



433 Teams

# ORTHOPEDICS

OSCE

## Orthopedic History Taking

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## Structure Of History

1. Demographic features
2. Occupational Hx (**important!!**)
3. Chief complaint (Pain, Swelling,...)
4. History of presenting illness
  - ❖ **Analysis of the chief complaint**
  - ❖ **Constitutional symptoms (RED FLAGS)**
  - ❖ **Associated symptoms**
  - ❖ **Ask specifically about the related diseases (SLE, TB, sickle cell disease, malignancies, IBD)**
5. Functional level
  - ❖ **Ask about recreations**
6. MSK systemic review
7. Systemic enquiry
8. Past medical history
9. Past surgical history
10. Drug Hx
11. Smoking
12. Allergy
13. Family Hx
14. Social Hx

### MSK Complains (only 9 symptoms):

- |                |                      |
|----------------|----------------------|
| 1. Pain        | 6. Loss of functions |
| 2. Stiffness   | 7. Altered sensation |
| 3. Swelling    | 8. Weakness          |
| 4. Instability | 9. Limp              |
| 5. Deformity   |                      |

# 1) Now we will take each MSK symptom in more details

Pain	Instability
<ul style="list-style-type: none"> <li>• <b>Location</b> <ul style="list-style-type: none"> <li>▪ Point with a <b>finger</b> to where it is</li> </ul> </li> <li>• <b>Radiation</b> <ul style="list-style-type: none"> <li>▪ Does the pain go anywhere else</li> </ul> </li> <li>• <b>Type</b></li> <li>• <b>How long have you had the pain?</b></li> <li>• <b>How did it start?</b> <ul style="list-style-type: none"> <li>▪ Injury: <ul style="list-style-type: none"> <li>○ Mechanism of injury</li> <li>○ How was it treated?</li> </ul> </li> <li>▪ Insidious</li> </ul> </li> <li>• <b>Progression</b> <ul style="list-style-type: none"> <li>▪ Is it better, worse, or the same</li> </ul> </li> <li>• <b>When</b> <ul style="list-style-type: none"> <li>▪ Mechanical / Walking</li> <li>▪ Rest</li> <li>▪ <b>Night</b></li> <li>▪ Constant</li> </ul> </li> <li>• <b>Aggravating &amp; Relieving Factors</b> <ul style="list-style-type: none"> <li>▪ Stairs</li> <li>▪ Start up, mechanical</li> <li>▪ Pain with twisting &amp; turning</li> <li>▪ Up &amp; down hills</li> <li>▪ Kneeling</li> <li>▪ Squatting</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Onset</b></li> <li>• <b>How dose it start?</b></li> <li>• <b>Any Hx of trauma?</b></li> <li>• <b>Frequency</b></li> <li>• <b>Trigger/aggravated factors</b></li> <li>• <b>Giving way</b></li> <li>• <b>Locking</b></li> <li>• <b>I cannot trust my leg!</b></li> <li>• <b>Associated symptoms</b> <ul style="list-style-type: none"> <li>▪ Swelling</li> <li>▪ Pain</li> </ul> </li> <li>• <b>Mechanical Symptoms</b> <ol style="list-style-type: none"> <li>1. <b><u>Locking / Clicking</u></b> Due: <ul style="list-style-type: none"> <li>○ Loose body,</li> <li>○ Meniscal tear</li> <li>❖ Locking vs. pseudo-locking</li> </ul> </li> <li>2. <b><u>Giving way</u></b> Due: <ul style="list-style-type: none"> <li>○ ACL</li> <li>○ Patella</li> </ul> </li> </ol> </li> </ul>
Deformity	Swelling
<ul style="list-style-type: none"> <li>• <b>When did you notice it?</b></li> <li>• <b>Progressive or not?</b></li> <li>• <b>Associated with symptoms</b> → pain, stiffness, ...</li> <li>• <b>Impaired function or not?</b></li> <li>• <b>Past Hx of trauma or surgery</b></li> <li>• <b>PMHx (neuromuscular, polio)</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Onset</b></li> <li>• <b>Duration</b></li> <li>• <b>Painful or not</b></li> <li>• <b>Local vs. generalized</b></li> <li>• <b>Constant vs. comes and goes</b></li> <li>• <b>Size progression: same or ↑</b></li> <li>• <b>Rapidly or slowly</b></li> <li>• <b>Aggravated &amp; relived factors</b></li> <li>• <b>Associated with injury or reactive</b></li> <li>• <b>From: soft tissue, joint, or bone</b></li> </ul>

Limping	Loss of function
<ul style="list-style-type: none"> <li>• <b>Onset</b> (acute or chronic)</li> <li>• <b>Traumatic or non-traumatic ?</b></li> <li>• <b>Painful vs. painless</b></li> <li>• <b>Progressive or not ?</b></li> <li>• <b>Use walking aid ?</b></li> <li>• <b>Functional disability ?</b></li> <li>• <b>Associated</b> → swelling, deformity, or <b>fever</b>.</li> <li>• <b>Constitutional symptoms</b></li> <li>• <b>Recent infections</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>How has this affected the patient's life</b></li> <li>• <b>Home</b> (daily living activities DLA)                             <ul style="list-style-type: none"> <li>▪ Prayer</li> <li>▪ Squat or kneel for gardening</li> <li>▪ Using toilet</li> <li>▪ Getting out of chairs / bed</li> <li>▪ Socks</li> <li>▪ Stairs</li> <li>▪ Walking distance</li> <li>▪ Go in &amp; out of car</li> </ul> </li> <li>• <b>Work</b></li> <li>• <b>Sport</b> <ul style="list-style-type: none"> <li>▪ Type &amp; intensity</li> <li>▪ Run, jump</li> </ul> </li> </ul>
Altered sensation*	Stiffness*
<ul style="list-style-type: none"> <li>❖ Tingling or numbness signifies interference with nerve function – pressure from a neighbouring structure (e.g. a prolapsed intervertebral disc), local ischaemia (e.g. nerve entrapment in a fibro-osseous tunnel) or a peripheral neuropath</li> <li>❖ It is important to establish its exact distribution; from this we can tell whether the fault lies in a peripheral nerve or in a nerve root.</li> <li>- <b>What makes it worse or better?</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Generalized or localized</b> <ul style="list-style-type: none"> <li>○ Generalized =&gt; RA , ankylosing spondylitis</li> <li>○ Localized =&gt; to a particular joint.</li> </ul> </li> <li>- <b>When it occurs?</b> <ul style="list-style-type: none"> <li>○ Early morning =&gt; Ra</li> <li>○ After periods of inactivity =&gt; osteoarthritis</li> </ul> </li> <li>- <b>Locking?</b> <ul style="list-style-type: none"> <li>○ Locking' is the term applied to the sudden inability to complete a particular movement. It suggests a mechanical block – for example, due to a loose body or a torn meniscus becoming trapped between the articular surfaces of the knee.</li> </ul> </li> <li>- <b>Duration</b></li> </ul>
Weakness*	
<ul style="list-style-type: none"> <li>❖ Generalized weakness is a feature of all chronic illness, and any prolonged joint dysfunction will inevitably lead to weakness of the associated muscles.</li> <li>❖ However, pure muscular weakness – especially if it is confined to one limb or to a single muscle group – is more specific and suggests some neurological or muscle disorder.</li> <li>- <b>Which movements are affected?</b></li> </ul>	

\* How to take history for these symptoms wasn't mentioned in dr's slides, so I took them from Apley's



## 2) Red Flags

1. Weight loss
2. Fever
3. Loss of sensation
4. Loss of motor function
5. Sudden difficulties with urination or defecation

## 3) Risk Factors

- Age (the extremes)
- Gender
- Obesity
- Lack of physical activity
- Inadequate dietary calcium and vitamin D
- Smoking
- Occupation and Sport
- Family History (as: SCA)
- Infections
- Medication (as: steroid)
- Alcohol
- PHx MSK injury/condition
- PHx Cancer

## 4) Current and Previous History of Treatment

### ❖ Non-operative:

- Medications:
  - Analgesia
  - Antibiotic
  - Patient's own
- Physiotherapy
- Orthotics:
  - Walking aid
  - Splints

### ❖ Operative:

- What, where, and when?
- Perioperative complications

## Now Special MSK

Pediatric
<ul style="list-style-type: none"> <li>• <b>Product of</b> → F.T or premature</li> <li>• <b>Pregnancy</b> → normal or not</li> <li>• <b>Delivery</b> → SVD (cephalic vs. breach), C/S (elective vs. E.R)</li> <li>• <b>Family</b> → parents relatives, patient sequence, F/H of same D.</li> <li>• <b>Any</b> → NICU, jaundice, blood transfusion</li> <li>• <b>Vaccination</b></li> <li>• <b>Milestones</b> → neck, flip, sit, stand, walk</li> <li>• <b>Who noticed the C/O</b></li> </ul>
Spine
<ul style="list-style-type: none"> <li>• <b>Pain radiation</b> → as L4, exact dermatome/myotome</li> <li>• Coughing, straining</li> <li>• <b>Sphincter control</b> (urine &amp; stool)</li> <li>• <b>Shopping trolleys</b> (forward flexion)</li> <li>• <b>Neuropathic:</b> <ul style="list-style-type: none"> <li>▪ <b>Increase</b> → back extension &amp; walking downhill</li> <li>▪ <b>Improves</b> → walking uphill &amp; sitting</li> </ul> </li> <li>• <b>Vascular:</b> <ul style="list-style-type: none"> <li>▪ <b>Increase</b> → walking uphill (generates more work)</li> <li>▪ <b>Improves</b> → stop walking (stand) is better than sitting due to pressure gradient</li> </ul> </li> <li>• <b>Cervical myelopathy:</b> <ul style="list-style-type: none"> <li>▪ Hand assessment</li> <li>▪ Coughing, straining</li> <li>▪ Red Flags</li> <li>▪ Constitutional symptoms → fevers, sweat, weight loss</li> <li>▪ Pain → night or rest</li> <li>▪ Immunosuppression</li> </ul> </li> </ul>

## Shoulder

- **Age of the patient**
  - Younger patients more:
    - **Shoulder instability,**
    - **Acromioclavicular joint injuries**
  - Older patients more:
    - **Rotator cuff injuries,**
    - **Degenerative joint problems**
- **Mechanism of injury**
  - Abduction & external rotation → dislocation of the shoulder
  - **Chronic pain upon overhead activity or at night time → rotator cuff problem**
- ❖ **Pain where:**
  - Rotator Cuff → anterolateral & superior
  - Bicipital tendonitis → referred to elbow
- ❖ **Stiffness, Instability, Clicking, Catching, Grinding:**
  - Initial trauma
  - What position
  - How often
- ❖ **Weakness → if large tear in the R.C, not as neuro**
- ❖ **Loss of function:**
  - Home:
    - Dressing → coat, bra
    - Grooming → toilet, brushing hair
    - Lift objects
    - Arm above shoulder → top shelves, hanging
  - Work
  - Sport
- ❖ **Referred pain → cardiac ischemia, mediastinal disorders**

## Knee

- ❖ **Injury → as: ACL**
  - Mechanism → position of leg at time of injury
  - Direct / indirect
  - Audible POP
  - Did it swell up:
    - **Immediately (haemarthrosis)**
    - **Delayed (traumatic synovitis)**
  - What first aid was done / treated
  - Could continue football match or had to leave
- ❖ **Insidious → as O.A**
  - Walking distance
  - Walking aid
  - How pray → regular or chair
  - Cross legs on ground
  - Squat (traditional toilet)
  - Swelling on & off
  - Old injury intra-articular

## Now we will review some important topics

### 1) Infection:

General symptoms you might see infectious disease: Pain, fever, malaise, restlessness, loss of function  
 Locally: swelling at a limb usually near a joint like knee or hip or shoulder with increased local temperature.

### TB

- Personal information: Ask about **job** ( maybe he/she is a doctor and didn't take precaution )
- Hx: **Weight loss/anorexia -Fever -Night sweats** may present with pain ( depends on the location )
- Contact with **TB** patient
- Past medical h History of infections ( TB )
- Surgical Hx
- Past drug Hx
- Family Hx History of **infection in the family**
- Social Hx Living situation
- **Travel Hx**

### -TB Spine (Pott's disease)

- May present with back pain! The rest of symptoms are above,
- TB could occur in the spine:
- ✓ Thoracic (50%) – lumbar (25%) and **might cause Equida Equine** – cervical (25%)

### -Brucellosis

- Personal information: Ask about **job** ( **farmer who drinks raw milk** )
- Hx: Back pain Fever Wight loss Sweats
- Travel Hx

### - Osteomyelitis

- Risk factors:
- ✓ **Increasing age, obesity, family history, female.**
- \*Hx: Pain (worse with exercise, morning < 30min) Fever Malaise Restlessness Loss of function Swelling



## -Chronic OM

- **Common** in: Inappropriately treated acute OM  
Trauma Immunosuppressed Diabetics IV drug abusers

## -Septic Arthritis

- Hx: Pain Swollen, red and warm joint. Fever.
- Risk factors: Existing joint problems. Weak immune system Joint trauma

## 2) Pediatric:

### - Developmental Dysplasia of the Hip (DDH)

- Mechanical causes:
  1. Pre natal => Breech , oligohydrominosis , primigravida , twins (Torticollis, metatarsus adductus )
  2. Post natal => Swaddling, strapping
  3. Other causes: First pregnancy Large baby
- **Infants at risk:**
- Positive family history: 10X A baby girl: 4-6 X Torticollis: CDH in 10-20% of cases Foot deformities:
- Calcaneo-valgus and metatarsus adductus Knee deformities: Hyperextension and dislocation
- Hx: You might notice that one leg is longer than the other. One hip may be less flexible than the other.

### -Slipped capital femoral epiphysis (SCFE)

- Typical: **8-12 yr.** ♂ in males, ♀ in obese, ♀ in black, ♀ If other side affected
- Hx: Hip pain /? Knee pain (only) Minor trauma No trauma
- **Limping (painful) Problems walking. Less movement than usual in the hip.**

### -Perthes

- Hx: Hip pain or knee pain Minor trauma or no trauma Painful limping Limited range of motion of the hip joint.

### -Leg Aches

- Hx: At long bones of L.L (Bil) Dull aching, poorly localized Can be without activity At

night Of long duration (months) Responds to analgesia.

## -Limb Length Inequality

- Hx: Gait disturbance Equinus deformity Pain: back, leg Scoliosis (secondary)

## 3) Compartment syndrome:

- ❖ **Risk factors (causes):**
  - ✓ Trauma Burns Injection
  - ✓ Bleeding within the compartment
  - ✓ Prolonged vascular occlusion
  - ✓ Venomous bite Intra-osseous
  - ✓ fluid replacement
  - ✓ IV fluid extravasation
  - ✓ Tight bandage Post-surgery
- ❖ **\*Hx:**
  - ✓ Most important sign is **PAIN** (Pain that seems greater than expected for the severity of the injury).
  - ✓ **It increases while stretching the involved compartment**
  - ✓ Presence of Risk Factors: like tibia fracture DM and hypertension.
  - ✓ **4 Ps: Paralysis, Paresthesia, Pallor and Pulslessness** Tight, woody compartment

## 4) Peripheral nerves:

### -Peripheral nerves over view:

- Symptoms: Dropping of objects Clumsiness Weakness Rule out systemic causes

### -Carpal Tunnel Syndrome

- **Risk Factors:** Obesity - Pregnancy - Diabetes - Thyroid disease -Chronic renal failure - Inflammatory arthropathy - Vitamin deficiency - Storage diseases - Alcoholism - Advanced age
- **Hx:** Paresthesias and pain, often **at night on the volar aspect** (thumb - index - long - radial half of ring) **Affected first → light touch + vibration Affected later → pain and temperature** Late findings: Weakness - loss of fine motor control - abnormal two point discrimination

## -Cubital Tunnel Syndrome

- Symptoms: Pain and numbness in the elbow Tingling, especially in the ring and little fingers
- History of sport and soft tissues injuries It will be swelling or pain takes history- then ask about bruises or discolorations.

## 5) Shoulder:

- Pain (OLD CARTS)
- ✓ Again, Ask how did he/she fall down (**mechanism**)? He/she might had Stroke for example, or just slipped

## -Subacromion impingement Syndrome:

- Nocturnal pain, **exacerbated by lying on the involved shoulder or sleeping with the arm overhead**
- Exacerbation of symptoms with: • Shoulder elevation at or above 90° • With lifting items Away from the body. (**Overhead activity**)

## -Rotator cuffs tear:

- Pain (more pain in partial tear) + stiffness

## -Adhesive capsulitis:

- Gradual stiffness and pain (not related to overhead activity) in the Shoulder + ask about history of **DM**
- ❖ **Risk factors:**
- Women 40-60 years. Thyroid dysfunction (hypo & hyper) Cervical spondylosis (arthritis). Breast cancer treatment (tamoxifen). Cerebrovascular accident. Cardiovascular disease Diabetes mellitus

## 6) Metabolic bone diseases:

- Hx:
- Pain Constitutional symptoms
- Risk factors: Sun exposure + previous history of pain or fracture at any site or same site
- Past medical: steroids? Social: smoking? Drinking? Drug abuser? Family Hx Inheritance disorders? (**Important**)
- Child: crying with no obvious reason, Ask mother if child is growing or not.
- Adults: generalized bone pain mainly backache (ask about previous episodes of the same presentation) ask about pain, then ask about (past medical history and surgical of

fractures) most fracture appears in femoral head (stress fracture) OA at wrist (colles).

## - Osteoporosis:

- ❖ Look at the age first (female after **menopause**, decrease estrogen).
- ❖ Ask about **smoking** /alcohol/ drug abuse - ask about **history of fractures or trauma**,
- ❖ Ask about pain and previous pain at the site to differentiate with other pathological Bone disease because no pain in osteoporosis.
- ❖ **If it happens in young age group 45yo rule out these causes:** Drug induced: steroids, alcohol, smoking, phenytoin, and heparin. Hyperparathyroidism, Hyperthyroidism, Cushing syndrome, gonadal disorders, malabsorption, malnutrition. Chronic diseases: RA, renal failure, tuberculosis.
- ❖ Malignancy: multiple myeloma, leukemia, metastasis.

## 7) Foot and ankle pain or swelling:

- ✓ Presenting illness:
- ✓ Pain (OLD CARTS) Swelling: when? Discharge? Color? Constitutional symptoms
- ✓ Risk factor: athletes

## -Plantar Fasciitis:

- Pain, **character is stabbing pain** when he put his weight while walking.
- Pain usually in **morning and become less after walking**.
- Pain is localized in heel.

## -Ankle sprains:

- Pain + Swelling + Bruise or redness
- Ask about previous activities or history of same condition before.
- (Q/ MOST COMMON ? Ant.Talofibular ligament lateral side)
- Don't forget in pain ask if it's associated with rest and activity and daytime or nighttime.

## -Osteochondral defect:

- Ask about recent trauma and pain if present in REST. If patient came with cuts in his or her leg with **no pain** think of **DM Foot**.
- Ask about **associated symptoms (neuropathic) senseless and tingling + specific DM symptoms like polyuria, weight loss, thirst and hunger**.
- Remember in your differential don't forget to say **Charcot foot**. Because it's resulted from neuropathy in the foot.
- Always ask about history of DM and if it was controlled or not.

## 8) Bone tumors:

- ❖ Hx:
  - **Gender + Age + job**
  - Presenting illness: Pain, Swelling? when +onset + character if change in color or with discharge.
  - Constitutional symptoms (**important**)
- ❖ **Risk factors of tumors:**
  - Radiation - Age - Alcohol - Chronic Inflammation - Diet - Hormones - Immunosuppression - Infectious Agents - Obesity - Sunlight - Tobacco Female: **Metastasis** from breast mostly
  - Males: usually from prostate
  - Past medical hx (history of malignancy) is **important**
  - Family history **very important**.
  - Swelling or Pain, it might be just pain from a fracture that is caused by tumor (Pathological fracture)

### -Osteoid osteoma:

- (Pain more **at night prevent the patient from sleep**) IMP to ask

### -Enchondroma:

- **Mostly affect digits** and in the history the patient mostly will complain that he or she can't put a (ring)

### -Ewing sarcoma:

- Same presentations of osteomyelitis (swelling, pain) ask about previous history of trauma and previous medical history.
- But always make the first differential is infection before tumors.

## 9) Back pain history:

Spinal	Extra-spinal
<ul style="list-style-type: none"> <li>▪ Muscular strain</li> <li>▪ Vertebral fracture</li> <li>▪ Lumbar disk herniation</li> <li>▪ Tumor</li> <li>▪ Spinal infection</li> <li>▪ Cauda equina syndrome</li> <li>▪ Spinal Stenosis</li> </ul>	<ul style="list-style-type: none"> <li>▪ Abdominal aortic aneurysm</li> <li>▪ Renal: pyelonephritis, nephrolithiasis</li> <li>▪ Gastrointestinal: pancreatitis, perforating peptic ulcer</li> <li>▪ Urogenital: endometriosis, pelvic inflammatory disease.</li> </ul>

- Demographic: **Name, Age and Occupation**
- Pain (SOCRATES)
- Constitutional symptoms
- Trauma history
- **Rule Out Red flags first then start with others:**
- **☒ Cauda Equina Syndrome** (Urinary retention with overflow – fecal incontinence – saddle anesthesia).
- **Tumor** (previous history of cancer and presence of constitutional symptoms).
- **Infection** (previous history of infection, family history of infection, Drug abuse, Travel history and constitutional symptoms).
- **Spine fracture** (History of recent trauma and history for other fracture).
- **Rule Out other diseases:**
- **No Menstrual Cycle changes** (endometriosis and PID).
- **No History of renal colic or UTI** (pyelonephritis, nephrolithiasis).
- **No GI Symptoms** (pancreatitis, perforating peptic ulcer).
- Medical history
- Surgical history
- Family history
- Social history (Smoking – Allergy – Occupation – Alcohol – IV drug abuse - Travel)

### - Lumber Disk herniation:

- Increase with flexion – lifting heavy weight - radiculopathy <sup>[1]</sup><sub>SEP</sub>

## - Spinal Stenosis:

- Bilateral radiculopathy [SEP]

## -Osteoarthritis:

- Look for risk factors (Smoking – Family history – previous trauma – Old Age – Obesity)

## 10) Fracture History:

- Pain (SOCRATES)
- Previous pain at the site of injury
- Constitutional symptoms
- **Trauma history.**
  - What is the **Mechanism**? (RTA – Syncope – Falling – Slipping – Or minor trauma)
  - If RTA: Speed – Seatbelt – Ejection – Site in the car – What happened to others?
  - If Falling: Height? Position of the falling?
- History of other previous fracture.
- Medical history
- Surgical history
- Family history
- Social history (Smoking – Allergy – Occupation)

## 11)History of trauma in any activity

- Ask how did he/she fall down (**mechanism**)? He/she might had Stroke for example, or just slipped
- Take history of pain (**OLD CARTS**) KNEE:
  - Patellar or quadriceps tendon rupture: Knee pain – steroid intake – chronic diseases.
  - Meniscal and ACL injury: ask about pain, previous trauma, swelling.
  - If swellings progress and appears slowly with locking it indicates **meniscal injury**
  - If it appears directly after the trauma then it's usually **ACL injury** (few hours) – Giving way episodes.
  - **MCL:** Pain in medial side, trauma in lateral aspect. Take full history of pain.
  - **PCL:** **Dashboard injury** (Mostly car accident) so ask about trauma.
  - Ask about pain (OLD CARTS), swelling after the fall, ask about usual activities if he is an athlete.

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