

Gymnastics

Gymnastics is a sport of flexibility and agility that includes 4 forms: artistic, rhythmic, acrobatic, and tumbling and trampoline. Each form has its unique physical demands and specific injury risks; however, all forms include jumping and back arching and rotating movements.

While not all injuries can be prevented, the risk of injuries can be reduced. The following is information from the American Academy of Pediatrics about how to prevent gymnastics injuries. Also included is an overview of common gymnastics injuries.

Injury prevention and safety tips

- **Coaches.** It is important for coaches to be experienced and familiar with the rules. Coaches should also be certified in CPR and first aid.
- **Spotters.** Proper supervision and spotting should be available at all times.
- **Rules.** “Clowning around” should not be tolerated in the gym, especially around the foam safety pit or trampolines.
- **Equipment.** Safety gear should fit properly and be well maintained.
 - **Clothing** that allows for easy movement. (Body piercing should not be allowed around the face or mouth.)
 - **Wrist pads/braces** like “Tiger Paws” to protect the wrist and decrease wrist pain.
 - **Heel supports** like Tuli’s heel cups placed in an ankle brace or Cheetahs (which have a heel cup built into a wrap around the ankle brace) cushion the heel for the barefoot athlete.
 - **Grips** to protect the palms. Basic palm protectors are used by beginners. Dowel grips are used by the advanced gymnast.
 - **Apparatus** should be well maintained and checked on a regular basis.
- **Emergency plan.** Teams should develop and practice an emergency plan so that team members know their roles in emergency situations. The plan would include first aid and emergency contact information. All members of the team should receive a written copy each season. Parents also should be familiar with the plan and review it with their children.



Regular: Basic palm protector made of leather with no dowel.



Leather dowel grips for the advanced gymnast.

Common injuries

Wrist injuries

Because gymnasts walk and jump on their hands, significant force (sometimes 2 to 4 times their body weight) is put on the wrists. As a result, most gymnasts complain of wrist pain at some point. Gymnasts are particularly at risk for injuries to the growth plate of the wrist as well as stress fractures of the forearm, tears in the wrist cartilage, and scaphoid fractures.

Treatment begins with rest, ice, compression, and elevation (RICE). Athletes should see a doctor if their wrists are swollen or painful the next day. X-rays may be needed.

The risk of these injuries can be reduced by a gradual increase in activity intensity, proper skill progression, proper warm-up and conditioning, and the use of wrist braces.

Elbow injuries

Elbow sprains, fractures, or dislocations can occur when a gymnast lands on an overextended elbow. Loss of blood supply to an area of bone and cartilage, a condition called *osteochondritis dissecans*, can cause an inability to straighten the elbow and locking, catching, or swelling of the elbow. Gymnasts are at risk of these injuries from the repetitive forces placed on the elbow joints.

Treatment begins with RICE. Athletes should see a doctor if their wrists are swollen or painful the next day. X-rays may be needed.

Ankle and foot injuries

Ankle sprains are common, and a strength training program that includes balance and theraband exercises is recommended for both treatment and prevention. Sever's disease (heel pain from inflammation of the growth plate of the heel bone) can happen when an athlete's bare foot impacts the ground. Use of a Cheetah ankle brace (or a Tuli's heel cup in an ankle brace) cushions the ankle while performing gymnastics events.

Knee injuries

Both acute and chronic knee injuries are seen in gymnastics. Anterior cruciate ligament (ACL) tears commonly occur with dismounts and floor exercises. ACL prevention programs, which teach proper landing and stopping techniques and include hamstring strengthening exercises, should be part of the conditioning of all gymnasts. The athletes' young ages and hours of practice make pain in the front of the knee common (Osgood-Schlatter disease, patellar tendinosis, and patellofemoral pain syndrome).

Treatment begins with RICE. Athletes should see a doctor as soon as possible if they cannot walk on the injured knee. Athletes should also see a doctor if the knee is swollen, a pop is felt at the time of injury, or the knee feels loose or like it will give way.

Athletes who return to play with a torn ACL risk further joint damage. Athletes with an ACL tear are usually unable to return to their sport.

Low back pain

Spondylolysis, stress fractures in bones of the lower spine, is a common injury in athletes who do a lot of jumping, tumbling, and back-bending activities. Symptoms include low back pain that feels worse with back extension

activities like back walkovers or back handsprings. Gymnasts with low back pain for longer than 2 weeks should see a doctor. X-rays are usually normal so other tests are often needed to diagnose spondylolysis.

Blisters

Training on the bars, horse, or rings often causes calluses or blisters (also called rips by many gymnasts). These can be prevented by using chalk (to decrease friction), leather grips, and regular shaving of calluses that do develop.

Common medical issues

Female athlete triad

Female athlete triad is a term used to describe the unhealthy combination of eating problems (not getting enough calories), menstrual problems (absent or infrequent periods), and low bone density (weak bones). Many female gymnasts try to stay thin for appearances, or to be a lighter weight for mastery of difficult moves. Parents and trainers should be on the lookout for rapid weight loss or abnormal eating behaviors to prevent an eating disorder.

Burnout

Burnout can occur to gymnasts with long hours of training, year-round participation, and pressures to advance. This is common among athletes who began training at very young ages or those forced to "retire" or miss a season after an injury. Athletes should be watched carefully and counseled if burnout is suspected.

For answers to additional questions about injuries, injury prevention, and safe training practices, talk with your doctor or a physical therapist.

Remember

Gymnastics injuries can be prevented with proper supervision and compliance with the rules and safety guidelines in place.

NOTES

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