

 **Wake Forest™**
Baptist Medical Center

Complications associated with Arterial Puncture

Prepared for WFBH Point of Care Test Groups

05/29/2014 (Angie Thayer, BSMT, ASCP)



Personnel

- Personnel performing arterial punctures should be knowledgeable about the more significant complications of this procedure compared with venipuncture.
- This document does not replace current policies and procedures governing arterial sample collection.
 - It is only intended as a brief educational opportunity to reinforce staff awareness of the risks associated with arterial puncture.

Complications

- **Complications associated with arterial puncture include:**
- hematoma
- arteriospasm
- air embolism
- infection
- hemorrhage
- vessel trauma
- arterial occlusion
- vasovagal response
- nerve damage
- pain
- If a local anesthetic is used, an allergic or anaphylactic reaction to the anesthetic may occur.

Hazards

XI. Hazards:

| HAZARD | RECOGNITION | RESPONSE |
|-------------------------|--|--|
| Hematoma | -Raised, discolored areas over site of puncture. | -Apply firm pressure over site until bleeding stops. |
| Peripheral nerve damage | -Patient complains of pain and/or tingling sensation from wrist along area of the thumb. | -Withdraw needle. -If symptoms persist, notify M.D. |
| Arterial spasm | -Cyanosis of fingers | -Withdraw needle -Attempt puncture later. |
| Infection | -Improper hand washing technique -Improper prepping of skin -Increased temperature -Puncture site appears inflamed -Positive microbiology report | -Proper hand washing and use of aseptic techniques. -Notify M.D. of signs of local infection. |
| Tissue necrosis | -Discoloration of skin -Skin cooler than skin at a similar site on the opposite hand. | -Notify physician. |

References

- WFBMC Policy and Procedure Bulletin:
PPB-WFBMC-RC-55 rev 4/8/11
“Blood Procurement (Arterial Puncture and A-line)”
- Lippincott Procedures:
Arterial puncture for blood gas analysis, respiratory therapy.

Link: <http://procedures.lww.com/lmp/view.do?pld=2245811&hits=puncture,arterial,punctures,puncturing>
- arterialpuncturecomplications052914