

# MUSCULOSKELETAL HISTORY

## BASIC INFO

Some questions about your background:

- Age
- Ethnic origin
- Occupation
- How long since retired

## HPI

- Describe the pain:
  - How bad? (1-10)
  - Where EXACTLY does it hurt? SHOW ME
  - Always there or does it radiate?
  - When did it start?
  - Suddenly or gradually?
  - What brings it on?
  - What makes it worse?
  - What makes it better?
- DOES IT WAKE YOU UP AT NIGHT?
- HOW DOES THIS AFFECT YOUR

- MOOD

- JOB

- LEISURE

- RELATIONSHIP

ARE YOU DEPRESSED ABOUT IT?

WHAT CONCERNS YOU MOST ABOUT IT?

Does it hurt like there anywhere else?

**SUMMARISE FINDINGS BACK TO PATIENT**

## ANY ALLERGIES?

## BEEN IMMUNISED? When?

## EVER BEEN PREGNANT? How many times?

## And right now?

## MEDICATIONS: list for me

## PAST MEDICAL

- What are those medications for?
- How is the general health?
- Any previous illnesses?
- Any previous hospital stay?
- Any previous surgery?

## FAMILY

- Anyone in your family had the same problem before?
- Cancer? Heart disease? Diabetes? Arthritis?

WHO DO YOU LIVE WITH? Do they help with ADLs?

WHAT KIND OF PLACE? Multi-storey? Any stairs? Big backyard? Lots of maintenance?

## SOCIAL;

### Do you drink? Smoke? Take Recreational drugs?

- How much? How often?
- Perceived as a problem?
- CAGE QUESTIONNAIRE: tried to cut down, annoyed by criticism, guilty, eye openers?

## HOBBIES?

### DO YOU EXERCISE?

## PERSONAL:

ADLS: what do you do to get up in the morning: Eg. getting out of bed, showering, toilet, brushing teeth, making tea/breakfast, shopping, counting change, opening/locking door etc.

## SYSTEMS REVIEW:

### Always ask: ARE YOU ON ANY MEDS?

#### NEURO:

- Headache?
- Fainting?
- Dizziness?
- Weakness?
- Concentration/memory? eyesight? hearing?
- Taste/smell?

#### CARDIO:

- Chest pain or tightness?
- Palpitations?
- Dyspnoea?
- Swollen ankles?
- Palpitations?

#### RESPIRATORY:

- Cough?
- Sputum
- Wheezing
- Fever
- Dyspnoea
- How far can you walk?

#### GASTROINTESTINAL:

- Swallowing OK?
- Chewing?
- Have own teeth, or dentures?
- Lost or gained weight?
- Heartburn
- Nausea
- Cramps
- Diarrhoea?
- Tarry or bloody stools?

#### GENITOURINARY:

- Get up often at night?
- Hows the waterworks?

#### ENDOCRINE:

- Ever get shivers?
- Hot/cold flushes?

#### MUSCULOSKELETAL:

- Any joint stiffness?
- Joint pain
- Joint swelling
- Backpain?
- Muscle spasms?
- Any Recent falls?

#### ANY SKIN RASHES?

#### ANYTHING I HAVENT MENTIONED?

### LOOK:

- Deformity?
- Swan-neck, Z-thumb, boutonnières? (rheumatoid)
- Ulnar deviation?
- Heberden's (DIP) / Bouchard's (PIP) nodes? (osteo)
- Ganglion cysts (mobile rubbery lump)
- Dupuytren's contracture ? also?
- COLOUR of palmar creases?
- Red?
- Cyanotic? Pale?
- Atrophied?
- Rash? Erythema?

**NAILS:** Onycholysis? Hyperkeratosis? Psoriasis? Pitting? Splinter hemorrhages?

### FEEL

- Nodes hard? Soft? Rubbery?
- HOT?
- TENDER?
- Snuffbox tenderness? (scaphoid fracture?)
- WASTED INTEROSSEI?
- WASTED THENAR WEB?
- Subluxed fingers?

### MOVE PASSIVELY:

- Passively: dorsi/palmarflex to 75%  
Ulna/radioflex to 20%
- Tenderness?
- Limitation?
- **METACARPOPHALANGEAL SUBLUXATION TEST:** rock MCP back and forth
- **PALMAR TENDON CREPITUS** test: palm against palm, patient flexes fingers
- **PIANO-KEY RADIUS:** press on radius with palm on pillow; mvt = +ve

### MOVE ACTIVELY:

- Prayer
- Inverse prayer
- Make fist
- Spread fingers out
- Test thumb (touch my finger with your thumb)
- Press on PIP: move DIP
- Press on MCP: move PIP
- Move each finger independently

### TEST FOR POWER

#### PHALLEN'S CARPAL TUNNEL TEST:

- Flex wrists for 30 seconds; pain/tingling = carpal tunnel

#### TINEL'S SIGN:

- percuss flexor retinaculum: pins and needles = carpal tunnel

**GRIP STRENGTH:** squeeze my 2 fingers

**KEY GRIP:** thumb + forefinger

**OPPOSITION:** hold something with thumb+ pinky

**PRACTICAL:** undo a button and write a word or two

### **LOOK:** expose whole arm; watch pt. undress

- Swelling @ olecranon (bursitis)
- Gout nodules (translucent, firm and mobile)
- RA nodules (hard, tender and attached)
- Wasting
- Colour: red?
- Rash?
- Eczema on elbow bend?
- Track marks?

### **FEEL:**

- MEDIAL (tennis elbow) and LATERAL(golf elbow) EPICONDYLE TENDERNESS
- Palpate swellings: hard?mobile?
- Ulnar nerve in its proper groove? Unusually thick or tender?

### **MOVE PASSIVELY:**

- To ~150 degrees; limitation = synovitis

### **MOVE ACTIVELY:**

- biceps,
- triceps,
- wrist extensors,
- wrist flexors,
- wrist supinators,
- wrist pronators.

### **POWER VS. RESISTANCE**

### **REFLEXES:**

- Biceps (5, 6)
- Triceps (7, 8)
- Brachioradialis (6)

### **FUNCTIONALITY:**

- brush your hair (stiffness)
- carry/hold a bag (supinator/pronator)

### LOOK:

- Watch the pt undress
- Stand them up: watch for shoulder drop
- Dominant shoulder should always drop
- LOOK FROM BEHIND: are the scapulae symmetrical?
- Get the pt. to face the wall and lean on it with both hands:  
WINGING OF SCAPULA? = Serratus anterior weakness
- SYMMETRY IS ALL-IMPORTANT
- SWELLING? May be occult
- SCARS at axilla? Node biopsy, etc?

### FEEL: from medial clavicle → shoulder → scapula, → axilla → ant. shoulder

- STERNOCLAVICULAR
- ACROMIOCLAVICULAR
- HUMERAL HEAD
- BICIPITAL TENDON GROOVE
- CORACOID

### FELL WHILE MOVING: same locations

#### Looking for:

- Crepitus
- Limitation
- Tenderness:
  - **Painful limitation in all directions** = intra-articular disease
  - **In ONE direction** = tendonitis
  - Tendon rupture or neurological lesion = PAINLESS WEAKNESS

### APPREHENSION TEST:

- Abduct to 90 degrees, externally rotate, push humeral head from behind-  
pt should complain
- **APLEY SCRATCH TEST:** assesses all active shoulder movements quickly
- Failed apleys: test movements individually.

### POWER vs. RESISTANCE:

- FLEX/EXTEND
- ABDUCT/ADDUCT
- EXTERNALLY / INTERNALLY ROTATE

### LOOK

- At patient while sitting:
- **POSTURE:** Kyphosis / Lordosis / Scoliosis?
- Head held at midline, or is there torticollis?
- Congenital webbing a'la Turners syndrome?

### FEEL:

- Most prom. Vertebra:
- Check vertebral spacing: should be regular
- Check that spinous processes are all in midline
- Check facet joints: 1 cm laterally to midline
- Feel for muscle spasm

### Lymph nodes:

- submental
- submandibular
- cervical ant.
- Cervical post
- Preauricular
- Postauricular
- Occipital
- Fell for thyroid gland and nodules
- Any pulsatile enlargements over the carotids?

### Cervical SPONDYLOSIS: "hucksteps's triad":

- Tenderness at ant. Insertion of trapezius into neck;
- Tenderness over medial insertion of deltoid
- Tenderness in the extensor mass of the forearm, proximally.

### MOVE ACTIVELY ONLY!

- Flex chin→chest
- Extend (N=45 degrees)
- Laterally flex (shoulder → ear; N=45 degrees)
- Rotate 70degrees in each direction

### Say :

you want to do a NEURO EXAM OF THE UPPER LIMB

### **LOOK: exposure = naked to waist, wearing shorts**

- For deformity: front back and sides
- Kyphosis
- Scoliosis
- Lordosis
- Observe posture
- Observe gait: get them to walk
- Red skin?
- Bruising?
- Stench of Denkorub?
- Muscle wasting of deloids, gluts, quads?
- Look for winging of scapula

### **FEEL**

- ?hot?
- even spacing of spinous processes
- pain?
- Muscles spasms
- Sweating: localised or diffuse?
- PERCUSS DOWN SPINE, looking for bony mets (!! Pain!!)

### **MOVE: ACTIVELY!**

- FLEX : touch toes

#### **SCHOBERS TEST:**

- Fingers on back while flexing: looking for 5cm distance iliac spine → lowest rib
- EXTEND:
- LATERAL FLEXION: slide hand down hip, note distance
- ROTATE (brace hips)

### **LYING DOWN:**

#### **Lasegue test for Disk prolapse**

- lift straightened leg; to 80 or 90 degrees
- Less than 60 = disk herniation

#### **Say:**

### **WANT TO DO NEURO EXAM OF LOWER LIMBS**

### **EXPOSURE: from hips down**

#### **LOOK:**

- Posture
- Gait (walk a while)

#### **Trendelenberg test:**

- stand on one leg; normal side will sag

### **LYING DOWN SUPINE:**

#### **FEEL:**

- Ant. Sup iliac spine
- Symphysis pubis
- Tenderness @ midpoint of inguinal ligament (joint capsule)
- Greater trochanter
- Ischial Tuberosity

### **MOVE: PASSIVE**

- Flexion: bent at knee, to chest = 135 degrees
- ABDUCTION/ADDUCTION: 45 degrees
- Rotation (flexed knee and hip; move foot) = 45 degrees

### **MOVE: ACTIVE**

### **POWER vs. RESISTANCE**

### **THOMAS TEST FOR OSTEOARTHRITIS:**

- Flex both hips; straighten one leg at a time: fully straight?
- If not = flexion deformity

### **ALTERNATIVELY: for lumbar root compression:**

- Extend legs fully
- Put hand under lumbar spin
- Say: put pressure on my hand
- Slowly flex one leg at a time
- Other leg should remain flat on table
- If the leg lifts up and the lumbar spine pressure decreases, test is +ve

### **GALLEAZY TEST FOR LEG LENGTH:**

- Bend at knee, toes together: which bit sticks out further?
- Short above or below the knee?

### **MEASURE LENGTH OF LEGS:**

- **actual:** ant sup iliac spine → med. malleolus
- **apparent:** umbilicus → med malleolus

## Position supine, lying down

### LOOK:

- Muscle wasting
- Quads first to go
- Skin changes
- Scars
- Rashes
- Swelling
- Obvious asymmetry or deformity
- VALGUS = bowlegged = RA
- VARYS = knock-kneed = OA
- SWELLING:
  - moving as joint is moving? (cartilaginous loose bodies)
  - fixed swelling? @ joint line = meniscus cyst; @ pop. fossa = baker's bursa
- SYNOVIAL SWELLING: usually seen medial to patella
- Flexion deformity: is there a space under the knee when its extended?

### MOVE ACTIVELY: watch patient flex and extend the knee

- Does the PATELLA REMAIN MIDLINE?
- GLIDES SMOOTHLY?
- Or slips laterally?

### FEEL: patient sitting down, legs over edge of bed

- Quad wasting?
- Hot knee joint?
- Around joint line: tender?
- Feel behind knee for a baker's cyst

### PATELLA TAP TEST:

- Compress suprapatellar bursa
- Poke patella downwards
- Any movement means too much joint fluid
- Patellar Apprehension test: move patella laterally watching the pts face
- LATERAL MOBILITY OF PATELLA: should be very limited

### MOVE PASSIVELY:

- Flex to 135 degrees
- Extend to no more than 15
- With hand on patella: crepitus?

### LIGAMENTS:

#### Collateral:

- brace thigh with one hand; leg extended;
- try to move leg laterally and medially

#### Cruciate: cruciate drawer test;

- Flex knee to 90 degrees
- Sit on foot
- Try to pull tibia anteriorly and push it posteriorly;
- Ant mvt= ant cruciate laxity

#### APLEYS GRINDING TEST: performed prone

- Flex leg to 90 degrees
- Hold ankle
- Press down and grind; pain and/or clicking = meniscus tear

#### APLEYS DISTRACTION TEST:

- Same, but opposite: pull the leg, not push + grind
- Pain= ligament damage

#### TEST KNEE JERK REFLEX (L2-L4)

### LOOK:

- Swelling:
- (bilateral = arthritis or oedema?? Figure it out)
- deformity?
- Calluses
- Scars
- Muscle wasting, esp. gastrocnemius?
- **HALLUX VALGUS:** away from midline, “pinched toe”
- Clawing of toes? Fixed flexion deformity
- **CROWDING of toes?** Rheumatoid Arthritis
- Sausage deformities of toes? = psoriatic arthritis
- **GET PATIENT TO STAND UP!**
- **Arches** (transverse, longitudinal )– present?

### FEEL:

- from sole, up to 3<sup>rd</sup>-4<sup>th</sup> MTP: mortons neuroma
- Big toe tenderness: gout
- Swelling @ medial malleolus: is it pitting oedema?
- Squeeze MTP: tender?
- **SQUEEZE CALF:** foot normally plantarflexes
- If previous achilles tendon injury, it does nothing
- Achilles tendon: RA nodules? Means seropositive RA!

### MOVE PASSIVELY: TALAR JOINT

- Grab mid-foot
- Dorsiflex to 30 degrees
- Plantarflex to 50 degrees

### MOVE PASSIVELY: SUBTALAR JOINT:

- Grab ankle, twist front of foot:
- INVERSION, EVERSION = 20 or 30 degrees

### TENDERNESS MORE IMPORTANT THAN RANGE

### GET ACHILLES TENDON REFLEX

## CLINICAL PICTURES:

### OSTEOARTHRITIS OF KNEE

- Pain increasing over the last three months.
- Experienced deep aching pain and swelling in knee after exercise - finishing shopping.
- Experienced feeling of stiffness in the knee when getting up from a sitting position and climbing stairs.
- Pain is not keeping him awake at night.
- Over the last few years noticed intermittent right knee pain after playing tennis.
- Ceased playing tennis, a life long passion, two months ago.
- Walks along the beach now limited to fifty meters.
- Analgesic balm gives temporary relief, as does Aspirin.
- Kees noticed the outside heel of his right shoe was wearing down compared with left shoe.
- An old acquaintance had noticed he was limping when arriving for a recent dinner party.
- No locking or giving way reported.

### CARPAL TUNNEL:

- **numbness**, pain and paraesthesiae in median nerve distribution of hand –
- **worse at night**,
- **pain radiates up to arm and shoulder**,
- waking up in middle of night,
- **relief from shaking arm**/hanging it over bed,
- **pain associated with strenuous activity of hand**,
- **weakness and difficulty with fine manipulative tasks** eg buttoning, sewing;
- **Occupational history**: manual labour involving
  - repetitive fine motor tasks,
  - vibrating instruments
  - lack of posture variation
  - lack of adequate rest breaks
- long duration of culprit occupation

### RHEUMATOID ARTHRITIS

**eight month history of morning pain and stiffness in her right knee and ankle, and more recently of both hands. Suffering from functional impairment and decreased strength**

pain worst in morning, at least 30min required to reach maximal improvement

-pain worsens in the cold

-both hands (PIPs are swollen and red), knees and ankles involved

-Rt knee is particularly bad, and weakness felt most on weightbearing

-Has a ganglion in the right wrist

-eyes are dry and gritty

**The patient must exhibit 4 out of the 7 following criteria to be diagnosed with RA**

-Morning stiffness lasting 30mins before maximal improvement

-Arthritis in 3 of MCP, PIP, wrist, elbow, knee, ankle and big toe

-Arthritis in the hands

-Joint swelling bilaterally

-Nodules

-+ve RF

-Xray changes that show decalcified (more porous) bone or uneven patches of bone erosion around the joints affected by RA