

Sports injuries

Sports injuries are caused by overuse, direct impact, or the application of force that is greater than the body part can structurally withstand. Common injuries include bruises, sprains, strains, joint injuries and nose bleeds. Treatment depends on the type and severity of the injury.

Sports injuries are commonly caused by overuse, direct impact, or the application of force that is greater than the body part can structurally withstand. An injury that happens suddenly, such as a sprained ankle caused by an awkward footfall, is known as an acute injury.

Chronic injuries are caused by overusing the same muscle groups or joints. Poor technique and structural abnormalities can also contribute to the development of chronic injuries. Medical investigation of any sports injury is important, because you may be hurt more severely than you think. For example, what seems like an ankle sprain may actually be a bone fracture.

Common types of sports injuries

Some of the more common sports injuries include:

- **Ankle sprain** – symptoms include pain, swelling and stiffness.
- **Bruises** – a blow can cause small bleeds into the skin.
- **Concussion** – mild reversible brain injury from a blow to the head, which may be associated with loss of consciousness. Symptoms include headache, dizziness and short term memory loss.
- **Cuts and abrasions** – are usually caused by falls. The knees and hands are particularly prone.
- **Dehydration** – losing too much fluid can lead to heat exhaustion and heat stroke.
- **Dental damage** – a blow to the jaw can crack, break or dislodge teeth.
- **Groin strain** – symptoms include pain and swelling.
- **Hamstring strain** – symptoms include pain, swelling and bruising.
- **Knee joint injuries** – symptoms include pain, swelling and stiffness. The ligaments, tendons or cartilage can be affected.
- **Nose injuries** – either blood nose or broken nose, are caused by a direct blow.
- **Stress fractures** – particularly in the lower limbs. The impact of repeated jumping or running on hard surfaces eventually stresses and cracks the bone.

First aid for sprains, strains and joint injuries

Suggestions on immediate treatment for sprains, strains and joint injuries include:

- Stop the activity.
- Rest the injured area.

- For the first 24 to 48 hours, apply ice packs for 15 minutes every two hours.
- Bandage the injured area firmly, extending the wrapping above and below the injury.
- Whenever possible, elevate the injured area above the level of your heart.
- Avoid heat, alcohol or massage, which can exacerbate the swelling.
- Seek medical advice.

First aid for nose bleeds

Suggestions include:

- Stop the activity.
- Sit with the head leaning forward.
- Pinch the nostrils together and breathe through your mouth.
- Hold the nose for at least 10 minutes.
- If bleeding continues past 30 minutes, seek medical advice.

First aid for dislodged teeth

It may be possible to save the tooth with prompt dental treatment. Rinse the tooth in water or milk and see your dentist immediately.

Emergency situations

Call an ambulance if any of the following injuries are suspected:

- Prolonged loss of consciousness
- Neck or spine injuries
- Broken bones
- Injuries to the head or face
- Eye injuries
- Abdominal injuries.

Treatment for sports injuries

Treatment depends on the type and severity of the injury. Always see your doctor if pain persists after a couple of days. What you may think is a straightforward sprain may actually be a fractured bone.

Physiotherapy can help to rehabilitate the injured site and, depending on the injury, may include

exercises to promote strength and flexibility. Returning to sport after injury depends on your doctor's or physiotherapist's assessment. Trying to play before the injury is properly healed will only cause further damage and delay recovery. In the meantime, you can maintain your fitness by choosing forms of exercise that don't involve your injury; for example, ride a stationary bicycle while your sprained wrist is healing.

Prevention strategies

You can reduce your risk of sports injuries if you:

- Warm up thoroughly by gently going through the motions of your sport and performing slow, sustained stretches.
- Wear appropriate footwear.
- Tape or strap vulnerable joints, if necessary.
- Use the appropriate safety equipment, such as mouth guards, helmets and pads.
- Drink plenty of fluids before, during and after the game.
- Try to avoid exercising in the hottest part of the day, between 11am and 3pm.
- Maintain a good level of overall fitness.
- Cross-train with other sports to ensure overall fitness and muscle strength.
- Don't exert yourself beyond your level of fitness.
- Use good form and technique.
- Cool down after sport with gentle, sustained stretches.
- Allow adequate recovery time between sessions.
- Have regular medical checkups.

Where to get help

- Your doctor
- Sports medicine clinic
- Physiotherapist
- Hospital emergency department
- In an emergency, always call 000 for an ambulance
- [Australian Physiotherapy Association](#) Tel. (03) 9092 0866

Things to remember

- Sports injuries are commonly caused by overuse, direct impact, or the application of force that is greater than the body part can structurally withstand.
- Common injuries include bruises, sprains, strains, joint injuries and nose bleeds.
- Medical investigation is important, because an injury may be more severe than you think.

Injury First Aid

- Follow the advise of your doctor.
- These instructions are supplemental.
- Chronic injuries may require physical therapy after doctor's diagnosis.

R.I.C.E. Treatment

- **R**est, **I**ce, **C**ompression, **E**levation
- First aid for strains, sprains, contusions, dislocations, or uncomplicated fractures
 - **Rest**
 - Stop using injured part
 - Continued activity could cause further injury, delay healing, increase pain, and stimulate bleeding
 - Use crutches to avoid bearing weight on injuries of the leg, knee, ankle, or foot
 - Use splint for injuries of the arm, elbow, wrist, or hand
 - **Ice**
 - Hastens healing time by reducing swelling around injury
 - Sudden cold contracts blood vessels
 - Helps stop internal bleeding from injured capillaries and blood vessels
 - Keep damp or dry cloth between skin and ice pack
 - Do not apply ice for longer than 15 to 20 minutes at a time
 - For 3 days after injury
 - Apply every hour for 10 to 20 minutes
 - Apply ice after 3 days as long as pain or inflammation persist
 - Apply at least 3 times throughout the day for 15 to 20 minutes
 - **Compression**
 - Hastens healing time by reducing swelling around injury
 - Decreases seeping of fluid into injured area from adjacent tissue
 - Use elasticized bandage, compression sleeve, or cloth
 - Wrap injured part firmly
 - Do not impair blood supply
 - Too tight of compression may cause more swelling
 - Wrap over ice
 - Loosen the bandage if it gets too tight
 - **Elevation**
 - Elevate injured part above level of heart
 - Decreases swelling and pain
 - Use objects and pillows for props
 - Some texts advocate PRICES (P=Protection, S=Support)

Medication

- Some doctors may recommend the use of a non-steroid anti-inflammatory such as ibuprofen through out the duration of the injury.
- Check with your physician.

Heat Treatment

- Causes delay in healing if applied too soon after an injury
 - Wait at least 72 hours (3 days)
 - Wait until swelling is gone
 - Some experts recommend going back and forth between cold and heat treatments.

Management of Inflammation

- decrease healing time
- decrease scar tissue formation
 - decrease chances of reinjury

Recovery

- There will be a prolonged healing time if usual activities are resumed too soon
- Proper care and sufficient healing time before resuming activity should prevent permanent disability if it is a first time injury.
- If it is a repeat injury, complications are more likely to occur.
- Also see [Dealing with Injury](#).

Strain

Injury to the muscle or tendon. Pain with moving or stretching the affected muscle or muscle spasms. Acute strains are caused by over stress or direct injury. Chronic strains are caused by overuse.

- Mild strain (Grade I):
 - Slightly pulled muscle with no tearing of muscle or tendon. No loss of strength
 - Ability to produce strong yet painful muscle contractions
 - Requires self care through rehabilitation after doctor's diagnosis
 - Average healing time: 2 to 10 days
 - Moderate strain (Grade II):
 - Tearing of muscle, tendon or at the bone attachment
 - Weak and painful attempts at muscular contraction
 - Requires physical therapy after doctor's diagnosis
 - Average healing time: 10 days to 6 weeks
 - Severe strain (Grade III):
 - Rupture of muscle-tendon-bone attachment with separation
 - Extremely weak yet painless attempts at muscular contraction
 - Requires surgical repair and physical therapy after doctor's diagnosis
 - Average healing time: 16 to 10 weeks
-

Sprain

Violent overstretching of ligament in a joint. Pain, tenderness, swelling or bruising at joint.

- Mild strain (Grade I):
 - Tearing of some ligament. No loss of function
 - Requires self care through rehabilitation after doctor's diagnosis
 - Average healing time: 2 to 6 weeks
 - Moderate strain (Grade II):
 - Rupture of portion of ligament resulting in some loss of function
 - Requires physical therapy after doctor's diagnosis
 - Average healing time: 6 to 8 weeks
 - Severe strain (Grade III)::
 - Complete rupture of ligament or complete separation of ligament from bone. A sprain-fracture occurs when the ligament pulls loose a fragment of bone
 - 1+ Joint surfaces displaced 3-5 mm
 - 2+ Joint surfaces displaced 6-10 mm
 - 1+ Joint surfaces displaced 10+ mm
 - Requires surgical repair and physical therapy after doctor's diagnosis
 - Average healing time: 8 to 10 weeks
-

Injury Information

- Acute (traumatic injury)
- Chronic (overuse injury)
 - Account for more than 50% of injuries in primary care practices
 - Classification Stages:
 1. Pain after activity only
 2. Pain during activity. Does not restrict performance
 3. Pain during activity. Restricts performance
 4. Chronic persistent pain, even at rest

See a qualified physician if you have an injury. Only a physician can give diagnosis and prescription for injury. Educate yourself about your injury. See [medical links](#). One starting place on the internet is the Merck Manual's Orthopedic Injuries. A medline or PubMed search can give you ideas about your condition and therapeutic modalities. Several medline links can be found on the ExRx.net. A university library will provide a wealth of information. You may not be able to checkout resources if you are not a student, but you can read and copy materials.

First Aid for Athletic Injuries

Cuts, Scrapes and Bruises

Cuts, scrapes and bruises are everyday occurrences in many sports. Most are obviously minor and can be treated with simple first aid. The objectives in treating these minor injuries are to:

1. Stop the bleeding
2. Clean the wound thoroughly; and
3. Protect the wound.

The Bloody Nose

A bloody nose often can be a tough problem. The correct way to stop the bleeding is to have the athlete sit down and firmly pinch his or her nostrils shut for several minutes.

Strains and Sprains

Athletic competition often results in injury to muscles, tendons or ligaments. A *strain* is an injury to a muscle or tendon; a *sprain* is an injury to a ligament. When athletes sprain an ankle, they have injured the ligaments. When athletes pull a hamstring they have strained the muscle or tendon.

The first goal of treating a strain or sprain is to limit the swelling in the hours following the injury. The muscle or joint is not recovered until all the swelling is gone. If you can limit this swelling by proper first aid, the athlete will return to play more quickly. Proper first aid is the immediate application of *ice*.

To help you remember the proper sequence of first aid for athletic injuries, just remember the word ICE:

ICE

- ✓ Ice
- ✓ Compression
- ✓ Elevation

Stop the Bleeding

First, put on gloves!

Cuts and some scrapes may bleed freely. Cuts around the head are often prone to profuse bleeding. Also, athletes with an injured artery can lose a large amount of blood. Arterial bleeding can be recognized by the spurting or pumping of blood from the wound. The proper technique to stop bleeding is to apply **direct pressure** to the wound by firmly holding a clean dressing against it. If you are unable to stop the bleeding with direct pressure, seek medical assistance immediately. To stop bleeding from a tongue that has been bitten, gently hold a clean dressing on the cut. Keep the athlete sitting up so that he or she doesn't choke on the blood or swallow excessive amounts.

CE

- ✓ Ice
- ✓ Compression
- ✓ Elevation
- ✓

Ice is one of the most important parts of an athletic first aid kit. Regular cube ice or crushed ice can be placed in plastic bags and easily stored for ready use in a small cooler. (Commercially prepared ice packs are not as good as plain ice and are an unnecessary expense.) The bag of ice should be placed over a couple layers of an elastic bandage and wrapped over the injury.

COMPRESSION

Compress the injured area by gently wrapping the ice bag in place with the remainder of the elastic bandage. The wrapping should be gentle and firm but not tight. If the elastic bandage is wrapped too tightly, you may cut off circulation to the underlying skin which, because of the ice, could produce frostbite.

ELEVATION

Elevate the injury after the ice and elastic wrap have been applied. The injured limb should be propped up so that it rests higher than the heart. This allows any fluid that is collecting to drain away.

After providing first aid, have a doctor see the athlete to evaluate the injury. The sooner the athlete is seen the better the doctor can

Ice, compression and elevation also are good first aid for large bruises, especially on large muscles.

Heat Injury

Heat injury is a life-threatening condition! If one of the athletes collapses after exertion in a hot environment, you must act quickly. Symptoms the athlete may exhibit prior to collapse are:

- ✓ Dry, hot skin with not sweating (not always)
- ✓ Confusion
- ✓ Dizziness
- ✓ Chills on the chest

If you see or an athlete describes any of these symptoms, you must cool him or her immediately.

If the athlete is conscious:

1. Remove any head gear and other heavy clothing.
2. Douse with cold water, ice or ice towels.
3. Give cool liquids by mouth.
4. If improvement is not quick, GET HELP.

If the athlete is unconscious:

1. Remove clothes.
2. Cool by packing body with ice, towels, or douse with cold water.
3. Do not give liquids by mouth.
4. Call an ambulance.
5. Give CPR if athlete stops breathing.

The Unconscious Player

Being knocked unconscious is a serious injury and requires immediate medical assistance. First aid should be limited to making sure that the athlete is breathing and that his or her mouth and throat are clear of turf, blood or vomit. If the mouth and throat are not clear, clear them out with your

finger. Administer CPR if the athlete stops breathing.

Be careful about moving the athlete; besides having a concussion, he or she may also have a neck injury. When the athlete becomes conscious, keep him or her quiet and in place until seen by a doctor or paramedic.

Key points to Remember

1. Have a “game plan” so you know who to call, how to call, and what to do in case of a serious injury.
2. Remember to bring ice to practice as well as games. 2/3 of injuries occur during practice.
3. The essentials of wound care are:
 - Stop the bleeding
 - Cleanse the wound
 - Protect the wound
4. Remember and practice the ABC’s of ICE.
5. Know and practice CPR.

What is a Dislocation?

A dislocation occurs when the bones that are usually be connected at a joint separate. You can dislocate a variety of different [joints](#) in your body, including your [knee](#), hip, ankle, or [shoulder](#).

Since a dislocation means your bone is no longer where it should be, you should treat it as an emergency and seek medical attention as soon as possible. An untreated dislocation could cause damage to your ligaments, nerves, or blood vessels.

What Causes Dislocations?

Dislocations typically result when a joint experiences an unexpected or unbalanced impact. This might happen if you fall or experience a harsh hit to the affected area. Once a joint has been dislocated, it is more at risk for dislocations in the future.

Who Is at Risk for Dislocations?

Anyone can dislocate joint if he or she has a fall or suffers some other type of trauma. However, elderly people tend to have a higher risk, especially if they lack mobility or are less able to prevent falls.

Children can also be at a greater risk for dislocations if they are unsupervised or play in an area that has not been childproofed. Those who practice unsafe behavior during physical activities put themselves at higher risk for accidents, such as dislocations, as well.

If you dislocated a joint in the past, the affected area could be more vulnerable to that injury in the future.

Recognizing a Dislocation

In many scenarios, you will be able easily to see a dislocation when it has occurred. The area may be swollen or look bruised. You may notice that the area is red or discolored. It may also have a strange shape as a result of the dislocation.

Some of the other symptoms associated with dislocated joints include:

- loss of motion
- pain during movement
- numbness around the area
- tingling feeling

Diagnosing a Dislocation

It may be difficult to determine whether your bone is broken or just dislocated. You should arrange an exam with your doctor as soon as you can.

Your doctor may move the affected area around to check your range of motion. If your doctor believes that you have a [broken bone](#), he or she may request an MRI or X-ray to be taken. These imaging tools will enable your doctor to see exactly what is going on in your joint.

Treating Dislocations

Your doctor's choice of treatment will depend on the joint that you may have dislocated. It may also depend on how severe your dislocation is. According to Johns Hopkins University, initial treatment for any dislocation involves R.I.C.E.—Rest, Ice, Compression, and Elevation. In some cases, the dislocated joint might go back into place naturally after this treatment ([Johns Hopkins](#)).

If the joint does not return to normal naturally, your doctor may use one of the following treatments:

- manipulation or repositioning
- immobilization
- medication
- rehabilitation

Manipulation

In this method, your doctor will manipulate or reposition the joint back into place. You will be given a sedative or anesthetic to remain comfortable and also to allow the muscles near your joint to relax, which eases the procedure.

Immobilization

Once your joint has returned to its proper place, your doctor may ask you to wear a sling or splint for several weeks. This will prevent the joint from moving and allow the area to fully heal. The length of time your joint needs to be immobilized will vary, depending on the location of the injury and how severe it is.

Medication

Most of your pain should go away once the joint is returned to its proper place. However, your doctor may prescribe a pain reliever or a muscle relaxant if you are still feeling pain.

Surgery

You will need surgery only if the dislocation has damaged your nerves or blood vessels, or if the doctor is unable to return your bones to the joint. Surgery may also be necessary for those who often dislocate the same joints, such as their shoulders.

Rehabilitation

Rehabilitation begins after the joint has been properly repositioned or manipulated into the correct position and the sling or splint has been removed (if you needed one). Your doctor will work with you to devise a rehabilitation plan that best works for you. The goal of rehabilitation is to gradually increase the joint's strength and rebuild its range of motion. Remember, it's important to go slowly, so you don't reinjure yourself before the recovery is complete.

Typical Recovery Outcomes for Dislocations

Every dislocation has its own unique healing time. Most people experience a full recovery in several weeks. For some joints, such as hips, full recovery may take several months.

If the dislocation was treated as soon as it occurred, chances are that it will not worsen into a permanent injury. However, it is important to remember that the area will be weakened and is at a greater risk to become dislocated in the future.

The healing time will also be longer if blood vessels or nerves were damaged in the dislocation. If the dislocation is severe or is not treated in time, there may be permanent problems such as persistent pain or the cell death of parts of bone around the joint.

Preventing Dislocations and Accidental Injury

Dislocations can be prevented if people practice safe behavior. Methods for preventing dislocations vary depending on the age you are focusing on. However, general tips to prevent dislocations include:

- Use handrails when going up and down staircases.
- Keep a first aid kit in the area.
- Use nonskid mats in wet areas, such as bathrooms.
- Move electrical cords off of the floors.

To prevent children from possible dislocations, consider practicing the following:

- Teach children safe behaviors
- Watch and supervise children as needed.
- Ensure that your home is childproof and safe.
- Put gates on stairways to prevent falls.

If you are an adult and want to protect yourself from dislocations, you should:

- Wear protective gear or clothing when doing physical activities, such as sports.
- Remove throw rugs from your floor, or replace them with nonskid rugs.
- Avoid standing on unstable items, such as chairs