

Musculoskeletal Cases

Consultation skills

Exact mechanism of injury e.g. side tackle in football / twisting injury of knee

Differential diagnoses of swollen knee – timing of swelling after injury...

Ask specifically about 'locking' and 'giving way' of the knee

Affect on life and function – psychosocial aspects of pain and reduced function

Enquire about affect on daily living activities e.g. dressing, overhead activities in shoulder problems...

Differential diagnoses of joint and musculoskeletal problems – always ask about the joint above and below, consider arthropathies (other joints affected, morning stiffness...), systemic disease (any skin or eye symptoms with connective tissue disease) and infection (septic arthritis – enquire about fever or sepsis in painful swollen red joint)

Shoulder Conditions

Dislocation of shoulder

Rotator cuff tear

Osteoarthritis shoulder

Frozen should

Biceps tendonitis

PMR – polymyalgia rheumatica

Knee Conditions

Knee osteoarthritis + Baker's cyst

Anterior cruciate ligament tear vs menisceal tear

Anterior knee pain e.g. bursitis, patellar problems

Collateral ligament sprain

Hip osteoarthritis but referred knee pain

Psoriatic arthropathy, gout, septic arthritis

Case Scenario 1 – Medical Student

You are a 4th year medical student in Prince Hamza Hospital and you are asked to see 23 year old Ahmed with a painful knee after playing football. Take a history and summarise his story afterwards.

Case Scenario 1 – Male Patient

Ahmed

23 years old

Live with your parents

A friend brought you into hospital

PC: 'I was playing football and I got tackled and since then my knee has been very painful'

HPC: 2 days ago playing football and you were tackled from the side
You twisted your knee and it is now very swollen and difficult to move
If asked directly the swelling occurred within a few hours of the injury
You are finding it difficult to weight bear on that knee and when you bend it, it feels like it 'locks'

Idea: You think you've broken something inside the knee joint as you thought you heard a snapping sound at the time of the injury

Concern: You worried you might have broken you leg as you can't weight bear

Expectation: You hope you will be able to play an important game of football for your team in a week's time

PMH: Osgood Schlatter's disease of knees when a teenager

DH: Nil

Allergies: Nil

SH: Non-smoker

Scenario 1 Discussion Points – A Case of Menisceal Tear

- *What went well? What did everyone else think went well? Anything you felt you could have done differently? How did they summarize*
- *Is there any more information you would like to know (or does anyone else want to know)?*
- *What specific questions are useful when asking regarding knee injuries?*
 - Mechanism of injury – twisting injury (risk for menisceal tear, collateral ligament sprain / tear...)
 - Weight bearing or not?
 - Site of pain – lateral or medial (could be medial or lateral collateral ligament sprain or menisceal tear), anterior (patellar problems, bursitis, patellofemoral tendonitis) or posterior (arthritis, menisceal injury)
 - Swelling and timing of swelling (within one hour of injury – consider haemarthrosis, swelling usually occurs few hours after injury in menisceal tear)
 - ‘Locking’ – knee joint locks due to menisceal tear
 - ‘Giving way’ – weakness in cruciate ligaments 2ry to tear
- *What is Osgood Schlatter disease?*
 - Inflammation of the patellar ligament at the tibial tuberosity. It is characterized by a painful bump just below the knee that is worse with activity and better with rest. Episodes of pain typically last a few months in teenage years.
- *Managing patient ideas, concerns and expectations?*

Would you perform an x-ray in this case? – if not weight bearing properly argument to do x-ray – if they are remember this is likely menisceal or cruciate ligament injury so MRI or arthroscopy better modality of investigation

When is it the right time to investigate or re-examine?

It is very difficult to examine an acutely painful, swollen knee and if you don't think it is a menisceal tear than this is an argument to wait 2 weeks until the pain and swelling has improved to re-examine

What do you think of the patient's expectation of playing football in a week?

This is obviously an unrealistic expectation – it is important for patients to understand how long an injury takes to heal or when someone can return to competitive sport after surgery – in this case if this needs surgery most surgeons still advise 2-3 months (athletes often heal much quicker than general public due to better perfusion of tissues and fitter, healthier bodies)

Scenario 2 – Medical Student

You are a 4th year medical student in community clinic and you are asked to see a 60 year old Mariam with a long standing painful knee. Take a history and summarise her story afterwards.

Scenario 2 – Woman Patient

Mariam

60 years

Mother of 4 children

Retired teacher

PC: Painful right knee

HPC: Slow onset right knee pain over last 9 months but increasingly painful and limiting what you can do.

Noticed now that there seems to be pain from her right groin too

You feel frustrated about not being able to play with your grandchildren

1 year ago you were pain free and able to go for picnics with the family

What is the affect of the problem?

You have difficulty walking only manage a distance of 100 metres and having difficulty climbing stairs. Lives in 3rd floor apartment

Difficulty getting in and out of cars from the onset of the pain

Feeling down and frustrated and noticed you are not as excited as normal in seeing your grandchildren. You husband says you seem to be withdrawing yourself.

PMH: Bariatric surgery for morbid obesity – put weight on again

Diabetes

Hypertension

DH: Metformin 500mg tds

Insulin

Allergic to general anaesthetic drugs

SH: Smoker Argeela 3-4 times a week

Discussion Point Case 2 – Hip Osteoarthritis Referred Knee Pain

- *What went well? What did everyone else think went well? Anything you felt you could have done differently? How did they summarize*
- *Is there any more information you would like to know (or does anyone else want to know)?*
- *Important to ask about affect of the problem. How has it affected their function? What are the psychosocial aspects?*
 - Affect on mood – in this case you would be concerned she may be depressed and this needs further exploration
 - Affect on social aspect – affecting her quality of life with her grandchildren
 - Affect on job – not important in this case but a big affect in other situations
- *What could be the cause of her knee pain?*
 - Knee osteoarthritis
 - Knee rheumatoid arthritis
 - Bursitis
 - Gout
 - Baker's cysts (synovial fluid leaks out posterior aspect of knee)
 - Referred pain from hip osteoarthritis
 - Dislocation
 - Rare bone cancer
- In this case the problem was referred pain from the hip due to osteoarthritis of the hip (one of the first things patient's find difficult is externally rotate the hip which is why the patient found it difficult to get in and out of the car)
- Risk factors for osteoarthritis of the hip includes age and obesity

Scenario 3 – Medical Student

You are a 4th year medical student in community clinic and you are asked to see a 64 year old Kamal with an acutely swollen and painful knee. Take a history and summarise his story afterwards.

Scenario 3 – Woman Patient

Kamal

64 years

Retired builder

Fuheis

PC: Last 2 days painful, red and swollen knee

HPC: Excruciating throbbing pain (9/10 painscale) and worse on bending the knee

Your knee feels hot and red and is very swollen

You have had no previous injury

In the past you have had a painful big toe that lasted for 3 days until the doctor gave you naproxen

PMH: Hypertension

DH: Bendrofluamethiazide 2.5mg

Allergies: None

SH: Non-smoker

Drinks bottle of whisky once a week

Discussion Point Case 3 – Gout (rule out septic arthritis)

- *What went well? What did everyone else think went well? Anything you felt you could have done differently? How did they summarize*
- *Is there any more information you would like to know (or does anyone else want to know)?*
- *What is your diagnosis in this case?*
 - Gout likely – triggers – age, alcohol overuse, on a thiazide diuretic and previous episode in big toe (classical location) – other joints that can be affected include wrists, ankles and digits
 - Need to be sure not septic arthritis – consider blood tests – CBC/ ESR/ urate
 - Consider examining for gouty trophi – fingers, behind ears...
- *How do you manage this condition?*
 - Lifestyle advice – reduce alcohol intake, dietary changes e.g. reduce red meat (purines) consumption, prawns....
 - Stop drugs e.g. thiazide diuretics, loop diuretics
 - Treat with nsaid e.g. naproxen or diclofenac OR steroids OR if risk of GI bleeding consider alternatives e.g. colchicine
 - If repeated attacks more than 2 in a year consider prophylactic drugs e.g. allopurinol and titrate up to 300mg or more until uric acid level below 300

Scenario 4 – Medical Student

You are a 4th year medical student in an orthopaedic outpatient clinic and you are asked to see a 54 year old male Faisal with a painful right shoulder. Take a history and summarise his story afterwards.

Scenario 4 – Male Patient

54 year old with 4 young daughters

Faisal

Egyptian

Builder

PC: Painful right shoulder

HPC: Last 4 weeks increasingly painful shoulder

Difficulty carrying bricks on building site and the last week his boss has told him he can't work anymore until he gets better

Unable to lift right hand above shoulder

Difficulty getting dressed in morning and needs wife to help him

In last 2 days unable to put belt around trousers when trying to put it on behind him - 'feels weak'

He is waking up tired because he is not sleeping well. He is getting pain in the night particularly if he sleeps on the affected shoulder

Concern: Worried about losing your job as you have no sons and you're the only one who can earn money in the house

Expectation: You hope the doctor can fix this quickly so you can return to work next week

PMH: None

DH: Taking ibuprofen – some benefit

Allergies: Nil

SH: Smoker of a packet a day in the last 30 years

Discussion Point Case 4 – Rotator Cuff Tear

- *What went well? What did everyone else think went well? Anything you felt you could have done differently? How did they summarize*
- *Is there any more information you would like to know (or does anyone else want to know)?*
- *Again discuss patient concerns and expectations and address these – if rotator cuff tendonitis unlikely to resolve in a week and if truly a rotator cuff tear needs to see orthopaedic surgeon who will decide whether candidate for surgery or not*
- *What specific questions are helpful in a shoulder pain history?*
 - *Previous injury - previous fracture / dislocation, fell on to outstretched hand or directly on shoulder*
 - *Onset of pain – slow and insidious (frozen shoulder), sudden after certain activity e.g. playing certain sports e.g. baseball, cricket*
 - *Affect on function – affecting overhead (lifting hands above shoulder) activities, affect on daily activities*
 - *Affect on sleep – painful to sleep on the shoulder*
 - *Job and affect on this*
 - *Professional sportsman? more likely to operate and better outcomes particularly if non-smoker*
- *What are your differential diagnoses in this case?*
 - *Rotator cuff tendonitis / subacromial impingement with possible tear as affecting right shoulder pain worse with overhead activities, now developed weakness (sign of possible tendon cuff tear)*
 - *Early frozen shoulder – although affects all movements of the shoulder*
 - *Possible osteoarthritis of shoulder although a little bit young*
 - *Rare causes metastases from lung cancer or primary bone cancer (why it is useful to get a shoulder and CXR in a smoker*
- *What examination would you do in this man's case and what specific examination tests are useful to test for a rotator cuff tear?*
 - *Usual inspection – any muscle wasting?*
 - *Active movements – what is limitation of movement – what angle do they stop at? Abduction, ext and int. rotation and flexion and extension*
 - *Passive movements – how far can you move the shoulder? Evidence of painful arc? Angle between 70 and 120 degrees*
 - *Checking for rotator cuff tears – **drop arm sign** (lift shoulder to 90 degrees abduction and let go gently ?drops suddenly if rotator cuff tear), checking for resistance against you hands in all movements – patient puts hand behind back and **'lifts off'** their back and then against your hand as resistance as in this case you are suspecting posterior cuff tear as patient is experiencing difficulty tying belt around back.*

Scenario 5 – Medical Student

You are a 4th year medical student in a community clinic and you are asked to see a 70 year old woman called Doa'a with painful shoulders. Take a history and summarise her story afterwards.

Scenario 3 – Woman Patient

Doa'a

70 years

Housewife

Marj al Hammam

PC: Painful shoulders

HPC: Last 3 weeks both shoulders have become increasingly painful and stiff

Stiffness is worse in the morning

Very painful over top of arms and into shoulders

Difficulty combing hair

Pain scale 8/10 pain scale

Affecting sleep as can't turn over in bed

Over the last week it has been difficult to lift your arms

Concern: Worried you are developing arthritis in your shoulders because your older sister has rheumatoid arthritis in her hands

PMH: Diabetes

Hypertension

DH: Metformin 850mg three times a day

Lisinopril 20mg once daily

SH: Non-smoker and doesn't drink alcohol

Discussion Point Case 5 – Polymyalgia Rheumatica (PMR)

- *What went well? What did everyone else think went well? Anything you felt you could have done differently? How did they summarize*
- *Is there any more information you would like to know (or does anyone else want to know)?*
- *Again discuss patient concern – rheumatoid arthritis of shoulder joints is rare.*
- *Do you know what this could be?*
 - As it is bilateral highly suspicious of PMR – right age, sex and over deltoid muscle (upper arms)
 - Slow onset over days to week
- *The treatment for this conditions is long term steroids often up to 2 years. What risks do long term steroids pose for patients? Particularly this woman?*
 - Long term steroids can affect mood, weight gain, thinning of skin and increased risk of infections
 - In her particularly case can affect her diabetes and increase her blood pressure
 - After 3 months of steroid tablets you need to consider protecting her bones with a bisphosphonate as risk of osteopenia/ osteoporosis
 - Risk of gastric and duodenal ulceration and often doctors prescribed PPI for gastric protection
 - Patients often carry a steroid card to let doctors or public know they are on long term steroids and you need to warn the patient never to stop her steroids abruptly