

OSCE 4

Candidate Instructions

You are approached by an HMO in your ED who has just seen a 50-year-old man with a red, swollen and painful knee. There is no history of trauma. He is on warfarin for AF. The HMO has taken a history and examined the patient. You can ask him/her for further relevant clinical information.

The patient is clinically stable with normal vital signs. You will not be required to directly review the patient in this scenario.

Your tasks:

- Discuss the case with the HMO, formulate a management plan and explain this to the HMO.
- Teach the HMO how to perform arthrocentesis of the knee.

Domains assessed:

- Medical Expertise
 - Clinical assessment and differential diagnosis 50%
 - Investigation and management 25%
- Scholarship and Teaching 25%

A copy of this case information and the ECG is provided in the examination room.

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Role Player Instructions

You are (*use your own name*), an HMO working in the ED and have taken a history and performed a brief examination on Mr Li, a 50-year-old man with a red, swollen, painful left knee. You require help to formulate a management plan.

When candidate enters the room, you say:

“Hi, I’m (*your name*), one of the new HMOs. Can I please talk to you about this patient I’ve just seen with L knee pain? Mr Li is a 50 year old who has had gradual onset of pain and swelling for 3 days. Pain is quite severe today and he is having trouble walking. No trauma. No fever, chills or rigors.

**Past history of hypertension and AF. Meds: Irbesartan and warfarin. NKA
He is also currently on doxycycline for a chest infection.**

“I’m not sure what it could be”

Further clinical information if asked by the candidate:

He had one episode of gout in his foot approx. 5 years ago.

No other joint involvement.

Gonococcal risk – nil PHx STIs, patient is married, no other sexual partners.

Precipitating factors – no trauma, no recent alcohol or diuretic use.

Examination findings: Normal vital signs. Afebrile. L knee – red, hot to touch, moderate diffuse swelling. Reduced ROM to only 20 degrees of flexion which is very painful.

You have given him paracetamol and oxycodone for the pain.

Expected that candidate will discuss differential diagnoses:

- Septic joint – Staph, Haemophilus, Gonococcal
- Gout/Pseudogout
- Spontaneous haemarthrosis (warfarin)
- OA
- RA/auto-immune – unlikely as usually polyarticular

If candidate does not offer a differential, prompt with **“What are the diagnoses I should be thinking about?”**

It is expected they come up with a management plan including:

- Analgesia
- Bloods – FBE, UEC, CRP, INR +/- blood cultures

- Knee joint aspiration

If doesn't give justification prompt - **"Why do we need to aspirate the joint?"**

- Diagnostic – septic arthritis must be excluded, diagnosis of gout/haemarthrosis
- Therapeutic – provide symptomatic relief if large tense effusion, intra-articular steroids (although not in this patient)

"What are the contra-indications to joint aspiration in this man?"

- Local skin cellulitis
- Joint prosthesis
- Warfarin is not contra-indication, however reasonable to defer procedure if INR>4

"Can you explain/show me how to do a knee aspirate?"

Expected:

- Consider indications/contra-indications
- Explanation to patient
- Consent
- Patient position
- Sterile technique
- Local anaesthetic
- Procedure
 - o 19G needle
 - o Lateral approach: involves insertion of the needle 1 cm above and 1 cm lateral to the superior lateral aspect of the patella at a 45 degree angle.
 - o Medial approach involves insertion of the needle 1 cm medial to the patella and directed under the patella between the femoral and tibial condyles.
- Send off fluid for M(cells/crystals)/C/S
- Post-procedure care – dressing/compression if haemarthrosis

"His INR result is now available and it is 9.0. Does that change what we do?"

- Management of INR
 - reversal - Why and how? Consider indication for warfarin
 - Vit K, Prothrombinex
- Arthrocentesis – defer until INR reduced
- Management of possible septic arthritis – give IV antibiotics?, collect synovial sample in OT instead if clinical suspicion high. E.g. WCC, CRP, fever.
- Explanation to patient
- Discuss with ortho

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Examiner Instructions

Station Summary: Provision of advice regarding investigation and management of a patient with acute arthritis and teaching HMO how to perform knee arthrocentesis.

You should not interact with the candidate.

Medical Expertise: Clinical assessment and differential diagnosis – 50%

- Correctly interprets the history/examination findings
- Describes expected physical signs for a diagnosis
- Generates a relevant list of differential diagnoses after synthesising clinical information found on initial assessment.

Medical Expertise: Investigation and management – 25%

- Creates a focused investigation plan that confirms or excludes time critical diagnoses
- Explains the reasons for selecting those tests in that investigation plan
- Creates an appropriate management plan

Scholarship and Teaching – 25%

- Uses a range of adult teaching strategies from the ACEM Curriculum Framework, including:
 - Checks for level of prior knowledge/ understanding
 - Demonstrates a structured approach to the procedure
 - Demonstrates well-paced communication
 - Invites questions and clarifies any areas of uncertainty.