, competition, achievement and victory through physical acts. We encourage these public expressions of celebration, which include:

- greeting gestures, such as high-fives, fist bumps, brief hugs, and/or
- congratulatory gestures, such as celebratory hugs, "jump-arounds" and pats on the back for any form of athletic or personal accomplishment.

Consolation

It may be appropriate to console an emotionally distressed athlete (e.g., an athlete who has been injured or has just lost a competition). Appropriate consolation includes publicly:

- putting an arm around an athlete while verbally engaging them in an effort to calm them down ("side hugs"), and/or
- lifting a fallen athlete off the playing surface and "dusting them off" to encourage them to continue competition.

PROHIBITED PHYSICAL CONTACT

Prohibited forms of physical contact shall be reported immediately. Also reference USA Gymnastics' proactive policies for prohibited behaviors.:

- asking or having an athlete sit in the lap of a coach, administrator, staff member or volunteer,
- lingering or repeated embraces of athletes that go beyond the criteria set forth for acceptable physical contact,
- slapping, hitting, punching, kicking or any other physical contact meant to discipline, punish or achieve compliance from an athlete,
- "cuddling" or maintaining prolonged physical contact during any aspect of training, travel or overnight stay,
- playful, yet inappropriate contact that is not a part of regular training, (e.g., tickling or "horseplay" wrestling),
- continued physical contact that makes an athlete uncomfortable, whether the athlete expresses discomfort or not, and/or
- any contact that is contrary to a previously expressed personal desire for decreased or no physical contact, where such decreased contact is feasible in a competitive training environment.

REPORTING VIOLATIONS OF PHYSICAL ABUSE

A reasonable suspicion or knowledge of physical abuse must be reported to local law enforcement immediately. Secondly, report to USA Gymnastics via safesport@usagym.org.

For a violation of a USA Gymnastics Proactive Policy, report the violation to the gym owner. If the gym owner is the violator, report the violation to USA Gymnastics via safesport@usagym.org.

Sample Consent to Treatment Form

Note: Legal forms must be evaluated by local counsel in light of applicable state laws. Always consult with an attorney before using these or other forms.

Prior to participation, this form must be signed by at least one of the participant's parents or legal guardians if the participant is not yet 18 years old. Participant's signatures are required if 18 years of age or older and are helpful when age-appropriate.

Name of participant: _____ (the "gymnast") Date of birth: _____

Address: _____

Home phone: _____ Alternate phone: _____

Parent/guardian name (print): _____

Other parent/guardian name (print): _____

In consideration of _____ [insert gymnastics club's name] allowing this individual to participate in sports activity, class, competition, team, including non-gymnastics activities, such as swimming and playground activities (hereinafter referred to as the "Activity"), I, and if I am not yet 18 years old my parents or legal guardians, agree to be bound as follows (the term "I" in this release refers to both the gymnast and his or her parents or legal guardians):

I authorize _____ [insert gymnastics club's name] to provide to the participant, through medical personnel of its choice, customary medical assistance, transportation, and emergency medical services should the gymnast require, such assistance, transportation or services as a result of injury or damage related to participation in the Activity. If the gymnast is a minor and a parent or guardian is not present, efforts will be made to contact a parent or guardian that are reasonable under the circumstances, but treatment will not be withheld if a parent or guardian cannot be reached. The parent or guardian's phone number is as follows _____.

Please provide the following information regarding the participant:

Participant's personal physician: _____

Doctor's address: _____

Doctor's phone: _____

Participant's medications: _____

Participant's allergies: _____

Participant's significant medical history: _____

Primary medical insurance carrier/policy #: _____

I also affirm that I now have and will continue to provide proper hospitalization, health, and accident insurance coverage, which I consider adequate for the participant's protection. This consent shall remain effective until one year from the date below unless sooner revoked in writing and delivered to _____ [insert gymnastics club's name and address].

I HAVE READ AND UNDERSTOOD THIS CONSENT TO TREATMENT AND AM EXECUTING THIS DOCUMENT VOLUNTARILY AND WITH FULL KNOWLEDGE OF ITS SIGNIFICANCE.

Gymnast _____ Date _____

Signature of Parent/Guardian _____ Date _____

Signature of Other Parent/Guardian _____ Date _____

Physical Activity Readiness Questionnaire (PAR-Q)

A modified PAR-Q list of questions is shown below. It is recommended that athletes and/or parents of the athletes (if athlete is under 18 years of age) complete the PAR-Q prior to participation in gymnastics. If any of the following questions are answered with a "YES," the athlete should be referred to a physician for further evaluation prior to participation (152, p. 224).

Participant's name _____

1. Has a doctor ever said you have a heart condition and recommended only medically supervised physical activity? Yes No
2. Do you have chest pain brought on by physical activity? Yes No
3. Do you tend to lose consciousness or fall over as a result of dizziness? Yes No
4. Has a doctor ever recommended medication for your blood pressure, heart condition, or other disorder that could influence your ability to perform gymnastics? Yes No
5. Do you have a bone or joint problem that could be aggravated by gymnastics? Yes No
6. Have you developed chest pain within the past month? Yes No
7. Are you aware, through your own experience or a doctor's advice, of any other physical reason against your exercising without medical supervision? Yes No

If so, please explain: _____

Additional Questions

8. Have you ever had a neck injury, head injury or concussion? Yes No
9. Are you currently or recently recovering from a significant illness (e.g., flu, mononucleosis, pneumonia, etc.)? Yes No
10. Do you have a convulsive disorder? Yes No
11. Do you have uncontrolled asthma? Yes No
12. Do you have an infectious skin disorder? Yes No
13. Do you have a history of a liver disorder, spleen disorder, kidney disorder or detached retina? Yes No

Parent signature _____ Date _____

Athlete (18 or older) signature _____ Date _____

Injury Epidemiology Studies

Injury epidemiology is the study of the distribution and determinants of varying rates of injuries for the purpose of establishing procedures to prevent their occurrence. There are two interrelated types of epidemiologic research (84).

- Descriptive Epidemiology, which is quantifying injury occurrence (how much) with respect to who is affected by injury, where and when injuries occur, and what is their outcome.
- Analytical Epidemiology, which is explaining why and how injuries occur and identifying strategies to control and prevent them.

A summary is provided below of circumstances and factors, which have been associated with an increased frequency or rate of injury in women's gymnastics. This information should be viewed as preliminary; however, due to the varying and sometimes inadequate methods use to collect, report and analyze data in gymnastics studies.

- Sprains are the most common injury followed by strains (84, 211, 277).
- Dismount landings, including during floor exercise, and posture defects (46, 131, 151, 270, 274, 277, 336).
- Greater piking flexion ability (206).
- Higher competitive level and more years of training (81-84).
- Rapid periods of growth (81, 113).
- The right leg and right arm are injured more often than the left leg and arm (131).
- Leather handgrips that are too long may lock around the bar or rail (299).
- Unorganized gymnastics results in more injuries than organized gymnastics (1).
- Higher anxiety, higher fatigue and higher confusion (i.e., psychology) (210).
- Elite gymnasts tend to miss fewer training sessions due to injury but modify their training more to accommodate an injury (211).
- Most injuries occur during training rather than competition (84, 287).
- Conditioning is important (109, 315).
- Low shoulder flexion flexibility (raising the arms forward-upward overhead) (84, 350).
- Stressful life events, particularly leading up to competitions (201).
- Insufficient or no spotting when spotting was considered necessary (84, 164, 247, 315).
- During the weeks just prior to and during competition (84, 304, 315, 325, 337).
- Following periods of relative rest or little training (84, 304, 315, 325).
- Increased proportion and rate of overuse injuries among advanced-level gymnasts (81, 211).
- Previous injury, injury to other sites, and positive musculoskeletal assessment as predictors of overuse but not acute injury among highly competitive gymnasts (79).
- Concussions and closed head injuries were more likely to occur while individuals were performing headstands (105, pg.10).
- As the age of the athlete increased, the frequency of concussions and closed head injuries decreased (105, pg.10; 337).

What little is known regarding the circumstances, which have been associated with an increased frequency or rate of injury in men's artistic gymnastics is summarized below [Kolt, G. and Caine, D. (2009). *Gymnastics*. In: *Epidemiology of injury in Olympic sports*, Volume XVI. *Encyclopedia of Sports Medicine*, IOC and Wiley-Blackwell].

- The lower extremity is the most injured region followed by the upper limb and then trunk and spine.
- Commonly injured body parts include the shoulder, wrist and ankle.
- The frequency of injury is highest for floor exercise.
- The top two injury types for collegiate male gymnasts are sprain and strain.

Sample Emergency Action Plan (352)

General Emergency Action Steps

1. Stop the class/team activity and prevent the injured athlete from moving or being harmed by any further activity.
2. Get immediate help from the most experienced staff member. An instructor/coach must remain with the injured athlete at all times.
3. Locate another free staff member to supervise your class/team and move them away from the incident.
4. Assess the situation with the assistance of the most experienced staff member. Be prepared to render first aid and/or call 911.
5. In the case of a minor injury, and if your insurance company and legal counsel approve the use of such forms, complete an Incident Report Form (include the location of the forms). Give the original copy of the completed form to the club owner before leaving the facility for the day. In the case of a major injury, contact your insurance company and legal counsel regarding any forms.
6. Contact the injured athlete's parent(s)/guardian(s). Be calm and simply state that their child has been injured. Do not provide a diagnosis of the injury because that is a judgment for doctors to make if necessary. Do not discuss blame because that is a judgment for legal counsel and the courts if necessary.

Additional Action Plan Considerations

Minor Incident

A minor incident is one that does not require initiation of the emergency medical procedures. Examples include simple first aid for minor cuts and scratches. Incidents more complicated than this should be handled as major incidents until a qualified and trained individual can assess the situation and reclassify the incident as minor.

Medical Emergency

When a medical emergency occurs:

1. Conduct a primary survey of the area. Make sure it is safe to approach the victim without causing more harm or placing others (including you) in danger.
2. Initiate the emergency medical procedures and follow first-aid standards: Check - Call - Care accompanied by A, B, C's. Examine the injured person to discover the main problems (i.e., choking, not breathing, bleeding, burned, laceration, chest pain, extremely hot, etc.).
3. Call 911 for immediate assistance and instruct another staff member to meet the emergency responders.
4. Medical Treatment: Full medical emergencies are best handled by dialing 911 and providing basic first aid until local Emergency Medical Service personnel arrive. Under certain circumstances, such as large disasters, assistance from the fire department or paramedics may not be immediately available. If immediate medical assistance is required take the person to the nearest hospital or clinic.

Local Emergency Numbers:

- EMERGENCY - 911
- LOCAL HOSPITAL or CLINIC
- POISON CONTROL CENTER
- GYM OWNER

In the event of a hard fall or an obvious catastrophic injury, specific steps must be followed, such as the following:

1. Do not panic.
2. Follow all first-aid training guidelines including rescue breathing and CPR if necessary.
3. The senior-most gymnastics professional should be in charge of the first-aid treatment of the injured athlete until care can be transferred to a more qualified caregiver (e.g., EMS personnel). This individual should stay with the injured child.
4. Call another staff member over to assist you. Depending upon circumstances, direct that individual to supervise the rest of your group and move them away from the injury site. Have that individual recruit another person to assist you in first aid if needed.
5. Instruct the new assistant to:
 - Call 911 with instructions to the dispatcher.
 - Bring you needed supplies, such as ice and bandages.
 - Go to the student files and pull the injured student's registration/medical history form and make a copy for the paramedics (if the copy machine is not available, give the paramedics the information but do not give them the forms - make sure the original copies stay on site!).
 - Call the child's parents using the emergency numbers on the registration forms.

Stranded Student or Team Member

If you notice an athlete has been waiting some time to be picked up:

1. Check and make sure he/she has a ride.
2. Allow them to use the phone to call their parents.
3. All athletes should wait inside.
4. DO NOT leave a child unattended.
5. If the athlete is stranded, call the police. DO NOT drive them home. Ask the police to pick them up at the facility.
6. If a parent is chronically late, speak with the director/club owner.

Riots or Civil Disturbance

Visitors and staff are to congregate in the interior of the facility and remain there until police determine that it is safe to leave. No one is to venture outside.

- If a riot occurs in the vicinity, all perimeter doors should be locked.
- Contact the police (911) to report the disturbance, including any observations you've made.

Violence on Your Premises

As this handbook is going to press in 2013, there has been an increase in public attention about violence on the premises of schools, movie theaters, university campuses and other similar places. We are still at the beginning of the public response to such tragedies. For example, in 2013, President Obama called for the development of model safety plans for public schools. Because this is still an evolving area, this handbook suggests that gymnastics clubs consider having local law enforcement tour their facility both during and after practice and make recommendations regarding (a) how to help staff recognize and report warning signs of future violence including threatening behavior; (b) how to improve the safety of your physical structure, including entrances and exits, from an attacker; and (c) how to train your staff in steps it should take in the event of such an attack.

Earthquake, Tornado or Hurricane

During the event

- Take cover in an interior doorway or under heavy furniture like a table or desk. Protect your head with your arms while doing so.
- Stay clear of windows and glass doors. Do not stand under light fixtures or other objects that may fall during an earthquake.
- If you are inside a building, stay inside.
- If you are outdoors, move to a clear area, away from trees, signs, buildings, poles, downed or above-ground wiring, etc.
- Tell others to take cover.

After the event

- Check for injured personnel. Do not move the seriously injured unless they are in immediate danger.
- Evacuate the facility and take a headcount to determine that everyone is accounted for. If safe, trained personnel may search for missing employees in the area they were last seen under direction from the police chief or his next in-command.
- Do not use the elevators.
- Be prepared for more shaking (aftershocks), which will follow the first earthquake.
- Do not reenter the building until the building inspector or designee has cleared the building for reentry.
- Do not operate equipment until it has been determined that it is safe and functional.

Action in Case of a Bomb Threat

By mail

Do not handle any suspicious letter, card or package; don't allow anyone else to handle it. A suspicious package may be abandoned, without a return address, or from an unfamiliar vendor or source.

- Evacuate the area.
- Call 911.

By phone

- Assume the threat is real.
- Keep caller on the phone as long as possible.
- Try to get detailed information, such as location of bomb, time set to go off, as well as, exact words of caller, gender and other details you might interpret. Questions to ask the caller:
 - When will the bomb go off?
 - Where is it?
 - What does it look like?
 - What sorts of explosives were used?
 - What is the reason for the bomb?
 - What is the detonating device?
- If possible, notify another staff member so that 911 can be called and people can be evacuated from the building while you are still on the phone.
- Once the caller hangs up, call 911 (if no one has called before) to notify the police. The police will evacuate the building.
- No one should use radio communication because a radio transmission could detonate the bomb.

Fire, Flame or Smoke

- Evacuate anyone in the immediate and adjacent areas to the fire. In case of a large or spreading fire, evacuate the building by pulling the manual fire pull (see evacuation section).
- An individual trained to use a fire extinguisher may extinguish a small fire, such as one contained in a wastebasket. Do not attempt to extinguish a fire unless you have been trained in the use of fire extinguishers and have a clear escape route.
- If safe to do so, rescue any injured employee(s).
- If you have any doubts about your safety, evacuate, call 911 and wait for the fire department.
- In large fires, trained individuals should use the extinguishers to protect the exits and corridors until everyone has been able to escape from the area involving the fire.
- If the fire is in a confined area, such as a closet or enclosed office, attempt to close the door to confine the fire and smoke.
- Do not use elevators.
- Do not open doors until you touch the door near the top. If it is hot do not open it— find an alternate route to evacuate.
- If the area is filled with smoke, remain low to the ground while making your way to the nearest exit.
- Do not jeopardize personal safety or attempt to save possessions at the risk of personal injury.
- Report to the Evacuation Relocation Area.
- The senior Police officer in charge or designee will meet the first responding fire department vehicle direct them to the fire and supply headcount.

Dangers of smoke

Since smoke and heated gases rise toward the ceiling, the air near the floor is both fresher and cooler. Crawl low in smoke to reduce the exposure to hot and toxic fire gases.

- 90 percent of all fire-related deaths are caused by smoke inhalation. Oxygen deprivation (due to decreased oxygen levels and/or the effects of various gases) leads to confusion. The victim may exhibit irrational behavior, such as clawing at a door instead of turning the knob, going back into a burning building or resisting the rescue efforts of fire fighters.
- Smoke and other gases irritate the respiratory system, making breathing difficult, and often frightening the victim to the point of panic.
- Smoke and fire gases also irritate the eyes. Even before the smoke becomes thick enough to reduce visibility, a person may be unable to see because of tears and the protective instinct to close and rub irritated eyes.

Specific Safety Considerations for Apparatus/Equipment (352, 363, 364)

This list contains specific information pertaining to the use of gymnastics apparatus and equipment. This list is intended to provide general usage guidelines and may not contain all possible risk factors or safety considerations. It is important for coaches/instructors to inspect apparatus/equipment prior to use and to follow manufacturer's recommendations for usage and maintenance.

General Tips (these apply to all apparatus areas)

- All apparatus and equipment should be used with proper supervision.
- Check all spin locks and cables and tighten if necessary.
- Close gaps between mats and the apparatus.
- All landing areas should be level, well padded, and free of clutter.
- Particular attention should be paid to landing surfaces. They should match the skill level and competency of the athlete. For instance, if a new skill is being performed, additional matting or a softer landing surface should be provided.
- Mat or pad potential hazard areas.
- Clean and maintain surface areas to prevent slipping, sliding or other problems.
- Use appropriate progressions and spotting techniques, including overhead spotting rigs, platforms, or other available techniques to assist the athletes in learning more difficult skills.

Vault Areas

- Athletes should be able to demonstrate proficiency in basic running and hurdling techniques and in fundamental safety techniques in landings and unintentional falls prior to participating in this activity.
- The vaulting board should be placed on a non-skid surface to avoid slippage upon contact.
- The table should be low enough for the athletes to jump down safely - about chest height for beginners and young athletes.
- If using a wedge at the table, make sure it is snugly placed against the table.
- For beginners and younger athletes, use smaller vaulting boards and/or vaulting table apparatus to accommodate their size, weight and experience levels.
- A vaulting board safety zone, or U-shaped mat designed to provide a zone of safety around the sides and high end of the board, MUST be used for round-off entry vaults and should be used for other types of vaults.
- Particular attention should be paid to landing surfaces for this activity. They should match the skill level and competency of the athlete.

Uneven Bars

- Skills on uneven bars require a great deal of upper body strength, and, therefore, concentration on basics and progressions are important. Basic holds, support positions, hangs and swings are fundamental skills for athletes to master before progressing to more advanced skills.
- Hold the rails, not the upright pistons, when adjusting the bar height to avoid hand injuries.
- Bars should not be higher than chest height for young athletes, so they are only about 1" from the floor when in front support with

body fully extended. If the bar will not adjust low enough, build up the height of the mats underneath the bar.

- Bars with smaller rail circumference should be used for younger athletes to accommodate their hand size.
- Teach proper gripping and the need to rotate the grip (re-grip).
- 8" skill cushions should be used for landing.
- Children under 18 months of age should not hang unsupported from the bar.
- Make sure straps on rings, etc. hanging from bars are in good condition.

Parallel Bars

- Improper swing technique is the most common cause of performer error on parallel bars.
- Hold the rails, not the upright pistons, when adjusting the bar height to avoid hand injuries.
- Proper spotting, including overhead spotting rigs, platforms, or other available techniques, to assist the athletes in learning more difficult skills.
- Make sure ladder bridges suspended from parallel bars are very snug and the athletes have easy access to them (make sure boxes are stacked both securely and high enough). The parallel bars should also be the same height on both sides and low enough to act as rails for the children.

Horizontal (High) Bar

- Adequate strength, flexibility, power and coordination in the upper body are important prerequisites for skills on the horizontal (or high) bar.
- Errors in dismounts, as well as unintentional falls and slips from the bar, pose the greatest threat of serious injury.
- Support skills can be more easily and safely taught on a low bar.
- Ensure proper fit and tension of dowel grips and reserve their use for the more experienced athletes.
- 8" skill cushions should be used for landing.

Balance Beam

- Provide adequate matting and a level landing area under and around beams as falls are common.
- 8" skill cushions should be used for landing.
- Beams should either be lowered or have mats stacked below them so they are no higher than chest level for beginner or younger athletes.
- Provide for safe mounting and dismounting.
- Use progressions for skills from the floor, to low beam to high beam.
- Continuously review landing and recovery (from falling) techniques.
- Remember the safest place to spot a preschooler on beam is at their waist (their center of gravity).

Pommel Horse

- Proper mount, dismount and recovery (from falling) techniques are essential parts of performance on this apparatus.
- Provide a level landing surface for dismounts, falling, and/or recovery.

Still Rings

- Introduce this event using basic hold positions and strength moves and proper handgrip.
- Make sure distance to landing mats is lower for inexperienced gymnasts.
- Errors in dismounts and well as unintentional falls and slips from the rings pose the greatest threat of serious injury

Floor Areas

- Close gaps between mats, as well as boards and foam on the spring floor.
- Use caution when using carpet squares or other place holders as markers, they can be slippery.
- Assign a space for each athlete/student to work to avoid running into each other.
- Clear the floor and tumbling area of any obstacles.

Rhythmic Floor & Apparatus

- Allow ample time for non-apparatus training and progressions to develop basic skills, such as strength, flexibility, movement patters, jumps, leaps and pivots.
- Tossing equipment with a lack of training and control is dangerous to the athlete, as well as others in the area, and should be avoided.
- It is recommended that the clubs be introduced only after the athlete has demonstrated safety awareness skills and competency with the other apparatus.
- Ensure that all hand apparatus are in good condition (e.g., the ribbon should be securely attached to the stick).

Acrobatics Training

- Allow ample time for individual and partner training, drills and progressions to develop basic skills, such as strength, flexibility, muscle endurance, and proper body positions and movement patters.
- Communication and cooperation between partners is important for correct and safe performance of skills.
- Gymnasts should be properly matched according to size and skill level. Base partners should be able to support top partners without undue stress or danger of falling or injury.

Mats

- Mat should NOT be used in place of athlete readiness, proper skill progressions, competent instruction, and proper spotting.
- Mats are not a fail-safe for injury.
- Never land on the head or neck as serious and catastrophic injuries could occur.
- Appreciate the performance limitations of gymnastics mats.
- Choose the correct mat for the activity, sufficient in amount, size and positioned properly.
- Do not use landing mats for tumbling or vaulting take-off surfaces because landing mats are intended for shock absorption, not resiliency.
- Use additional matting around or underneath apparatus and equipment when necessary, such as learning a new skill.
- Inspect mats regularly for tears, soft spots, separation of foam and failure to perform adequately. Remove defective mats and adjust activities accordingly.
- Watch for mat slippage, gaps between mats, uneven surfaces, and athlete slippage on mats.

Pits

- Pits are not a fail-safe for injury and should be used under supervision.
- Only allow athletes to enter the pit one at a time.
- Watch for little ones burying themselves and hiding in the pit.
- Reinforce proper landing techniques DAILY for students in language that they understand – landings should be feet first, middle of the back, in an “open tuck” or sitting position. Athletes should never land head first or in an arched position on their stomach or chest.
- Remove young athletes from the pit by lifting them under the armpits; avoid pulling them out by the arms/hands.
- Ensure entry into the pit occurs from a solid surface or stable apparatus.
- Ensure loose foam pits are adequately fluffed.
- Practice and teach proper extraction of injured athletes from a pit.

Trampolines and Tumbling Trampolines

- Trampolines must be used under proper supervision. Never allow unsupervised use on this equipment.
- The most important aspect of performance on the trampoline is control. Uncontrolled bouncing should not be allowed.
- Reinforce the “Freeze” technique to stop bouncing on the trampoline.
- Review safety rules with athletes and coaches on a regular basis.
- Students must be reminded regularly of the risks of using trampolines.
- Beware of children crawling under the apparatus.
- Watch out for equipment stored underneath that might be hit during bouncing.
- Be aware of the inherent risks of rebound devices, such as trampolines.
- An athlete can bounce off a trampoline and onto the floor at any time and improper landings on the trampoline bed itself can cause injury.
- On a trampoline, only allow one athlete/child at a time. On tumbling trampolines, there should be ample distance between each athlete/child to avoid a collision or dynamic “double bouncing.”
- There should be a spotter at the end of the tumbling trampoline whenever necessary.
- From tumbling trampolines, skills should only be performed onto proper landing mats.
- Make sure all springs are covered and properly matted.
- Do not allow toys on the equipment.
- Provide for safe mounting and dismounting – do not bounce off the trampoline, instead climb off an above ground trampoline or walk off an in ground trampoline.
- Train spotters to help avoid children falling off the apparatus.

Obstacle Courses

- Place wedges short end or tall end against each other so children do not crash into ends or leave space.
- When using cylinders, octagons and barrels make sure mats are snug against them to keep them secure.
- If using an “A-frame”-type ladder, place a cylinder under it (the cylinder acts as a safety net).
- Make sure objects are removed from the bottom of wedge; in other words, don't have children roll down a wedge and into a ladder or vaulting board or other obstacle.

- Make sure traffic patterns are clear and everyone is going the same direction.
- When using a trapeze, keep in mind that wooden, metal and plastic dowels are very slippery even when wrapped with tape. A water ski rope can make a safe trapeze.
- Always use landing mats under a rope swing/trapeze.
- Remember an even landing area for the trapeze.
- Have a safe way down on all sides of high mats.
- When using ladders or planks, be sure to have at least about 6" of the ladder on the mat you're using for support.
- If using a plank as a slide, it is helpful to have a lip on the underside so it doesn't slide off the supporting structure.
- Make sure to have an inner and outer "ledge" on obstacles the children drop through.
- Landing from the trapeze into an octagon can be fun, but remember to spot the landing.
- Allow for pathways between the lines of equipment in the course.
- Mats not in use should be safely stacked and out of the way of the athletes.
- Equipment, such as ladders, not in use may be dangerous to children and should be stored away or properly secured.
- Cargo nets and rope ladders suspended from bars should be snug and not easily tripped over.

A Few Suggestions

- Set up the gym – obstacles courses, stations, rotations, activities, etc. - based on the "lowest common denominator" class and have the instructors adjust the set up to accommodate their class, returning the set-up to this lowest common denominator.
- Beware of unsupervised babies or other children crawling or walking through, around, anywhere near your class.
- Do not allow older siblings to participate in a class and run the risk of overwhelming and running over the little ones.
- Beware: young athletes can hide in gaps between mats and behind large dismount mats.
- Toys are great; however, some toys can be used as projectiles and weapons so watch for improper uses.
- Parents with hot drinks on the floor can cause a spill and possibly burn a child.
- Parents with improper footwear (e.g., clogs, low/high heels) can possibly injure a child.
- Unguarded purses and backpacks on the floor are definite slipping and tripping hazards.
- Clean up and sanitize any body fluids immediately, both off equipment and floor –even from carpet (slips are very dangerous).
- Be careful if lifting a parachute and allowing it to float onto the heads of young athletes, it can knock them off balance.
- During parachute rides, remind the parents to avoid sudden starts and stops, and to let the children down slowly.
- Socks are slippery on wood floors, as well as on equipment.

Sample Lesson Plan

Instructor:	Level:		Week of:		Day/Time:			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Class Lesson Plans								
Session:								
Welcome * Warm-up * Attendance * Safety Review * Class Agenda								
<u>WARM-UP</u> 1 2 3 4 5 6	<u>WARM-UP</u> 1 2 3 4 5 6	<u>WARM-UP</u> 1 2 3 4 5 6	<u>WARM-UP</u> 1 2 3 4 5 6	<u>WARM-UP</u> 1 2 3 4 5 6	<u>WARM-UP</u> 1 2 3 4 5 6	<u>WARM-UP</u> 1 2 3 4 5 6	<u>WARM-UP</u> 1 2 3 4 5 6	<u>WARM-UP</u> 1 2 3 4 5 6
<u>FLOOR</u> 1 2 3 4 5 6	<u>BARS</u> 1 2 3 4 5 6	<u>TRAMPOLINE</u> 1 2 3 4 5 6	<u>TRAMPOLINE</u> 1 2 3 4 5 6	<u>TRAMPOLINE</u> 1 2 3 4 5 6	<u>BEAM</u> 1 2 3 4 5 6	<u>TUMBLE TRAK</u> 1 2 3 4 5 6	<u>BARS</u> 1 2 3 4 5 6	<u>FLOOR</u> 1 2 3 4 5 6
<u>VAULT</u> 1 2 3 4 5 6	<u>BEAM</u> 1 2 3 4 5 6	<u>FLOOR</u> 1 2 3 4 5 6	<u>FLOOR</u> 1 2 3 4 5 6	<u>FLOOR</u> 1 2 3 4 5 6	<u>FLOOR</u> 1 2 3 4 5 6	<u>VAULT</u> 1 2 3 4 5 6	<u>BEAM</u> 1 2 3 4 5 6	<u>TRAMPOLINE</u> 1 2 3 4 5 6
<u>STRENGTH</u> 1 2	<u>STRENGTH</u> 1 2	<u>STRENGTH</u> 1 2	<u>STRENGTH</u> 1 2	<u>STRENGTH</u> 1 2	<u>STRENGTH</u> 1 2	<u>STRENGTH</u> 1 2	<u>STRENGTH</u> 1 2	<u>STRENGTH</u> 1 2
<u>ADDITIONS</u>	<u>ADDITIONS</u>	<u>ADDITIONS</u>	<u>ADDITIONS</u>	<u>ADDITIONS</u>	<u>ADDITIONS</u>	<u>ADDITIONS</u>	<u>ADDITIONS</u>	<u>ADDITIONS</u>
Closure * Handouts * Talk with Parents								

First-Aid Supplies

Below is a list of suggested items for a gymnastics first aid kit (11, 352, 363).

- Adhesive bandages (assorted sizes)
- Alcohol and/or alcohol preparation pads
- Antibacterial ointment
- Antibacterial soap or hand sanitizer
- Arm sling
- Athletic tape
- Blanket
- Butterfly strips for wound closure
- Candy (hard candy, chocolate bar) or juice (cranberry or grape) with sugar for diabetics
- Cell phone
- Cloth adhesive tape (assorted thicknesses)
- Cold packs
- Contact lens case
- Cotton swabs
- CPR pocket mask or shield
- Elastic (Ace) wrap
- Emergency phone numbers
- Eye patch
- Eye wash, sterile saline solution
- Flashlight and batteries
- First-aid manual
- Gauze pads and rolls (assorted sizes)
- Hydrogen peroxide
- Latex-free, disposable gloves (multiple pairs)
- Nail clippers
- Moleskin
- Nonstick bandages
- Oral thermometer
- Petroleum jelly
- Plastic bags (for ice, as well as disposal of biohazard material)
- Plastic bottle for water
- Pre-wrap
- Safety pins
- Scissors, bandage scissors and sharp-pointed scissors
- Splints
- Sunscreen
- Tongue depressors
- Triangular cloth bandage
- Tweezers

Concussions in Sports

Pocket CONCUSSION RECOGNITION TOOL™

To help identify concussion in children, youth and adults

**FIFA®****FEI****RECOGNIZE & REMOVE**

Concussion should be suspected if one or more of the following visible clues, signs, symptoms or errors in memory questions are present.

1. Visible clues of suspected concussion

Any one or more of the following visual clues can indicate a possible concussion:

- Loss of consciousness or responsiveness
- Lying motionless on ground/Slow to get up
- Unsteady on feet / Balance problems or falling over/Incoordination
- Grabbing/Clutching of head
- Dazed, blank or vacant look
- Confused/Not aware of plays or events

2. Signs and symptoms of suspected concussion

Presence of any one or more of the following signs & symptoms may suggest a concussion:

- | | |
|--------------------------|----------------------------|
| - Loss of consciousness | - Headache |
| - Seizure or convulsion | - Dizziness |
| - Balance problems | - Confusion |
| - Nausea or vomiting | - Feeling slowed down |
| - Drowsiness | - "Pressure in head" |
| - More emotional | - Blurred vision |
| - Irritability | - Sensitivity to light |
| - Sadness | - Amnesia |
| - Fatigue or low energy | - Feeling like "in a fog" |
| - Nervous or anxious | - Neck Pain |
| - "Don't feel right" | - Sensitivity to noise |
| - Difficulty remembering | - Difficulty concentrating |

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3. Memory function

Failure to answer any of these questions correctly may suggest a concussion.

-
- "What venue are we at today?"
 "Which half is it now?"
 "Who scored last in this game?"
 "What team did you play last week/game?"
 "Did your team win the last game?"
-

Any athlete with a suspected concussion should be **IMMEDIATELY REMOVED FROM PLAY**, and should not be returned to activity until they are assessed medically. Athletes with a suspected concussion should not be left alone and should not drive a motor vehicle.

It is recommended that, in all cases of suspected concussion, the player is referred to a medical professional for diagnosis and guidance as well as return to play decisions, even if the symptoms resolve.

RED FLAGS

If **ANY** of the following are reported then the player should be safely and immediately removed from the field. If no qualified medical professional is available, consider transporting by ambulance for urgent medical assessment:

- | | |
|--|---------------------------------|
| - Athlete complains of neck pain | - Deteriorating conscious state |
| - Increasing confusion or irritability | - Severe or increasing headache |
| - Repeated vomiting | - Unusual behaviour change |
| - Seizure or convulsion | - Double vision |
| - Weakness or tingling/burning in arms or legs | |

Remember:

- In all cases, the basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Do not attempt to move the player (other than required for airway support) unless trained to do so
- Do not remove helmet (if present) unless trained to do so.

from McCrory et. al, Consensus Statement on Concussion in Sport. Br J Sports Med 47 (5), 2013

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ALL CONCUSSIONS ARE SERIOUS.

IF YOU THINK YOU HAVE A CONCUSSION:

- ✓ DON'T HIDE IT.
- ✓ REPORT IT.
- ✓ TAKE TIME TO RECOVER.



**"IT'S BETTER TO MISS ONE GAME
THAN THE WHOLE SEASON."**



USA GYMNASTICS.

JOIN THE CONVERSATION AT

↳ www.facebook.com/CDCHeadsUp

TO LEARN MORE GO TO >> WWW.CDC.GOV/CONCUSSION

Content Source: CDC's Heads Up Program. Created through a grant to the CDC Foundation from the National Operating Committee on Standards for Athletic Equipment (NOCSAE).

CONCUSSION FACT SHEET FOR ATHLETES



CONCUSSION FACTS

- A concussion is a brain injury that affects how your brain works.
- A concussion is caused by a bump, blow, or jolt to the head or body.
- A concussion can happen even if you haven't been knocked out.
- If you think you have a concussion, you should not return to play on the day of the injury and until a health care professional says you are OK to return to play.

CONCUSSION SIGNS AND SYMPTOMS

Concussion symptoms differ with each person and with each injury, and may not be noticeable for hours or days. Common symptoms include:

- Headache
- Confusion
- Difficulty remembering or paying attention
- Balance problems or dizziness
- Feeling sluggish, hazy, foggy, or groggy
- Feeling irritable, more emotional, or "down"
- Nausea or vomiting
- Bothered by light or noise
- Double or blurry vision
- Slowed reaction time
- Sleep problems
- Loss of consciousness

During recovery, exercising or activities that involve a lot of concentration (such as studying, working on the computer, or playing video games) may cause concussion symptoms to reappear or get worse.

WHY SHOULD I REPORT MY SYMPTOMS?

- Unlike with some other injuries, playing or practicing with concussion symptoms is dangerous and can lead to a longer recovery and a delay in your return to play.
- While your brain is still healing, you are much more likely to have another concussion.
- A repeat concussion in a young athlete can result in permanent damage to your brain. They can even be fatal.



USA GYMNASTICS.

CONCUSSIONS, PLAY IT SAFE.

IT'S BETTER TO MISS ONE MEET THAN THE WHOLE SEASON.

SIGNS & SYMPTOMS

SIGNS OBSERVED BY COACHING STAFF

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of meet, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior, or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

SYMPTOMS REPORTED BY ATHLETE

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Just not "feeling right" or "feeling down"

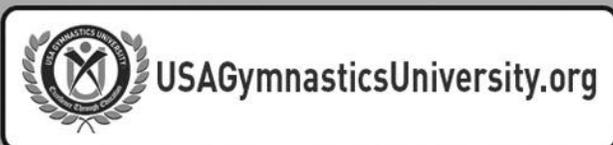
ACTION PLAN

If you suspect that an athlete has a concussion, you should take the following four steps:

1. Remove athlete from play
2. Ensure that the athlete is evaluated by a health care professional experienced in evaluating for concussion. Do not try to judge the seriousness of the injury yourself.
3. Inform the athlete's parents or guardians about the possible concussion and give them the fact sheet on concussions.
4. Keep the athlete out of play the day of the injury and until a health care professional, experienced in evaluating for concussion, says they are symptom-free and it's OK to return to play.

FOR MORE INFORMATION AND TO ORDER
ADDITIONAL MATERIALS FREE OF CHARGE, VISIT:
www.cdc.gov/concussion

DEVELOPED BY THE CDC IN COOPERATION WITH THE NATIONAL COUNCIL OF YOUTH SPORTS



Pit Extraction Guidelines

NOTE: This is a quick reference guide of extrication procedures from a foam pit. The complete material can be found in Chapter 12 of the *Gymnastics Risk Management Handbook*, 2013 edition.

Suspected Servical Spine Injury

The following guidelines for the removal of an injured athlete from a foam pit are based on the example of a gymnast who is suspected of having a cervical spine injury, but is conscious and breathing well. The technique explained here assumes the gymnast is face up and a side log roll is performed onto the spine board. Different techniques may be preferred based on the position of the athlete, location in the pit, available equipment, and his/her medical condition (i.e., conscious or unconscious, breathing, etc.).

1. Stop all activity into the pit and check the injured athlete (S.T.O.P.):

- Stop - all activity into the pit
- Talk - to the injured gymnast from outside the pit, asking questions, giving instructions and reassurance
- Observe the gymnast - consciousness, breathing, alertness, confusion, ability to talk. Is the gymnast moving? Is there any obvious bleeding?
- Prevent further injury - by properly approaching and managing the injured athlete

2. Activate the Emergency Action Plan:

- Call 9-1-1
- Ask for assistance from the most experienced staff member in the gym
- Stop all activity in the gym, provide supervision for uninjured athletes, and move them away from the injury site

3. Stabilize the gymnast:

- Place a mat in the pit near the gymnast, providing a somewhat stable surface for a rescuer to enter and gain access to the injured athlete
- Clear foam blocks away from athlete's face
- Immobilize the head and neck
- Monitor the athlete's condition, breathing, consciousness, and signs of shock; do not allow the athlete to move
- Place additional mats into the pit for more rescuers and gently clear away foam blocks to see the athlete's entire body
- Clear obstacles from the path of entry or exit for EMS personnel

4. Arrival of Emergency Medical Service personnel:

- Authority for the care of the injured athlete should be relinquished to EMS personnel upon arrival
- Meet EMS at the door, direct them to the pit and explain what happened
- EMS enter the pit using the mats as support
- If needed, clear remaining foam blocks away to keep the entire body of the gymnast visible

5. Apply the cervical collar: EMS personnel should perform this step.

6. Fix the gymnast to the spine board:

- Head EMS person should direct all aspects of the spine board procedure and removal from the pit
- Bring spine board into the pit in position to side log roll the gymnast onto the board
- At the command of EMS, roll gymnast onto side
- Slide the board into place
- Roll gymnast onto spine board, keeping the body, neck and head as straight as possible
- Strap gymnast to the spine board
- Lift gymnast out of the pit and place on the gurney
- EMS should readjust the tape and supports ensuring gymnast is ready for transport to the hospital
- Support gurney on all four corners while moving to the ambulance

Injured Gymnast Requiring Rescue Breathing or CPR

If the gymnast is not breathing, he/she should be quickly removed from the pit to begin rescue breathing or CPR. The gymnast's breathing must take the highest priority. The rescuers should still try to minimize disturbances to the athlete but must reach the gymnast quickly to render aid.

1. Activate S.T.O.P., emergency action plan, and call 9-1-1

2. Prepare to quickly remove gymnast from the foam pit (Long axis slide example):

- Use a spring vaulting board as a ramp with a 4-inch mat placed over top
- Pull gymnast by the arms (utilizing the arms as a splint to the head and neck) onto the 4-inch mat
- Pull the mat out of the pit onto a solid surface

3. Check breathing and pulse; begin rescue breathing or CPR as necessary until EMS arrives

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