

Arterial Bloods Gas (ABG) Sampling

Equipment

- Gloves + apron
- Tray (clean beforehand) + sharps bin
- Alcohol wipe
- An arterial blood sampling kit (=syringe that contains heparin, needle, bung & filter cap)
- Cotton wool to place over the puncture site + tape to secure dressing

Procedure

1. Introduce yourself, identify the patient & explain the procedure with the patient + gain verbal consent
2. Wash your hands and put on gloves & apron
3. Perform allen's test (to assess blood supply to hand):
 - ask the patient to make a fist & find their radial & ulnar arteries/pulses
 - whilst pressing on the arteries ask the patient to relax their hand & observe its blanched appearance
 - remove pressure from the ulnar artery while maintaining pressure on the opposite side of the wrist, make sure patient's hand flushes with colour (if it does the ulnar artery is patent, if not there maybe damage to the artery in this case switch to the other wrist & start again)
 - perform test again but this time remove pressure from radial artery (as with the ulnar artery if there are any signs of damage switch to other wrist)
4. Stabilise the arm on a pillow or table
5. Find the artery & clean the site with an alcohol wipe
6. Expel the excess heparin from the ABG syringe (these syringes contain heparin to prevent the collected arterial blood from clotting, any excess needs to be expelled before the syringe is used)
7. Palpate the artery again but keep your fingers above & below the site you intend to insert the needle
8. Hold the syringe like a pencil, keep the needle's bevel pointing upwards (same as venepuncture) & insert at 45°
9. Finding an artery is sometimes tricky, if you don't get it first time withdraw the needle but keep a small section of it still below the skin, realign then advance again, you can repeat this several times each time making sure you do not remove the entire needle from the skin
10. Once in the artery the syringe should fill itself due to the pulse pressure of the vessel, N.B. some ABG syringes do not glide as easy as others so you may need to pull the plunger slightly to help it extract the arterial blood
11. Remove the needle & apply pressure to the site for 5 minutes using cotton wool (you can ask the patient to apply the pressure)
12. Inserting the needle into the rubber bung (is a safety measure to stop you getting a needle stick injury), then remove the needle using the attachment on the sharps bin (disposing of the needle at the same time) & attach the filter cap
13. Gently push the plunger (hold the filter cap whilst you do this, I've had blood spray everywhere in the past) = expels any excess air
14. Roll the syringe for 10 seconds in the palm of your hand to ensure the heparin is mixed
15. Label specimen & transport to the lab immediately (if >10 minutes put on ice)