



CLINICAL PROCEDURAL SKILLS
ARTERIAL BLOOD GAS SAMPLING- RADIAL ARTERY
TUTOR NOTES

Duration of Session

45 Minutes

Prior Knowledge

No prior knowledge is assumed. Students will have received the Arterial Blood Gas Sampling clinical procedural skills guidance document.

Learning Objectives

- Understand the role of Arterial Blood Gas (ABG) Sampling
- Describe the contraindications to ABG sampling
- Describe the equipment necessary for ABG sampling
- Understand the procedure for ABG sampling including performing Allen's test
- Understand the complications of ABG sampling

Equipment Required

- ABG Sampling Flashcard
- ABG Sampling Tutor Notes
- Arterial blood gas sampling arm- pressurised.
- Appropriate personal protective equipment (gloves, apron, face-mask)
- Accessible and functioning sharps bin.
- Cleaning swab
- Gauze
- Tape
- ABG Sampling Syringe
- Pillow/Blanket for the patient to rest their wrist on when the sample is being taken.

Session Plan

This session plan is for guidance purposes only

The emphasis of each section of the session should be to allow students the maximum time possible to practice the skill.

The flashcard included in these notes will be available as hard copies in the clinical procedural skill station.

5 minutes- Explain indications and usefulness of the skill.
Discuss contraindications to arterial blood gas sampling.

10 minutes- Tutor demonstrates the skill

25 minutes- Students practice the skill.

5 minutes- Summary and opportunity for questions

It is suggested to use a four-stage approach to demonstrate the skill.

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| Stage One: | Tutor Demonstrates the Skill in “real time” |
| Stage Two: | Tutor talks through the component parts of the skills whilst demonstrating again |
| Stage Three: | A student talks through the skill as the tutor demonstrates for a third time |
| Stage Four: | Students Practice the Skill |



CLINICAL PROCEDURAL SKILLS

ARTERIAL BLOOD GAS SAMPLING- RADIAL ARTERY

PRE PROCEDURE

Introduce self, explain procedure and obtain consent from patient.

Perform appropriate hand hygiene and don PPE according to local protocol.

Check for CONTRAINDICATIONS

Position the patient comfortably with the hand in supination. Place a blanket under the dorsal aspect of the wrist and move the wrist into extension.

Perform ALLEN'S TEST to ensure patency of the ULNAR ARTERY

Collect a procedure tray with a BLOOD GAS SAMPLING SYRINGE, CLEANING SWAB, GAUZE, TAPE and a SHARPS BIN.

PROCEDURE

Palpate for the radial artery

When the location of the pulse is identified- fix this between their index and middle fingers.

Take the sampling syringe in the other hand and insert the needle at an angle of 45 °to the skin distally to the index and middle fingers which are fixing the patient's radial artery.

When the needle enters the artery- the syringe should "self-fill". In patients with low blood pressure there may be a "flash-back" of blood and it will be necessary to aspirate blood.

Fill the syringe with 1-2mls of blood.

Remove the syringe and immediately apply pressure with gauze.

Activate the quickshield over the needle and carefully remove the needle from the sampling device and dispose of the needle in the sharps bin. **SKIN TO BIN**

LOCAL ANAESTHETIC- CHECK FOR ALLERGIES

Arterial blood gas sampling is painful. Local anaesthetic can minimise patient discomfort.

Infiltration of local anaesthetic can distort anatomy and make sampling more challenging.

POST PROCEDURE

Thank the patient and explain the procedure is over.

If able- ask the patient to apply pressure directly to the puncture site for at least five minutes.

Most ABG sampling equipment sets have a cap to apply to the syringe for transportation to the gas analyser.

Perform hand hygiene and dispose of PPE in accordance with local policy.