General Considerations

Safety considerations:

• Follow universal precaution guidelines. Treating all specimens as hazardous eliminates the need for warning labels.
• Laboratory workers should use appropriate barrier protection (gloves and lab coat) when collecting or handling specimens. If splashing may occur, protective eye wear or face mask should be used.
• Do not contaminate the external surface of the collection container and/or its accompanying paperwork. Minimize direct handling of specimens in transit from patient to the laboratory by using plastic sealable bags.
• Specimens obtained by a physician using a needle aspiration should be transferred to a sterile tube or anaerobic transport vial prior to transport of the specimen to the laboratory. If there is little material in the syringe, the physician should draw a small amount of sterile non-bacteriostatic 0.85% sterile saline or broth through the syringe and then transfer the specimen to a sterile tube. Never transport a specimen in a syringe with a needle attached.

General Guidelines for Proper Specimen Collection

• Collect specimen before administration of antimicrobial agents when possible.
• Collect specimen with as little contamination from indigenous microbiota as possible to ensure that the specimen will be representative of the infected site.
• Utilize appropriate collection devices. Use sterile and aseptic technique to collect specimens to prevent introduction of microorganisms during invasive procedures.
• Clearly label specimen container with patient’s name, identification number, date and time of collection, and initials of person labeling specimen.
• Collect an adequate amount of specimen.
• Develop an understanding of the microbiology laboratory source identification schemes in order to know when to include or rule-out special requests. For example, a stool culture will include routinely: *Salmonella*, *Shigella*, and *Campylobacter* species, but not *Escherichia coli* O157, *Vibrio* or *Yersinia* species; these are included by special request.

• Identify the specimen source and/or specific site correctly so that proper culture media will be selected during processing in the laboratory.
• If a specimen is to be collected through intact skin, cleanse the skin first with 70% alcohol followed by iodine solution (1%-2% tincture). Remove excess iodine following the procedure. Chlorasrub Swabstick, or equivalent may be used in place of 70% alcohol and iodine.
• Collect specimen in the appropriate container.
• Transport all specimens to the laboratory promptly to:
  — Ensure the survival and isolation of fastidious organisms and to prevent overgrowth by more hardy bacteria.
  — Shorten the duration of specimen contact with some local anesthetics that may have antibacterial activity.
  — To provide a more accurate diagnosis of the infectious disease process.

Alternatives to prompt delivery:

• Refrigerate urine specimens or use Vacutainer Brand Urine Collection Kit with preservative.
• Three-vial Stool Collection Kit, Para-Pak.
• All other specimens are to be held at ambient temperature.

Blood Collection Instructions

Phlebotomy equipment:

• Vacutainer holder (adapter)
• Vacutainer needles
• Tourniquet (place 6” up from the antecubital area)
• Vacutainers
• Syringes (3cc, 6cc, 12cc, or 20cc)
• Butterfly adapter needles (21 or 23 gauge)
• Syringe needles (21, 22, or 23 gauge)
• Gauze, alcohol, Band-Aids/paper tape
• Gloves

Tourniquet application:

• Place tourniquet approximately 6 inches from the antecubital area. Do not leave tourniquet on for more than 1 minute.
Draw site:

• View both antecubital sites before selecting a site
• Determine needle size by vein location and density

Cleansing site:

• After selecting the site, have the sterile gauze and alcohol pad ready
• Use concentric circles from the inside to the outside
• If you need to palpate the vein after cleansing the site, you will need to cleanse your finger to prevent site contamination

Vacutainer draw:

It is mandatory that tubes are drawn in the correct order due to the anticoagulants that are added in the tubes.

• Order of tubes
  — Blood culture bottle or yellow-top SPS tube - invert yellow-top tube 8 to 10 times
  — Blue-top (sodium citrate) tube - invert 8 to 10 times
  — Gold-top (separator gel) tube - invert 5 times
  — Plain, red-top tube - invert 5 times
  — Green-top (heparin) tube - invert 8 to 10 times
  — Light green-top (PST gel separator with heparin) tube - invert 8 to 10 times
  — Lavender-top (EDTA) tube - invert 8 to 10 times
  — Grey-top (sodium fluoride [glucose]) tube - invert 8 to 10 times

Syringe draw:

Order of transferring blood from a syringe into the tubes is as follows:

• Order of tubes (invert tubes according to Vacutainer draw)
  — Blue-top (sodium citrate) tube
  — Lavender-top (EDTA) tube
  — Grey-top (sodium fluoride [glucose]) tube
  — Green-top (heparin) tube
  — Gold-top (separator gel) tube
  — Plain, red-top tube

Tourniquet release:

• Avoid snapping, pulling, or tying into a knot.
  Remember, do not leave tied tourniquet on the patient longer than 60 seconds. This could cause trauma to the blood cells, possibly causing hemolysis.

Removal of needle:

• A smooth and sharp exit from drawsite
• Activate safety feature immediately

Patient care after venipuncture:

• Place gauze over site and hold steady pressure for 1 minute, if bleeding persists, hold pressure again and hold arm vertically to stop the bleeding. Place Band-Aid/paper tape over gauze after the draw.
• If you have had to use PERSIST for the venipuncture procedure, you will need to clean off any excess.
• Make sure that you have cleaned up any biohazards that are present before leaving the room.
• Always have an ammonia inhalant available. If the patient is feeling faint, have the patient lie down or put his/her head between their legs. This will apply in an outpatient situation.

Disposal of equipment:

• Do not re-cap sharps
• Dispose all sharps in proper containers
• Paper waste and gloves in proper containers
• Follow handwashing procedures

Specimen labeling requirements - must include all of the following:

• Patient’s full name
• Date of birth or Social Security number or patient hospital number
• Test that is ordered
• Collector’s initials
• Date and time of collection

Transporting specimens:

• Centrifuge specimen
• Place specimen in a leak-proof container along with patient requisition
• Store specimen at appropriate temperature (refrigerate, ambient, or frozen)
• Call for specimen pickup
Chain-of-Custody

• Extreme care should be given to any specimen that is collected from a patient, which has the potential for being used as evidence in legal proceedings, or in employment practices.

• Collection of body fluids (blood, urine, etc.):
  — Collect the specimen in the appropriate container, label container with patient name, Social Security number and/or patient number, date specimen obtained, initials of person labeling specimen.
  — Seal the specimen with the chain-of-custody tape, have the patient initial the tape (unless anonymity is to be maintained, then have patient witness entire sealing process), place in chain-of-custody bag and seal.
  — Fill out the chain-of-custody form:
    • Patient’s hospital number/Social Security number/driver’s license number/or special number assigned to insure anonymity. If a minor, then proper identification will be obtained/provided by parent(s)/guardian/custodian.
    • Patient name (not applicable in case of anonymity).
    • Unusual patient behavior/appearance.
    • Photo ID (explain if other method used).
    • Medications being taken by patient, or by mother, if neonate is being tested.
    • Facility/location where collected.
    • Type of specimen if other than urine.