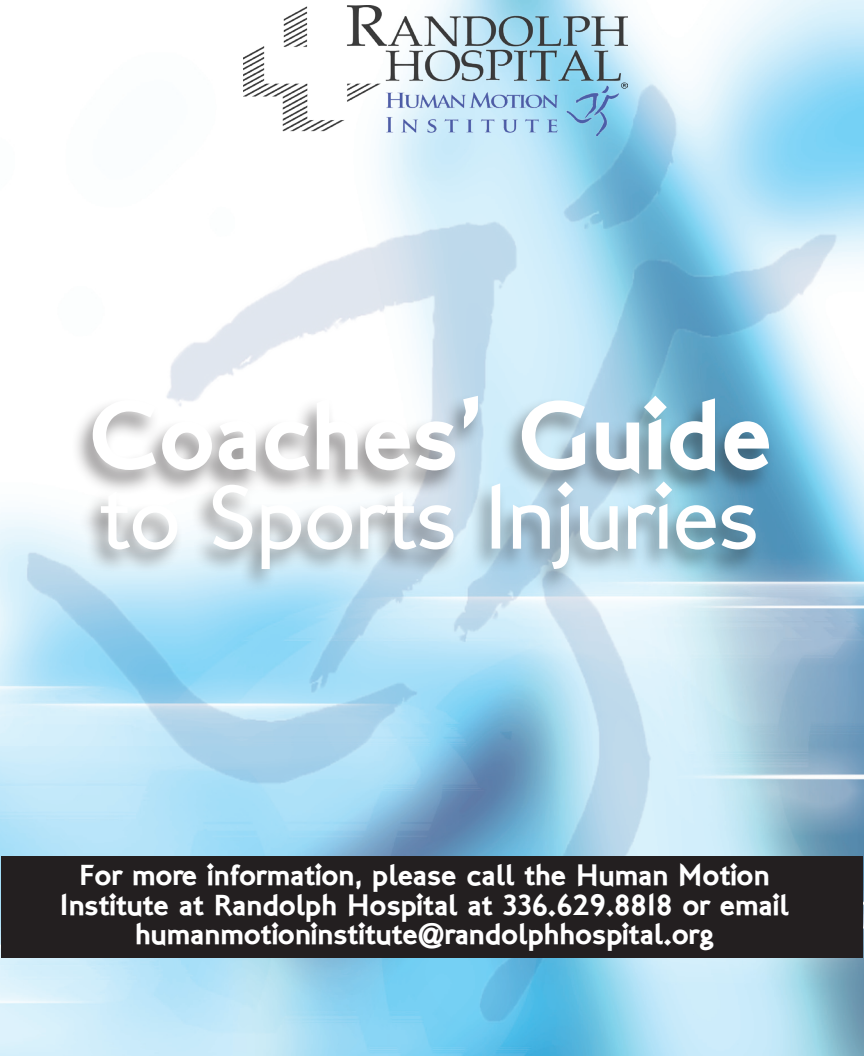




# Coaches' Guide to Sports Injuries

For more information, please call the Human Motion Institute at Randolph Hospital at 336.629.8818 or email [humanmotioninstitute@randolphhospital.org](mailto:humanmotioninstitute@randolphhospital.org)

# Coaches' Guide To Sports Injuries

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## I. WHAT DO I DO WHEN MY ATHLETE IS INJURED?

### **1. RECOGNIZE SEVERITY OF INJURY**

- Do not do anything that may cause additional injury. Move the injured person only if you must to prevent further injury, or to initiate CPR, or after you have determined it is safe to do so.
- Recognize emergencies or other serious injuries that need the immediate attention of paramedics or an ambulance.
- Recognize injuries that need immediate care by professional medical personnel, but are not life-threatening in nature.
- Recognize injuries that exclude the athlete from continued participation.

## **2. EVALUATE THE INJURY**

- Is he/she breathing?
- Is he/she unconscious, conscious, or semi-conscious?
- Is the athlete's head, neck, trunk, or limb in an unusual position that may indicate fracture, dislocation, or other injuries?
- Look for profuse bleeding or swelling.
- Ask the injured athlete the following questions:

- 1) Exactly where are you injured?
- 2) How did it happen?  
(Ex: Athlete fell on outstretched arm/turned ankle when running)
- 3) Did you hear any sound such as a tear, rip, snap, or pop?
- 4) Where is your pain and exactly what type of pain are you experiencing?  
(sharp, dull, aching, throbbing)
- 5) Are you experiencing any tingling or numbness anywhere in your body?

While asking these questions observe the following:

- 1) Is he/she able to communicate easily or is he/she anxious and difficult to calm down?
- 2) Look for deformities or abnormal body positions.
- 3) Is the injured area swelling up immediately? Is there bleeding?

## **3. WHEN TO CALL AN AMBULANCE**

- When you suspect a neck or spine injury. The athlete may have a loss of sensation or is unable to move body parts.)
- When an athlete is not breathing. The athlete's chest is not rising, he or she is turning bluish in color and there is no air exchange.
- You suspect a severe or serious head injury.
- When you suspect heatstroke. The athlete may become disoriented or confused, there is an absence of sweating, and the skin is flushed and warm.
- Spleen injury. The signs of a spleen injury are severe abdominal pains

which could become worse; the athlete may have pain in the shoulder region, usually on the left side. Earlier signs: athlete is pale and has a rapid pulse.

- Severe bleeding. Bleeding that cannot be controlled through direct pressure.
- Cardiac arrest. Athlete could go into cardiac arrest from a severe blow to the heart, for example, from a hockey puck or respiratory arrest.
- Abnormal position of extremity or if you suspect a fracture that you are unable to immobilize to transport to hospital. Examples include a dislocated ankle or displaced leg fracture.

#### **4. WHEN TO SEND ATHLETE TO A DOCTOR/HOSPITAL**

Send the injured athlete immediately to the hospital or doctor when:

- The injury results in immediate or obvious inflammation or swelling.
- It involves a wound or external bleeding from a laceration or incision that requires stitches.
- There is a suspicion of possible concussion. The athlete experiences loss of consciousness, visual disturbance, inability to walk correctly, disorientation, and memory loss.
- You are unsure of the extent of the injury. Always protect your athlete and yourself. PLAY IT SAFE!

#### **5. TREATMENT FOR COMMON MINOR INJURIES**

- Injuries such as muscle strains, minor cuts and abrasions, and bruises can be treated on the field. Minor injuries usually won't keep the athlete from competing, but should be dealt with before returning to activity. If an athlete has suffered a minor injury but appears to be reluctant to return to the activity, do not force the athlete back into the game or practice. If an athlete's attention is more focused on the injury than the activity, he/she runs a higher risk of further injury.
- Clean all open wounds with an antiseptic and bandage to protect from further injury and infection.

- Treat injuries to muscle regions with ice and a compression wrap. Return to activity should be based on whether the athlete is able to run, cut and compete normally. If he or she limps when running or cutting, or level of play appears to be altered, the athlete should be removed from the contest or practice for some rest.
- Minor ligament sprains and muscle strains should be treated using ice, then bandaged with an elastic wrap and elevated.

## II. OTHER THINGS YOU SHOULD KNOW

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### A. CONTENTS OF YOUR FIRST AID KIT

- Band-Aids (Sizes  $\frac{3}{4}$ " x 3", XL 2" x 4-1/2")
- Sterile gauze pads 4" x 4"
- Antiseptic cleansing agent
- Bandage scissors
- Nail clipper
- Tweezers
- Cold packs/ice
- Mirror
- Contact case/solution
- Latex gloves
- Cotton swabs
- 1-1/2 athletic tape and underwrap

### B. FIRST AID TREATMENT OF INJURIES

#### 1. R.I.C.E.

Rest • Ice • Compression • Evaluation

Ice is generally the first line of defense for treating injuries. Ice is appropriate for acute injuries (sudden onset of injury). Ice should be applied in intervals between 10 and no more than 20 minutes and if possible, secured with an elastic wrap. Elevate the injured area after you have secured the ice in place. Continue to ice until the inflammation is gone. APPLYING HEAT TO AN INFLAMED

## AREA CAN MAKE THE INJURY WORSE!

2. **WOUNDS:** Clean all open wounds like cuts, scrapes, or lacerations with an antiseptic cleaning agent and a gauze pad (never cotton balls). Cover with bandage and secure. Cleaning wounds thoroughly and as soon as possible is important for the prevention of infection.

3. **WRAPS:** Elastic wraps are very helpful in controlling inflammation, securing ice with compression, and securing bandages, especially when an athlete is returning to activity. Begin application below the injury site, working the wrap over the injury and finishing above the site of injury. If toes or fingers become numb or tingle, the wrap is too tight and should be reapplied. Please note that elastic wraps are excellent for applying compressive forces to an injury but do not provide enough support to protect or prevent injuries.

## C. HOT WEATHER ILLNESS

### 1. DESCRIPTION

- a) **HEAT CRAMPS:** Painful cramps and spasms of active muscles – most common in the calf muscles, caused by intense prolonged exercise in the heat and depletion of water and salt due to sweating.
- b) **HEAT FATIGUE:** Feeling of weakness and tiredness caused by depletion of water and salt due to exercise in heat.
- c) **HEAT EXHAUSTION:** Characterized by extreme weakness, exhaustion, headache, dizziness, profuse sweating and sometimes unconsciousness caused by an extreme loss of water and salt. The key difference between heat exhaustion and heat stroke is sweating.
- d) **HEAT STROKE:** THIS IS A MEDICAL EMERGENCY! Signs and symptoms are a lack of sweating, disorientation, seizures, and possible unconsciousness. It can occur suddenly without signs and symptoms. Athlete may become unconscious with hot, dry skin. **SUMMON AN AMBULANCE IMMEDIATELY!**

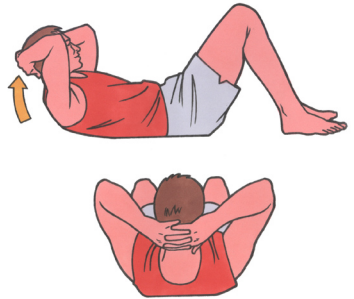
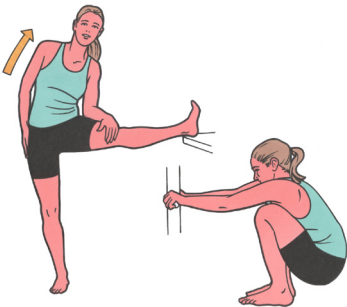
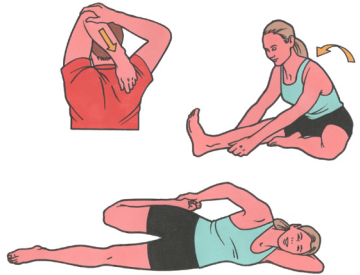
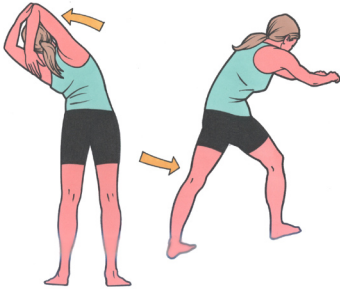
## 2. PRECAUTIONS AND PREVENTIONS:

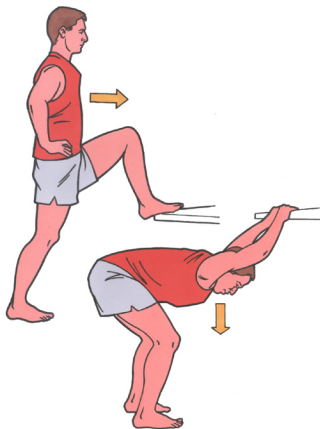
- a) Know your athlete's past medical history concerning heat illness. Has he or she ever suffered from heat illness or are there any other medical conditions that may predispose the athlete to a heat illness? With younger athletes, obtain this information from parents.
- b) Be aware that poorly-conditioned athletes are more susceptible to heat illness.
- c) Other athletes who are susceptible are those that are overweight, who sweat profusely, and athletes who constantly compete at full capacity.
- d) General signs of heat illness are nausea, incoherence, fatigue, weakness, vomiting, cramps, weak/rapid pulse, visual disturbance and unsteadiness.
- e) Allow athlete to drink as much water as he/she would like. Keep ice cold water available because cold water is absorbed by the body quicker than warm water.
- f) Keep cool, moist towels available that may be used to cool athlete.

## D. WARM-UPS AND STRETCHING

1. A general warm-up and stretching program prior to practice or games should take place for a minimum of (15) fifteen minutes.
2. Stretching should be done slowly without bouncing. Here's how to do it: Stretch until you feel a slight, easy stretch and hold this for 10 to 30 seconds. As you are stretching, the feeling of tension will ease up. After holding the easy stretch, move a little bit further until you feel the mild tension again. Hold this stretch for 10 to 30 seconds. Repeat this procedure a third time. Remain relaxed but concentrate on the area being stretched. This will help to prepare muscles for activity as well as improve flexibility. Repeating the above in cool-down is important in reducing post-exercise soreness.







## E. SAFE EQUIPMENT

1. It is the coach's responsibility to make sure playing surfaces and areas are safe for games and practices.
2. Make sure that all equipment not being used during play or practice is a safe distance away from playing areas.
3. On outdoor, grassy playing surfaces, the field should be checked for holes that could cause injury.
4. All unmoving surfaces with which an athlete could come in contact should be properly padded in case of collision.

**\*ANY STRENGTHENING EXERCISE DONE BY ATHLETE FOLLOWING AN INJURY AS A PART OF REHABILITATION SHOULD BE DONE IN A PAIN FREE RANGE.**

**PLEASE CONSULT AN ON STAFF SPORTS MEDICINE PHYSICIAN PRIOR TO INCLUDING THE REMAINING CONTENT. YOU MAY ALSO OMIT THIS INFORMATION.**

## III. COMMON ATHLETIC INJURIES

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### ANKLE SPRAINS

- Symptoms - Sharp pain in the ankle region, usually the outside. Usually occurs from turning or twisting the ankle on an uneven surface or by stepping on another individual's foot. Swelling and discoloration to the ankle region is common.
- First Aid - Ice should be applied to ankle region and secured with an elastic wrap. Ice should remain on for 15-20 minutes while ankle is elevated. Icing should be done 3-5 times per day until inflammation and pain subside.
- Prevention - Ankle braces such as canvas lace-up braces, air casts, or gel casts are beneficial in prevention of further injury. Proper warm up including ankle rotation and calf stretching is helpful and may prevent further injury.

## **ARCH & HEEL PAIN**

- Symptoms - Pain along the bottom of the foot extending from the heel to the area just behind the toes. Symptoms vary from sharp pains to a constant ache. Pain may occur with the first couple steps or with prolonged activity. People with flat feet are susceptible to arch and heel pain.
- First Aid - Ice. Rest. If symptoms do not subside with above treatment, seek help from a medical doctor. Avoid doing activities that aggravate symptoms.
- Prevention - Proper footwear. Stretch out calf muscles well before beginning activity. Insoles or arch supports may be beneficial.

## **BACK PAIN & INJURIES**

- Symptoms - Back injuries that occur during practice or game competition should be evaluated for numbness and tingling that radiates into the buttocks or lower leg. If symptoms are present, treat as a serious injury and call an ambulance. Other symptoms that occur in potentially serious back injuries are extreme pain, inability to move body parts such as legs or feet, or a loss of consciousness. Muscle strains or spasm can also occur but are usually not serious.
- First Aid - Call ambulance for a potentially serious back injury. For muscle strains, spasms, or bruises, treat with ice. Avoid sitting if possible. Ask the athlete to lie down in the position most comfortable.
- Prevention - Proper warm-up by doing low back stretching and hamstring stretching. Wear protective padding or clothing in contact sports. In the weight room, maintain proper lifting techniques and wear a weight lifting belt. Maintaining good posture and doing low back strengthening exercises are helpful.

## **BLEEDING CUTS & SCRAPES**

- Symptoms - Bleeding, inflammation, pain.
- First Aid - Gloves and gauze pads. Always apply gloves when dealing with any injury involving blood. For severe or significant bleeding apply direct pressure. Use a sterile dressing if one is available; if not, use a cloth or even use your hand over the wound site to control bleeding. If the bandage

soaks through with blood just place another bandage over the top of the existing bandage. Never remove bandage once it is in place when attempting to control bleeding. For severe bleeding seek emergency care. For minor cuts, scrapes and bleeding clean area with antiseptic and bandage.

- Prevention - Protective padding or clothing.

## **BLISTERS**

- Symptoms - Hot, red spots or raised area of skin filled with clear or bloody fluid. Often very painful. Usually occur on the hands and feet.
- First Aid - Ice area of blister to control pain. Do not open or “pop” blisters. You run the risk of infection by attempting to do this. If blister is open or torn, clean the wound with an antiseptic and apply an antibiotic cream and bandage.
- Prevention - When participating in sports/activities, wear two pairs of socks. Properly-fitting shoes will help to eliminate blisters. Vaseline and a bandage will help to reduce friction. A felt donut pad will help to protect existing blisters. Sports-specific gloves will help reduce blisters on hands.

## **CALLUSES**

- Symptoms - Generally found on the ball and heel of the foot and are a thickening of the skin caused by friction. Blisters usually are not painful but if they develop underneath a callus that would be painful. They’re common on the hands in golf, softball, and baseball from gripping the bat or club too tight.
- First Aid - Can be removed with pumice stone or callus emery file. This should be done following a shower. A skin softening lotion should be applied after filing the callus.
- Prevention - Same as for blisters.

## **CONCUSSION**

- Symptoms - The athlete is disoriented, complains of a headache, dizziness, nausea, vomiting, impaired vision, memory loss, unconsciousness (momentary or prolonged), or ringing in ears. Athlete may have one or more of the above symptoms. The more symptoms occurring, the more

serious the concussion. Be aware that an athlete can sustain a concussion without loss of consciousness.

- First Aid - Do not allow athlete with suspected concussion to return to action. If athlete has several symptoms or symptoms persist, insist that athlete seek medical attention. Even if athlete appears to return to a normal state quickly, continue to monitor athlete for symptoms that may occur later.
- Prevention - Wear properly-fitting protective head gear when appropriate.

## **FINGER DISLOCATION**

- Symptoms - Obvious visible, painful deformity of finger. Athlete will be unable to move finger.
- First Aid - Apply ice. Transport to medical facility for appropriate treatment. Do not attempt to reduce the dislocation yourself because there is a risk of making the injury more serious.
- Prevention - When returning to activity following a dislocated finger, the injured finger should be buddy-taped to an adjacent finger.

## **HAMSTRING PULL**

- Symptoms - Pain in the back of the thigh, ranging from mild to severe. In severe hamstring strains, athlete may be unable to bend or extend knee, and within a couple days of injury bruising may become apparent on the back of the leg.
- First Aid - Immediately following injury, ice with compression using a cold, wet elastic wrap. Encourage gentle stretching to help prevent loss of flexibility.
- Prevention - Proper stretching before and after activity. Do not make abrupt stops when running or sprinting. Avoid overstriding. Maintaining good flexibility is important.

## **JAMMED OR SPRAINED FINGER**

- Symptoms - Tenderness at finger joint with swelling that occurs rapidly. The athlete will be unable to bend or straighten finger.

- First Aid - Ice. Tape finger to adjacent finger to protect from further injury.
- Prevention - When athlete returns to activity after spraining a finger, it should be protected by buddy taping it to adjacent finger

## **JUMPER'S KNEE/PATELLAR TENDINITIS**

- Symptoms - Occurs in athletic activities that involve repetitive jumping. Pain is usually at the bottom of the knees. There may be a feeling of catching or giving way. There could be some swelling over the site of pain. This injury can occur in stages. Stage I: Symptoms only after activity. Stage II: Symptoms during and after activity. Stage III: Symptoms present all the time.
- First Aid - Ice after activity as well as through the day. Ice or heat before activity depending on athlete preference. A Neoprene knee support may be beneficial. If symptoms are present all the time, seek medical attention.
- Prevention - Advocate proper warm-up and cool-down. Good hip, knee, ankle flexibility goes a long way. Work on hamstring, thigh, and calf stretching.

## **LIGAMENT (JOINT) SPRAINS**

- Symptoms - Ligament sprains are classified into three groups. First Degree: A mild sprain with pain, mild disability, mild tenderness to the touch, little or no swelling. Second Degree: A moderate sprain with pain, moderate disability, joint tenderness, some loss of function, swelling, and bruising. Third Degree: A severe sprain, pain, severe disability, loss of function, possible deformity, severe swelling, and bruising.
- First Aid - Ice, compression with elastic wrap, and elevation. Rest until normal function returns. For second and third degree sprains, ice with compression using an elastic wrap. Elevate and seek medical attention for further evaluation.
- Prevention - For previous injury, preventative bracing may be helpful. Strengthening and flexibility exercises are helpful in prevention and rehabilitation.

## **OSGOOD SCHLATTERS DISEASE**

- Symptoms - This is a knee injury that usually occurs in kids between 9-13 (rapid growth period) and is more common in boys than girls. Swelling and pain just below the knee are the most common symptoms. A lump may begin to form just below the knee. Young athletes usually have to discontinue activity due to pain. Symptoms can last several months.
- First Aid - Ice to control pain. Seek medical attention. Doctor should set guidelines for safe activity. Rest usually resolves symptoms.
- Prevention - This condition is a result of a rapid growth spurt. There is little to prevent its occurrence. Athlete may want to wear a knee pad following return to activity to protect area from contact, especially if a lump formed below the knee.

## **SHIN PAIN/SHIN SPLINTS**

- Symptoms - Pain that runs along the front of the lower leg, especially in the bottom half. Pain is usually worse while athlete runs and will let up with time, but returns toward the end of activity. Swelling in lower legs may occur. This condition is common in people with flat feet or high arches.
- First Aid - Ice or cold whirlpool. Compression wrap.
- Prevention - Ensure proper stretching before and after activity and proper footwear. For runners, increase mileage gradually and avoid running hills or crowned surfaces. Cut back on mileage or weight bearing activities until symptoms subside.

## **SHOULDER DISLOCATION**

- Symptoms - Athlete is usually aware that shoulder is dislocated and will be extremely anxious and experience severe pain. A deformity of the shoulder will be present with a flattened upper arm and prominent shoulder bone. Numbness and tingling may be present down arm and hand.
- First Aid - Seek medical attention as quickly as possible. Allow athlete to put arm in most comfortable position. DO NOT attempt to reduce the dislocations as you can very possibly cause nerve damage or other complications.

- Prevention - Because this is an injury that most often occurs in football when the athlete attempts to make an arm tackle you should emphasize proper tackling techniques.

## **SHOULDER SEPARATIONS**

### **(ACROMIOCLAVICULAR JOINT INJURY)**

- Symptoms - Severe pain and drooping of injured shoulder. Collar bone on injured side may be protruding or riding higher when compared to uninjured side.
- First Aid - Seek medical attention as quickly as possible. Let athlete put arm in most comfortable position. DO NOT attempt to move the athlete's arm or shoulder. If the athlete is in severe pain or distraught, call an ambulance.
- Prevention - Wear appropriate protective equipment.

## **SHOULDER BRACHIAL PLEXUS LESION**

### **(also known as STINGER, BURNER, NERVE PINCH)**

- Symptoms - Occurs primarily in football or hockey when the player's head is forced to one side and the shoulder is pushed down opposite the head. Characterized by a burning, stinging, or numbness sensation from the shoulder to hand. Pain and weakness in the injured shoulder/arm may last from a few minutes (minor) to months (severe).
- First Aid - For a minor injury ice and rest until symptoms completely subside. For a more severe injury (when pain, numbness, and weakness do not subside) follow up with medical attention. The athlete may be placed in a sling.
- Prevention - In football, a neck collar that attaches to the shoulder pads helps reduce this injury.

## **STRESS FRACTURES**

- Symptoms - Pain which occurs during activity but subsides when rested. If athlete continues to participate in athletics the pain will continue longer after activity and possibly become worse at night. Swelling may occur,

usually after activity. Tapping the bone at the site of the fracture is often very painful.

- First Aid - Rest and ice will help control pain. Seek medical attention, especially for guidelines on return to activity. When returning to activity, resumption of training should be gradual.
- Prevention - Decrease repetitiveness of movement that is causing pain. For runners, proper running shoes are necessary. Avoid surfaces that are crowned, hard, or uneven. Stress fractures at different sites may require different treatment.

## **SWIMMER'S EAR**

- Symptoms - When water becomes trapped in the external auditory canal an infection can develop that causes itching or an intensely painful ear.
- First Aid - Seek medical attention. If left untreated the infection can spread to the middle ear causing a loss of hearing and/or balance disturbances.
- Prevention - Take care in making sure the ear is dried out after swimming. This can be done by using a hair dryer or shaking the ear to the side. DO NOT stick cotton tipped applicators in the external ear canal. Ear drops containing boric acid or ethyl alcohol applied several times a week may also be helpful.

## **TENDINITIS**

- Symptoms - Generally a result of overuse. Tendons attach muscle to bones. Tendinitis occurs where the tendon attaches to the bone. It is caused by friction between bone and tendon which leads to inflammation. Initially the pain begins after activity and resolves with rest but if left untreated it will progress to continuous pain during and after activity.
- First Aid - Ice. Rest. Gradual resumption of activities. If pain has reached a continuous stage, seek medical attention.
- Prevention - Practice proper warm up before and after activity. Do strengthening and flexibility exercises within a pain-free range.

## **TENNIS ELBOW**

- Symptoms - Pain over the bone on the outside of the elbow. Pain may radiate down the forearm. Pain is worse when the wrist is bent back.
- First Aid - Rest, ice, and a tennis elbow strap. Seek medical attention if treatment doesn't help.
- Prevention - Make sure your athlete uses proper techniques. Proper warm up, cool-down and strengthening exercises will help prevent this injury.

## **TOOTH DISLOCATION**

- Symptoms - Tooth has been knocked out.
- First Aid - If possible replace tooth in its socket or under tongue if athlete is alert and cooperative. If tooth cannot be replaced, it should be placed in a container filled with milk or saline solution. Take the athlete and the tooth as quickly as possible to a dentist.
- Prevention - Wear a mouth guard. In any sport that has a high incidence of contact it is appropriate to wear a mouth guard. Mouth guards are also beneficial to reducing the incidence of concussion.

## **TURF TOE (GREAT TOE SPRAIN)**

- Symptoms - Pain at the base of the great toe. This may be accompanied by swelling and bruising. Walking will be very painful. This injury usually occurs when athlete's big toe is bent too far.
- First Aid - Ice. Using crutches will also help relieve pain.
- Prevention - Wear shoes with a firm sole and good fit.

## **WIND KNOCKED OUT**

- Symptoms - Following a blow to the mid-section an athlete is unable to inhale because the diaphragm is momentarily paralyzed. Athlete is usually very apprehensive.
- First Aid - Help the athlete overcome apprehension by speaking confidently to him/her. Loosen the athlete's belt or clothing around waist. Encourage relaxation by having athlete take short inspirations and long expirations. If symptoms don't subside within a few minutes, seek medical help.



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