

Strategies to Minimize Injuries and Lost Time in the Gym

by Dr A. Jay Binder

There are several ways to reduce the risk of injury or, if injured, to keep from making your athlete's injury worse and minimize lost time in the gym. Know how to prevent injuries when possible, assess injuries when necessary and assist in rehabilitation when able. Try to establish a relationship with a doctor, therapist or trainer who knows our sport or at least is used to dealing with athletes. This will be your best chance to get your athlete back from injury quickly.



How to reduce their risk of acute injury

Staying injury-free is obviously the best way for your athletes to miss less time in the gym. Prevention of acute injuries has everything to do with safety-consciousness and common sense. Following gymnastics and acrobatic progressions in a logical way, with experienced spotting, will reduce injuries to a minimum. Other strategies include:

- Create a safe environment at practice and competition
- Know the appropriate use of mats, belts, pits and trampolines
- Eliminate goofing around or rough play on or around gymnastics equipment
- Don't try to work when your athletes are too fatigued or too sweaty
- Teach athletes to never try a new or advanced skill without an experienced coach and spot
- Refresh your knowledge and improve use of the USA Gymnastics Safety Certification Handbook in your gym

How to reduce their risk of overuse injury

Overuse injuries are reduced by cross-training, pre-season conditioning, a logical training program, an environment that encourages early reporting of injuries and using the strategies listed above for acute injury prevention:

- Cross-training with a low-impact exercise program like elliptical or EFX trainers, cycling, weight-lifting or swimming
- Pre-season conditioning is discipline specific and should also emphasize your athlete's known physical weaknesses
- A logical training program which allows muscle recovery time and time off between seasons
- Create an environment that encourages early reporting of injuries instead of minimizing injuries and exerting pressure to compete
- Strategies for acute injury prevention apply here too because many of them reduce athlete fatigue and "wear and tear" due to repetition

How to keep from making their injury worse



Acute and overuse injuries can occur even in good gyms with conscientious coaches and fit athletes. When injuries do happen, you need to know how to keep from making the injury worse. Many of us have heard of the athlete who was injured further by improper handling. Also, we've all seen someone who pulled a muscle, rested it for several weeks, and then returned to sport only to re-injure the same muscle.

To keep from making injuries worse you need to recognize an acute or overuse injury early, get them appropriate treatment and rehab, and not return them to practice or competition too soon.

Acute Injuries are usually obvious and coaches and instructors in the gym need to know how to deal with them. They include sprains, strains, cuts, contusions, fractures, dislocations, ligament and cartilage tears and nerve injuries:

- Each coach or instructor needs to have some idea of how to assess the kind and severity of injury and provide first aid; it is helpful to have basic splints, dressings, tape and elastic wraps available, some may have specific training like CPR and athletic injury first aid.
- Have a plan for routine and catastrophic injuries in your gym (see USA Gymnastics Safety Certification Handbook for details), post emergency numbers where all can find them; some hold injury "fire drills" to make the staff more comfortable and proficient at handling these situations.
- Teach athletes and coaches that early reporting of injuries often simplifies treatment and reduces recovery time and liability.

Overuse injuries will begin to give you clues before they become more serious problems like tendonitis, bursitis, subluxation (slipping of the kneecap or shoulder) and stress fractures:

- These symptoms can include: pain, swelling, lack of endurance, muscle spasms, loss of skill height, difficulty balancing, loss of acceleration, more frequent falls or misses, giving way, a sense that something "pops out of place" and general problems like difficulty sleeping and overall fatigue.
- Teach coaches how to recognize the signs of overuse injury and report it early. You can then modify their practice to accommodate the problem until they are seen by a doctor.
- Like acute injuries, early treatment of overuse problems makes recovery much easier, faster and less expensive; it also reduces liability and lost time from the gym.

What is reasonable treatment and how can you help them

- Coaches need to know enough about orthopedic injuries to help their athletes and their parents seek the right care. Don't just assume that what the doctor recommends is the only option, especially if they don't usually work with athletes. There are usually several reasonable ways to treat the same problem. You should usually expect more proactive treatment for a high-level athlete and perhaps a little slower form of treatment for a recreational athlete.
- In general, ask more questions about treatments that involve: prolonged immobilization or casts, no obvious rehab plan or recommendations for extended time out of the gym. If you

are concerned about your athlete, get a second opinion, especially if a Sports Medicine Doctor is available. If it still doesn't make sense, contact a member of the USA Gymnastics National Health Care Referral Network.

How does the type of injury affect treatment and return to the gym



- Return time after an acute or overuse injury depends upon the severity of the injury, skills that need to be worked, time of the year (related to the competitive season) and response to treatment. Total recovery time is actually minimized with early evaluation and treatment, early return to gym with skill restrictions and aggressive early motion and rehabilitation.
- Skill restriction involves scaling back the training program to accommodate the injured athlete. It's sort of like light duty for an injured worker. The sports medicine doctor, therapist or trainer should be able to give you guidance on how to limit and when to advance your athlete.
- Examples of lower body skill restrictions include: avoiding fatigue, avoiding high impact activities, having spotted landings and dismounts, avoiding tumbling, avoiding beam and vault, avoiding temp routines (acro).
- Examples of upper body skill restrictions include: avoiding high impact or high stress activity like vault, tumbling and giants (artistic), tempo and tumbling (acro), tumbling (T & T), clubs and tumbling (rhythmic).
- Try to think of injuries in four broad categories: minor acute, moderate acute, severe acute and overuse. These groups are similar with respect to treatment, skill restrictions required and return to competition. It doesn't apply to all but gives you some idea of what to expect.

General Categories of Injury and Treatment

Minor Acute Injuries

- Types of Injuries: Minor sprains, strains, cuts and contusions; minimal alteration in flexibility, strength and endurance.
- Treatment: Responds well to rest, ice, compression and elevation with oral anti-inflammatory medicine; may need braces, taping or supports.
- Skill Restrictions: Minimal.
- Interference with competition: Little or None.

Moderate Acute Injuries

- Types of Injuries: Moderate sprains, strains, cuts, contusions; minor fractures, dislocations and nerve injuries; moderate alteration in anatomy, flexibility, strength and endurance.
- Treatment: Initially treat with rest, ice, compression and elevation with oral anti-inflammatory medicine; probably needs to see a doctor, surgery and extensive testing rare; requires time for adequate healing and exercise or physical therapy to restore normal flexibility, strength and endurance; may need braces, taping or supports.
- Skill Restrictions: They usually miss a week or two and then can return in limited capacity; skill restrictions are moderate initially and may keep athletes off certain apparatus or

routines.

- Interference with competition: Figure time lost from gym plus time with skill restrictions plus time to get back to pre-injury performance level, usually 3-6 weeks total before competition.

Severe Acute Injuries

- Types of Injuries: Severe sprains, strains, cuts, contusions, fractures, dislocations, ligament and cartilage tears and nerve injuries; severe alteration in anatomy, flexibility, strength and endurance.
- Treatment: Initial evaluation is in the E.R. or doctor's office; still treated with rest, ice, compression and elevation, oral anti-inflammatory medicine and possibly pain medication and muscle relaxants; requires extensive time for adequate healing, may require surgery and exercise or physical therapy to restore normal anatomy, flexibility, strength and endurance; often needs braces, taping or supports.
- Skill Restrictions: They usually miss weeks to months and then can return in limited capacity; skill restrictions are significant initially and will keep athletes off certain apparatus or routines; work in the gym progresses as they hit rehab milestones, they may not return to full practice until 1-6 months.
- Interference with competition: Figure time lost from gym plus time with skill restrictions plus time to get back to pre-injury performance level, usually 2-9 months total before competition

Overuse Injuries

- Types of Injuries: Examples include patellar, achilles or rotator cuff tendonitis, shoulder subluxation, IT band syndrome, Osgood-Schlatter's disease, bursitis, shin splints, plantar fasciitis, stress fractures; mild to moderate alterations in flexibility, strength and endurance, usually affects adjacent areas of joints as the unconsciously.
- Treatment: Responds "relative rest"- rest from the skill or activity that caused or worsened the condition and rehab it aggressively; usually responds to a low weight, hi repetition physical therapy program; don't work through sharp pain or fatigue (in therapy, home exercise or gym) it just makes it worse; oral anti-inflammatory medicine and ice may help; may need braces, taping, supports, casts, boots, bone stimulators or surgery.
- Skill Restrictions: Temporarily avoid any skill or activity that leads to sharp pain or fatigue; shorten practice length and number of repetitions, vary type of work more often than usual.
- Interference with competition: Little or None unless the condition is severe or a stress fracture; minimize practice time to "save them" for the competition; most overuse problems improve greatly within 4-6 weeks; severe conditions and stress fracture can take 3-4 months to resolve.

Remember that prevention and safety are always the best option and it is your job to provide this for your athletes. It's also in your job to learn the basics of injury management so that you can know when the treatment "just doesn't sound right." Good doctors are not afraid of answering questions so you shouldn't be afraid to ask. Your best bet is to establish a relationship with a knowledgeable health professional and your athlete injury management becomes easy!

* Dr. Binder is an orthopedist and sports medicine doctor from near New Orleans, Louisiana. He is the team physician for Sports Acro and has covered all of the disciplines in gymnastics. This article is an excerpt from two of Dr. Binder's presentations at the 2002 USA Gymnastics National Congress in Cleveland, Ohio. "A Coach's Guide to Dealing With Common Injuries" and "How to get your Gymnast or Acrobat Back from Injury Faster."