

Soft tissue trauma

- Ligaments (bone to bone)
- Tendons (muscle to bone)
- Muscle
- Fat, joint capsules, other connective tissue...

Common traumas

- Sprain
- Strain
- Contusions
- Tendonitis
- Bursitis

Sprains

- Ankle, knee, wrists...
- Stretch or complete or partial tear of a ligament
- Over extension of joint



Type III Sprain

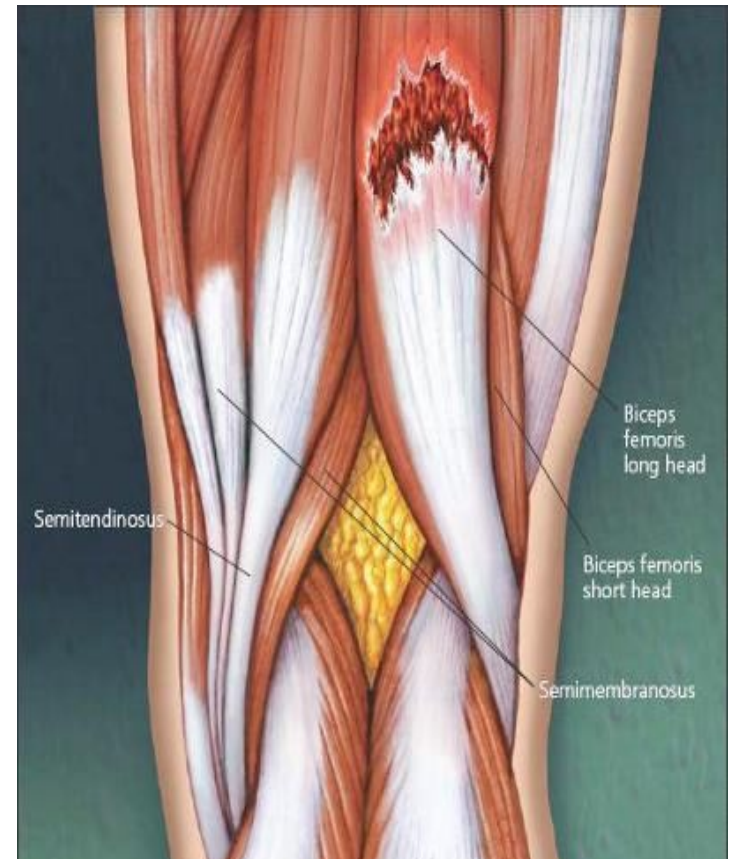
- ligaments torn completely

ADAM



Strains

- Equivalent injury of sprain, to a muscle or tendon.
- Stretch or complete/partial tear of a muscle or tendon



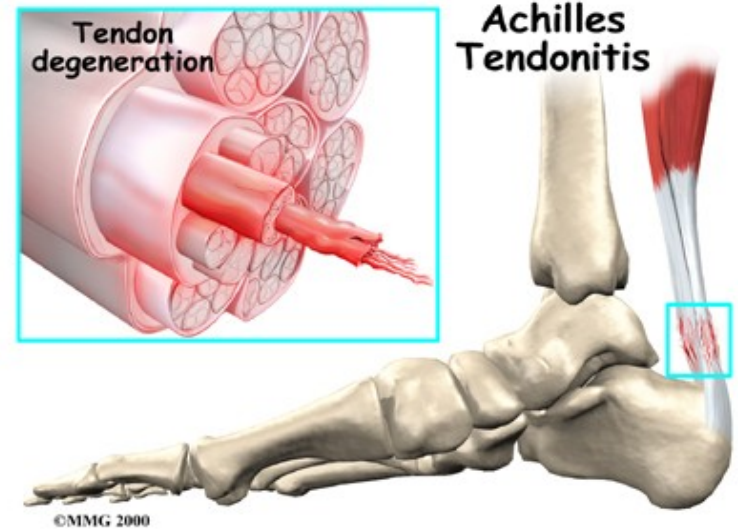
Contusions

- Bruise caused by a blow to muscle, tendon, or ligament.
- Blood pools under the skin leading to discoloration, swelling and pain.

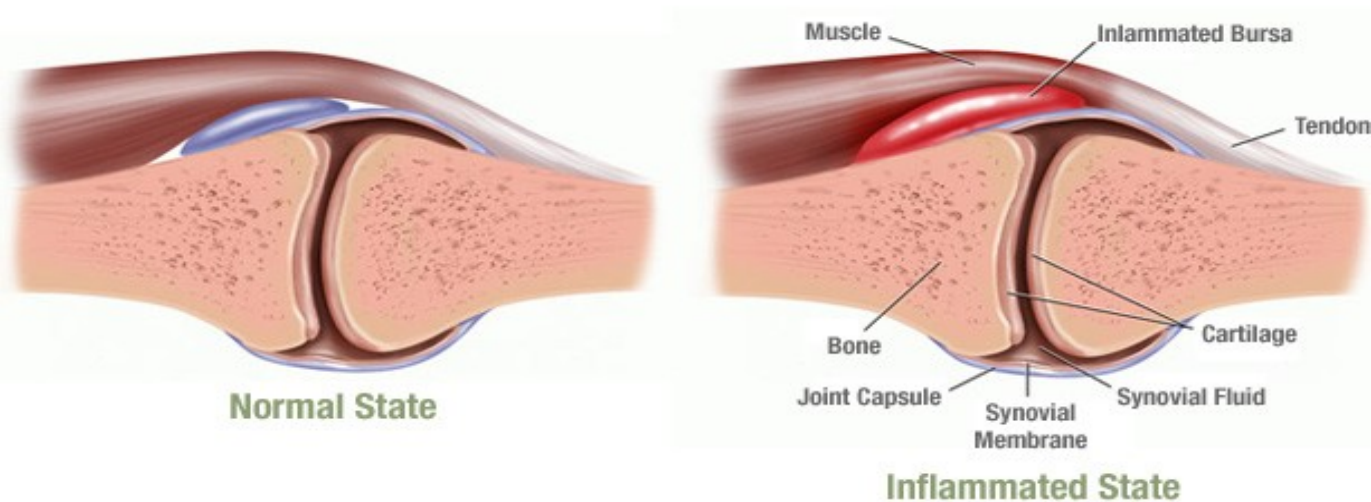


Tendonitis and bursitis

- Inflammation
- Caused by series of small stresses (overuse) or injury



BURSITIS – BURSAE INFLAMMATION



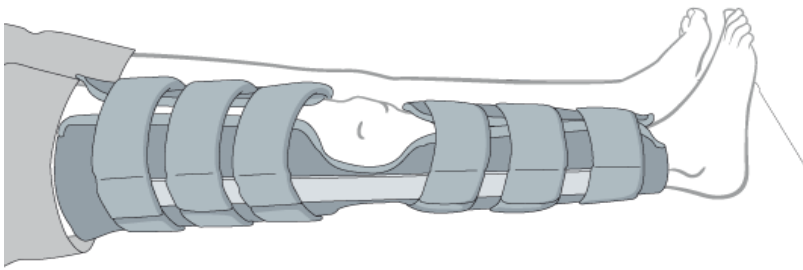
Management

- Minimize pain, swelling, hemorrhage, inflammation and muscle spasm.
- Protection and immobilization of the damaged tissue.
- Preventing joint deformity, stiffness, muscle atrophy and tight adhesions.
- Eventually controlled mobilization, simulation of activity stress and finally complete recovery.

Management

- Immediately after the injury occurs one should apply the PRICE principle to minimize the local tissue damage, prevent further trauma and reduce inflammation.
- PRICE stands for: Protection, Rest, Ice, Compression and Elevation

- **Protection:** removing hazards away from the individual and preventing movement (often by splinting)
- **Rest:** avoid activity causing discomfort, usually immobilizing injury area by splinting and casting and avoiding weight bearing by the use of crutches.



- **Ice:** for the first 72 hours, controls swelling and minimizes pain and inflammation symptoms. Recommended for 15 minutes every 4 hours.
- **Compression:** application of pressure over the injured area. Controls initial bleeding and reduces residual swelling. The bandage should be firm but not so tight as to cause pain.



RICE:
rest, ice,
compression
and elevation




- **Elevation:** also minimizes bleeding, swelling and general inflammation. Ideally above heart level.

Soft Tissue Injuries

R
I
C
E
R

REST


In the context of "rest" means that the athlete must be encouraged to immediately desist from further activity until the severity of the injury can be safely assessed. This may require some persuasion - the injured athlete may be tightly motivated and sensations of pain and loss of function can be masked by the body's natural pain-killing chemicals - as First Aider you may have to be assertive.



ICE


Whether in the form of ice-cubes, a proprietary cold spray or wrap, or even a bag of frozen peas, ice should be administered to the injured area and applied for not more than 10 minutes in the first hour. This will help relieve pain and limit swelling.

For more information on the use of ice, see our website - www.firstaid.org.uk



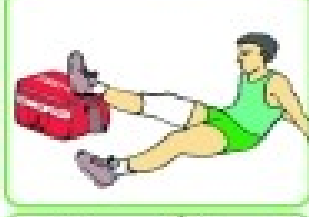
COMPRESSION

Compression of the injured area will also help limit swelling. This is best applied to a limb in the form of an elasticated stocking - a tightly sufficed to provide a double thickness around the injury and/or for enough above and below to avoid swelling and pooling of blood fluid around the bandage edges. Application may be over a 200" wrap if required. If the athlete is in pain and has limited function, they might well prefer to apply the compression for themselves under your direction.




ELEVATION

Elevation of the injured body part allows gravity to help limit the swelling of the damaged tissues. It should not be forced, however, particularly where pain and loss of function might indicate an impending fracture.



REFERRAL & REHABILITATION

It is vitally important for the First Aider to realise that even apparently minor soft-tissue injuries can disguise fractures and dislocations to bones and joints. Such injuries can only be accurately diagnosed by a Doctor. For this reason the First Aider should refer any such injuries to the nearest medical facility. The athlete should also be advised to see a qualified physiotherapist for an appropriate programme of rehabilitation.



- If severe pain persists nerve conduction studies may also be used to localize nerve dysfunction, assess severity and help with prognosis. Electrodagnosis also helps differentiate between myopathy and neuropathy.
- Anti-inflammatory medication may also be used in combination with PRICE.

- More severe soft tissue trauma may require surgical intervention:
 - Repair of torn tissues
 - Replacement or reconstruction
 - Reattachment and transposition