

NEW to ITU Arterial Line Sampling

Sampling of blood from an arterial line

Blood Samples

Arterial Blood Gasses (ABG) – Small blood sample taken in a special syringe and analysed using a machine in the unit. The results are available in a minute and have information including O₂, CO₂, pH, Na, K and Lactates, which are used to monitor and inform treatment. ABGs are particularly important when monitoring O₂ & CO₂ levels in the blood.

Lab Samples – Blood samples, usually taken using vacutainers and sent off to the lab allowing a wide range of tests to be performed. Common tests include FBC, LFTs, Urea and Electrolytes, Bone Profile, Clotting Profile, Magnesium, Phosphate, CRP, check your local policy and any special requests from medical team.

Arterial lines are **not** suitable for taking blood culture samples.

Blood sampling

As with all vascular access procedures it is important to wear PPE and practice ANTT.

Items Required:

Hub cleaning wipe.

Waste syringe (often 5 or 10ml).

ABG syringe. Some ABG syringes require "priming" to make sure the anticoagulant in them is well dispersed.

Vacutainer adaptor and bottles as required.

Procedure:

Scrub the hub and wait 30 seconds for it to dry.

Turn hub valve to open the line to the patient. Insert the discard syringe into the hub and draw off the discard sample (often 3–5ml), remove the waste syringe and make sure you keep its tip sterile.

Insert the vacutainer adaptor into the hub and proceed to draw any lab test samples, remove adaptor.

Insert the primed ABG syringe and draw off the ABG sample (often 1–2ml).

Expel any air from the ABG syringe and roll it to keep it from clotting. Turn the hub valve to the line from the pressure bag.

Reattach the waste syringe to the hub.

Pull the pigtail on the transducer to flush saline (often 2–3ml) into the syringe, this cleans blood from the hub. Remove the waste syringe and wipe the hub.

Turn the hub valve so that the pressure bag is open to the patient line.

Pull the pigtail to flush any blood in the arterial line back into the patient.

Discard the waste syringe safely.

Take the ABG syringe to the ABG analyser (making note of the O₂% and body temp of the patient) this should usually be done within a few minutes.

ABG analysers vary, you should seek local instructions as to how to operate yours. The results can be printed and/or may be sent directly to your ITU computer system.

Label any blood samples and send to lab for testing. Some blood samples require special procedures (such as being iced and hand delivered to lab), check your local policy.