



## FIGURE SKATING INJURIES

In recent years the physical demands of figure skating have increased dramatically with a corresponding increase in potentially detrimental effects on the adolescent body. With the elimination of figures from competition in 1999 and the introduction of a new judging system in 2003, the technical difficulties of spinning, jumping, connecting moves, lifts, and throws have significantly increased. Sound technique, proper equipment, and smarter practices and training schedules are imperative for skaters to maintain healthy bodies.

### What are some of the most common figure skating injuries?

Figure skaters suffer both overuse and traumatic injuries. About half of all injuries are caused by overuse and are preventable. Singles skaters have a higher incidence of overuse injuries, while pair skaters and ice dancers are more prone to traumatic injuries.

#### Common Overuse Injuries

- Stress fractures, most commonly to the foot or spine
- Stress reactions, such as shin splints and medial tibial stress syndrome
- Tendonitis—Achilles, patellar, or peroneal
- Muscle strains of the hip
- Jumpers knee or patellofemoral syndrome
- Apophysitis—Osgood-Schlatter (knee) or iliac crest (hip)
- Bursitis in the ankle
- Lace bite, an irritation of the tibialis anterior and toe extensor tendon

#### Common Traumatic Injuries

- Ankle sprains and fractures
- Dislocation of the patella or shoulder
- ACL and meniscal tears
- Head injury and concussion
- Labral tears of the hip
- Lacerations



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### What causes figure skating injuries?

#### Overtraining and Poor Technique

Impact at landing generates deceleration forces measuring up to 100 Gs or 10–12 times body weight in adolescent skaters. These forces are much more than are experienced by runners. This phenomenal force is transmitted throughout the lower extremity contacting the ice and axial skeleton and is the main contributor to the host of injuries sustained in figure skating.

#### Equipment

- **Boot stiffness**—The stiffer the boot, the more limited the motion at the ankle which can increase the stress at the knee, hip, and back. In other athletes, flexibility and cushioning of the foot, ankle, and shoe can help to dissipate forces which is impossible while wearing rigid skates.
- **Blade placement**—Poorly placed blades can cause the skater to shift more to an outside or inside edge.
- **Blade sharpness**—Blades that are too sharp can cause less experienced skaters to be more susceptible to traumatic injuries due to the tendency for the blade to “pull” the skater.

### How are figure skating injuries treated?

Traditional treatment of RICE (rest, ice, compression, elevation) is the usual treatment for most overuse injuries. Indications for consulting a physician include pain lasting more than 3 days, an obvious deformity, or inability to bear weight. A trained sports medicine physician can help advise regarding further treatment which may include a longer period of rest, physical therapy, immobilization, injections, or surgery.

### How can figure skating injuries be prevented?

- Reduce exposure to high-G-force landings by limiting the repetition of jumps—especially poorly mastered or new jumps—per training session.
- Increase proficiency with new jumps through off-ice training, use of a harness, and ensuring a proper conception of perfect form prior to on-ice repetitions.
- Avoid learning new elements during growth spurts, as this causes increased stress on the body.
- Warm up for 5–10 minutes prior to putting on skates and stepping on the ice.
- Properly fit and break in boots; adjust skate blades and sharpen appropriately.
- Inspect ice regularly for chips or gouges that might cause injury.
- Perform off-ice conditioning to improve core strength and fitness.
- Maintain adequate nutrition. Skaters, particularly girls, are at risk for eating disorders.
- Create conversation between coach, skater, and parents to minimize injury and avoid overtraining.
- Avoid skating with pain and see a physician if pain persists.

#### Expert Consultants

Jennifer Couch Petty, MPT  
Damon H. Petty, MD

#### References

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