



Tough it out or seek treatment?

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Injuries happen; unfortunately, they are not completely avoidable. While this is true of many sports, gymnasts are especially susceptible due to high skill level, increased number of training hours, and early specialization, which often occur during a period of rapid growth. All of these factors can increase risk of overuse type injuries.¹

In terms of timeline, injuries can typically be split into two categories: acute and overuse. Acute injuries are what you would think of when there is specific cause of injury such as a fall, a misstep, or a bad landing. The major acute injuries are hard to overlook and typically, would present to a healthcare facility for care. However, the overuse injuries can be more subtle. An overuse injury happens over time; a repetitive loading occurs without the necessary rest for the body to adapt appropriately.²

The prevalence of overuse injuries in female gymnasts has been found to be as high as 44.2%.³ This number is likely underrepresented, however, as many studies define an injury as a time lost from sport, and not all athletes will take the time away, skewing the numbers.² Another study suggests that 70% of gymnasts with injuries continue to participate in the sport while making modifications.⁴ These modifications can include taping, bracing, self-medicating, or avoidance of certain skills.

Several overuse injuries are labeled "high risk" due to the possible impact. These injuries can require a great amount of time away from the sport in order to heal, but could also affect the athlete's ability to continuing participating in the sport at all as well as future activity due to the risk of poor healing if not addressed.² Early recognition of these injuries is crucial to treat appropriately and avoid excessive negative side effects. Examples of these types of injuries include certain stress fractures, physeal (growth plate) stress injuries, osteochondritis dissecans (a cartilage injury), and some apophyseal (an area where a tendon attaches to bone) injuries.² Gymnasts have one of the highest rates of stress fractures when compared to other sports.³ Areas of concern for high-risk stress fractures include the low back, front of the hip, groin, front of knee and lower leg, inside of the ankle, top/inside of foot near the ankle,

outside of the foot, and the bottom of the big toe.² Stress fractures in these areas have an increased risk of delayed or non-union, which could lead to chronic pain or increased joint pain into adulthood.² In gymnasts, growth plate injuries to the wrist are the most common. Many gymnasts look at wrist pain, or back pain, as just part of the sport, however, rather than viewing it as an injury. This contributes to a lowered likelihood to report the symptoms.¹

The greatest risk factor for injury is the history of injury.⁵ While many injuries can be self-limiting and the symptoms can eventually go away on their own, this does not take away from the importance of making a change. It is essential to both properly rehabilitate AND find the underlying cause of the injury.² A true course of rehabilitation will include a structured and sport-specific approach to prepare the athlete for the physical and psychological demands of the sport as well as address the root cause and make changes to minimize the risk of re-injury and recurrent overuse issues.⁵ The time spent addressing these key factors addresses the full recovery of the athlete and can actually decrease the overall time loss for recovery.⁵

Gymnastics is a sport that specializes early and training hours are typically well beyond the accepted medical experts' recommended guidelines of training no more hours per week than years in age (example: 13 years old, training no more than 13 hours/week).⁴ These higher training volumes consistently show increased risk for overuse injuries, particularly at times of rapid growth that adolescents are experiencing.^{2,4} Although it's unlikely that training schedules will change significantly, we can focus on our awareness of these injuries and our understanding of how to respond.

In the club gymnastics world, there is not always medical staff on site. This is a major difference compared to many traditional school based sports, where an athletic trainer would be present to assess and triage as needed. This puts increased pressure on the athlete, parents, and coaches to make the decision of when to seek additional medical attention.

The overuse injuries that may be overlooked do not necessarily need emergent care. In most cases, it would be appropriate to make an appointment with an orthopedic or sports medicine physician trained to look for higher risk overuse injuries which may not typically show up on initial imaging studies like x-rays. Depending on location and access, a physical therapist or athletic trainer may also be a good place to start as they have the training to refer the gymnast to a physician if the assessment warrants additional care.

A good rule of thumb to consider is if self-treatment strategies have not made a difference in a short amount of time (no more than 1 week), and practices or skills need to be modified, advice from a medical professional is needed. This is particularly important if the pain is in the location of the high-risk overuse injuries. More specific reasons to seek care include:

- Inability to bear weight (through arm or leg)

- Visible deformity
- Excessive swelling with difficulty moving fingers or toes
- Swelling that does not go down with PRICE (protect, rest, ice, compression, elevation)
- Inability to move joint through a full range of motion (example: unable to straighten elbow)

For more information see: [Injury Guidance for Gymnastics Coaches and Club Owners](#)

Takeaway: seeking care does not mean you are not tough enough to handle something, it means you are getting the treatment necessary to limit progression of injury, rehabilitate, make changes to limit likelihood of future injury, and to better enjoy participating in the sport.

References:

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