

Fine needle aspiration: instructions for clinicians

Material required

Glass slides with frosted end, pencil, alcohol spray fixative, plastic slide boxes for slides, sterile universal container, histopathology request form and a specimen bag.

Aspiration technique

- Prepare approximately six slides with the patient's name, date of birth and hospital number written in pencil on the frosted glass end.
- Use the non-dominant hand to steady the lesion between forefinger and thumb throughout the procedure.
- Introduce the needle with attached syringe and then apply suction. (Applying suction is easiest with the pistol-grip but is possible, though difficult using one hand without a pistol-grip.) Make multiple to-and-fro movements of the needle tip through the lesion, watching the transparent hub all the time. As soon as aspirated material is seen in the needle hub, sufficient material should have been obtained. If any appreciable amount of blood is aspirated this is too much, it will dilute the smears and cause artefact. If this happens allow the blood to clot in the syringe then transfer to formalin for histology.
- Release the suction.
- Withdraw the syringe and needle.
- Allow the patient or the assistant to apply gentle pressure with cotton wool or gauze. Prepare the slides. Repeat the procedure unless you are confident that sufficient material has already been obtained.

Slide preparation

- The slides should already be laid out on a work surface. Remove the needle and fill the syringe with air.
- Expel the material in the needle onto the first slide near the frosted end using the air in the syringe. Remove the needle and fill the syringe with air again and repeat

the process each time onto a new slide until no more material is expelled. Using the flat surface of another slide, gently smear the expelled material on the slide. Discard the slide used to spread the material. Select about half of the slides for air-drying, this technique works particularly well for thinner preparations, label these as 'A/D' (air-dried). Immediately fix the thicker slides in alcohol and label these as 'F' (fixed). This needs to be done within about ½-second of making the smear, in order to avoid air-drying artefact. Once all the slides have dried, place in a clean plastic slide box ready for transportation to pathology.

- Wash the needle into CytoLyt solution in a labelled sterile universal and submit this along with the slides.

Summary of material to be submitted

1. Air-dried slides for Giemsa staining. This would be the minimum material required.
2. Spray-fixed slides in alcohol for Papanicolaou staining.
3. Needle washings in CytoLyt solution. These may allow immunocytochemical investigation if required.
4. Clot for histopathology if present

Notes

Any deviation from the above procedure may lead to sub-optimal preparations. Please remember to provide adequate clinical details on the request form. Unlabelled slides in labelled containers may be rejected. Side-effects to patients are rarely encountered but may occur. Informed consent should be obtained. Remember health and safety with regard to needlestick injuries and high-risk patients, where aerosols should be avoided. In selected cases consider submitting part of the sample for microbiology.