

**HACKETTSTOWN REGIONAL MEDICAL CENTER
CARDIO PULMONARY POLICY MANUAL
PERFORMING AN ARTERIAL PUNCTURE**

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Effective Date: July 2009
Cross Referenced:
Reviewed Date: 10/15
Revised Date: 07/14

Policy No: 4A.001
Origin: Cardio Pulmonary
Authority: Cardio/Pulmonary Manager
Page: 1 of 3

Purpose: To obtain an Arterial Blood Sample so the PH, PCO₂, PO₂ HCO₃, AND BE values can be measured and calculated.

Procedure: **Note:** Only personnel approved by the Cardio-Pulmonary Manager are allowed to attempt this procedure

A. INFECTION CONTROL:

1. Wash your hands before and after this procedure.
2. Wear gloves during this procedure.
3. Use only sterile needle and syringe.
4. Use a new sterile needle each time skin is puncture.
5. Cleanse site thoroughly prior to the puncture.

B. SAFETY PRECAUTIONS:

- Wear gloves during this procedure.
- Exercise caution when handling the needle to avoid injury to patient and yourself.
- Choose puncture site in the following order:
 1. Radial
 2. Brachial
 3. Femoral obtained only by MD.

C. IMPORTANT POINTS:

1. Verify the physician order.
2. Verify patient ID by using 2 identifiers Ex. Pt. name, Medical Record #
3. Check collateral circulation by performing the Allen Test.
4. Maintain pressure over the site for 2-5 minutes, longer if necessary.
5. Air bubbles must be expelled and strict anaerobic conditions maintained while transporting the sample to the respiratory therapy department.
6. Label each sample with patient name and room number.

D. EQUIPMENT:

BLOOD GAS KIT

GLOVES

LABEL

ICE

E. STEPS:

1. Verify the Physician Order.
2. Review the Patient chart for pertinent information, such as; is the patient receiving anticoagulants, or a bleeding disorder, most recent temperature.
3. WASH HANDS.
4. Introduce yourself to patient.

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5. Verify Patients identity.
6. Explain procedure to patient.
7. Perform the Allen's Test. (see procedure below)
 - a. The hand is elevated and the patient/person is asked to make a fist.
 - b. Pressure is applied over the ulnar and the radial arteries so as to occlude both of them.
 - c. Still elevated, the hand is then opened. It should appear blanched (pallor can be observed at the finger nails).
 - d. Ulnar pressure is released and the color should return in 5-15 seconds.

* If color returns as described above, the Allen's Test is considered to be 'positive.' If color fails to return, the test is considered 'negative' and the ulnar artery supply to the hand is not sufficient. The radial artery therefore cannot be safely drawn from.
8. If collateral circulation is adequate, continue with procedure.
9. If collateral circulation is not adequate, test patients other hand. If collateral circulation is inadequate in both hands, notify physician.
 - The physician may request an alternate site.
 - The physician may decide to attempt the puncture himself.
 - The physician may cancel the order.
 - The physician may decide to order pulse oximetry.
10. Prepare blood gas kit.
11. Position yourself and the patient, so you are both comfortable.
12. Carefully feel the pulse.
13. Cleanse the site with alcohol.
14. With the needle bevel pointing up and the pulse isolated, enter the patients' skin with a quick steady motion parallel to the arm at a 45 degree angle.
15. Once the skin has been punctured, slowly insert the needle in a straight line until the artery is entered (blood will spurt in the needle hub and start to fill the syringe). If the artery is missed, withdraw the syringe until the tip is just beneath the skin. Adjust the needle angle and proceed as before.
16. Obtain at least 1cc of blood.
17. When the sample is obtained, using a quick steady motion, remove the needle from the patients arm, putting pressure over the puncture site using a clean gauze pad. Hold pressure over the site for 2-5 min. Longer if necessary.
18. Place band-aid over site.
19. Check for a pulse distal from the puncture site to insure that circulation has not been interrupted.
20. Expel air bubbles from sample.

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21. Seal the needle and syringe to maintain anaerobic conditions.
22. Label the syringe with patient information and place in plastic bag filled with ice.
23. WASH HANDS.
24. Transport to the respiratory therapy dept.
25. If you are unable to obtain sample after two attempts, ask another respiratory therapist to attempt.