

**TIP OF THE MONTH**

CONTUSIONS OR BRUISES

ROUTINE TREATMENT AND POSSIBLE COMPLICATIONS

<b>MUSCLE CONTUSION (BRUISE)</b>	
<b>CAUSES</b>	Contusions occur when a direct blow or repeated blows from a blunt object strike part of the body, crushing underlying muscle fibers and connective tissue without breaking the skin. In soccer, contusions are common from getting kicked, in the shin, kneed in the thigh, or from a hard fall to the ground.
<b>SYMPTOMS</b>	Sometimes a pool of blood collects within damaged tissue, forming a lump over the injury (hematoma). If tissue damage is extensive, you may also have a fractured bone, dislocated joint, sprain, torn muscle, or other injuries. Contusions to the abdomen may damage internal organs. Contusions cause swelling and pain and limit joint range of motion near the injury. Torn blood vessels may cause bluish discoloration.
<b>TREATMENT</b>	The injured muscle may feel weak and stiff. To control pain, bleeding, and inflammation, keep the muscle in a gentle stretch position and use the RICE (Rest, Ice, Compression, Elevation) formula. Do not massage the injured area. If there is a large hematoma that does not go away within several days, in some cases a doctor may drain it surgically to speed healing.
<b>RETURN TO PLAY</b>	You may be able to return to contact sports when you get back your full strength, motion, and endurance. Depending upon the injury location, you may want to use special padding to spread out the force of impact when direct blows from blunt objects strike your body.
<b>COMPLICATIONS</b>	Getting prompt medical treatment and rehabilitation can help you avoid serious medical complications that occasionally result from deep muscle contusions. Two complications include compartment syndrome and myositis ossificans. <u>Compartment Syndrome</u> In certain cases, rapid bleeding may cause extremely painful swelling within the muscles. Build-up of pressure from fluids several hours after a contusion injury can disrupt blood flow and prevent nourishment from reaching the muscle group. Compartment syndrome may require urgent surgery to drain the excess fluids. <u>Myositis Ossificans</u> Young athletes who try to rehabilitate a severe contusion too quickly sometimes develop myositis ossificans. This is a condition in which the bruised muscle grows bone instead of new muscle cells. Symptoms may include mild to severe pain that does not go away and swelling at the injury site. Abnormal bone formations can also reduce your flexibility. Vigorous stretching exercises may make the condition worse. Gentle stretching exercises may improve flexibility. Surgery is rarely required.

Modified from: <http://orthoinfo.aaos.org/topic.cfm?topic=A00341>



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**TIP OF THE MONTH**

**BLISTERS**

**HOW DO YOU PREVENT THEM OR TREAT THEM?**

<b>BLISTERS</b>	
<b>CAUSES</b>	<p>Common causes of blisters include friction and burns. One warning sign that a blister is about to develop is redness and warmth on the skin called a "hot spot." Most people get blisters on the heels, soles of the feet, and palms of the hands because they rub against shoes, socks or sports equipment. This type of friction, especially in moist, warm conditions, is perfect for blister development.</p>
<b>CARE</b>	<p>If the blister is not too painful, do everything possible to keep it intact. Unbroken skin over a blister provides a natural barrier to bacteria and decreases the risk of infection. Cover a small blister with an adhesive bandage, and cover a large one with a porous, plastic-coated gauze pad that absorbs moisture and allows the wound to breathe.</p> <p>Do not puncture a blister unless it is painful or prevents you from walking or using one of your hands. To relieve blister-related pain, drain the fluid while leaving the overlying skin intact. Here is how:</p> <ul style="list-style-type: none"> <li>• Wash your hands and the blister with soap and warm water.</li> <li>• Swab the blister with iodine or rubbing alcohol.</li> <li>• Sterilize a clean, sharp needle by wiping it with rubbing alcohol.</li> <li>• Use the needle to puncture the blister. Aim for several spots near the blister's edge. Let the fluid drain, but leave the overlying skin in place.</li> <li>• Apply an antibiotic ointment to the blister and cover with a bandage or gauze pad.</li> <li>• Cut away all the dead skin after several days, using tweezers and scissors sterilized with rubbing alcohol. Apply more ointment and a bandage.</li> <li>• Call your doctor if you see signs of infection around a blister — pus, redness, increasing pain or warm skin.</li> </ul>
<b>PREVENTION</b>	<p>To prevent blisters you have to minimize friction on the skin. You can do this by wearing appropriate footwear that fits. Some moisture-wicking socks made from synthetic blends can help reduce friction and moisture on the skin of the feet. Try to avoid cotton socks because they retain moisture. If you know where you are prone to hot spots, use a physical barrier such as moleskin that will stay adhered and prevent the friction. Do not use moleskin on a blister that has already formed as it will tear the skin off once removed. Another option is to apply a generous amount of petroleum jelly or talcum powder before exercise to reduce friction or moisture.</p> <p>If you have any "hot spots" during activity, it is important to treat them right away to prevent the blister from developing. Try to keep your feet dry or change socks if possible. If you can not stop activity or change shoes, socks, gloves or other gear, your best option is to apply a dressing or petroleum jelly over the sensitive area.</p>



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## **TIP OF THE MONTH**

### MUSCLE SORENESS

#### WHAT IS IT AND WHAT CAN YOU DO TO MINIMIZE IT?

<b>MUSCLE SORENESS</b>	
<b>WHAT IS IT?</b>	<p>Sometimes (or perhaps often) a day or so after practices or games, individuals may feel pain in their muscles. This pain occurs without recollection of a specific injury mechanism. No pain may have been felt the day before, but now the hamstrings or quadriceps muscles are sore with every movement. Muscle soreness can be produced by many types of muscular activities. Movements that may produce muscle soreness include:</p> <ul style="list-style-type: none"> <li>• Movements that resist gravity or forward momentum, such as downhill running or lowering a weight. In soccer, stop-and-go movements as well as jumping and landing may cause muscle soreness.</li> <li>• Movements that resist forces exerted by stronger opponents, such as a hard tackle or repetitive shooting or kicking.</li> </ul>
<b>WHY DOES IT OCCUR?</b>	<p>Current scientific thought points toward muscle damage as the culprit in muscle soreness, though the precise mechanisms are not fully understood and continue to be researched.</p>
<b>TREATMENTS</b>	<p>Typical recommendations for treatment of muscle soreness include stretching, ice or heat, and possibly topical applications of athletic balms or creams. Each of these treatments may provide temporary relief, but none is effective for long. The use of anti-inflammatory drugs may provide some relief, but scientific studies of these effects have been equivocal.</p>
<b>MINIMIZING SORENESS</b>	<p>Since no effective treatment has been identified, training programs should be designed to minimize or prevent soreness. New training programs should be gradually and progressively increased in intensity and duration over several weeks to prevent or minimize soreness, weakness, and injury. When muscle soreness is prevalent among teammates, such as following a tournament, coaches should allow ample time for muscles to recuperate because sore muscles are usually damaged muscles. As with any damaged tissue, damaged muscles must be given time to heal. This may require adding a few easy days of training following a training day that causes marked muscle soreness.</p>



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## TIP OF THE MONTH

### PREVENTING INJURIES

#### WHAT CAN YOU DO TO PREVENT INJURIES?

<b>PREVENTING INJURIES</b>	
<b>1.</b>	Participate in a warm-up. Use general and consistent movements involving the body parts you will use for your sport. You should become physically warm to increase blood flow to the muscles and joints.
<b>2.</b>	Take time to stretch. Prior to participation, perform dynamic (movement) stretches after a general warm-up. After activity, cool-down and stretch statically (not moving).
<b>3.</b>	Be aware of field hazards and conditions. Check for holes, sprinkler heads, goal post stability, etc.
<b>4.</b>	Wear protective equipment and appropriate footwear. Consider the weather and field conditions.
<b>5.</b>	Develop proper hydration habits. Drink regularly throughout the day in preparation for activity as opposed to all at once. During exercise, drink in 15 minute intervals to maintain proper hydration levels.
<b>6.</b>	Incorporate proper nutrition. A balanced diet will provide you with the right variety of nutrients your body needs. Athletes tend to need a little more carbohydrates for their bodies' needs. Protein is important after exercise in order to aid the muscles in recovery.
<b>7.</b>	Be prepared for extreme weather conditions. Wear light weight and light colored apparel in hot weather. Wear quick drying layers in cold or wet weather.
<b>8.</b>	Utilize correct techniques. Poor technique often results in placing the body in awkward positions.
<b>9.</b>	Play within the rules of the game. Rules are created to keep players safe.
<b>10.</b>	Do not ignore injuries. Pain is the body's warning system. Playing through pain often worsens the condition. Stop playing when you experience pain that worsens.



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## **TIP OF THE MONTH**

### OPTIMAL HYDRATION

**FLUID INTAKE SUGGESTIONS TO BOOST PERFORMANCE AND AVOID ILLNESS AND INJURY:**

<b>OPTIMAL HYDRATION</b>	
<b>WHY</b>	65% of body weight is water. Every thing you do uses water- every thought, every movement, every muscle. When you exercise your body becomes hot and you sweat to cool it down. You can become dehydrated due to fluid and electrolyte loss. Electrolytes help maintain body functions such as muscle contractions.
<b>WHEN</b>	You cannot fully re-hydrate 1-2 hours before an event. You need to drink water throughout the day vs. chugging a large quantity at one time. Drink water and/or Gatorade before, during, and after practices and games, even if it is not "hot" weather.
<b>HOW</b>	Use a sports drink such as Gatorade which is formulated to help replace fluids and electrolytes. Be aware of too much carbohydrate content in some sports drinks that may not process as quickly in the body for use. Limit caffeinated drinks of any kind (read the label) before and during competition. Caffeine can have a dehydrating effect. The most scientific way to know how much fluid to replace after exercise is to weigh yourself before and after practice. Be sure to drink 2.5 cups of water for every pound lost during practice
<b>EFFECTS</b>	Being dehydrated will quickly decrease your performance by at least 10-15%. Dehydration can also play a role in muscle strain. Drinking fluids during competition will help keep your body cool and your energy high to perform at your best.



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**TIP OF THE MONTH**

ICE VS. HEAT

**MAKING THE RIGHT TREATMENT CHOICE**

<b>ICE</b>	
<b>WHY</b>	Pain relief with numbing & decreased swelling and inflammation
<b>WHEN</b>	Use for all acute (recent) injuries: contusions (bruises), strains, sprains, broken bones. It is also useful after exercise to minimize pain (including pain from chronic injuries), swelling, and muscle soreness. May be used in injury recovery/rehabilitation phase prior to therapeutic exercise to reduce pain and spasm allow better movement.
<b>HOW</b>	Apply no longer than 20 minutes once every 1-4 hour(s) = 20 min. on and at least 40 minutes off. Be sure to use a thin towel or layer if using a chemical ice pack as you can receive a frostbite burn. The skin should appear pink or red when you are done icing.
<b>TYPES</b>	Ice cubes in bag, Gel ice pack, Chemical ice pack, Cold water submersion (such as ice water in a bucket), Bag of frozen peas, Homemade mixture for own ice slush pack- Fill plastic sealable (like Ziploc®) bag with mixture of 2-3 parts water to 1 part isopropyl alcohol 2:1 or 3:1 and put in freezer. It should be slushy. If it is solid, add more isopropyl alcohol and add water if it is too slushy.
<b>EFFECTS</b>	<ul style="list-style-type: none"> <li>* Decreases feeling in area by decreasing the nerve's ability to conduct impulses</li> <li>* Decreases metabolism &amp; blood flow</li> <li>* Increases stiffness</li> <li>* Stops bleeding by causing a temporary constriction of the blood vessels</li> <li>* Decreases spasms &amp; swelling</li> </ul>

<b>HEAT</b>	
<b>WHY</b>	Reduce spasm & stiffness, increase relaxation, and aid in healing of tissues
<b>WHEN</b>	Use for chronic injuries with stiffness and spasm: tendonitis, non-traumatic neck and back stiffness, muscle strains after 72 hours (assuming no re-injury episodes). Also may be used before exercise to increase tissue blood flow and elasticity.
<b>HOW</b>	Apply no longer than 20 minutes or long enough to for the skin to become pink or red. As with ice, be sure to allow the area to return to normal skin temperature before reapplying.
<b>TYPES</b>	Heating pad, Warm wet towel, Gel hot pack, Chemical hot pack, Warm water immersion (warm bath, hot tub, etc.), Homemade hot pack: fill a cloth bag with wheat kernels and microwave for 1-2 minutes. Microwave power varies so be sure that it is not too hot for use.
<b>EFFECTS</b>	<ul style="list-style-type: none"> <li>* Increases elasticity of muscles</li> <li>* Increases cellular metabolism, which increases blood flow</li> <li>* Increased blood flow from heat helps in the healing process (once acute swelling has subsided)</li> <li>* Decreases spasms and stiffness</li> </ul>



**TIP OF THE MONTH**

REST, ICE, COMPRESSION, ELEVATION  
IMMEDIATE TREATMENT OF ACUTE (RAPID ONSET) INJURIES:

<b>REST</b>	Stop playing and decrease or eliminate activities that aggravate the injury. This allows healing to take place.
<b>ICE</b>	Apply ice for approximately 15-20 minutes to help reduce swelling. This can be done 1x/hour (20 minutes on, 40 minutes off) as needed. Ice decreases blood flow by contracting blood vessels to limit bleeding to the injury site. This helps reduce swelling and recovery time.
<b>COMPRESSION</b>	Use an elastic wrap comfortably around the injured area. This helps control swelling and may provide a small amount of support. Added swelling can prolong healing and recovery time.
<b>ELEVATION</b>	Elevate, or raise, the injured part as much as you can and still be comfortable while resting, above the heart ideally. This will help limit the swelling by reducing the amount of blood going to that area through gravity.