

Paediatric Capillary Blood Gas Sampling

Introduction

- Wash hands, Introduce self, Patients name & DOB, Explain procedure and get consent form parents (or child if appropriate)

Preparation part

- Wash hands
- Clean tray
- Gather equipment around tray (think through what you need in order)
 - Gloves
 - Vaseline (if available)
 - Alcohol 70%/chlorhexidine 2% skin cleansing wipe
 - Sterile lancet/puncture system
 - Capillary sample collection tube (with bungs and magnet rod)
 - Cotton gauze swabs
 - Tape
- Wash hands
- Open packets and place equipment neatly in tray in plastic parts of packets
- Return to patient (with tray and sharps bin)



Patient part

- Wash hands and apply gloves
- Identify appropriate site:
 - Lateral or medial plantar heel (in young infant)
 - Medial or lateral border of finger pulp (in older child)
- Apply Vaseline to area if available (to prevent blood globule dispersing in skin ridges)
- Warm the area
- If using the foot, hold the ankle dorsiflexed with one hand
- Sterilise area – wipe in spiral motion working outwards and wait 30 seconds for it to dry
- Puncture skin with lancet/puncture system (then drop into sharps bin)
- Wipe off the first drop of blood with cotton gauze
- Once a blood globule has built up, holding the sample collection tube horizontally, press the end gently onto the globule of blood until the blood enters the tube
- Then move the collection tube away until the next globule has accumulated, then press the end onto the globule again
- Repeat this until the tube is filled
- Tips:
 - If blood is not forming freely, gently massage the area to encourage blood flow and gently squeeze the lower leg/ankle or digit (but let the capillaries refill intermittently)
 - Intermittently dab the area with cotton gauze swab to prevent coagulation of any blood left near the puncture site
 - There must not be any air bubbles in the tube or the gas machine will not be able to analyse it – keep the tube horizontal at all times to avoid this
- Once tube is full
 - Insert magnet rod into one end and place a bung on each end, then mix by inverting it slowly and label it with a patient ID sticker
 - Place gauze over the puncture site and tape down or apply plaster

To complete

- Thank patient and cover them
- Take sample to blood gas analyser immediately
 - Remove bungs
 - Place adaptor onto one end to allow insertion into blood gas analyser
 - Enter patient information and await printed results
- Bin waste and gloves, clean tray and wash hands
- Document procedure and results in patients notes