




# MUSCLE INJURIES

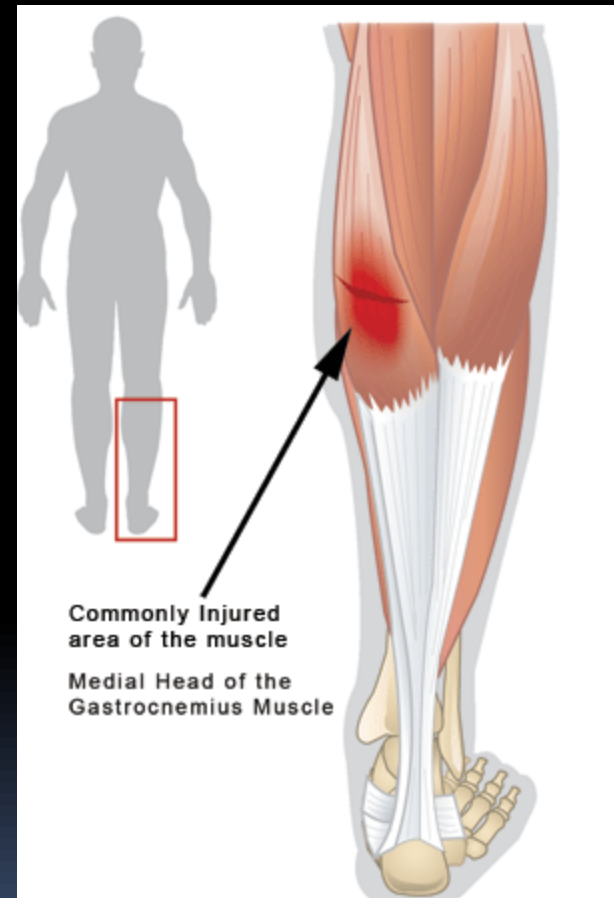


# Types of Injuries

- Strain
  - Contusion
  - Muscle Soreness
  - Tendinitis and Tendinosis
  - Impingement Syndromes
- 

# Muscle Strains

- 3 Grades
- Only difference between sprains and strains is grade 3 there is massive pain and it does not go away.



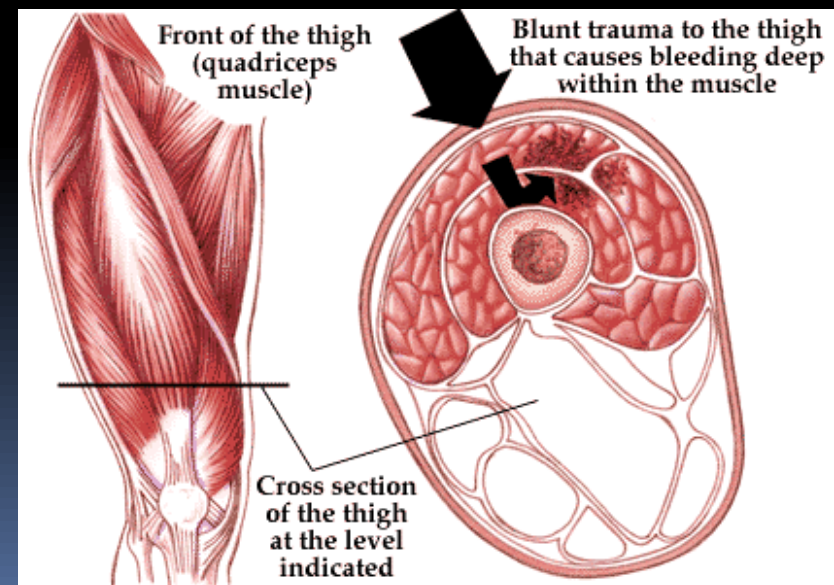


# Muscle Strains

- All Strains and Sprains are graded on a 3 tier scale
  - Grade 1 – Mild
    - Local pain w/ little bruising (ecchymosis).
    - Little to no loss of strength.
  - Grade 2 – Moderate
    - Moderate pain/ bruising/ swelling
    - Impaired muscle function (i.e. limping)
  - Grade 3 – Severe
    - Loss of muscle function
    - Palpable defect

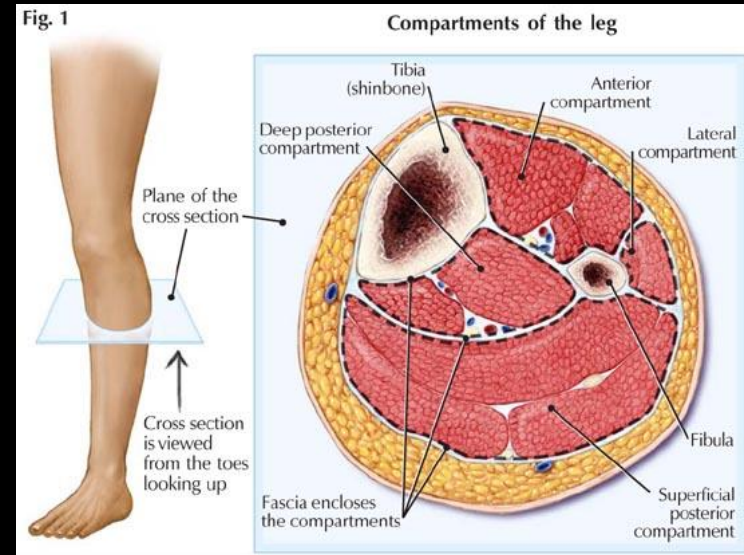
# Contusions (Bruises)

- From Direct blows.
- Tissue explode from force.
- Discoloration is usually a sign things are improving
- Hip Pointer
- Thigh Contusion



# Compartment Syndrome

- Acute compartment syndrome is a 911 emergency
- Happens from direct blows to the anterior aspect of lower leg (shin) or a fracture of Tibia
- Signs:
  - Rapid swelling
  - Foot drop
  - Intense pain
  - Numbness on top of foot



# Fasciotomy





# Myositis Ossificans

- When a bruise turns really bad.
- Bone growth in muscles as a protection mechanism
- Occurs because of repeated trauma to the same area



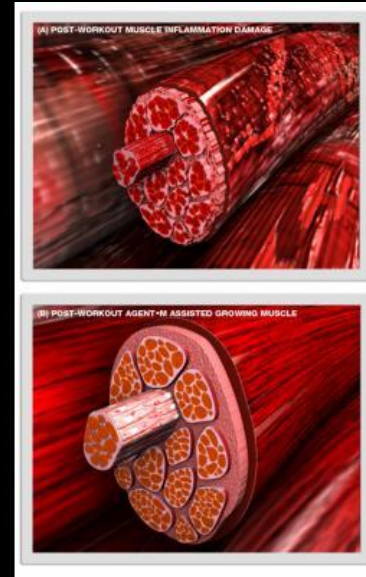


# Soreness

- Two Types
  - AOMS
  - DOMS
- Acute Onset
- Pain usually gone in 24-48hrs
- Causes muscle improvement



- Delayed Onset Muscle soreness
- Causes by hypoxic injury to muscle tissue.
- Cell Death
- Takes 2-3 days before you feel sore.
- Pain finally subsides 10-14 days later.



# Tendinitis vs Tendinosis

## ▣ Tendinitis

- caused by an inflammation of the tendons
- Acute Condition

## ▪ Tendinosis

- ▣ characterized by a degeneration of the tendons
- ▣ Chronic Condition

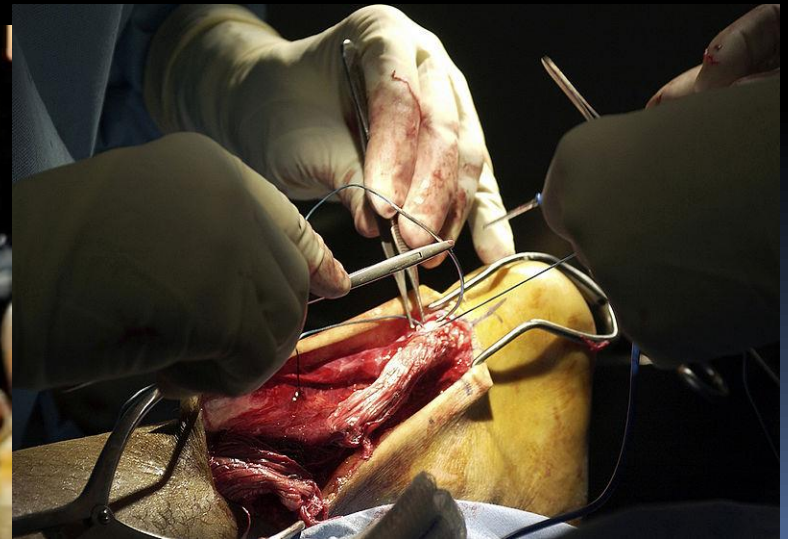
# Achilles Tendinitis vs Tendinosis

- Achilles Tendinitis
- Overuse or Eccentric Injury
- Tendinitis is the acute phase (first 21 days)
- Achilles Tendinosis
- Chronic Phase (after 21 days)
- PRP Treatment



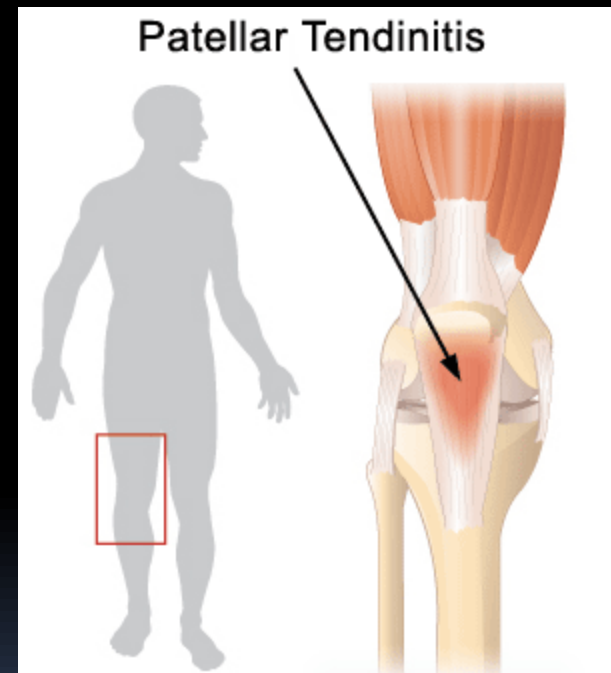
# Achilles Tendon Rupture

- Sounds like a gun shot.
- Weekend Warrior
- Most commonly had Achilles Tendinitis or Tendinosis



# Jumper's Knee

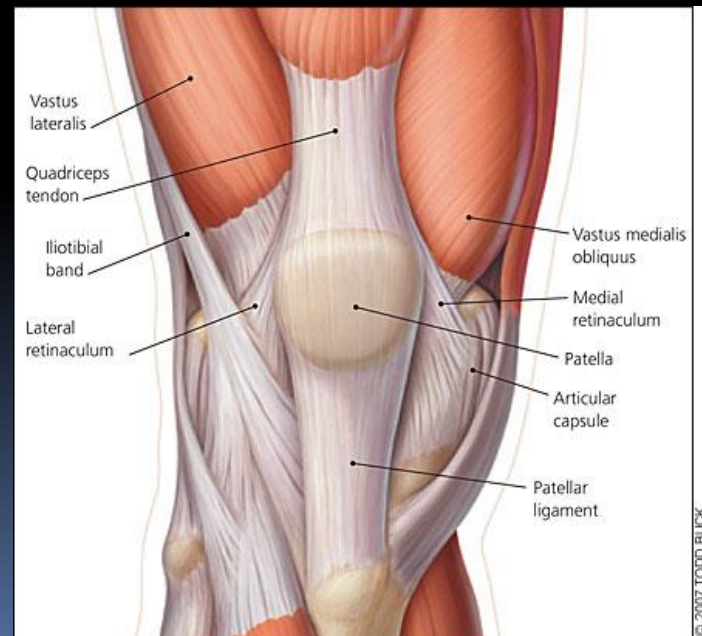
- Patellar Tendinitis
- Either an Overuse or Eccentric Injury
- Usually caused by issues in the foot or muscle weakness in the hip and knee is having to compensate.





# Runner's Knee

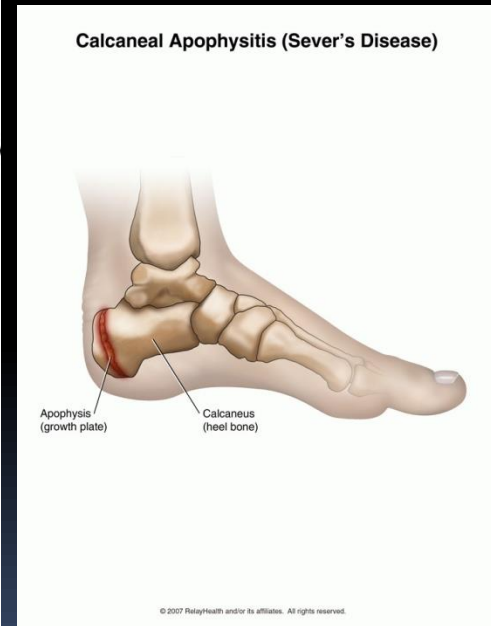
- Iliotibial (IT) band Syndrome
- Tight Hip abductors
- Pain in Lateral aspect of knee by knee cap





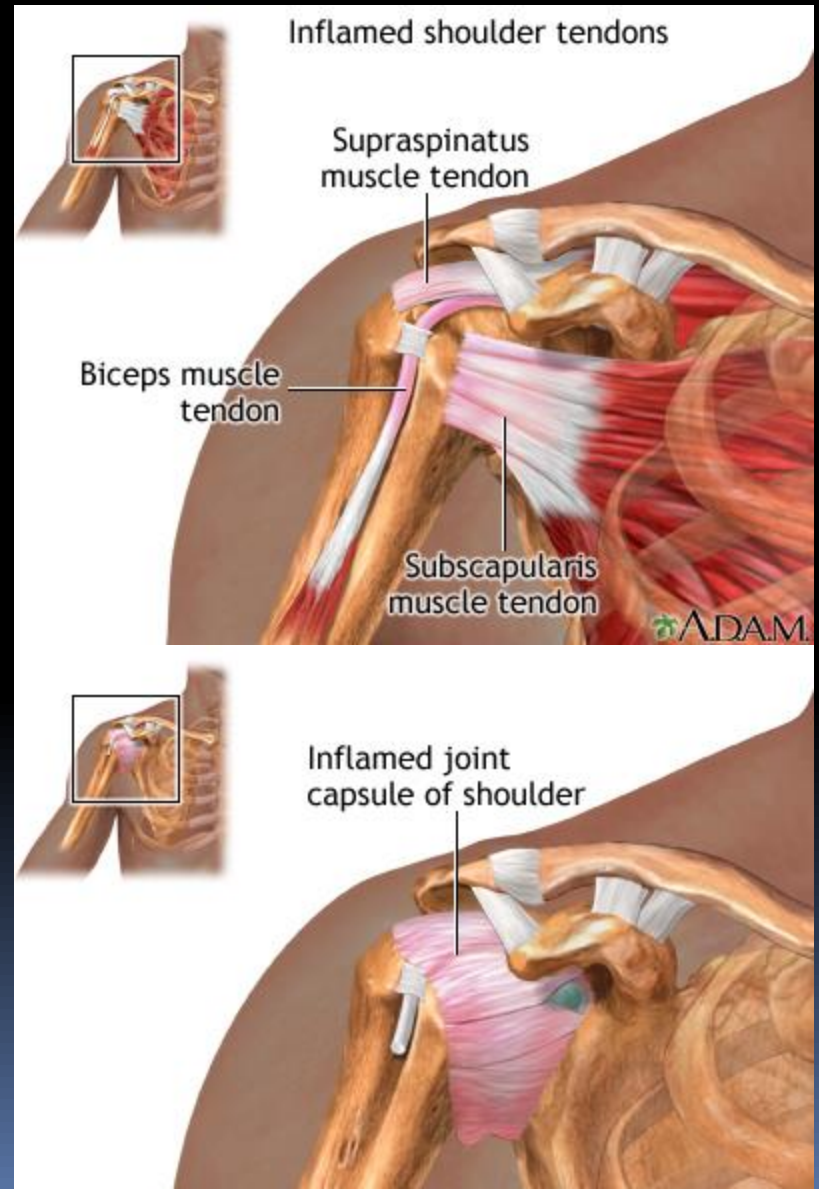
# Osgood Schlatter's and Sever's

- Apophysitis Injuires- (Growth plate attachments where muscles are pulling)
- Occurs during pre-puberty or puberty times
- Extremely Painful
- Can lead to future impairments for athletes as grow into adulthood
- Opposite of Osgood is called Larson-Johannson



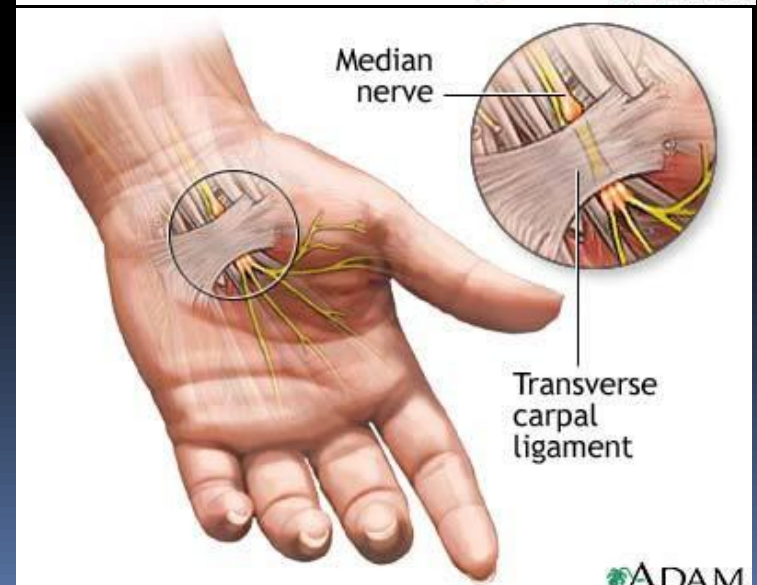
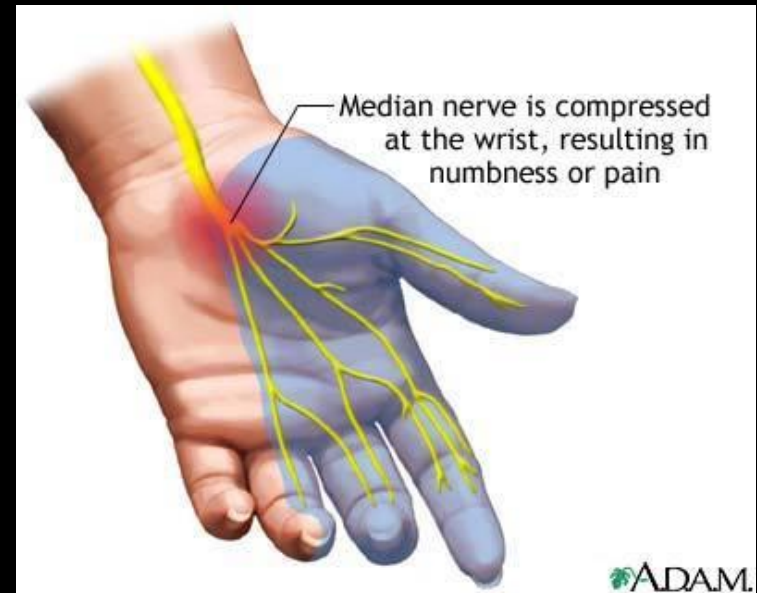
# Shoulder Impingement

- Sometimes referred to as Rotator cuff tendinitis this condition is an irritation of these tendons and inflammation of the bursa (a normally smooth layer) lining these tendons.
- Causes:
  - Keeping the arm in the same position for long periods of time, such as doing computer work or hairstyling
  - Sleeping on the same arm each night
  - Playing sports requiring the arm to be moved over the head repeatedly as in tennis, baseball (particularly pitching), swimming, and lifting weights over the head.
  - Working with the arm overhead for many hours or days (such as painters and carpenters)
  - Poor control or coordination of your shoulder and shoulder blade muscles

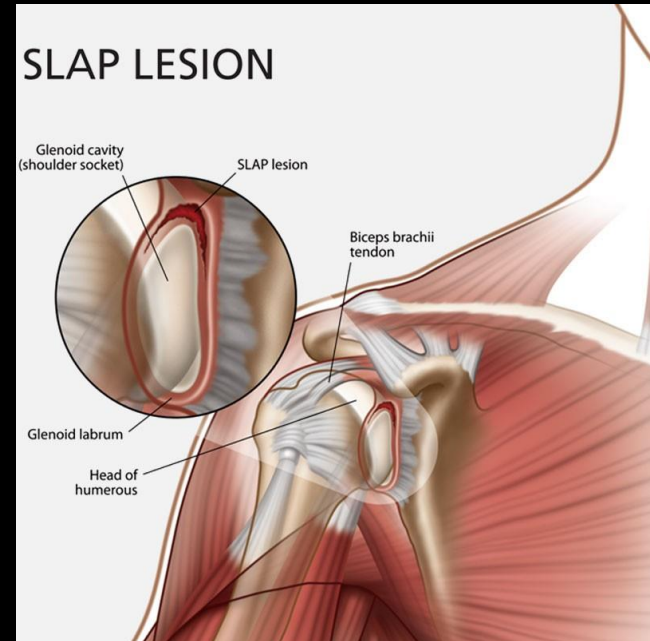
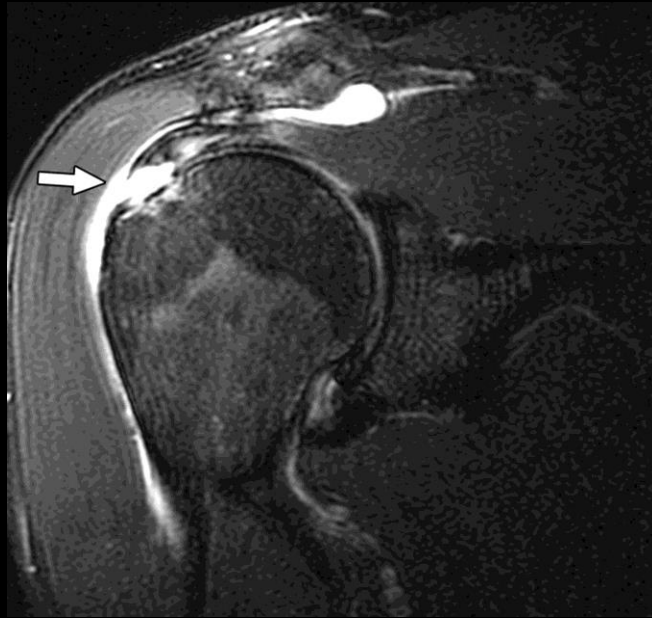


# Carpal Tunnel

- Carpal tunnel syndrome is pressure on the median nerve
- It can lead to numbness, tingling, weakness, or muscle damage in the hand and fingers.
- Carpal tunnel syndrome is common in people who perform repetitive motions of the hand and wrist. Typing on a computer keyboard is probably the most common cause of carpal tunnel. Other causes include:
  - Driving
  - Assembly line work
  - Painting
  - Writing
  - Use of tools (especially hand tools or tools that vibrate)
  - Racquet Sports such as Tennis or racquetball



# Rotator Cuff Tear and SLAP

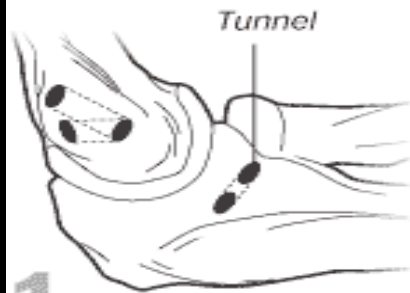
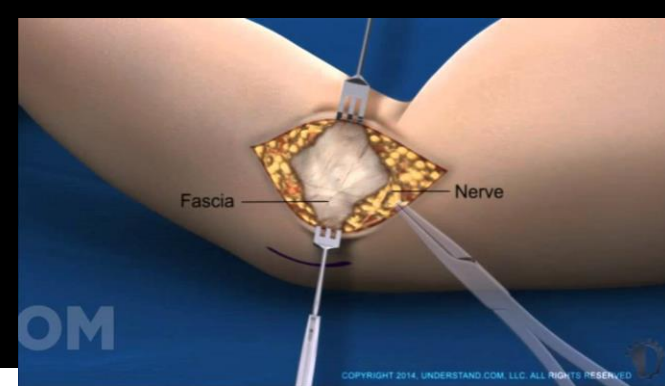


- Supraspinatus tear
- Commonly involves Long Head Biceps tendon

- S = Superior
- L = Labrum
- A = Anterior
- P = Posterior

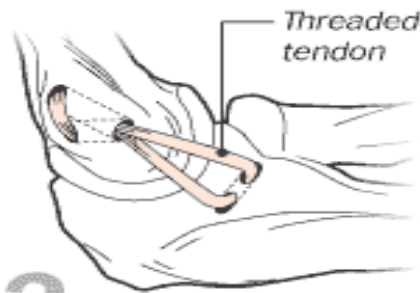


# Tommy John Injury



1

In a common technique, the surgeon drills tunnels in the ulna and the base of the humerus.



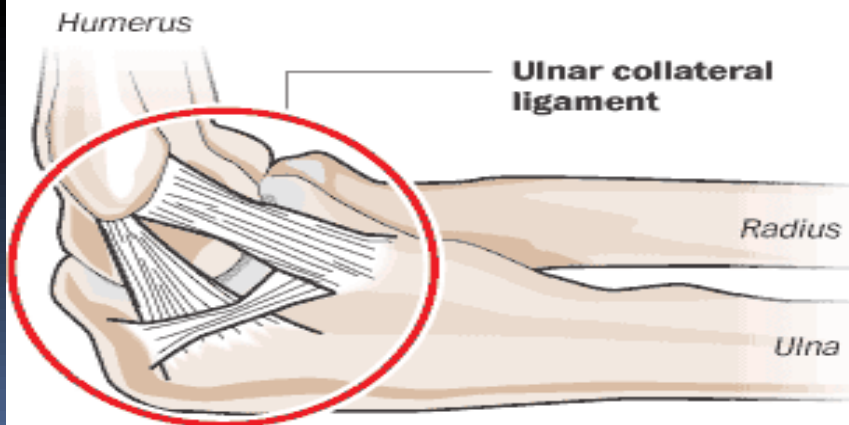
2

A tendon, usually taken from the forearm or leg, is threaded through the holes in a figure-eight pattern.



3

The tendon then functions as a ligament, stabilizing the joint by holding the bones in place.



Affected area



## The result

A 2007 Penn study found that **56 of 68** major leaguers had **no significant change in ERA**, walks or hits per inning pitched after this type of surgery. The average recovery time was 18½ months.