

Capillary Blood Gas Sampling Procedure

	Action	Rationale
1.	Explain procedure and gain consent	To gain consent, allay any fears and enable the patient to co-operate
2.	Patient to be seated for 20 minutes Encourage no talking	In accordance with BTS guidelines to ensure true resting baseline values Talking could affect results
3.	Check ear lobe and remove any earrings, clip stray hair away from ear	Ensure that the earlobe will provide a good sample
4.	Take an oxygen saturation reading	To ensure CBG sampling is necessary ($SpO_2 \leq 92\%$)
5.	Open dressing pack and place the dressing towel over the patient's shoulder.	(Non-sterile procedure) To protect the patient and their clothing.
6.	Wash hands and apply clean gloves	To avoid cross infection
7.	If indicated, apply vasodilator product to earlobe and leave for 10 minutes OR gently massage earlobe.	To aid vasodilatation, which is essential to allow free flow of arterialised blood to reduce venous admixture
8.	Clean the earlobe and allow to air dry	To remove any product, avoid cross infection and avoid erroneous results
9.	Support the back of the earlobe with a folded gauze swab or bung	To stabilise the earlobe and reduce risk of needlestick injury
10.	Use a safety lancet/or blade to pierce the pinna (approx. 3mm from the lobe edge)	Reduce risk of sharps injury to clinician
11.	Wipe away/discard the first droplet of blood with gauze swab	Serous fluid collected in the first drop can confound sampling results
12.	Ensure blood is flowing freely. Fill capillary tube ensuring no air is captured. The ear may be gently stroked to encourage flow - Do not squeeze (Sample should be collected in 10-15 seconds)	Free flowing blood will confirm an arterialised sample; rapid collection and no air in the capillary tube avoids room air contamination of sample gases Squeezing can encourage collection of serous fluid, causing lower pH, PO ₂ and raised PCO ₂ level
13.	If sample volume is inadequate a second puncture site (on same earlobe) should be considered	The validity of the test may be jeopardised if the quantity of the sample is insufficient for analysis and questions adequate arterialisation
14.	Once collection tube has been filled to required amount remove from earlobe. Place gauze over puncture site ensuring to apply enough pressure to stem bleeding. If necessary apply a plaster.	To prevent blood loss, haematoma formation on the earlobe