



PROCEDURE CHECKLIST

Knee aspiration

Aspiration of synovial fluid from the knee to diagnose septic or crystal arthritis and to relieve a tense effusion or haemarthrosis.



EM Orbit

Patient reference

Date

Time

Completed by

Equipment ready

- ☐ Skin antiseptic (chlorhexidine in alcohol), sterile gloves and drape
- ☐ Lidocaine 1% with 25 G needle and syringe
- ☐ Aspiration needle 18–21 G and a 20 mL or larger syringe; spare syringes and a three-way tap for large effusions
- ☐ Sterile specimen containers: plain sterile pot, and blood culture bottles if requested by the laboratory
- ☐ Gauze and sterile dressing
- ☐ Ultrasound (optional) to confirm and guide

Before · Assessment and consent

- ☐ Take the history: onset, trauma, fever, previous episodes, gout, immunosuppression, prosthetic joint, anticoagulants, recent joint injection.
- ☐ Examine the knee: effusion, warmth, erythema, range of movement, overlying skin; examine other joints.
- ☐ **Confirm there is no prosthetic joint and no infection of the overlying skin.**
- ☐ Take blood cultures and bloods (inflammatory markers, urate) if septic arthritis is possible.
- ☐ **Aspirate before antibiotics where possible, but do not delay antibiotics in a septic or unwell patient.**
- ☐ Explain the procedure, risks (infection, bleeding, pain, dry tap) and obtain consent.

Before · Positioning and site

- ☐ Lie the patient supine with the knee extended (or slightly flexed with a support under it) and the quadriceps relaxed.
- ☐ Identify the superolateral approach: 1 cm above and 1 cm lateral to the superolateral corner of the patella.
- ☐ Consider ultrasound to confirm the effusion and choose the entry point.
- ☐ Mark the site.

During · Asepsis and anaesthesia

- ☐ Clean the skin with chlorhexidine in alcohol and allow it to dry, then use a strict no-touch technique.
- ☐ Put on sterile gloves and drape.
- ☐ Infiltrate the skin and subcutaneous tissue with lidocaine 1%.

During · Aspiration

- ☐ Insert the needle through the marked site, directed under the patella towards the suprapatellar pouch, aspirating gently as you advance.
- ☐ Stop advancing when synovial fluid flows.
- ☐ Aspirate as much fluid as possible; gently compress the suprapatellar pouch with the other hand to bring fluid to the needle.
- ☐ If the tap is dry, withdraw slightly and redirect, or use ultrasound; do not repeatedly stab the joint.
- ☐ Stop if you strike bone or cartilage and redirect gently.
- ☐ Note the appearance: clear straw-coloured, turbid, purulent, blood-stained or frank blood, and fat globules.
- ☐ **Do not inject corticosteroid into the joint if septic arthritis has not been excluded.**
- ☐ Withdraw the needle and apply pressure and a sterile dressing.

During · Samples

- ☐ Send fluid for urgent Gram stain, culture and sensitivity.
- ☐ Send fluid for crystal microscopy (polarised light).
- ☐ Send fluid for white cell count if the laboratory offers it.
- ☐ Inoculate blood culture bottles with synovial fluid if local laboratory protocol advises it.
- ☐ **Remember that crystals do not exclude co-existing septic arthritis.**

After · Aftercare and documentation

- ☐ Start empirical antibiotics promptly after sampling if septic arthritis is suspected, per local protocol.
- ☐ Refer suspected septic arthritis to orthopaedics for washout assessment.
- ☐ Provide analgesia and advise rest and elevation.
- ☐ Advise the patient to return with increasing pain, redness, swelling or fever.
- ☐ Document indication, consent, approach, needle, volume and appearance of fluid, samples sent and complications.
- ☐ Follow up Gram stain, culture and crystal results and act on them.



A drafted procedure checklist, awaiting senior review. Perform procedures only within your training, competence and local policy. It does not replace your clinical judgement.

EM Orbit · Emergency medicine, in one orbit · proc-knee-aspiration · red rows are the steps that must not be missed