An Open Letter on Injury for Coaches, Physicians, Therapists, Chiropractors, Nurses, and the Media

William A Sands, Ph.D., FACSM

Sports Scientist – Retired

In recent years I have read, seen, and heard an under-informed castigation of gymnastics based on athletes training and competing "with an injury." The hyperbolic nature of this phrase does not accurately portray the milieu of gymnastics injuries. The following opinions and information are based on more than 50 years of experience in gymnastics as an athlete, coach, and sports scientist.

First and foremost, no one wants to see gymnasts injured and suffering. Gymnastics has a high injury incidence and rate and is often referred to as the football of women's sports.

The Importance of Context.

What is an injury? Among the more common definitions of injury, there is a damaged body part or body system resulting from either a single trauma (i.e., acute) or repetitive trauma (i.e., overuse). Injury severity is often characterized by a measure of the time lost from training, such as one day, one week, one month, and so forth. The type of injury remediation can also be used to measure injury, such as whether surgery, physical therapy, self-limited movements, or other treatments are involved. Injury prevalence, a simple tallying of injuries, and injury rate (i.e., the number of injuries per training session or multiple training sessions), or the percentage of an athlete group who suffered from an injury are standard methods of characterizing the injuries.

What is a gymnastics injury? Gymnastics injuries involve all the concepts listed in the previous paragraph, but gymnastics injuries remain challenging to characterize and categorize. A helpful definition of a gymnastics injury is "any damaged body part that would interfere with training" (2-5). This broad definition helps capture the idea that most gymnastics injuries are not debilitating but can interfere with some skills. Pragmatically, gymnastics injuries are skill-specific (5). For example, the athlete may have an injury (i.e., pain) on an aerial walkover but not an aerial cartwheel. When possible, a coach should accompany the gymnast to clarify what is possible and desirable. A video on a laptop or tablet can be very helpful. Experience has shown that medical folks can over- **and** under-estimate the amount of training stress an athlete's injury can withstand. The days of relying on medical interventions without coaching input are gone, along with coaches assuming the role of physician and therapist. Each has an important role and should contribute to the rapid return of the athlete. Rich communication should be required between medical personnel, coach, athlete, and parent.

Why can't the gymnast simply take a complete rest from training and allow the injury to heal fully? Of course, complete rest is an option, but such an act can be devastating to the athlete's gymnastics. Gymnastics-specific physical fitness is sensitive to continued training. Unfortunately, a gymnast's fitness can decline rapidly, especially when compared to the progress observed in teammates. Experience has shown that the inevitable comparisons between the rehabilitating athlete and her teammates can raise the injury to a "career-ender" because the gymnast feels she has fallen behind and cannot catch up. She is physically weaker than she remembers, and her teammates have probably learned a few new skills.

Thus, both physically and psychologically, continued training is important to the injured gymnast. Gymnastics is not alone with these problems; many sports report the same problems with losses of specific fitness and feelings of helplessness and abandonment.

If an athlete in other sports sprains an ankle, sports training and competition usually cease until the injury heals. A sprained ankle in basketball, football, baseball, track and field, and so forth is a rather devastating injury. However, a sprained ankle does not always sideline a gymnast. Gymnasts can continue to train and sometimes compete with a sprained ankle. Of course, the gymnast can perform non-weight-bearing conditioning exercises like other sports, but she can also work on uneven bars over a foam pit with the ankle firmly braced and/or taped. When the gymnast exits or dismounts from the uneven bars, she can land on her seat or back in a soft foam pit area. Skilled athletic trainers may also apply appropriate taping strategies to protect the athlete while weight-bearing. The ubiquitous sprained ankle in most sports involves taping and bracing that may be invisible due to socks and pants while fully visible among gymnasts because they usually train and compete barefoot.

Unlike many sports, gymnasts must learn hundreds of skills that may or may not threaten an existing injury or even hurt when performed. Thus, intelligent skill selection and choreography can allow a gymnast to perform successfully without jeopardizing the injury by simply avoiding or substituting a painful skill with a non-painful skill.

The idea that a gymnast <u>can</u> train and compete with injuries does not avert the question of <u>should</u> the gymnast train and compete with injuries. For those who have never dedicated their lives to achieving a goal, such a passionate commitment may seem silly. However, many athletes in many sports whose lives are defined by their performance at a competitive event speak to the universal nobility of such commitment.

> As the ancient Greeks understood, great athletes not only accept the ordeal of competition and the trial of strength inherent in it but also show us a connection between what we do each day and something that is larger than we are and lasts longer than we do. Bill Bradley p 107, (1)

References

1. Cousineau P. *The Olympic Odyssey.* Wheaton, IL: Quest Books, 2003.
2. Sands WA. *Gymnastics Risk Management: Safety Handbook 2002 Edition.* Indianapolis, IN: USA Gymnastics, 2002.
3. Sands WA. Characteristics of gymnastics injuries, in: *The Science of Gymnastics*. M Jemni, ed. Abingdon, Oxon, UK: Routledge, 2017, pp 288-289.
4. Sands WA. What is an injury?, in: *The Science of Gymnastics*. M Jemni, ed. Abingdon, Oxon, UK: Routledge, 2017, pp 286-287.
5. Sands WA, Shultz BB, and Newman AP. Women's gymnastics injuries. A 5-year study. *Am J Sports Med* 21: 271-276, 1993.