

Olympics 2012: Injuries in Young Gymnasts

Stephanie Cajigal, Abigail K. Allen, MD

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Editor's Note:

Injuries are common in most sports but are especially so in gymnastics, which often requires participants to put intense pressure on their still-developing bodies, says Abigail K. Allen, MD, a pediatric orthopedic surgeon at Mount Sinai College of Medicine in New York City who treats Olympic hopefuls. In an interview with Medscape, Dr. Allen offered advice on how physicians can help young gymnasts avoid injuries and maintain a healthy body weight.

Medscape: What kind of risks are young gymnasts exposed to? Do the risks vary by age?

Dr. Allen: Young gymnasts tend to get injuries predominately of the wrist, spine, foot, and ankle. Triangular fibrocartilage complex tears, for example, are a common wrist injury. Spinal injuries such as herniated discs, degenerative changes, spondylolysis, and spondylolisthesis are also common.

Teenage gymnasts tend to get more injuries compared with younger gymnasts. The thought behind this is that the adolescent years are a time when the body has a major growth spurt. The bones are growing so fast that the mineralization of those bones can't quite keep up.

Medscape: What long-term problems can be caused by intense gymnastic training at a young age?

Dr. Allen: I think it depends on the injury. As much as we want to think that we can perfectly recover from injuries, the bottom line is that not all injuries are completely fixable. For example, you can have long-term, irreversible damage such as arthritis. Any injury that involves a joint could potentially lead to arthritis; any injury that involves a growth plate could permanently affect growth.

Interestingly enough, the age at which one enters gymnastics does seem to play a role in the chances of having pain and injuries. It is those who start gymnastics relatively later who are more prone to injury, so younger may actually be better.^[1]

Medscape: How could gymnastics be made safer?

Dr. Allen: For one, the equipment could be made safer. Some mats are too soft, and when gymnasts go into a wrist position, the mat can cause the wrist to extend back too much and cause injury. Some of it is supervision. Gymnasts are more prone to having cervical spine injuries, and whether or not gymnasts are supervised seems to play a role. Stress reactions and fractures are common too, so one idea would be to alternate their activities so that they're not doing the same thing over and over again. Also, a wrist brace could, in theory, bear some of the load and distribute it more evenly, but this has only been proven in cadaveric studies.

Medscape: How common among gymnasts is the Female Athlete Triad, a syndrome identified in 1992 that is defined by disordered eating leading to amenorrhea and eventually osteoporosis?

Dr. Allen: It's very common, especially in the elite gymnast population. I would say that probably about a third of elite gymnasts have this triad. The majority of gymnasts have at least some sort of disordered eating. About

half of college gymnasts, for example, have disordered eating. From a medical standpoint, I think you can't ignore this problem.

Medscape: How responsible are coaches for this problem?

Dr. Allen: I think everyone needs to be aware of it. Historically, coaches have turned a blind eye to this problem and actually encouraged gymnasts to lose weight. Physicians could play a role by asking whether their patients are menstruating on a regular basis.

Medscape: How should physicians approach conversations about body weight?

Dr. Allen: Oddly enough, I think it is almost taboo to talk about weight in the physician's office. My own take on it is to be direct, whether you are talking about a gymnast with disordered eating or, on the opposite side, an obese child, which is not uncommon nowadays.

In my office, I involve the parents, because whether we are talking about the athlete who is underweight or the child who is overweight, ultimately the parents should have control of their children. Nutrition should be more of a family approach, not just an individual one; it should not be solely the 7-year-old or 12-year-old child who is completely responsible for their nutrition. Making sure that gymnasts have adequate nutrition is a team sport in and of itself. It should be the job of the parent, the coach, the athletic trainer, etc., to make sure that the athlete is healthy.

References

1. DiFiori JP, Puffer JC, Mandelbaum BR, Mar S. Factors associated with wrist pain in the young gymnast. *Am J Sports Med.* 1996;24:9-14. [Abstract](#)

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