



Muscle Contusion (Bruise)

Athletes in all contact sports have many opportunities to get a muscle contusion (bruise). Contusions are second only to strains as a leading cause of sports injuries.

Most contusions are minor and heal quickly, without taking the athlete away from the game. But, severe contusions can cause deep tissue damage and can lead to complications that may keep the athlete out of sports for months.

Cause

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. A contusion can result from falling or jamming the body against a hard surface.

Symptoms

Contusions cause swelling and pain, and limit joint range of motion near the injury. Torn blood vessels may cause bluish discoloration. The injured muscle may feel weak and stiff.

Sometimes a pool of blood collects within damaged tissue, forming a lump over the injury (hematoma).

In severe cases, swelling and bleeding beneath the skin may cause shock. If tissue damage is extensive, you may also have a broken bone, dislocated joint, sprain, torn muscle, or other injuries.

Contusions to the abdomen may damage internal organs.

Doctor Examination

See your doctor right away for complete diagnosis. A physical examination will determine the exact location and extent of injury.

Diagnostic imaging tools may be used to better visualize inside the injured area of your body. These tools include ultrasound, magnetic resonance imaging (MRI), or computed tomography (CT) scans.

For some injuries, your doctor may also need to check for nerve injury.

Treatment

To control pain, bleeding, and inflammation, keep the muscle in a gentle stretch position and use the RICE formula:

- **Rest.** Protect the injured area from further harm by stopping play. You may also use a protective device (i.e., crutches, sling).
- **Ice.** Apply ice wrapped in a clean cloth. (Remove ice after 20 minutes.)
- **Compression.** Lightly wrap the injured area in a soft bandage or ace wrap.
- **Elevation.** Raise it to a level above the heart.

Most athletes with contusions get better quickly with simple treatment measures. Your doctor may give you nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, or other medications for pain relief. Do not massage the injured area.

During the first 24 to 48 hours after injury (acute phase), you will probably need to continue using rest, ice, compression bandages, and elevation of the injured area to control bleeding, swelling, and pain. While the injured part heals, be sure to keep exercising the uninjured parts of your body to maintain your overall level of fitness.

If there is a large hematoma that does not go away within several days, your doctor may drain it surgically to speed healing.

Rehabilitation

After a few days, inflammation should start to go down and the injury may feel a little better. At this time, your doctor may tell you to apply gentle heat to the injury and start the rehabilitation process. Remember to increase your activity level gradually.

Depending upon the extent of your injuries, returning to your normal sports activity may take several weeks or longer. If you put too much stress on the injured area before it has healed enough, excessive scar tissue may develop and cause more problems.

In the first phase of rehabilitation, your doctor may prescribe gentle stretching exercises that begin to restore range of motion to the injured area.

Once your range of motion has improved, your doctor may prescribe weightbearing and strengthening exercises.

When you have normal, pain-free range of motion, your doctor may let you return to non-contact sports.

Return to Play

You may be able to return to contact sports when you get back your full strength, motion, and endurance. When your doctor says you are ready to return to play, he or she may want you to wear a customized protective device to prevent further injury to the area that had a contusion.

Depending upon your sport, you may get special padding made of firm or semi-firm materials. The padding spreads out the force of impact when direct blows from blunt objects strike your body.

Complications

Getting prompt medical treatment and following your doctor's advice about rehabilitation can help you avoid serious medical complications that occasionally result from deep muscle contusions. Two of the more common complications are compartment syndrome and myositis ossificans.

Compartment Syndrome

In certain cases, rapid bleeding may cause extremely painful swelling within the muscle group of your arm, leg, foot, or buttock. 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.

Myositis Ossificans

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.

Rest, ice, compression, and elevation to reduce inflammation will usually help. Gentle stretching exercises may improve flexibility. Surgery is rarely required.

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