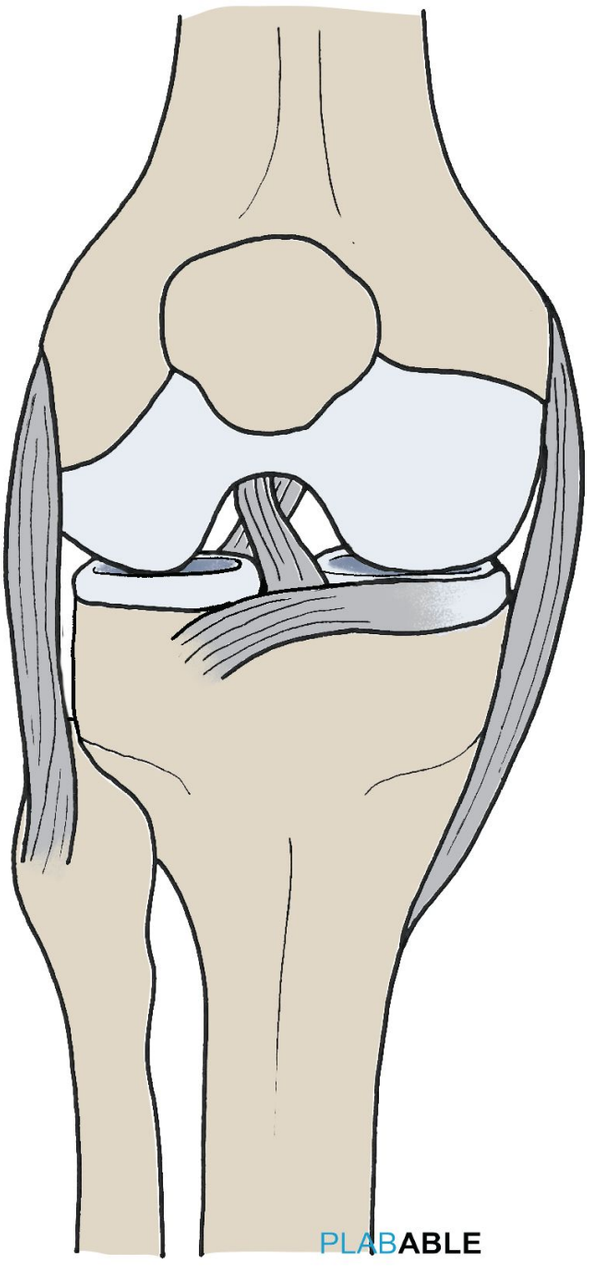
PLABABLE

GEMS

VERSION 4.4

ORTHOPAEDICS



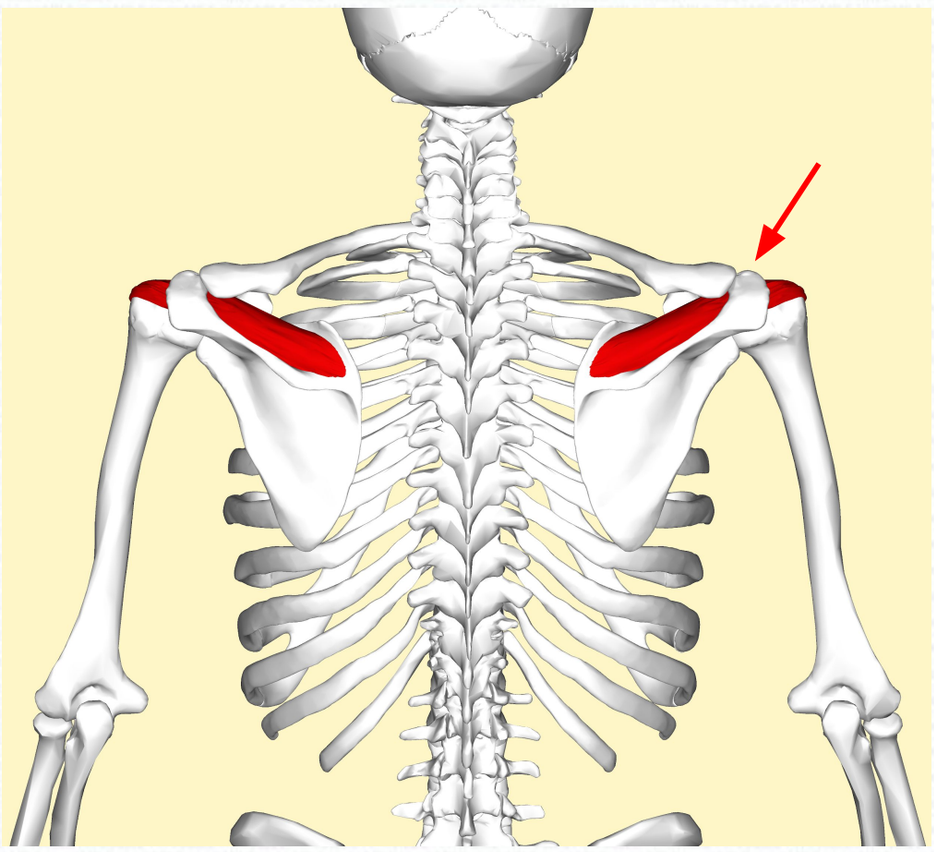
Shoulder Impingement Syndrome

Presentation

- Pain and weakness of the shoulder movements especially during overhead activities
- Restriction of activity
- Most common cause**:** narrowing of the Subacromial space causing **supraspinatus tendinitis**
- H/O repetitive overhead activity or carrying heavy weights

Management

- Conservatively: NSAIDs, physiotherapy



Frozen Shoulder

Presentation

- Pain and stiffness of the shoulder
- Restriction of both active and passive shoulder movements
- Inability to do passive external rotation (specific)
- Caused by thickening and contraction of the glenohumeral joint capsule and formation of adhesions (**adhesive capsulitis**)

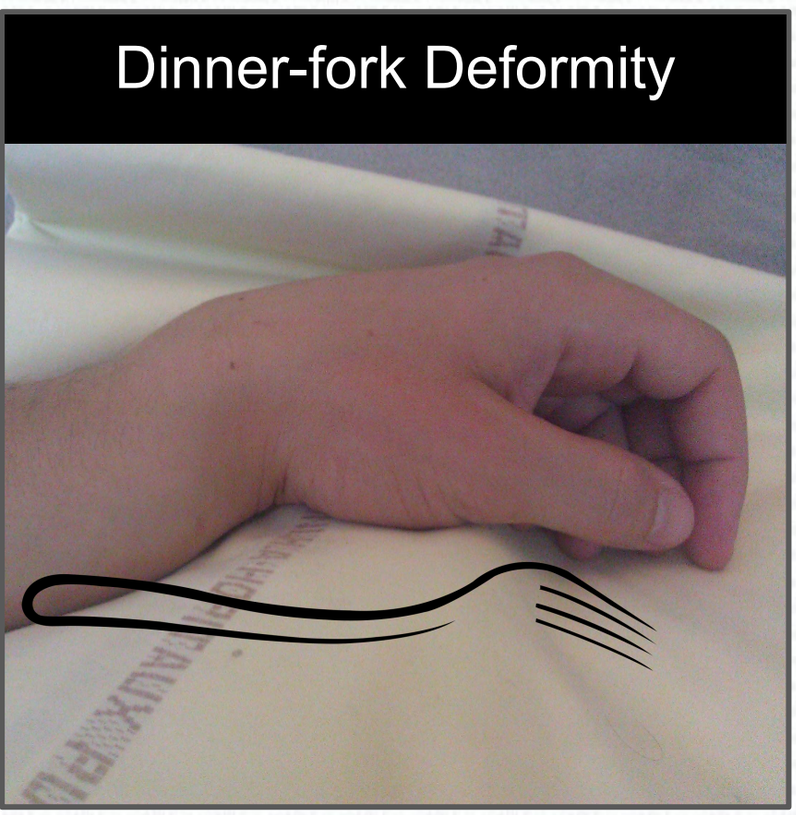
Management

- Paracetamol and NSAIDs
- Physiotherapy with joint mobilisation and stretching
- Steroid injection

Colles Fracture

Presentation

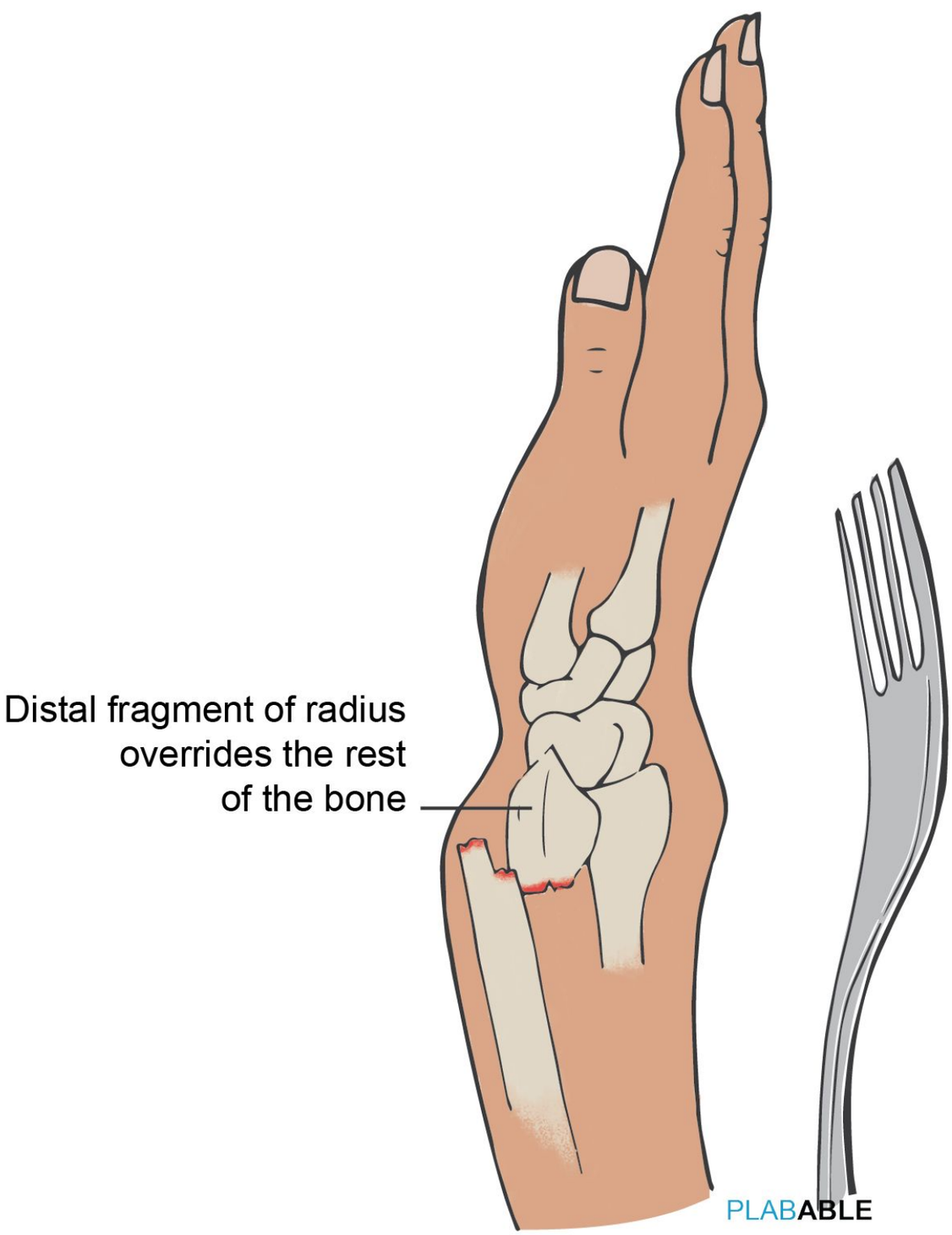
- Radial fracture with or without ulnar fracture
- **Dinner-fork** deformity (distal fragment deviated backwards and laterally)
- Fall on an outstretched hand
- Common in elderly



Colles Fracture

Treatment

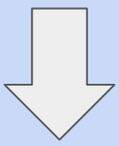
Closed reduction and immobilisation with Colles cast



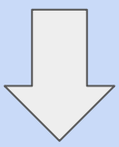
Colles Fracture

Management Of Colles' Fracture

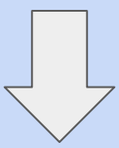
X-ray prior to reduction



Analgesia → Haematoma block



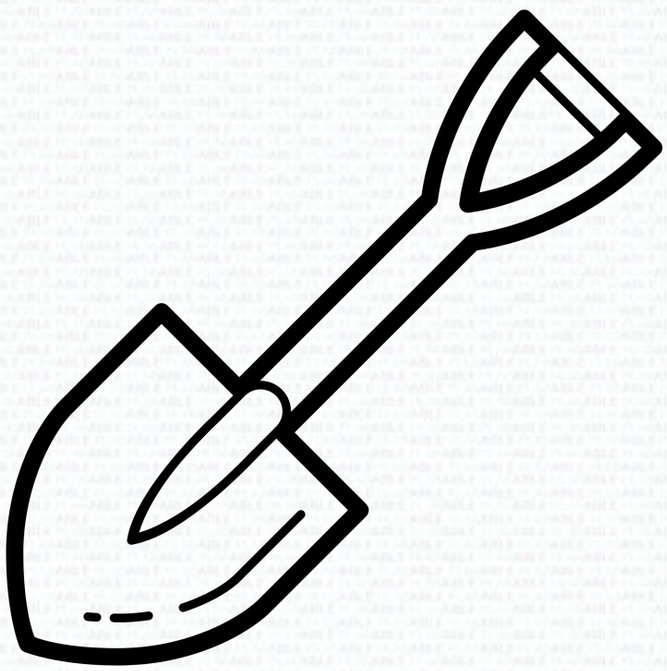
Closed reduction



X-ray after reduction

Smith’s Fracture

- Reverse colles fracture
- Anterior displacement of the distal fragment
- **Garden spade** deformity



Monteggia Fracture Vs Galeazzi fracture

	Galeazzi fracture	Monteggia fracture
Dislocation	Distal radioulnar joint dislocation	Dislocation of the head of the radius
Bone fractured	Fracture of distal ⅓ of the radius shaft (Galea**Z**zi, **Z** is **distal**)	Fracture of the proximal ⅓ of the ulna (Monteggi**A**, **A** is **proximal**)
Mnemonic	GRUesome ● G → Galeazzi ● R → Radius fracture ● U → radioUlnar dislocation	MURder ● M → Monteggia ● U → Ulnar fracture ● R → Radius dislocation

Remember → Radial nerve is damaged in Monteggia fracture

Scaphoid Fracture

Epidemiology

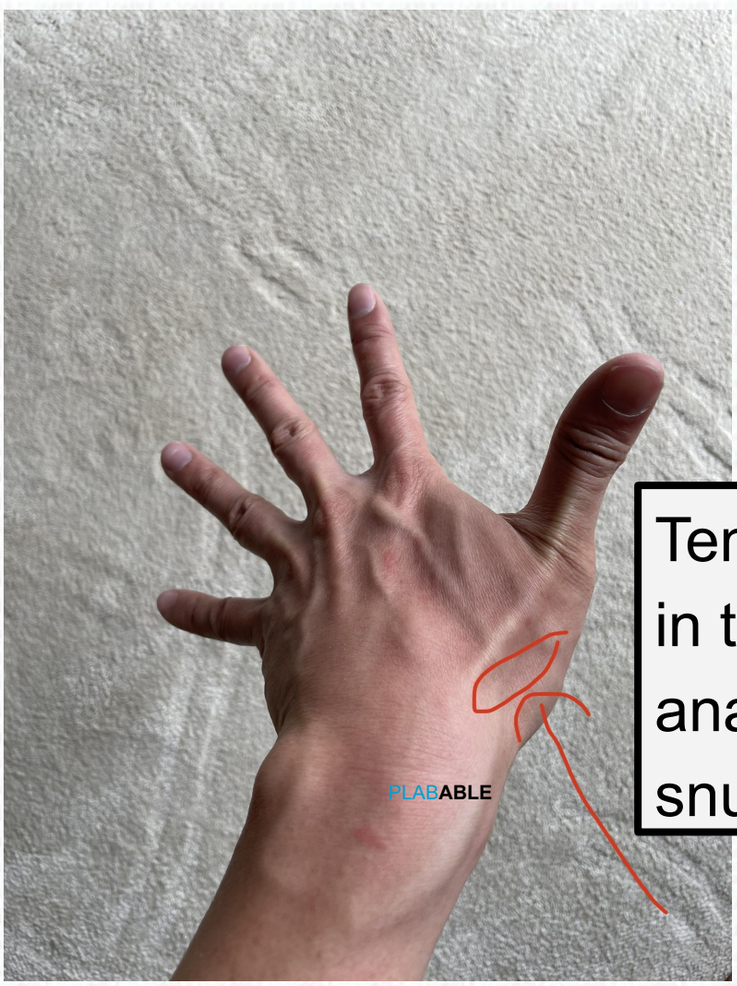
Most common carpal bone fracture

Presentation

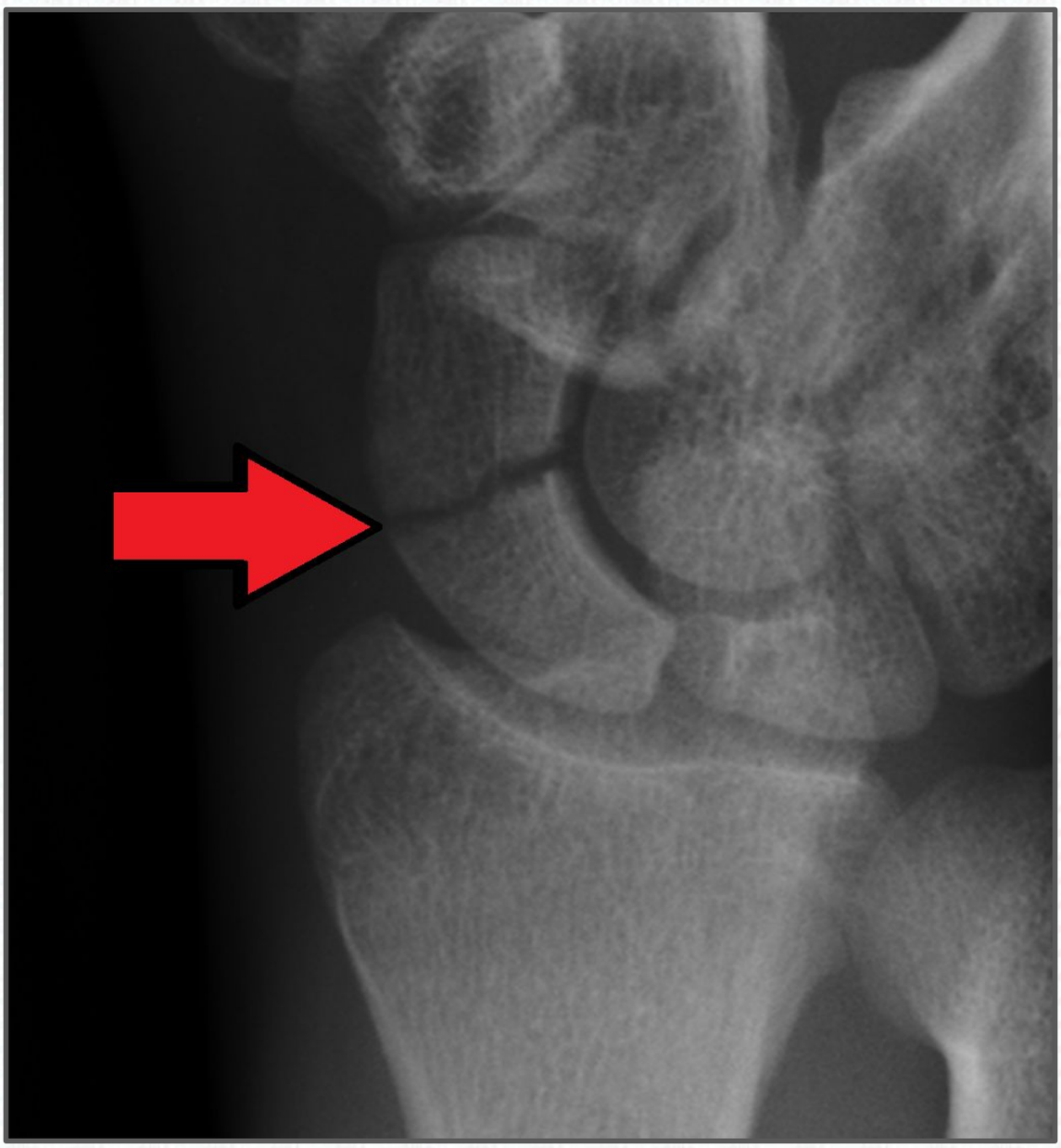
- Fall on an outstretched hand
- Tenderness in the anatomical snuffbox
- Pain on **ulnar deviation** of the pronated wrist, or **supination** against resistance

Complications

High risk for **avascular necrosis** as blood supply is from distal to proximal part



Scaphoid Fracture



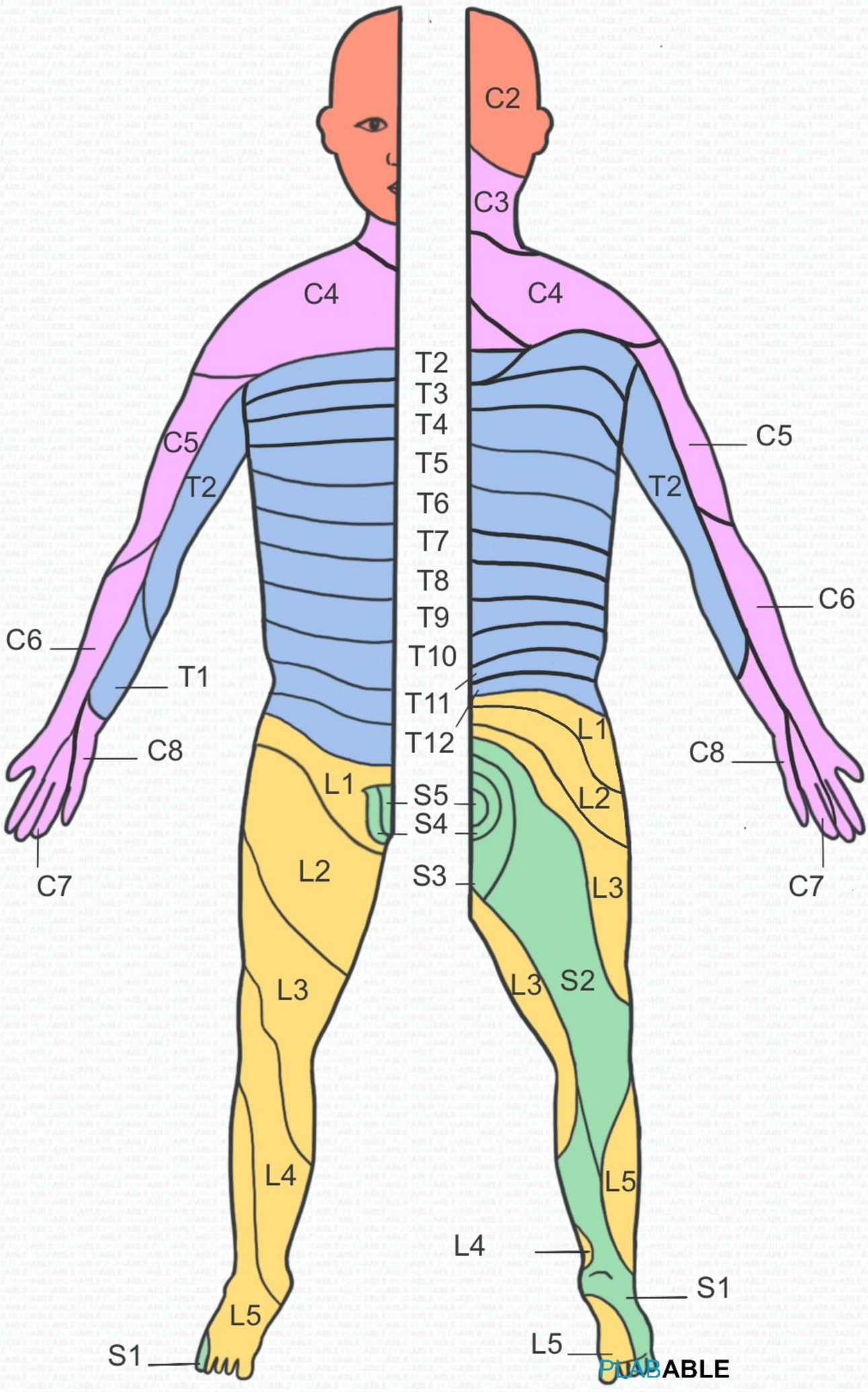
Investigations

- **X-ray:** One immediately and one 10-14 days later if the first one does not show the fracture line

Treatment

- **# visible on X-ray:** Scaphoid cast for 6 weeks
- **# not visible on X-ray:** Cast immobilisation of the wrist and review after 2 weeks with X-ray

Dermatomes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Complication of Fracture

Fat embolism syndrome

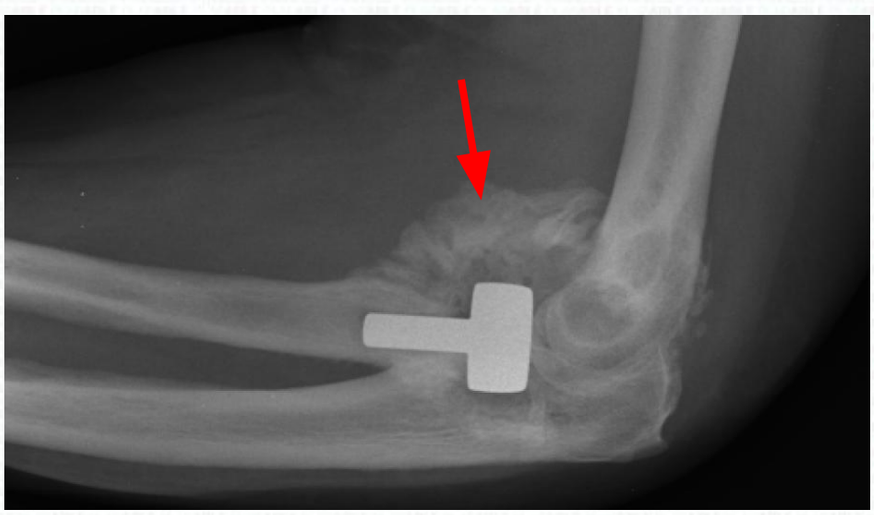
- Seen with fracture of long bones
- Breathlessness and chest pain
- Petechial rash
- Oliguria
- Haematuria

Compartment syndrome

- Increased compartment pressure
- Decreased or no blood flow
- Pain and pulselessness

Gunstock deformity: Cubitus varus following **supracondylar fracture** of the humerus

Myositis Ossificans: Formation of new bone in the muscle following fracture



Compartment Syndrome

Injuries to limbs

- High impact injuries (e.g. football kick to leg)
- Crushing injuries (e.g. fallen building)
- High velocity injuries (e.g. car crash)

REMEMBER THE Ps ⇐

Similar to acute limb ischaemia

Early signs

- Pain → Pain that is out of proportion to injury *(e.g. given intravenous morphine and still in incredible pain)*

Late signs

- Pallor
- Paraesthesia,
- Paralysis
- Pulseless limb

Definitive management

- Fasciotomy → To decompress

Osteosarcoma

Features

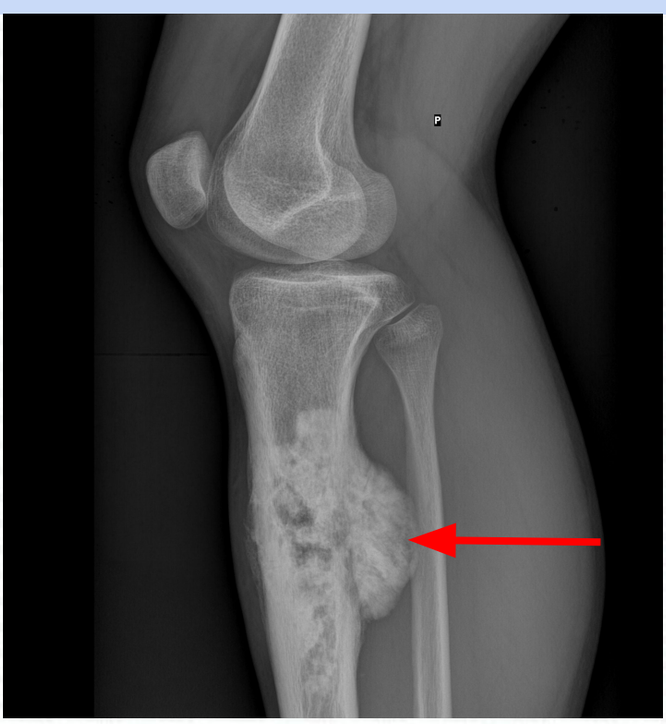
- Knee pain increasing at night
- Visible swelling in large tumour
- Fracture even with minor trauma
- **Commonly affect:** distal femur and proximal tibia
- **Bimodal distribution: a**dolescence & old adults

Investigation

- **X-ray:**
  - **Sunburst appearance**
  - Codman's Triangle
- CT scan and bone biopsy

Treatment

- Radical resection of the tumour



Osteosarcoma Vs Ewing Sarcoma

	Osteosarcoma	Ewing sarcoma
Occurrence	More common	Less common
Common sites	• Lower end of femur or tibia • Upper end of humerus • Pelvic bones	• Diaphysis of femur • Pelvis • Tibia
Systemic symptoms (fever, weight loss and malaise)	Generally absent	Can be present
Exam scenario	Teenage boy with knee pain	Teenage boy with bone pain, tiredness, fever and weight loss

Osteoid Osteoma

Brain trainer:

A young man with unilateral leg pain which is worse at night. The pain is relieved by NSAID. What is the most likely diagnosis?

➔ **Osteoid osteoma**

Supraspinatus Tendinitis

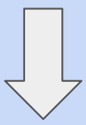
Brain trainer:

A male complains of right arm shoulder pain which is both worse at night and when performing activities which involve lifting above the shoulder. He is a tennis player. There is no history of trauma. What is the most likely diagnosis?

➔ **Supraspinatus tendinitis**

Achilles Tendon Rupture

Middle aged man + infrequent sports goer + repetitive jumping motion



Audible snap at achilles

Remember the **Simmond's** triad

- Affected leg rests in a dorsiflexed position
- Palpable gap at the heel
- No plantar flexion when calf is squeezed

Management

Same day referral to orthopaedics

Achilles Tendon Rupture

Brain trainer:

A middle aged man playing football feels a pop at the back of his left leg followed by pain at his calf. He has not played sport for sometime. What is the most likely diagnosis?

➔ **Achilles tendon rupture**

Transient Synovitis

Brain trainer:

A 6 year old child presents with acute onset hip pain, a limp and a mild fever. He is otherwise well. What is the most likely diagnosis?

➔ **Transient synovitis**

Elbow Fracture

Brain trainer:

After falling on an outstretched arm, a person presents with pain, swelling and limited range of movement of the elbow. Which part of the radius is most likely fractured?

➔ **If child → radial neck**
➔ **If adult → radial head**

Fat Embolism

Brain trainer:

After a fracture of the femur a patient presents with a mild fever, heart rate 140/min, decreased level of consciousness and hypoxaemia.
What is the most likely diagnosis?

➔ **Fat embolism**

Bone Metastasis

Brain trainer:

What is the most common origin of a bone metastasis?

➔ **Male → prostate > lung**
➔ **Female → breast > lung**

Elbow Fracture

Brain trainer:

What is the most common elbow fracture in children?

➔ **Supracondylar fractures of the humerus**

Elbow Fracture

Brain trainer:

A 9 year old boy presented to the emergency department after a fall. X-ray shows a supracondylar fracture of the humerus with posterior displacement of the distal fragment.

What is the single most likely structure to be damaged?

➔ **Brachial artery**

Other structures that can be damaged include the following -

- **Median nerve**
- **Ulnar nerve**
- **Radial nerve**

Torus Fracture

Brain trainer:

What is the most common type of fracture and the most common fracture site in childhood?

➔ **Buckling (torus) fracture of the distal radius**

Ewing Sarcoma

Features

- Bone pain
- Fever
- Weight loss
- Fractures
- Common in the **second decade** of life
- **Most common location:** diaphysis of femur, pelvis, tibia

Management

- Chemotherapy plus surgery or radiotherapy as it is highly metastatic

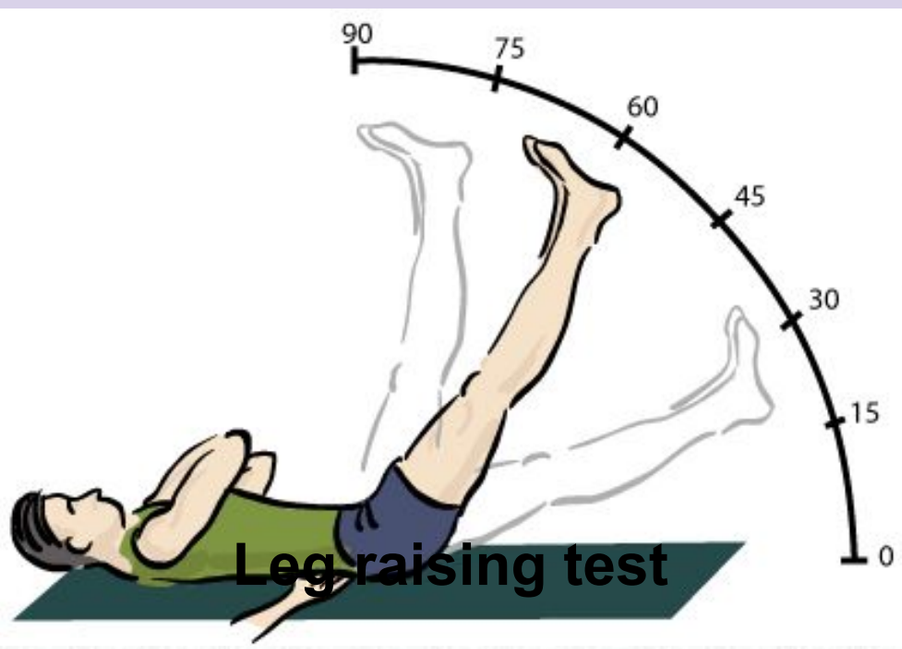
Sciatica

Presentation

- **Shooting pain** spreading from buttock to the leg
- Numbness, paraesthesia, weakness and/or loss of tendon reflexes
- Common cause: **disk prolapse** (L4, L5 or S1)
- Pain ↓ on lying down and ↑ on prolonged sitting or walking
- Positive leg raising test
- Large herniation can cause cauda equina syndrome

Management

- NSAIDs
- Amitriptyline (neuropathic pain) *(Avoid gabapentinoids)*
- Cauda equina syndrome (needs urgent surgical decompression)



Leg raising test

Cauda equina

Brain trainer:

A 22 year old man was moving house a week ago and had injured his lower back. His lower back pain has been worsening. Over the last day, he has lost sensation at the perianal area. What is the most appropriate action?

➔**Suspect cauda equina and refer urgently to orthopaedics**

Knee Injuries

Unhappy triad is injury to:

- Anterior cruciate ligament
- Medial collateral ligament
- Medial meniscus

Most commonly seen in contact sport (sudden twisting of the players leg)

Investigations

- MRI (gold standard)

Management (PRICER):

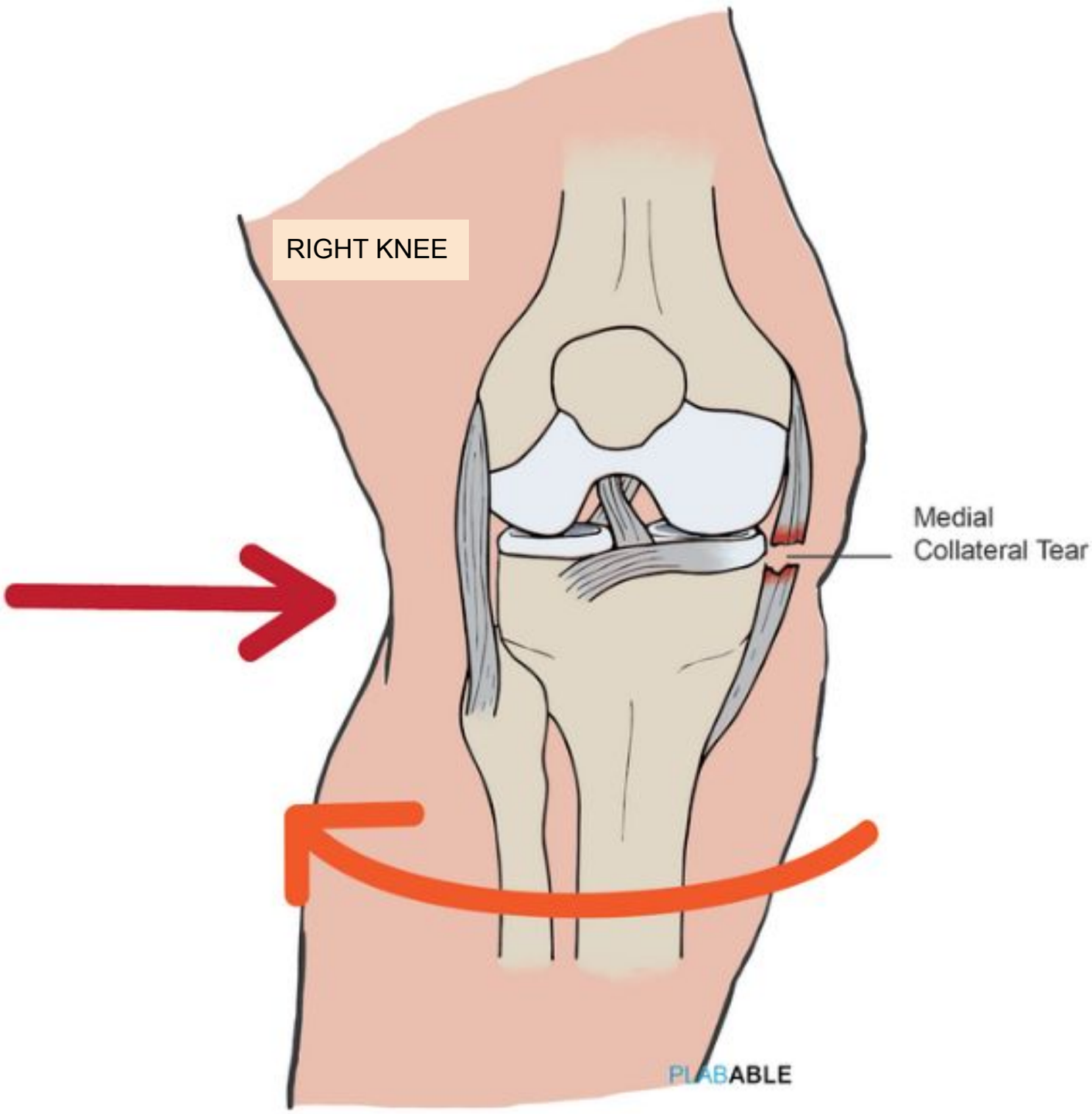
- **P** - Protect
- **R** - Rest
- **I** - Ice
- **C** - Compression
- **E** - Elevation
- **R** - Rehabilitation

Arthroplasty and repair in case of complete ligament tear

Knee Injury Mechanism

Medial collateral ligament

- Direct blow to the lateral side of the knee or a twisting injury. Often occurs along with meniscal tears

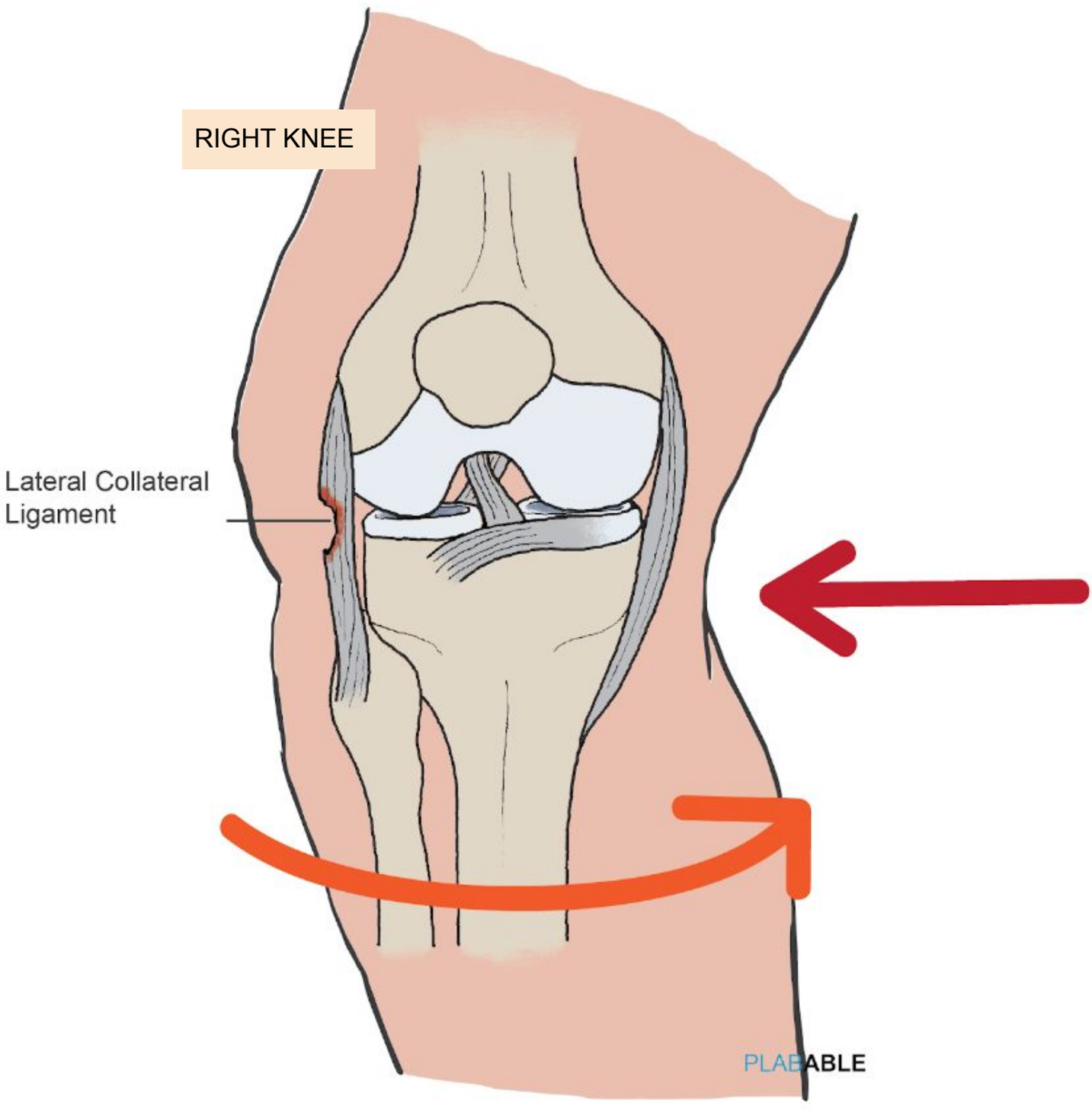


Medial Collateral Ligament Injury

Knee Injury Mechanism

Lateral collateral ligament

- Direct blow to medial side of the knee or a runner twisting to the direction of the planted foot (twisting inwards)

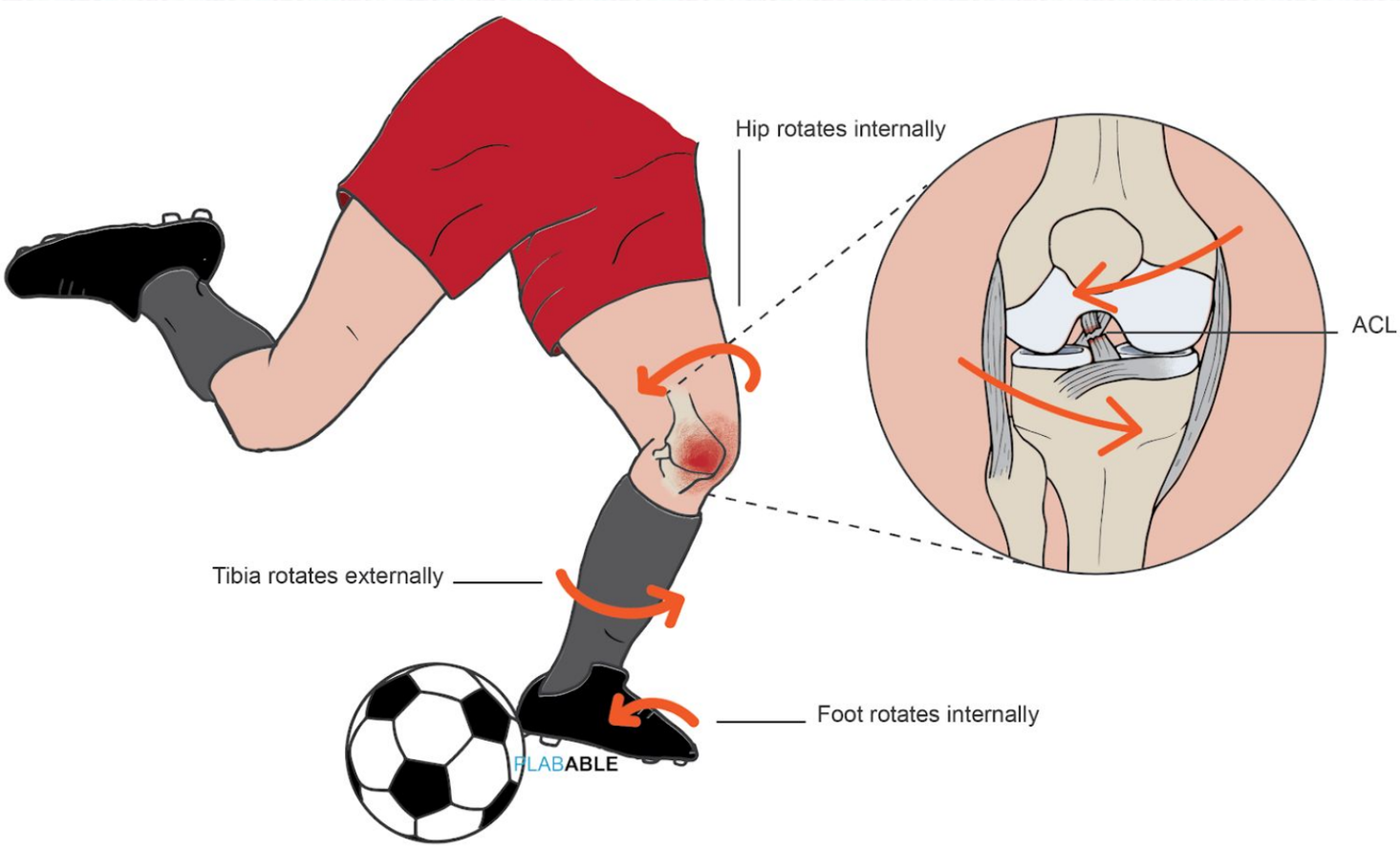


Lateral Collateral Ligament Injury

Knee Injury Mechanism

Anterior cruciate ligament

- Deceleration injury or when the athlete lands hard on the leg and quickly pivots to the opposite direction
- ACL tears usually have a stem where the foot is fixed on the ground when a rotational force is applied which is followed by a “pop” sound. They would complain that the knee “gives way”



Knee Injury Mechanism

Posterior cruciate ligament:

- Hyperflexion injury or a fall onto a flexed knee or if the knee hits the dashboard of a car during a road traffic accident
- Look for a history of direct impact on the shin (specifically the proximal tibia) when the knee is bent

Test for Knee Injuries

Medial collateral ligament
→ Valgus stress test

Lateral collateral ligament
→ Varus stress test

Anterior cruciate ligament
→ Anterior drawer test, Lachman test

Posterior cruciate ligament
→ Posterior drawer test

Memory tool
“Vulgar ME!”
I am vulgar (not someone else). **VALG**us stress test for **ME**dial collateral ligament injuries

Meniscal Tear

Brain trainer:

What associations with meniscal tears do you need to know for the exam ?

➔ **Twisting or pivoting, a popping sensation heard at time of injury**

➔ **Often associated with ACL injury**

Treatment of Sprain Injury

Brain trainer:

With a sprain injury, what does pay the “p.r.i.c.e” mean?

➔ **Protect**
➔ **Rest**
➔ **Ice**
➔ **Compress**
➔ **Elevate**

Nerve Injuries

Traction injury at birth	Brachial plexus
Fracture of humeral neck **Shoulder dislocation**	Axillary nerve
Fracture of humeral shaft (Spiral groove)	Radial nerve
Elbow dislocation	Ulnar nerve or Median nerve
Monteggia fracture	Radial nerve (Wrist drop)
Fibular neck fracture	Common peroneal nerve (Foot drop)
Femur neck or acetabular fracture **Hip dislocation**	Sciatic nerve

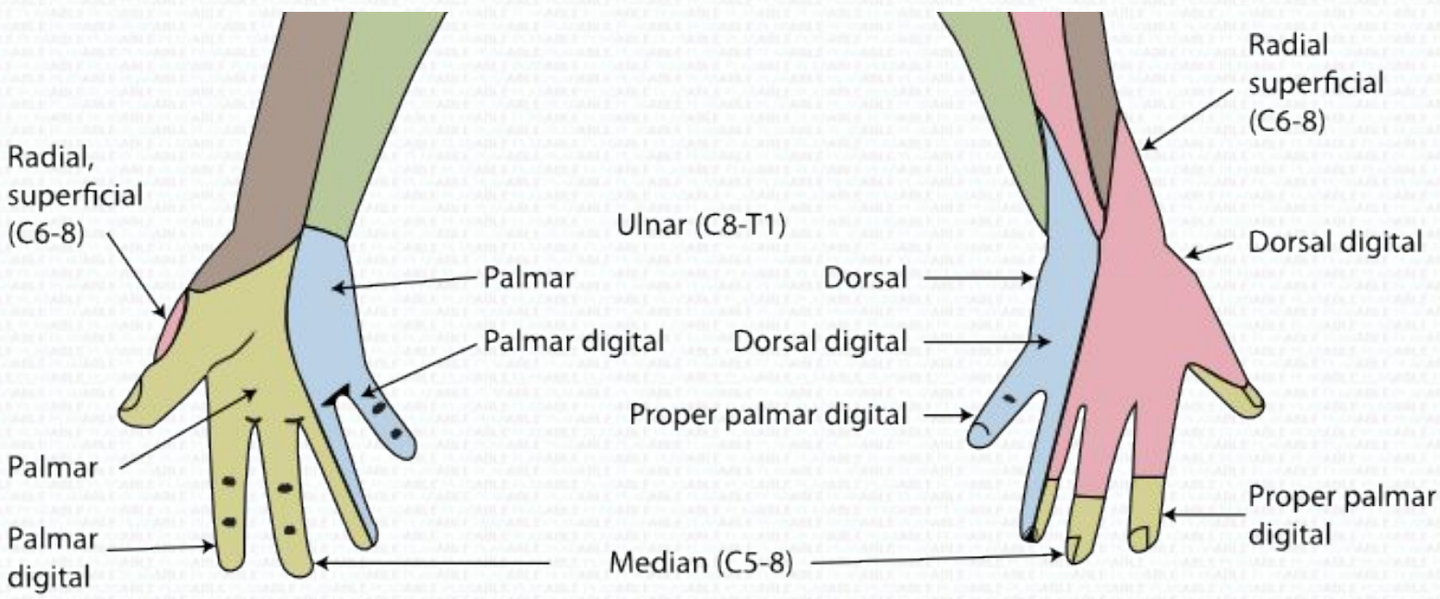
Radial Nerve Injury

Fracture of the humeral shaft: (radial groove)

- Wrist drop
- Triceps is spared
- Loss of sensation to posterior arm and forearm
- Sensory loss to posterolateral 3 and a half fingers below the fingertips

Lesion at wrist

- Normal wrist movement
- Sensory loss to posterolateral 3 and a half fingers below the fingertips



Ulnar Nerve Injury

High ulnar palsy (cubital tunnel syndrome at elbow):

- Weakness in flexion of 4th and 5th fingers
- Paralysis of interossei and medial two lumbricals - **Ulnar claw hand**
- Atrophy of hypothenar muscles
- Sensory loss in the medial one and a half finger anterior and posterior

Low ulnar palsy (wrist):

- Pins and needles in the medial one and a half fingers
- Loss of motor function later
- Seen in cyclists
- Also, known as Guyon's canal syndrome or ulnar tunnel syndrome

Carpal Tunnel Syndrome

Presentation

- Tingling, numbness and pain in the distribution of the median nerve
- Weakness in hand grip and opposition of the thumb

Causes

- Pregnancy
- Wrist trauma
- Obesity
- Hypothyroidism
- Renal failure

Tests

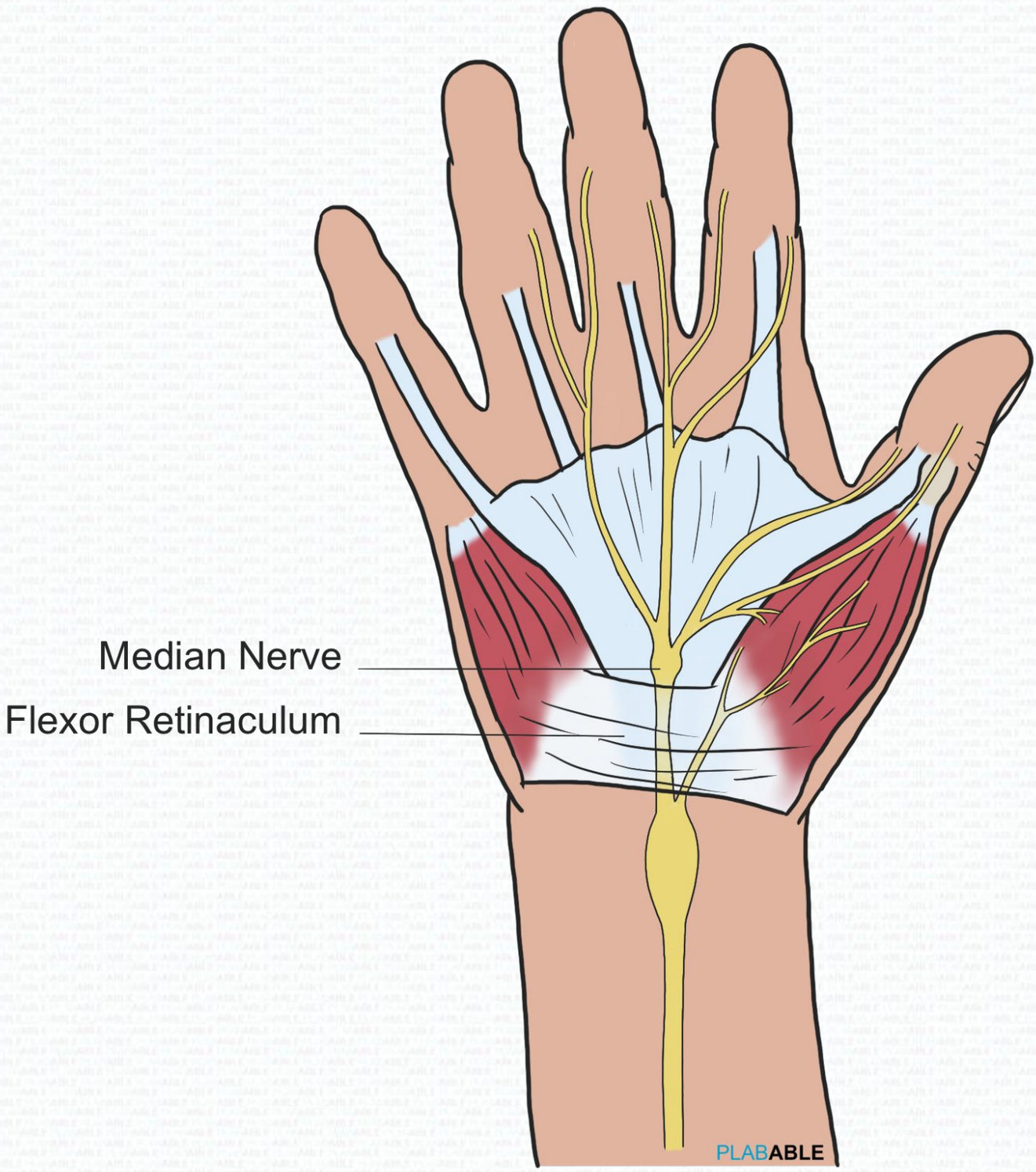
- Positive Tinel's sign
- Positive Carpal Tunnel compression test
- Electroneurography (gold-standard)

Management

- Activity modification and local steroid injection
- Release of flexor retinaculum

Carpal Tunnel Syndrome

Compression of the median nerve in the carpal tunnel



Carpal Tunnel Syndrome

Developmental Hip Dysplasia

Presentation

- Asymmetrical gluteal or thigh skin folds
- Limb length discrepancies
- Limitation of hip abduction
- More common in female infants
- Breech presentation ↑ risk

Tests

- **Barlow test:** attempts to dislocate the femoral head
- **Ortolani test:** attempts to relocate a dislocated femoral head
- Ultrasound scan of the hips

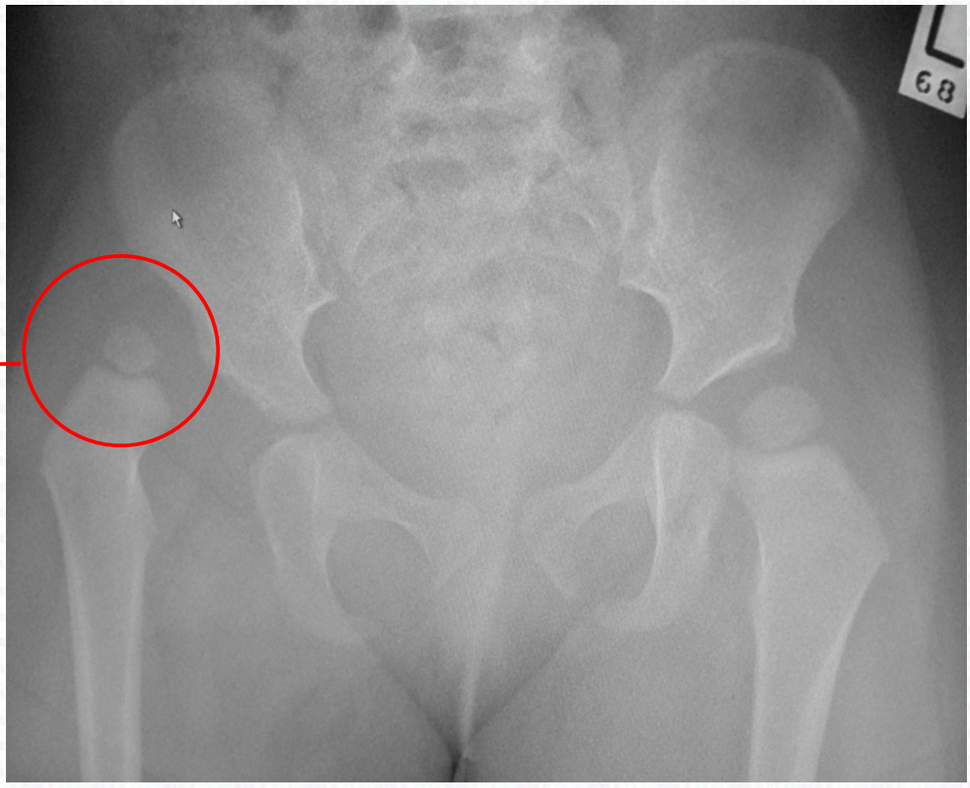
Management

- Pavlik® harness (If age <6 months)
- Surgery (If age >6 months and failed bracing)

Developmental Hip Dysplasia

Formerly known as **congenital dislocation of the hip** is a dysplasia of the hip causing neonatal hip instability

Dislocated hip in a child with dysplasia of the head



Legg-Calve-Perthes' Disease

Avascular necrosis of the femoral head

Presentation

- 4 to 8 yrs old boy (common)
- Limping
- Pain in the hip or knee
- Limited internal rotation

Investigation

- X-ray - joint space widening
- MRI hip

Management

- Surgery
- Physiotherapy

Paget's Disease

Excessive bone breakdown followed by disorganised new bone formation

Presentation

- Bone pain
- Pathological fracture
- Deafness and tinnitus (compression of CN VIII)

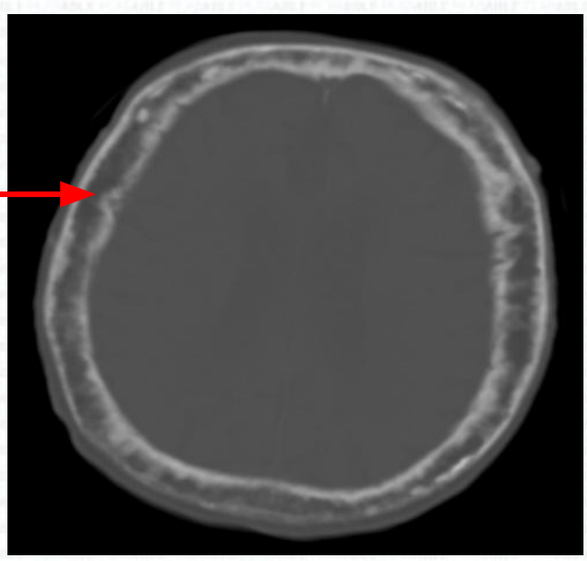
Labs

- ↑ Alkaline phosphatase
- Normal calcium, phosphate and PTH
- **X-ray:**
  - Cotton wool pattern in the skull (sclerotic)
  - Osteolytic lesions

Management

- Paracetamol and NSAIDs for pain
- Bisphosphonates to reduce bone resorption - zoledronic acid

Cotton wool pattern in the skull



Paget's Disease Vs Multiple Myeloma

Paget's disease	Multiple myeloma
Sclerotic 'cotton wool' patches in the skull	**Lytic** lesions in the skull
Raised ALP	Raised ALP **only** when it is associated with **fractures**

Fracture Neck of Femur

Presentation

- H/O fall in an elderly or osteoporotic bone
- Pain in the upper thigh or groin
- Inability to bear weight
- Abducted and externally rotated leg
- High risk for avascular necrosis of the femoral head

Investigations

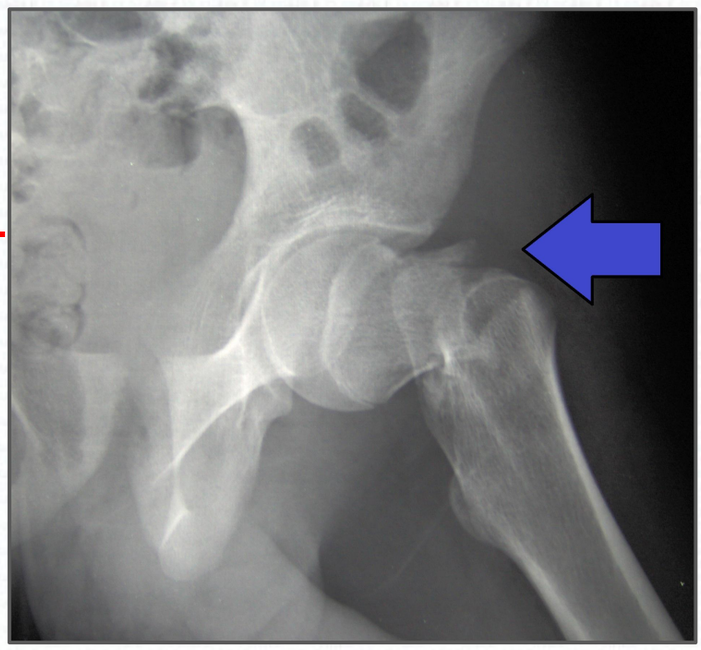
- X-ray - Broken Shenton’s line
- MRI if X-ray is normal and fracture is suspected

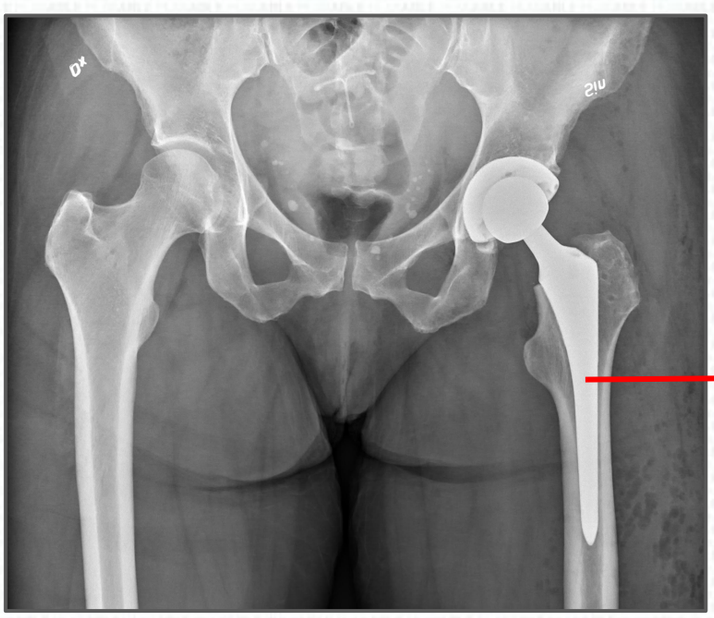
Management

- Internal fixation of the femoral head
- Total Hip Replacement in case of AVN

Fracture Neck of Femur

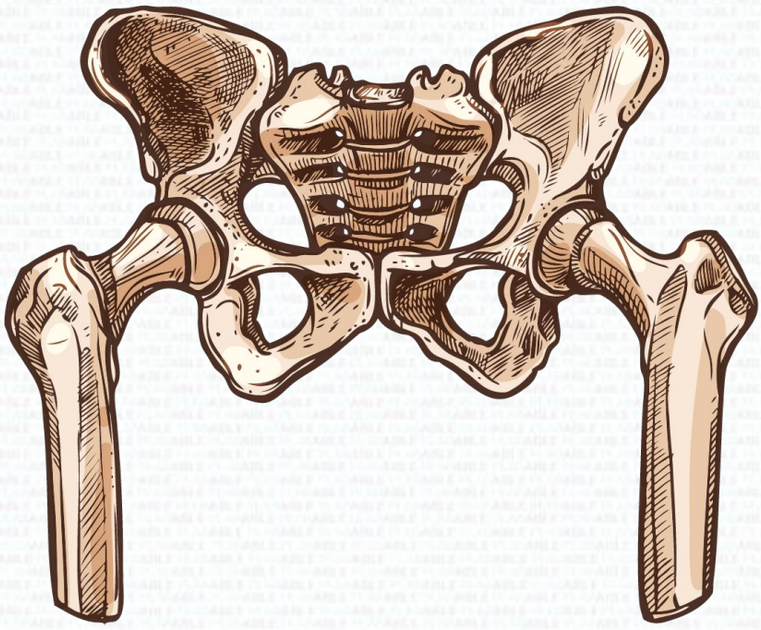
Femoral neck #





Total hip replacement

Hips - Always X-ray first



AP X-ray views of the hips are very important! Always pick X-rays of hips as the investigation of choice in the exam in scenarios involving the hips. Examples include:

- Fracture Neck of Femur
- Perthes disease
- Dislocation of prosthetic hips
- Developmental Hip Dysplasia

Fascia Iliaca Compartment Block

Useful for → **Pre-operative analgesia for patients with neck of femur or femoral shaft fractures**

Reason

- Reduces the need for systemic opioids

Remember, most patients with neck of femur fractures are eldery and are susceptible to side effects of morphine so a fascia iliaca block would reduce the amount of intravenous morphine required

Contraindications include

- Anticoagulation

Click on the syringe to watch a YouTube video on fascia iliaca blocks

Osteoarthritis

Presentation

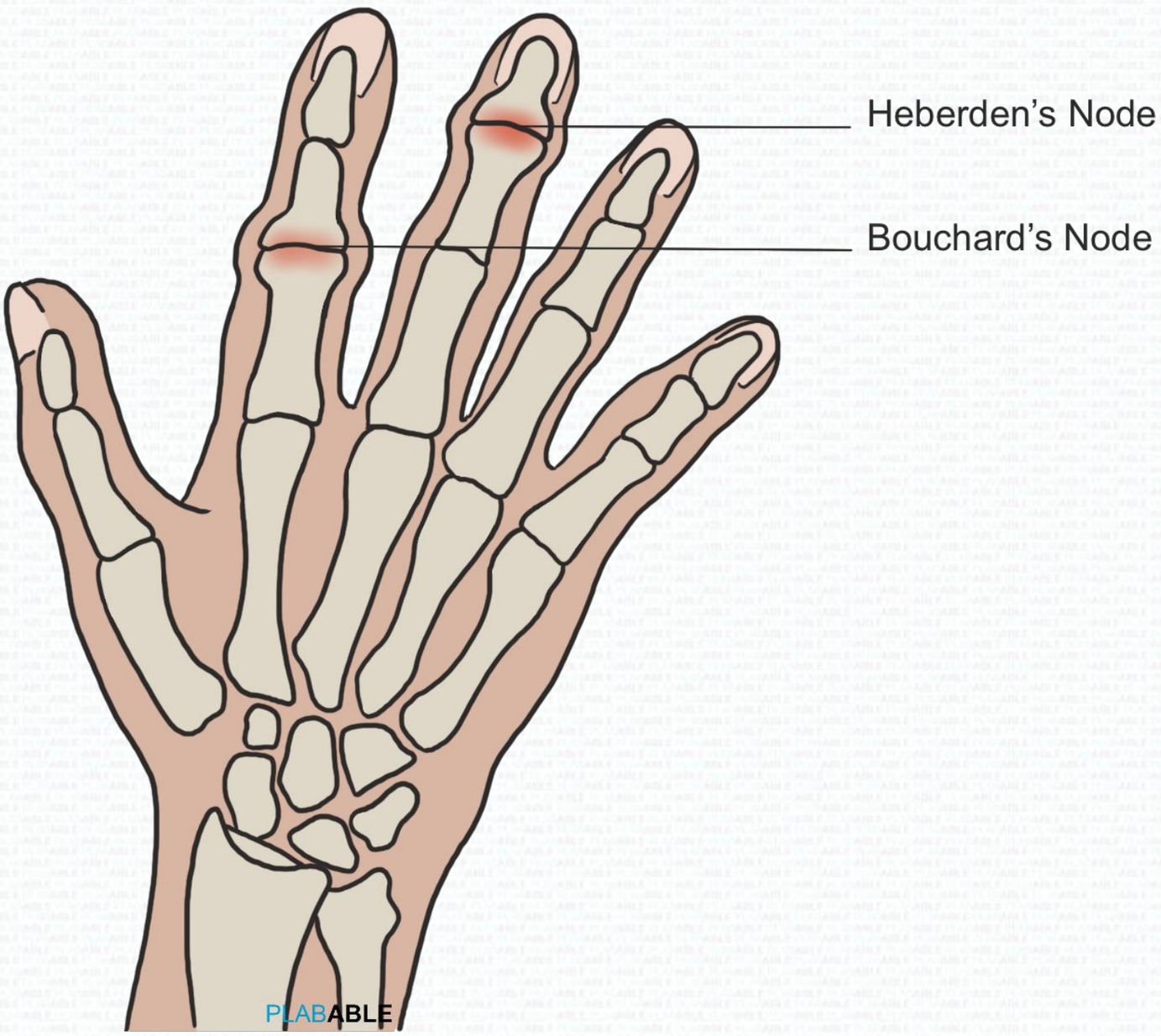
- Joint pain ↑ during activity and ↓ by rest
- Commonly affects weight bearing joints such as Hip and Knee
- Joint crepitus and tenderness
- **Bone swelling: Remember the mnemonic "HD:BP"**
  - **H**eberden's nodes → **D**istal IP joints
  - **B**ouchard's nodes → **P**roximal IP joints

Risk factors: Old age and overweight

X-ray

- **L** - Loss of joint space
- **O** - Osteophytes
- **S** - Subchondral cysts
- **S** - Subchondral sclerosis

Osteoarthritis: Heberden's Node And Bouchard's Node



Osteoarthritis

Management

- Pain management: paracetamol, NSAIDs *(usually topical)*, weak opioids
- Weight reduction and physiotherapy
- Joint replacement surgery (last resort)

Typical cases

Newly diagnose + in pain

→ Start on paracetamol and topical NSAIDs

Already on paracetamol and topical NSAIDs

→ Codeine (always use codeine before tramadol)

→ Oral NSAIDs can also be used if there is no contraindication such as peptic ulcer or an elderly person at risk of a GI bleed

Osteoarthritis

The three medications you must remember

1. Paracetamol
2. Topical NSAIDS (like ibuprofen gel)
3. Codeine

Why did we omit oral NSAIDS?

Sure oral NSAIDS have a place for osteoarthritis, however, it is uncommon that you would use it because osteoarthritis is a long term condition and the people that do have it are usually elderly.

It would not be wise to start NSAIDS to be used long term in a patient who is elderly due to the risk of GI bleeding

Rheumatoid Arthritis Vs Osteoarthritis

	Osteoarthritis	Rheumatoid Arthritis
Age of onset	**>50 years**	30-50 years
Joints affected	• Unilateral monoarthritis • Hip and knee joints affected • DIP can be i**nvolved**	• Symmetrical polyarthritis • MCP, PIP and MTP joints affected • DIP joint **spared**
Heberden's nodes	Frequent	Absent
X-ray findings	• **L**oss of joint space • **O**steophytes at joint margin • **S**ubchondral sclerosis • **S**ubchondral cysts (mnemonic **LOSS)**	• Loss of joint space • Juxta-articular osteoporosis • Periarticular erosions • Subluxation

Mallet Finger

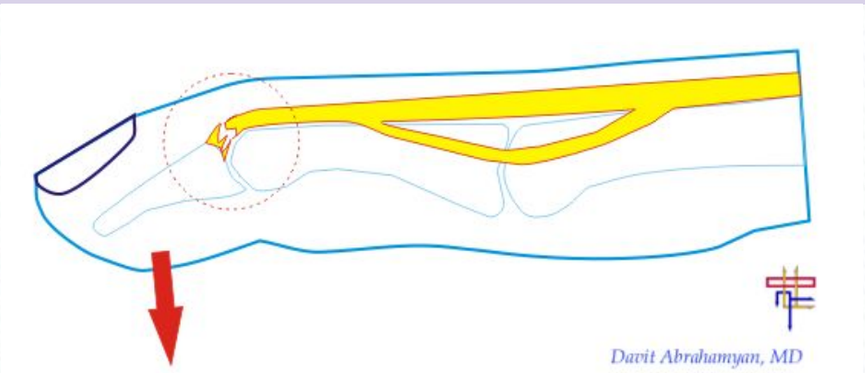
Rupture of extensor tendon of the finger

Presentation

- Fixed flexion deformity at DIP joint
- Swelling and ecchymosis
- H/O trauma

Management

- Partial tear: splint
- Complete tear: surgical fixation



Jersey finger: Rupture of Flexor digitorum profundus causing loss of flexion

Trigger Finger

- Also known as stenosing flexor tenosynovitis
- The finger becomes 'locked' after flexion
- Difficulty in straightening the finger without pulling on it by the other hand.

Management

- Splinting
- Steroid injection
- Surgery - widening of the tendon sheath

Gamekeeper's or Skier’s thumb

- Rupture of the Ulnar collateral ligament
- Thumb is hyperextended and deviated laterally

Osteoporosis

Bone mineral density ≤ -2.5 from the mean

Risk factors

- Increasing age
- Female sex (post-menopausal)
- Corticosteroid use
- Cushing's syndrome
- Primary hyperparathyroidism

Presentation

- Fracture with even low trauma

Investigations

- DEXA scan
- Normal calcium and PTH

Management

- Bisphosphonates - alendronate (first-line)

Other treatments include

- Calcium and Vit D supplements
- Denosumab

Osteoporosis

Primary prevention

- People with risk of osteoporosis

Secondary prevention

- ≥50 years + fragility fracture

Fracture risk assessment using QFRACTURE or FRAX (QFRACTURE is preferred)

If 10-year major osteoporotic fracture risk ≥10%, do DEXA scan

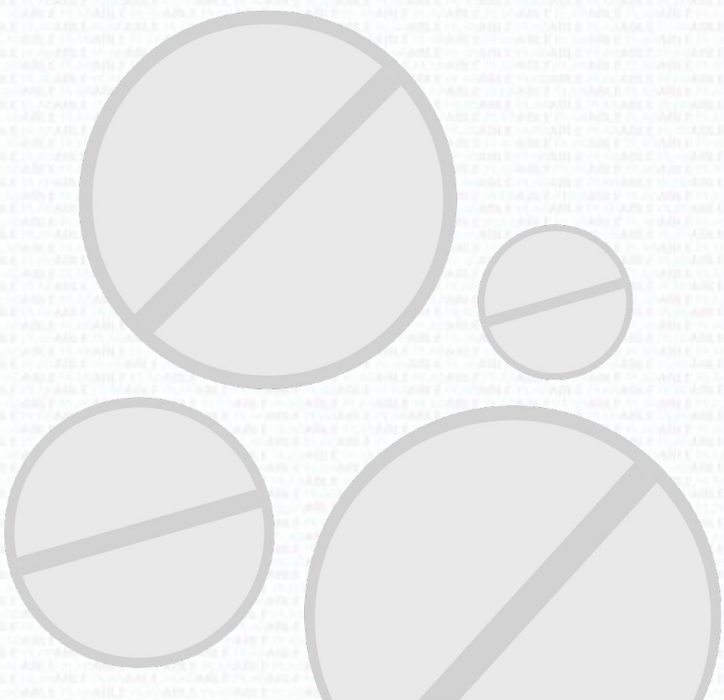
Do DEXA scan

Offer treatment if T-score <-2.5

Osteoporosis and Calcium

NICE Guidelines	SIGN Guidelines
Daily calcium intake • **1000 mg/day**	**Daily calcium intake** • **700 mg/day**

In general, if patient does not manage to keep up his daily calcium intake, he should be started on calcium and Vitamin D supplements.

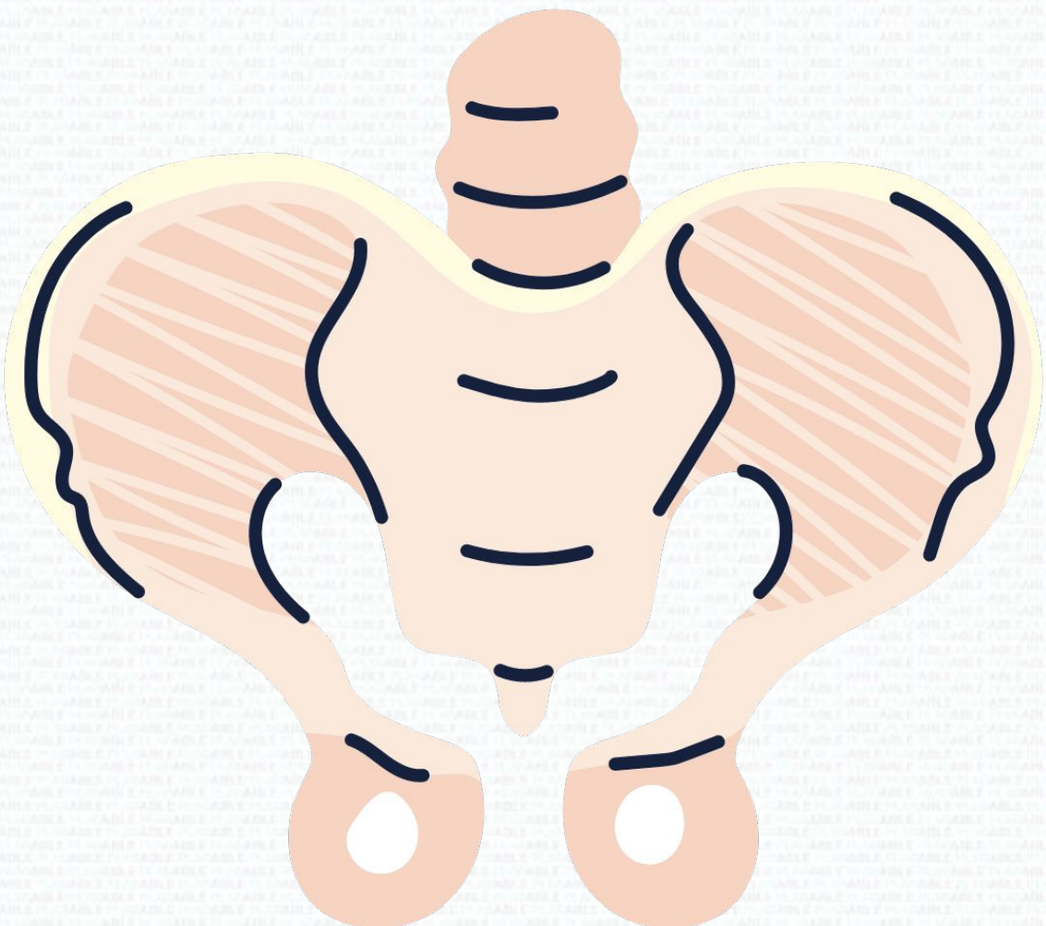


Example: 2 tablets of calcichew D3 *(contains 1000 mg of calcium and 400 IU of vitamin D)*

DEXA

What test would you perform to check the risk of future fractures?

DEXA Scan



Tennis Elbow

Lateral epicondylitis at the common origin of extensor forearm muscles due to repeated activity

Presentation

- Pain and tenderness at the **lateral epicondyle** of the humerus
- Positive Cozen's test (pain on resisted extension of the wrist)

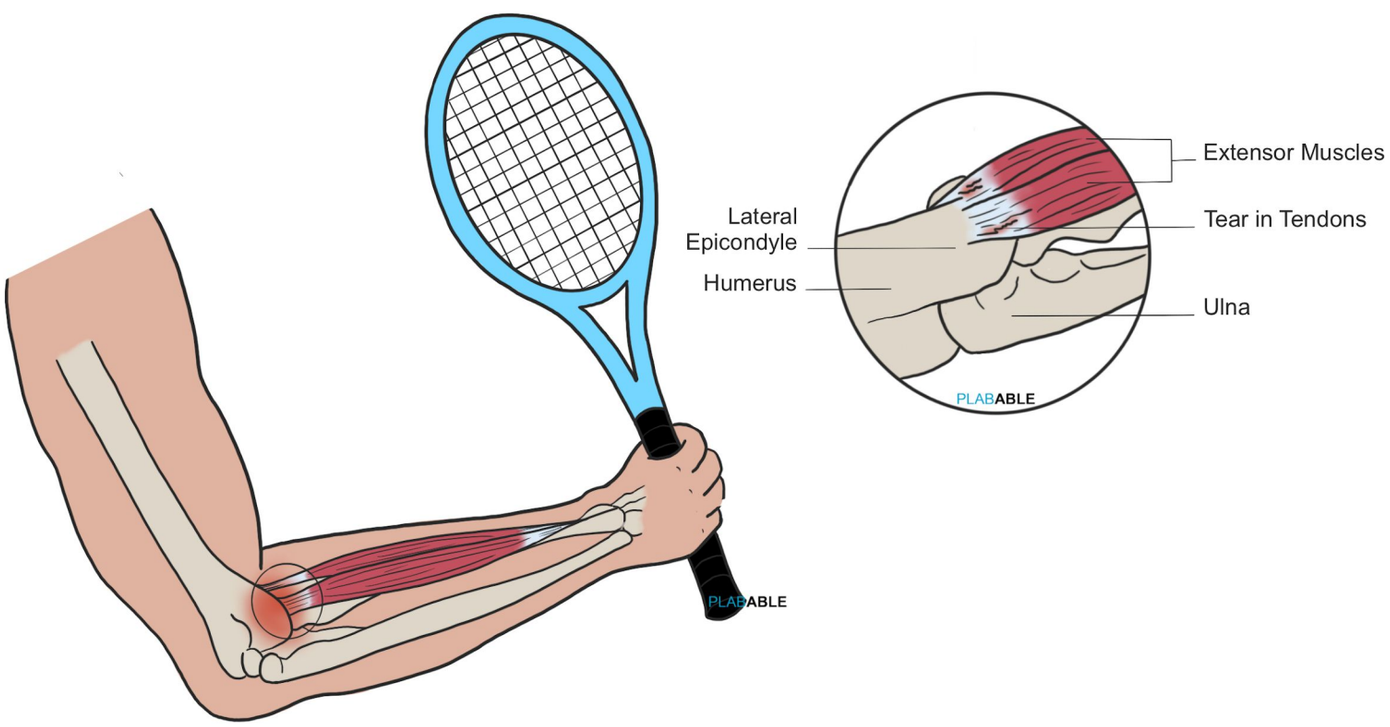
Management

- Activity modification
- NSAIDs
- Local steroid injection
- Physiotherapy
- Surgical release of the extensors (last resort)

Remember the mnemonic is "**T**" for **T**ennis elbow

- La**T**eral epicondylitis
- Ex**T**ensor of wris**T**

Tennis Elbow



Tennis Elbow

Golfer’s Elbow

Medial epicondylitis at the common origin of flexor forearm muscles due to repeated activity

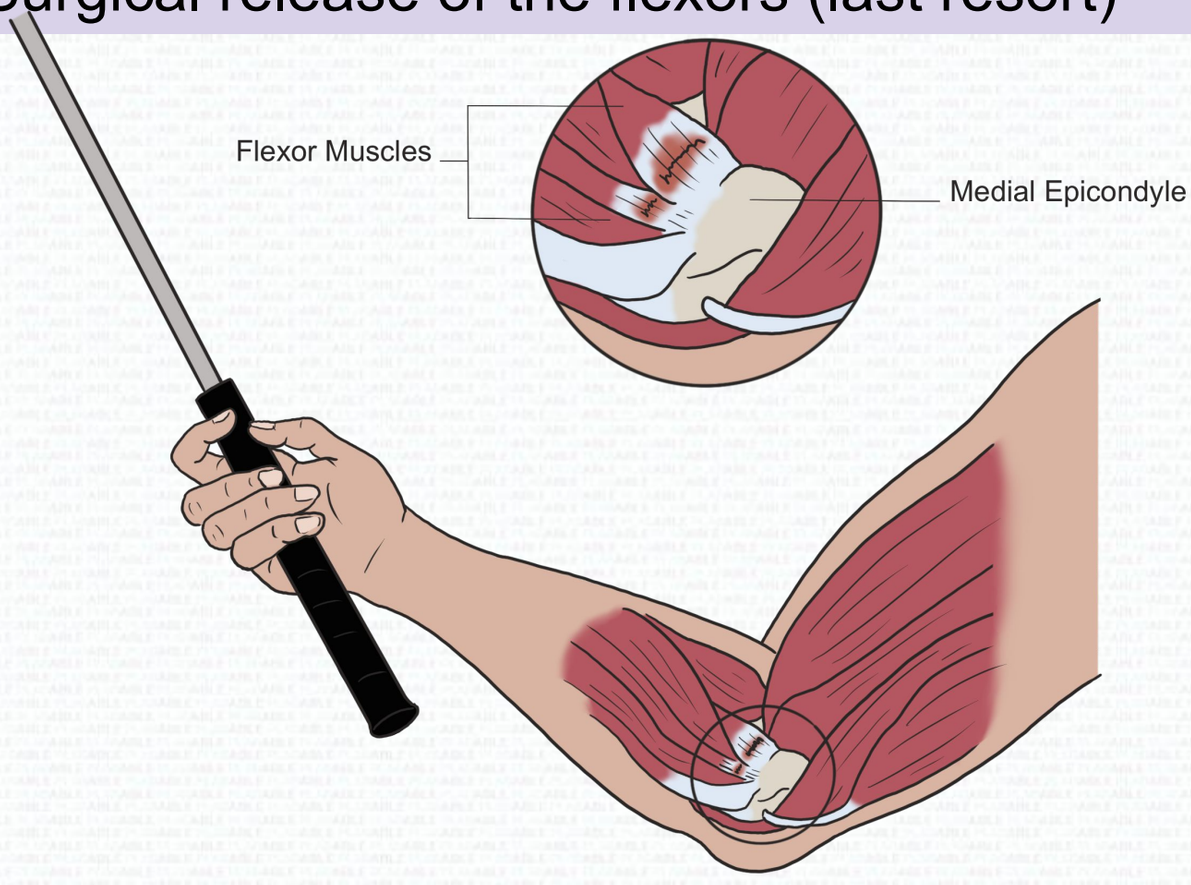
Presentation

- Pain and tenderness at the medial epicondyle of the humerus
- Pain increases on wrist flexion and pronation

Remember the mnemonic gol**FE**rs → **F**l**E**xors of wrist

Management

- Activity modification
- NSAIDs
- Local steroid injection
- Physiotherapy
- Surgical release of the flexors (last resort)



Golfer’s Elbow (Medial Epicondylitis)

Tennis and Golfer's Elbow

A (hopefully non offending) good memory tool to remember is:

Ladies play Tennis

Lateral epicondylitis

Ladies *EXTEND* their wrist to look delicate

Man play Golf

Medial epicondylitis

Man *FLEX* their wrist to look strong

Septic Arthritis

Presentation

- Single swollen and red joint
- Pain on active or passive movement
- Fever and rigors
- Common organisms:
  - Overall - *S.aureus*
  - Sexually active adults - *N. gonorrhoea*
- Commonly involved joint is knee

Investigation

- Aspiration of synovial fluid
- Blood culture

Management

- Flucloxacillin for 4-6 weeks
- Cefotaxime or ceftriaxone (gonococcal arthritis)

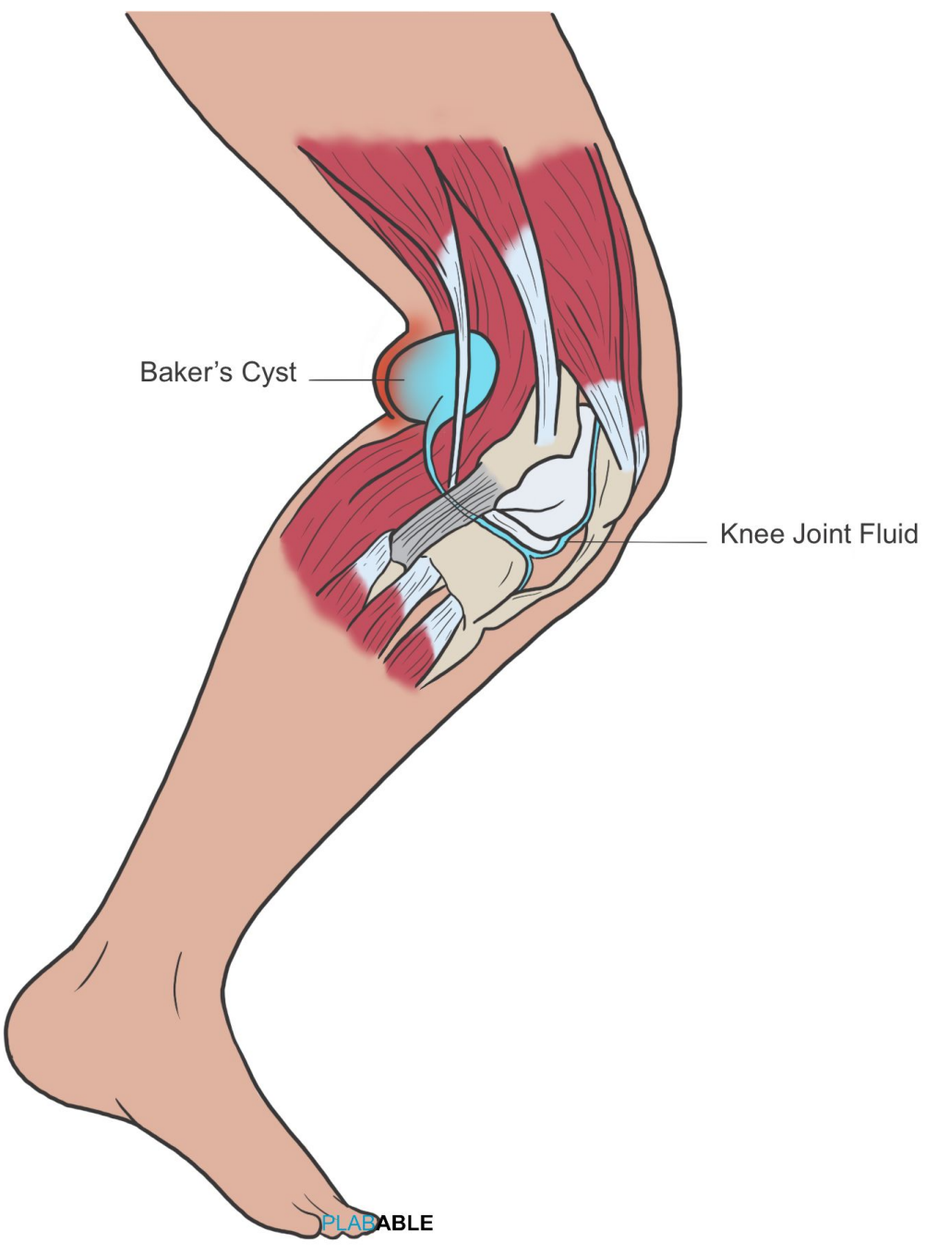
Septic Arthritis Vs Reactive Arthritis

	Septic arthritis	Reactive arthritis
Causative organism	Staphylococcus aureus	C. trachomatis and C. pneumoniae
Type of arthritis	Monoarthritis (commonly knee)	Migratory oligoarthritis of lower limbs
Presentation	• Fever • Joint pain • Swelling • Restriction of movement	Reiter's triad : • Cannot see → Conjunctivitis • Cannot pee → Urethritis • Cannot climb a tree → Arthritis Also has skin manifestations
Synovial fluid aspiration	Growth of causative organism on culture	High WBC count

Baker’s Or Popliteal Cyst

Presentation

- Popliteal mass and occasional pain
- Cyst rupture resulting in calf swelling and pain
- Risk factors include osteoarthritis and rheumatoid arthritis



Baker’s Cyst

Baker’s Or Popliteal Cyst

Management

- Diagnosis is confirmed by USG
- Most cases are treated conservatively
- Asymptomatic Baker’s cyst do not need treatment
- Aspiration of fluid
- If very symptomatic, surgical removal of the cyst (last resort)

A ruptured Baker’s cyst can look very similar to a DVT. In the exam, look for points that would weigh the scale more towards a Baker’s cyst instead of a DVT such as osteoarthritis or a previous lump behind the knee.

Slipped Capital Femoral Epiphysis

Fracture through the growth plate causing slippage of the overlying end of the femoral metaphysis

Presentation

- Pain or discomfort in the groin or knee
- Common in obese adolescent boys
- Limp on the affected side

Remember the mnemonic for slipped upper femoral epiphysis "**SUFE**"

- **S** - **S**hortening of the limb
- **U** - **U**nable to abduct
- **F** - **F**lexed hip will rotate externally
- **E** - **E**xternal rotation of the hip is seen

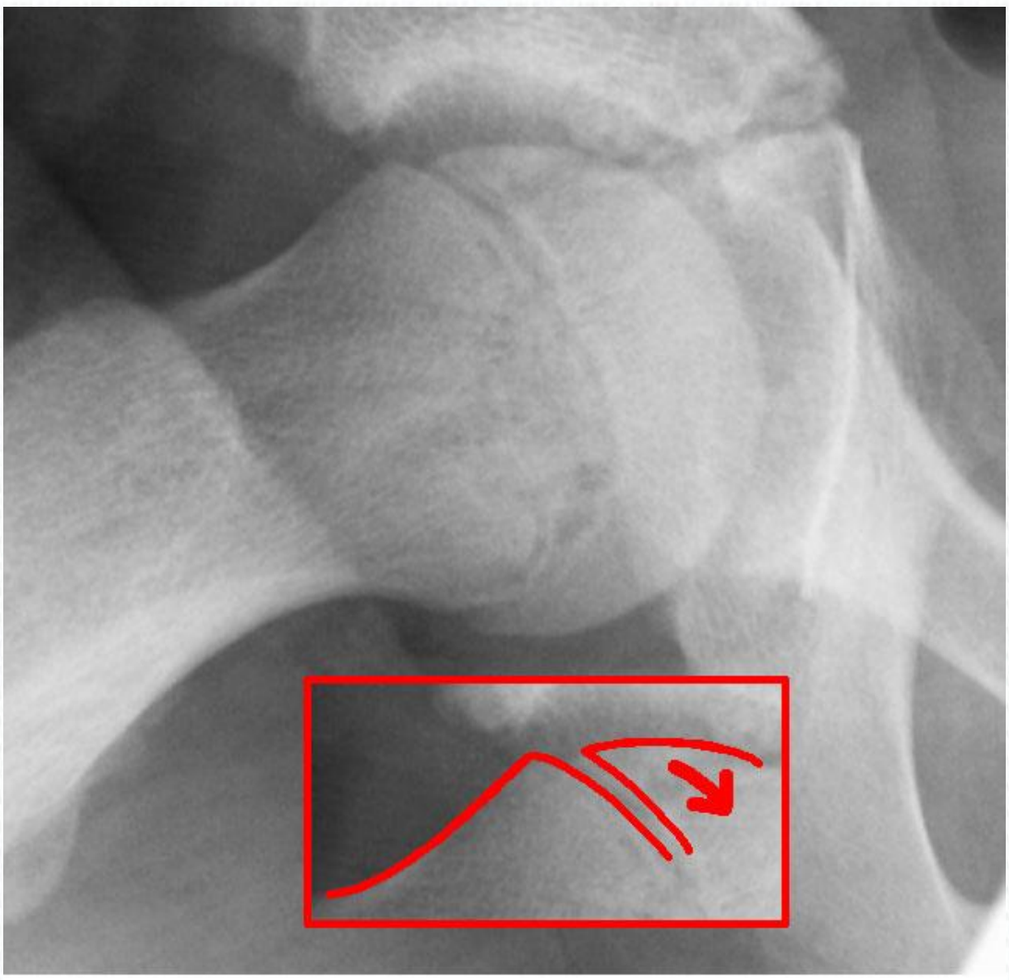
Investigation

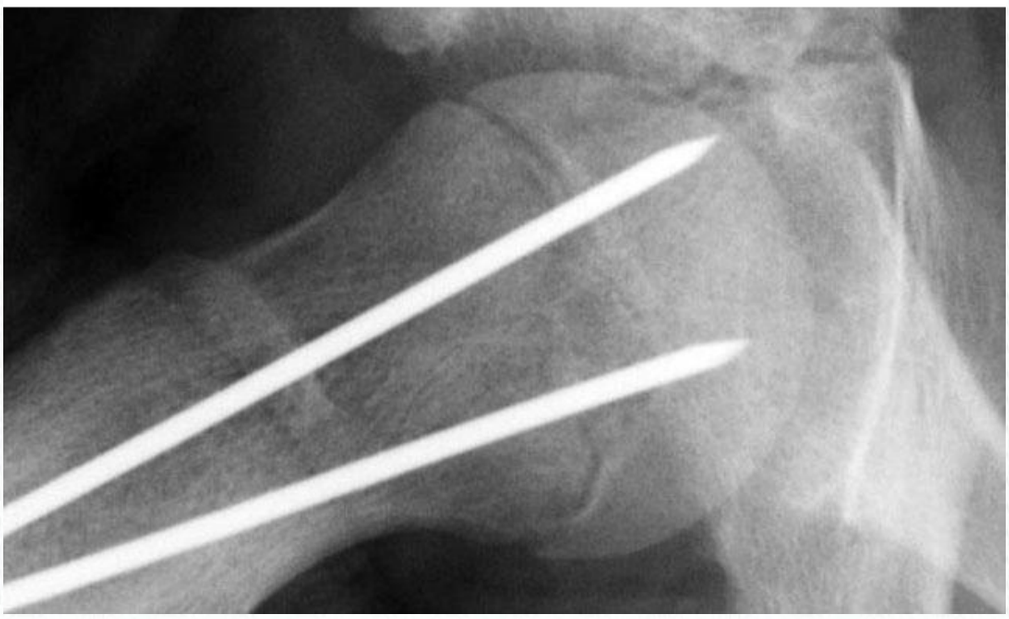
- X-ray in frog leg position shows the widening of the epiphyseal line or displacement of the femoral head

Management:

- Surgical fixation through the growth plate

Slipped Capital Femoral Epiphysis





Toddler's Fracture

- It is a type of spiral fracture in toddlers (**1-3** years old)
- Mechanism → Twisting injury
- May **not** be seen on x-ray due to small size

Toddler + not walking after fall + mid-tibial tenderness → Suspect spiral fracture even if x-ray is normal

Management

The orthopaedics team will review the patient after **1-2 weeks** in the **outpatient fracture clinic** after adequate analgesia

Limps In Children

Remember the rule of 3's and 9's in limps

Below 3 years old

- Developmental dysplasia of hip
- Septic arthritis
- Toddler's fracture

3-9 years old

- Acute → Transient synovitis
- Chronic → Perthes disease

>9 years old

- Slipped upper femoral epiphysis

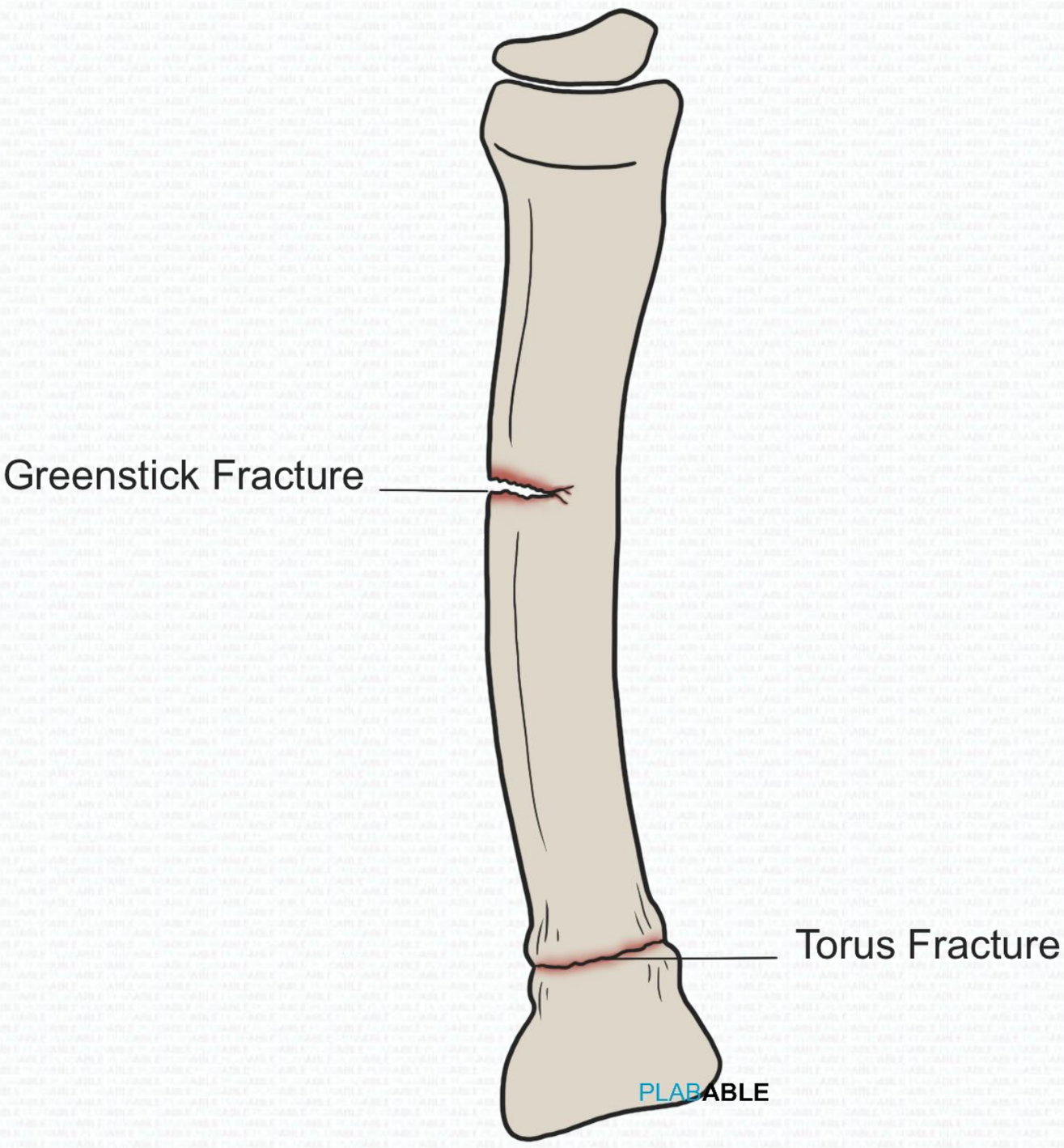
Incomplete Fractures In Paediatrics

Fractures in which the fracture line is either absent or does not completely traverse the width of the bone

Buckle fracture (torus fracture)	**Greenstick fracture**
• Disruption of the cortex on the side of the compressive force (**concave side) → Bulge appears** • **Convex side** is intact • Mild or no angulation at fracture site	• Disruption of the cortex and periosteum on the side of tension (**convex side**) • **Concave side** is intact • May have some degree of angulation
Occurs at **distal radius** at the junction of **metaphysis and diaphysis**	Occurs at the **diaphysis** of radius, ulna and fibula

Incomplete Fractures In Paediatrics

Remember the differences between Greenstick and Torus Fractures



Foot Fractures

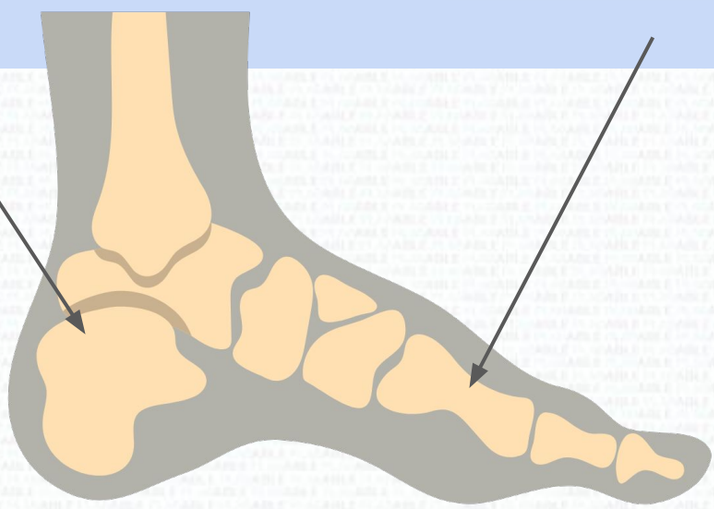
Vertical fall on feet

Stress fracture

Which bone is fractured?

Calcaneus

Metatarsals



Remember the mnemonic “**CAL**”.
Verti**CAL** fall → **CAL**caneal fractures

Calcaneal fractures can be associated with **spinal fractures**. Always examine for spinal fractures in such patients.

VTE Prophylaxis

VTE prophylaxis is usually given for any patient post-operatively who cannot weight bear

Examples:

- Hip replacement
- Knee replacement
- Open ankle surgeries

LMWH prophylactic dose or **DOACs** prophylactic dose are suitable options

LMWH is given subcutaneously

DOAC is given orally

Search the question bank for this question code for more information on this topic

HE 3020

Occupational Health Vs Occupational Therapist

Occupational health teams are employed by companies to address health-related problems that employees raise.

Example:

If an employee has backaches because he works a desk job for 8 hours a day, he may take sick leave. This will not benefit the employee or the employer. But if he presented to occupational health and occupational health suggested to the employer to purchase an ergonomic chair for him, he may not have backaches and would not need to go on sick leave. A win-win for both employer and employee.

Occupational therapist help patients who have difficulty carrying day to day activities due to disability.

Example:

If a patient had a stroke and could not walk permanently. The occupational therapist may go into the house and request specific equipment that would facilitate the patient's disability such as a stairlift/bannisters.

Physiotherapist Vs Occupational Therapist

Both have a good understanding of muscular skeletal systems and their function.

Physiotherapist help patients restore movement and function to a patient with an injury or disability with use of exercise.

Example:

If a patient has a stroke and cannot walk. Physiotherapist would encourage the patient to do strength exercises to enable them to mobilise the best they can.

Occupational therapist help patients who have difficulty carrying day to day activities due to disability.

Example:

If a patient had a stroke and could not walk permanently. The occupational therapist may go into the house and request specific equipment that would facilitate the patient's disability such as a stairlift/bannisters.

In other words, a physiotherapist gets you from A to B. The occupational therapist gets you from B onwards.

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