

Figure Skating

Figure skating is a lifelong sport that can be enjoyed by people of all ages. Competitive skating requires strength, flexibility, cardiovascular fitness, balance, jumping ability, artistic expression, mental strength, and financial resources.

While falls account for many skating injuries, most injuries occur from overuse or improperly fitting skating boots. Most of these injuries are preventable.

The following is an overview of common figure skating injuries from the American Academy of Pediatrics. Also included is information about exercised-induced asthma and the female athlete triad.

Common injuries

Injury	Description	Prevention/Treatment
Painful bumps around the foot (bunions, calluses, and blisters)	Due to pressure of skating boots on bony parts of the foot.	Use properly fitting skates and avoid lacing too tightly. Modify skates or use donut-shaped padding for blisters and calluses. Shave down calluses.
Malleolar bursitis (swelling of the inner part of the ankle bone)	Due to pressure of skating boots. Can also be caused by pronation (the tendency for the ankle to lean inward, particularly in persons with flat feet).	As above. Stretch out boots at the sides. Protect the ankles with silicon sleeves, such as Bunga Pads. Use donut-shaped padding around the bony part of the ankle, not directly over it, to decrease pressure. Use orthotics or modify boots to correct pronation.
“Lace bites” (tendon inflammation in the front of the ankle)	Caused by upper 2 laces crossing in boots that are too stiff. This puts pressure on the tendons in the front of the ankle (the anterior tibialis and extensor hallucis tendons). Can progress to cysts and tendonitis.	Use more flexible boots, silicon sleeves, or padding on the tongue of the boot. Add midline lace hooks or alternate lacing to keep tongue in neutral or slightly inward position or to avoid outward movement of the tongue. Rebuild boot tongue of aging skates.
“Pump bumps” Retrocalcaneal bursitis (swelling of the fluid-filled sac [bursa] at the back of the heel bone [calcaneus])	Caused by boots that are too loose and allow the heel to move up and down. Over time this can cause bony overgrowth.	Select a boot that is narrow enough in the heel to prevent excessive movement of the heel. Change fit of boot by using padding to narrow the heel.
Overuse foot conditions (forefoot pain, and pain under the base of the great toe)	Caused by impact activities, such as jumps and landings.	Put pads under the forefoot to ease the pressure of impact. Avoid excessive jumping. Orthotics may also help.

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Injury	Description	Prevention/Treatment
Achilles tendonitis	Caused by excessive jumping, particularly during off-ice practices. Caused by overly stiff boots that put increased tension on the Achilles tendon. Also caused by pressure of the boot top against the tendon.	Avoid excessive jumping, particularly during off-ice practice. Avoid overly stiff boots. Modify boots to decrease pressure against the Achilles tendon. Regular calf and Achilles stretching and strengthening exercises may also help.
Shin splints (pain along the shins)	Due to pressure from the boot top or strain of the calf muscle. Can be made worse by high-impact activities.	Orthotics or modification of boots to correct pronation. Ensure proper blade placement to prevent the skate from leaning inward. Pad boot top on inner side of the ankle to relieve pressure. Calf stretching and strengthening exercises and decreasing high-impact activities can also help.
Stress fractures of lower leg	Tenderness and pain made worse by high-impact activities.	Decrease high-impact activities, particularly jumps. Correct pronation with an orthotic, if a stress fracture of medial tibia or medial foot.
Ankle sprains	Ankle sprains occur more frequently during off-ice training, which is typically done in shoes that have far less ankle support than relatively stiff and protective skating boots. Ankle muscles (particularly the peroneal muscle on the outside of the ankle) weaken due to long periods spent in stiff skating boots, which increases the risk of ankle injury when training off the ice.	Make sure boots have enough upper support and have not worn out. Tape or brace ankles, particularly during off-ice training. Avoid uneven surfaces. Previous ankle sprains need to be completely healed to lower the risk of reinjury. Ankle strengthening exercises (particularly the peroneal muscles), balance exercises, and bracing may also help.
Skin irritation or thickening at the back of the lower leg	Caused when the top of the boot hits the back of the lower leg when the ankle bends downward.	Use padding or silicone sleeves. Modify skates to include a “dance back” (soft, closed cell foam material to replace a portion of the top of the back of the boot).
Overuse knee injuries (patellofemoral stress syndrome, patellar tendonitis, and Osgood-Schlatter)	Pain around the front of the knee due to high-impact activities such as jumps, landings, and spins.	Limit high-impact activities. Stretching and strengthening program of the thigh muscles (quadriceps and hamstrings) can also help.
Spondylolysis (stress fractures of the bones in the lower spine)	Due to overuse from high-impact and repetitive arching of the back. Caused by poor lifting techniques in male pair skaters. Female pair skaters are at more risk due to need for holding free leg very high in the air much of the time.	Limit repetitive arching of the spine, hard landings, and high-impact activities. Male pair skaters should avoid poor lifting techniques. Core strengthening and low-back exercises may also help.

Common medical concerns

Exercise-induced asthma

Exercise-induced asthma is common with figure skaters because they exercise in cold and dry environments. It can be treated with inhalers and other medicines and should not limit participation and performance of skaters, even at the highest competitive levels.

Female athlete triad

Female athlete triad is a term used to describe the unhealthy combination of eating problems (not getting enough calories), menstrual problems (absent or

infrequent periods), and low bone density (weak bones). Many female skaters try to stay thin for appearances, or to be a lighter weight for mastery of difficult jumps or successful throws and lifts by their male partners. Parents and trainers should be on the lookout for rapid weight loss or abnormal eating behaviors to prevent an eating disorder.

Remember

Figure skating injuries can be prevented with proper supervision and compliance with the rules and safety guidelines.

NOTES

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