

# Minimum content of a specimen collection training program

## Critical steps of the venipuncture procedure

- Proper patient identification for inpatients and outpatients according to NCCLS guidelines
- Proper site selection, including acceptable and unacceptable sites
- Proper antecubital vein selection—high-risk versus low-risk veins
- Needle insertion
- Tourniquet time
- Proper angle of insertion
- Order of draw
- Tube inversion
- Bandaging—two-point check for complete stasis
- Labeling specimens at the bedside

## Proper capillary puncture procedures

- Fingersticks
  - Acceptable sites
  - First-drop elimination
  - Effects of excessive squeezing
  - Order of draw
- Heelsticks
  - Acceptable sites
  - Proper pre-warming techniques
  - Squeezing versus forcing
  - Supplies/equipment removal from crib/blanket
  - Bandaging restriction

## Physical risks associated with venipunctures

- Nerve injury
  - Limits of needle manipulation
  - Reacting to shooting pain sensation
- Hemorrhage
  - Arterial nick
  - Incomplete venous stasis
- Vertigo/syncope
- Lymphedema (mastectomy patients)

- Over- or undermedication, misdiagnosis, general patient mismanagement

## Collection-related analyte alterations

- Hemolysis
- Dilution with IV fluids
  - Draws above an active IV
  - Draws through vascular access devices
- Temporary analyte alterations
- Posture/diet-sensitive analytes
- Excessive tourniquet time
- Additive carryover—due to improper order of draw
- Pumping fist
- Clotting in tubes containing anticoagulants
- Contaminated blood cultures

## Processing-related analyte alterations

- Prolonged serum/cell contact
- Refrigeration of unseparated clot tubes
- Delays in transporting/processing sodium citrate tubes
- Premature centrifugation
- Bilirubin degradation

## Practices that increase risk of exposure

- Not wearing gloves
- Removing tip of glove
- Dismantling safety features
- Failing to use safety transfer device with syringe draws
- Forcing blood into collection tubes
- Using butterfly needles without a tube holder
- No sharps container at the point of use
- Overfilling sharps containers
- Recapping needles

By Dennis Ernst, MT(ASCP), of the Center for Phlebotomy Education Inc.  
Preprinted from *Applied Phlebotomy*, copyright 2005,  
Lippincott Williams & Wilkins, ISBN 0-7817-5055-5.