

**Respiratory Care Services
John Dempsey Hospital
Policy and Procedure Manual**

Subject: Drawing of Arterial Blood Gas Samples

Rationale: Arterial blood gas determinations are useful in measuring how well a patient is oxygenated and what his acid-base balance is. In order for the Blood Gas Laboratory to function effectively, the patient sample must be correctly obtained and labeled. Any laboratory test is only as good as the sample collected.

1. Positively identify the patient from whom blood is to be collected.
2. Know which equipment is appropriate.
3. Follow the principles of universal precautions in all aspects of sample collection.
4. Label specimens clearly and complete all required paper work.

Equipment:

ABG Sampling Kit:

1 syringe, 3cc prefilled with Liquid Sodium Heparin
1 needle 22g x 1 1/4" with insert
1 Needle-Pro
1 Filter-Pro

1 3cc syringe w/25x5/8 needle
0.4 - 0.5 cc of 4% Lidocaine

Blood Gas Lab Requisition Form

Gloves

Drawing of Arterial Blood Gas Samples

<p><u>PROCEDURE</u></p>	<p><u>PREPARATION OF THE PATIENT</u></p> <ol style="list-style-type: none">1. Identify the patient by the wrist band adhering to wrist band identification protocol. Verify the proper identity of the patient via two (2) patient identifiers whenever taking blood specimens – Check the patients name and DOB verbally and by the patients wrist band.2. Explain the procedure to the patient.3. Check the patient’s lab values – notify the Medical Director or their Designee if the patient’s Prothombin Time is greater than 13 seconds4. Respiratory therapists should obtain samples from the radial artery only. Prior to drawing a sample, the Allen test must be performed. If the Allen test fails to demonstrate adequate collateral flow, do not use that radial artery. <p>Allen Test:</p> <ol style="list-style-type: none">a. Obliterate the radial and ulnar pulses simultaneously by pressing on both blood vessels at the wrist.b. Ask patient to clench and unclench his fist until blanching of the skin occurs.c. Release pressure on ulnar artery while compressing radial artery. Watch for return of skin color within 15 seconds.
<p><u>PROCEDURE</u></p>	<p>A. Anesthetize the Site</p> <ol style="list-style-type: none">1. Assemble the 3cc syringe with 4% Lidocaine.2. Put on gloves. Prepare the skin using the alcohol prep.3. Anesthetize site with Lidocaine by placing the needle just below the surface of the skin. Pull up slightly on the needle and pull back on the syringe to insure there is no blood return (blood return may be indicative of your placement in a blood vessel vs. a placement of just below the surface of the skin). Slowly proceed to inject the 0.4 - 0.5cc of Lidocaine into the patient’s skin. You should see the formation of a small “welt” appearing on the skin surface. After the Lidocaine has been injected gently rub the “welt” area for a few minutes. Note whether the patient has “numbness” in the injection site area. If yes, proceed to obtain an arterial blood sample. <p>B. Obtain the Sample For Analysis</p> <ol style="list-style-type: none">1. All drawing of blood will be done with protective gloves. All material possibly in contact with blood will be regarded as contaminated.2. Peel the blister pouch with the NEEDLE-PRO needle protection device open half way. (Do not touch needle protector.) Remove cap from syringe and discard. Grasp sheath using the plastic peel pouch. To prevent contamination, be careful not to touch NEEDLE-PRO's luer connector. With an easy twisting motion, attach syringe to the luer connection

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of the Needle-Pro.

3. Twist a needle into the male luer lock fitting on the base of the NEEDLE-PRO.
4. Expel any residual heparin out through the needle. (The needle must be coated with heparin to prevent the formation of micro-clots.)
5. Feel along the course of the radial artery and palpate for maximum pulsation with the middle and index finger. Prepare the skin with an alcohol prep.
6. Remove the sheath from the needle. Hold the needle at a 45 - 60 degree angle to the skin surface and advance in to the artery. Once the artery is punctured, arterial pressure will push up the hub of the syringe and a pulsating flow of blood will fill the syringe.
7. Once a minimum of 1.0cc of blood is obtained, withdraw the needle firmly and apply pressure over the site with dry gauze.
8. Press the needle into the sheath by GENTLY pressing the sheath against a hard surface such as a bedside table. AS THE SHEATH IS PRESSED, THE NEEDLE IS FIRMLY SNAPPED INTO THE SHEATH.
9. Twist off NEEDLE-PRO and discard into a sharps container. Place the FILTER-PRO AIR BUBBLE REMOVAL DEVICE on the syringe. Push the plunger up to expel any air bubbles.
10. The syringe must then be labeled and placed in a labeled bag of ice for transport to the Blood Gas Lab.
11. Continue to maintain pressure of puncture site for up to 10 minutes. (If patient is on anticoagulant medication apply pressure for 15 minutes.)
12. Give the proper paperwork and the sample to the unit secretary. **Samples will not be accepted by the lab unless the syringe is labeled, the bag of ice is labeled, and the requisition is complete. To be considered complete, the requisition must contain the patient's name, T00 number, admission number, date of birth or age, ordering physician, time drawn, FIO₂ and patient temperature. If there are labeling discrepancies you will be asked to come to the lab, identify the specimen, and complete an Identification of Specimen Form.**

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