



Specimen Collection Manual

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II. Hours of Service

The clinical Laboratory provides diagnostic testing, transfusion services and support services 24 hours a day, 365 days a year. The main laboratory may be reached by calling 501-513-5752.

III. Test Directory

A comprehensive list of tests offered may be accessed through the link below:

<https://www.testmenu.com/conwayregionallab>

IV. Phlebotomy and Specimen Collection

Specimen collection is performed by properly trained staff only.

Inpatient:

Inpatient specimen collection is provided by both nursing and lab staff. The laboratory provides inpatient phlebotomy services on a STAT and Routine basis for all clinical departments 24 hours a day, 365 days a year.

Outpatient:

Specimen collection services are available at the CRMC Laboratory, located in Building 1 at 2302 College Avenue, Conway, Arkansas, from 7:00 a.m. to 7:00 p.m., seven days a week. An additional draw station is available at the Imaging Center, located at 555 Club Lane, Conway, Arkansas, Monday through Friday from 8:00 a.m. to 5:00 p.m.

V. Venous Blood Collection

1. Containers and Preservatives: See BD Vacutainer Venous Blood Collection Tube Guide (Appendix A)
2. Order of Draw: See BD Vacutainer Order of Draw for Multiple Tube Collections (Appendix A)

VI. Test Order Entry

Inpatient:

Lab requests are placed electronically in the hospital EMR (MEDITECH).

Surgical pathology, cytology and bone marrow examinations are ordered in MEDITECH. Special instructions, including request for frozen section interpretation must be communicated to the tissue lab or directly to the pathologist. Surgical pathology, cytology and bone marrow specimens are not to be transported via the pneumatic tube system and must be delivered to the main lab.

A Downtime Requisition (Appendix B) may be used when laboratory tests are not orderable in the EMR. The laboratory will not accept requisitions with incomplete patient demographics or specimen documentation. The following information must be included:

- Patient's First and Last Name
- Date of Birth
- Medical Record Number
- Ordering Location
- Room Number
- Ordering Provider
- Test(s) Requested
- Specimen Information
 - Phlebotomist
 - Date and Time of Collection

Outpatient:

Orders may be received either electronically through the clinic EMR or via a Laboratory Requisition Form (See Appendix C). The laboratory will not accept requisitions with incomplete patient demographics or specimen documentation either electronically or on paper. The following information must be included:

- Patient's First and Last Name
- Date of Birth
- Patient's Address
- Referring Institution Name and Address
- Billing Information
- Ordering Provider
- Test(s) Requested
- Specimen Information
 - Phlebotomist
 - Date and Time of Collection
 - Specimen Type or Source
- ICD-10 Code(s)

VII. Specimen Identification Requirements

Specimens received by the Laboratory must be accurately labeled. Specimens without complete patient identification affixed to the specimen will be rejected and a new specimen will be requested. Exceptions will only be made for specimens that cannot be readily recollected (CSF or tissue) and only when approved by the

Laboratory Medical Director or designee.

Labels should be placed lengthwise on the specimen tube covering the manufacturer's white label without obscuring the contents of the tube (See Appendix D). Specimen labels must be affixed to the specimen and provide the following information (if a label is not available the information may be handwritten on the specimen container):

Inpatient:

- Patient's First and Last Name
- Medical Record or Visit Number
- Patient's Location
- Date and Time the specimen was collected
- Initials of the staff member collecting the specimen
- Source of the specimen if other than blood (CSF, Urine, etc.)

Outpatient:

- Patient's First and Last Name
- Date of Birth
- Medical Record or Visit Number
- Date and Time the specimen was collected
- Initials of the staff member collecting the specimen
- Source of the specimen if other than blood (Swab -Left Eye, Urine, etc.)

VIII. Testing Priority

The laboratory is committed to the expeditious reporting of all test results. Certain clinical situations will at times require special attention. For the laboratory to respond appropriately to those situations, personnel with direct patient contact must accurately designate the appropriate testing priority for each specimen.

Stat:

Stat priority is used for life-threatening situations. Tests that are ordered stat will be completed within 45 minutes of receiving the specimen in the laboratory depending on the test(s) ordered.

Routine:

Tests that are ordered routine will be completed within 4 hours from the time they are received in the lab.

Timed:

Accurate timing of specimen collection is essential for the proper interpretation of therapeutic drug levels. Peak levels are collected to evaluate the highest concentration of a drug in the bloodstream, while trough levels are collected to assess the lowest concentration immediately before the next dose.

The following collection times should be observed unless otherwise specified by the ordering provider or laboratory test requirements:

- Gentamicin Peak: Collect 30 minutes after the infusion has ended.
- Vancomycin Peak: Collect 60 minutes after the infusion has ended.

- Any Trough Level: Collect within 30 minutes before the next scheduled dose.

The date and time of the last dose administered, the infusion end time (when applicable), and the specimen collection time should be documented to ensure accurate result interpretation. Improperly timed specimens may produce misleading results and could affect patient treatment decisions.

IX. Critical Results

Critical values are defined as values that are outside the normal range to a degree that may constitute an immediate health risk to the individual or require immediate action on the part of the ordering provider (outpatient results may be given to a designee). It is the policy of the clinical laboratory to call the critical values listed to a licensed provider as soon as completed and verified in compliance with laboratory policy. Read back of the critical values by the person receiving them to the person making the notification call is required. See Critical Value Table (Appendix E).

X. Transfusion Services

Blood Components:

The Arkansas Blood Institute (ABI) provides Conway Regional Medical Center with packed red blood cells, cryoprecipitate, platelet apheresis and fresh frozen plasma. The following is a list of products stocked in the blood bank along with the average preparation time and expiration:

Component	Preparation Time	Expiration
Packed Red Blood Cells	45 Minutes	42 Days
Cryoprecipitate	45 Minutes	6 Hours, Thawed
Platelet Apheresis	15 Minutes	7 Days
Fresh Frozen Plasma	45 Minutes	24 Hours, Thawed

Ordering Blood Components:

Orders for blood components are placed in MEDITECH. In an emergency, a verbal order may be taken by blood bank staff. Verbal orders must always be followed by an order in the EMR or a downtime requisition.

Blood Bank Specimens:

All blood components containing red cells must be crossmatched using specimens properly labeled with the blood bank armband identification system. Acceptable specimen labels must contain the patient's name, date of birth, medical record number, collection date and time, and the collector's initials. All information must be free from errors. Specimens with labels that contain errors will be rejected and a recollection will be necessary. One 6mL lavender top tube is needed to perform the type and screen, and the crossmatch. If the antibody screen is positive an additional specimen(s) may be required to complete the antibody identification.

Emergency Transfusions:

If blood is to be given in an emergency, before testing can be completed, the physician ordering uncrossmatched blood must sign an "emergency release" form (Appendix F).

Obtaining Blood Components:

Transfusing Blood Components:

Blood products obtained from the Blood Bank must be transfused within 4 hours of the time it was released. Blood products must be returned to the blood bank as soon as possible if they cannot be given immediately. If the unit has been out of the blood bank for more than 30 minutes; the unit cannot be transfused to another patient. If the unit cannot be transfused within 4 hours to the patient, then the unit must be discarded. Every effort should be made to transfuse the product to the patient to avoid wasting the unit. Contact the blood bank immediately if a blood component must be discarded. Blood must never be stored in refrigerators outside of the blood bank. All blood products must be administered through a filter. Fresh frozen plasma, cryoprecipitate, and platelet products are given using a component recipient set.

Transfusion Reactions:

If any of the following conditions develop during the transfusion, initiate the transfusion reaction procedure.

Signs of unfavorable reaction:

- Elevated Temp ($>1^{\circ}\text{C}$ and/or $>1.5^{\circ}\text{F}$)
- Hemoglobinuria
- Chills and/or Diaphoresis
- Oliguria and/or Anuria
- Dyspnea and/or Stridor
- Back Pain, Flank Pain and/or Chest Pain
- Itching, Hives, and/or Facial Flushing
- Nausea and Vomiting
- Hypotension
- Pain at Infusion Site

Suspected Transfusion Reaction Procedure:

1. Stop blood immediately. Remove blood administration set, tubing, and saline. Replace with normal saline at a keep open rate until further orders are obtained.
2. Perform a clerical check of all information on the blood compatibility label.
3. Call the physician ordering the blood.
4. Notify the blood bank.
5. Enter the symptom(s) observed in TAR or complete a downtime transfusion reaction form (Appendix G). Entering the symptom(s) in TAR will reflex a transfusion reaction investigation order.
6. Collect the first urine specimen following the suspected transfusion reaction.
7. Send to Blood Bank immediately:
 - a. Urine specimen
 - b. The blood bag with all attached tubing, REMOVE NEEDLE.
 - c. Blood reaction form filled out completely.
8. The laboratory will draw a post-transfusion specimen. The new specimen will be retyped along with the original specimen. The post-transfusion specimen will be observed for hemolysis and a direct antiglobulin test will be performed on it. If there is any evidence of a hemolytic transfusion reaction, the physician will be notified immediately.

XI. Microbiology

Complete guidelines for the proper collection and transport of specimens ensure quality patient care. All diagnostic information from the microbiology laboratory is contingent on the quality of the specimen received. Consequences of a poorly collected and/or poorly transported specimen include failure to isolate the causative

microorganism and recovery of contaminants or normal flora, which can lead to improper treatment of the patient.

Safety

- Follow standard precaution guidelines. Treating all specimens as potentially hazardous eliminates the need for warning labels.
- Use appropriate barrier protection (such as gloves, isolation coat or gown, mask, etc.) when collecting or handling specimens.
- Do not contaminate the external surface of the collection container or accompanying paperwork.
- Minimize direct handling of specimens in transit from the patient to the laboratory.
- Specimens obtained by a physician using needle aspiration must be transferred to a sterile tube, cup, or vial prior to transport to the laboratory. If there is little material in the syringe, the physician should draw a small amount of sterile non-bacteriostatic 0.85% NaCl or sterile broth through the syringe and then transfer the specimen to a sterile tube.
- Do not transport specimens in a syringe with the needle attached.

Guidelines for Proper Specimen Collection

- Collect specimens before administering antibiotics when possible.
- Use sterile equipment and aseptic technique to collect specimens.
- Collect specimens with a minimum of contamination from surrounding skin flora.
- Collect an adequate sample, inadequate amounts of specimens may yield false negative results.
- If a specimen is collected through intact skin, cleanse the area before collection.
- Collect specimens in sturdy, sterile, screw cap, and leak proof containers.
- Clearly label specimens with patient information, specimen source, and body site.

Specimen Labeling Requirements

Each specimen must be labeled with the following information (Note: Laboratory personnel cannot accept specimens which are not properly labeled or have gross external contamination):

- Patient's First and Last Name
- Date of Birth
- Medical Record or Visit Number
- Ordering Location
- Room Number
- Ordering Provider
- Test(s) Requested
- Specimen Type and Source
- Initials of the person collecting the specimen
- Date and Time of Collection

Types of Specimen Collection Containers/Transport Systems

Container	Description	Specimen Type
Sterile Screw Cap Cup	Varies	Urine, Sputum, Stool, Bronch Lavage, Biopsy, etc.
Sterile Tube	Red Top Tube, no additive	Bronch Lavage, etc.
Culture Swab, Anaerobic	BBL Culture Swab, Blue Top	Many

Culture Swab, Aerobic	BBL Culture Swab, Red Top	Many
eSwab	ESwab, Purple Top	Throat (Strep A)
Universal or Viral Transport Media	Red Screw Top with Pink Fluid	Many
CT/NG/TV Xpert Collection Kit, Urine	Yellow Screw Top with Clear Fluid	Urine
CT/NG/TV Xpert Collection Kit, Swab	Pink Screw Top with Clear Fluid	Vaginal or Endo-cervical Specimen
BD Blood Culture Bottles	Aerobic	Blood Specimen
Stool Transport Vial and GI Panel Collection Vial	Orange Screw Top with Red Fluid	Stool Specimen
Unifix O&P Collection Vial	Purple Screw Top with Clear Fluid	Stool Specimen

Standard Collection Procedures

Providers or specialists with advanced training and skills should collect specimens requiring extreme invasive technique. Specimens not listed below, or any other questions or requests should be directed to the Microbiology Department. Microbiology should be informed in advance if there are any special requests that might require special handling.

Blood

1. Number and timing: Most cases of bacteremia are detected by using 2 to 3 separately collected blood cultures. More than 3 blood cultures yield little additional information. Conversely, a single blood culture may miss intermittent bacteremia and make it difficult to interpret the clinical significance of certain isolated organisms. The following can be used as general guide:
 - a. Acute sepsis: Collect 2 culture sets from separately prepared sites prior to starting antibiotic therapy.
 - b. Acute endocarditis: Obtain 3 blood cultures with 3 separate venipunctures over 1 to 2 hours.
 - c. Subacute endocarditis: Obtain 3 blood cultures on day 1 (15 minutes or more apart). If all are negative 24 hours, obtain 3 more.
 - d. Fever of unknown origin: Obtain 2 separate blood cultures at least 1 hour apart. If these are negative, then 24 to 36 hours later obtain 2 more blood cultures 1 hour apart.
2. Volume: The volume of blood is critical because the concentration of organisms in most cases of bacteremia is low. In infants and children, the concentration of organisms during bacteremia is higher than in adults, so less blood is required. Collect 8-10 ml of blood per adult bottle or up to 4 ml per pediatric bottle.
3. Blood collection:
 - a. Locate a suitable vein before cleansing the skin.
 - b. Cleanse the skin with a Chloraprep FREPP Applicator. Apply to skin and using a back and forth motion, scrub the area for 15 seconds.
 - c. Allow the area to dry for 30 seconds. Do not blow or touch the site after cleansing the skin.
 - d. Disinfect the top of the bottle stopper on the BD Bactec bottles with a 70% isopropyl alcohol swab. Allow the alcohol to dry for 30-60 seconds.
 - e. Use a vacutainer butterfly needle with hub to minimize chances of contamination.
 - f. Make certain that the needle does not touch anything before entering the skin. If you are unsuccessful in obtaining blood with the first puncture, be certain that you replace the needle

- and all other collection equipment with new ones before attempting a second puncture.
- g. Draw the required amount of blood into each bottle filling the BD Bactec Plus Aerobic (aerobic – blue) bottle first, followed by the BD Bactec Anaerobic (anaerobic – purple) bottle. Butterfly needle/hub assembly or syringe/hub assembly is adapted to fit vacutainer tubes after blood cultures have been obtained.

Body Fluids, Sterile (excluding blood, CSF, urine)

1. Disinfect the needle puncture site.
2. The physician will aseptically perform percutaneous aspiration to obtain pleural, pericardial, peritoneal, or synovial fluids.
3. Expel any air bubbles from syringe, and immediately inject specimen into a sterile screw cap container.
4. Transport to the laboratory immediately.

Central Nervous System

1. CSF
 - a. Sterile screw-cap tube (hold at room temperature if multiple tubes collected place one on ice for virus culture if needed)
2. Brain Abscess
 - a. Sterile screw-cap tube
3. CNS biopsy
 - a. Sterile screw-cap tube. If the specimen is small, send it in a sterile cup with a small amount of nonbacteriostatic 0.85% NaCl. (Never place it in formalin.)

GI Tract

1. Fecal specimens
 - a. Have the patient obtain a stool specimen by one of the following methods:
 - i. Pass stool directly into a sterile, wide-mouth, leak proof container with a tight-fitting lid.
 - ii. Pass stool into a clean, dry bedpan, and transfer into a sterile leak proof container with a tight-fitting lid.
 - b. Keep stool specimen cool. Do not incubate.
 - c. Do not use toilet paper to collect stool. Toilet paper may contain substances, which are inhibitory for some fecal pathogens.
 - d. Stool for ova and parasites should be placed in preservative immediately after collection.
 - e. See Appendix H for Patient Instructions for Stool Collection
2. Gastric lavage
 - a. Submitted mainly for detecting Mycobacterium tuberculosis in patients (most frequently children) unable to produce quality sputum. Should be performed after the patient wakes in the morning so that sputum swallowed during sleep is still in the stomach.
 - b. The patient should fast prior to the procedure.
 - c. Pass a well lubricated tube orally or nasally to the stomach of the patient and perform the lavage.
3. Duodenal biopsies and washings
 - a. Submitted primarily for the detection of Giardia lamblia, Strongyloides stercoralis, Ascaris lumbricoides and Helicobacter pylori.
 - b. These specimens are obtained by endoscopic procedures.
4. Gastric biopsies and washings

- a. Submitted primarily for the detection of *Helicobacter pylori*.
 - b. Obtained by endoscopic procedures.
- 5. Esophageal biopsies and washings
 - a. Primarily used to detect *Candida* species, Cytomegalovirus and Herpes Simplex virus infections.
 - b. Obtained by endoscopic procedures.
- 6. Pinworm
 - a. Use pinworm collection kit. Collect the specimen when patient wakes in the morning before the patient bathes or defecates.

Genital Tract

- 1. Female
 - a. Amniotic fluid
 - i. Aspirate fluid by catheter, at caesarian section, or at amniocentesis.
 - b. Bartholin gland
 - i. Decontaminate skin with povidone-iodine. Aspirate material from duct(s).
 - c. Cervix
 - i. Do not use lubricant during the procedure.
 - ii. Wipe cervix clean of vaginal secretion and mucus.
 - iii. Rotate a sterile swab and obtain exudate from the endocervical glands.
 - iv. Do not use cotton swabs or swabs with wooden shafts for specimen collection.
 - v. If no exudate is seen, insert a sterile swab into the endocervical canal and rotate the swab.
 - d. Endometrium
 - i. Collect endometrium specimens by transcervical aspiration through a telescoping catheter.
 - e. Fallopian tubes
 - i. Obtain aspirates or swab specimens during surgery.
 - f. Urethra
 - i. Collect specimen one hour or more after patient has urinated. Stimulate discharge by gently massaging urethra against the pubic symphysis through the vagina.
 - ii. Collect the discharge with a sterile swab if discharge cannot be obtained, wash external urethra with betadine soap and rinse with water.
 - iii. Insert a sterile min-tip swab 2 to 4 cm into the endourethra.
 - iv. Gently rotate the swab and leave it in place for one to two seconds.
 - v. Withdraw the swab and place it in the appropriate transport system.
 - g. Vagina
 - i. Use a speculum without lubricant.
 - ii. Collect secretions from the mucosa high in the vaginal canal with sterile swab.
 - iii. Withdraw the swab and place it in the appropriate transport system.
 - h. Vulva
 - i. Clean the surface of the lesion with sterile saline. If there is a crust on the lesion remove it.
 - ii. Scrape the lesion until serous fluid emerges.
 - iii. Wipe away fluid and debris with sterile gauze. Try to avoid bleeding.
 - iv. Press the base of the lesion until clear fluid is expressed. Using any of the following techniques:
 - 1. Aspirate vesicular fluid with a 26- to 27-gauge needle and place it in the

appropriate transport system.

2. Unroof the vesicle and collect fluid with a sterile swab and place it in the appropriate transport system (for HSV detection).
3. Scrape the base of an open vesicle with a sterile scalpel blade and then rub the base vigorously with a sterile swab (for HSV and *Haemophilus ducreyi* detection). Place swab in the appropriate transport system.

2. Male

a. Epididymis

- i. Used primarily to detect nonspecific bacterial and sexually transmitted epididymitis. Bacterial epididymitis is most commonly due to members of the family Enterobacteriaceae or pseudomonads and generally occurs in men over 35 years of age. Sexually transmitted epididymitis is most commonly due to *Chlamydia trachomatis* and *Neisseria gonorrhoeae*.

1. Use needle and syringe to collect material from epididymis.

ii. Penile lesion

1. Clean the surface of the lesion with sterile saline solution. If there is a crust on the lesion remove it.
2. Scrape the lesion until serous fluid emerges.
3. Wipe away fluid and debris with sterile gauze. Try to avoid bleeding.
4. Press the base of the lesion until clear fluid is expressed. Using any of the following techniques:
 - a. Aspirate vesicular fluid with a 26- to 27- gauge needle and place it in the appropriate transport system.
 - b. Un-roof the vesicle and collect fluid with a sterile swab and place it in the appropriate transport system (for HSV detection).
 - c. Scrape the base of an open vesicle with a sterile scalpel blade and rub the base vigorously with a sterile swab (for HSV and *H. ducreyi* detection). Place swab in the appropriate transport system.

iii. Prostatic massage

1. Used to diagnose acute and chronic prostatitis. For both diseases gram negative enteric organisms are the most frequently isolated pathogens.
 - a. Collect the specimen in a sterile tube or on a sterile swab.

iv. Urethra

1. Collect specimen at least 2 hours after the patient has urinated.
2. Insert a sterile mini-tip swab 2 to 4 cm into the endourethra.
3. Gently rotate it, leave it in place for 1 to 2 seconds, and withdraw.

Ocular

General Considerations

- Obtain viral and chlamydial samples before topical anesthetics are instilled.
- Do not use cotton or wooden shafted swabs to collect viral or chlamydial cultures.
- Send inoculated media and prepared smears to the Laboratory immediately.
- Do not use calcium alginate swabs for specimen collection for viral cultures.
- If *N. gonorrhoeae* is suspected, inoculate Thayer-Martin and chocolate plates.
- For anaerobic cultures, use anaerobic transport tube and inoculate media directly.
- *Acanthamoeba* sp. is the parasite associated with ocular infections.

1. Conjunctival specimens
 - a. One or two drops of local anesthetic are generally instilled.
 - b. Scrape the lower tarsal conjunctiva with a sterilized kimura spatula.
 - c. Inoculate the appropriate media directly.
 - d. Prepare smears by applying the scraping in a circular manner to a clean glass slide or by compressing material between two glass slides and pulling the slides apart.
 - e. Alternately, use a sterile swab to sample the inferior tarsal conjunctiva (inside surface of eyelid) and the fornix of the eye. However, organisms are more readily detected in scrapings than from a swab.
2. Corneal scraping
 - a. Obtain conjunctival samples prior to corneal scrapings.
 - b. One or two drops of topical anesthetic are generally instilled.
 - c. Using short, firm strokes in one direction and scrape multiple areas of ulceration and suppuration with a sterilized kimura spatula. Take care to keep the eye open and not to touch the eyelashes.
 - d. Inoculate each scraping directly to appropriate media. Multiple scrapings is recommended because the depth and extent of viable organisms may vary.
 - e. Prepare smears by applying the scraping in a circular manner to a clean glass slide or by compressing material between two glass slides and pulling the slides apart
3. Intraocular fluid
 - a. Prepare smears by spreading a drop of material over the surface of a cleaned glass slide.
 - b. Use a needle aspiration technique to collect intraocular fluid.
 - c. Inoculate appropriate media directly, and/or immediately transport the samples to the Laboratory in a capped syringe.

Respiratory

1. Lower Respiratory
 - a. Expecterated sputum
 - i. Have the patient rinse their mouth and gargle with water prior to sputum collection.
 - ii. Instruct the patient not to expectorate saliva or postnasal discharge into the container.
 - iii. Collect specimens resulting from deep cough in sterile screw-cap cups or other suitable sterile collection assembly.
 - b. Tracheostomy and endotracheal aspirations
 - i. Aspirate the specimen into a sterile sputum trap.
 - c. Bronchoscopy specimens
 - i. Pass the bronchoscope transanally or transorally in non-intubated patients or via the endotracheal tube in intubated patients.
 - ii. Wedge the tip of the bronchoscope in a segmental (for bronchial wash) or subsegmental (for bronchoalveolar lavage) bronchus. c.
 - iii. To obtain specimens:
 1. Bronchial wash or bronchoalveolar lavage:
 - a. Inject sterile nonbacteriostatic 0.85% NaCl from a syringe through a biopsy channel of the bronchoscope.
 - b. Gently suction the 0.85% NaCl into a sterile container before administering the next aliquot. Keep aliquot separate during collection.
 - c. Combine aliquots from the same site for microbiology cultures and smears, but aliquots from separate sites (example right upper lobe and right lower lobe) are combined only after consultation with the

ordering physician.

2. Bronchial brush specimens:

- a. Insert a telescoping double catheter plugged with polyethylene glycol at the distal end through the biopsy channel of the bronchoscope.
- b. Transport in 2 ml sterile saline, and obtain from the Microbiology department.

2. Upper Respiratory Tract

a. Throat (pharyngeal specimens)

- i. Do not obtain throat samples if epiglottitis is inflamed, as sampling may cause serious respiratory obstruction.
- ii. Depress tongue gently with tongue depressor.
- iii. Extend sterile swab between the tonsillar pillars and behind the uvula. Avoid touching the cheeks, tongue, uvula, or lips.
- iv. Sweep the swab back and forth across the posterior pharynx, tonsillar areas, and any inflamed or ulcerated areas to obtain a sample.

b. Nasal swabs

- i. Insert swab into the nose until resistance is met at the level of the turbinates.
- ii. Rotate the swab against the nasal mucosa.
- iii. Repeat the process on the other side.

c. Nasopharyngeal washing for Mycoplasma/Ureaplasma.

- i. Swab the nasopharynx with a rayon or Dacron swab to loosen the epithelial cells.
- ii. Insert tubing (3 to 4 inches long) attached to a syringe containing 1 to 2 mL of sterile saline into the nasopharynx. The butterfly tubing infusion set is recommended. As a source of tubing, the butterfly may be clipped off leaving 3 - 4 inches of tubing attached to a syringe hub.
- iii. Immediately flush saline into the N-P area and then draw the wash back into the syringe. NOTE: the washing should contain congestive material.
- iv. Expel the washing into respiratory virus transport media.

d. Nasopharyngeal swabs – For SARS-CoV-2 (CoVID-19)Flu/RSV testing or Respiratory Panel by PCR

- i. Carefully insert a mini-tip swab through the nose into the posterior nasopharynx, and rotate the swab.
- ii. Keep the swab near the septum and floor of the nose.
- iii. Place swab in Universal Transport Media.

e. Sinus aspirates

- i. Using a syringe aspiration technique, obtain material from maxillary, frontal, or other sinuses.
- ii. Place the contents into an anaerobic transport system.

f. Tympanocentesis fluid

- i. Clean the external canal with mild detergent.
- ii. Using a syringe aspiration technique, the physician will obtain the fluid from the eardrum. Send the specimen in a sterile container to the lab.
- iii. If the eardrum is ruptured, collect exudate by inserting a sterile swab through an auditory speculum

g. Middle ear

- i. Submitted primarily to diagnose middle ear infections only if previous therapy has failed.

- ii. The physician will obtain the fluid from behind the eardrum by a syringe aspiration.
- iii. Send the specimen in a sterile container or send it in the syringe.
- iv. If eardrum is ruptured, collect exudate by inserting sterile swab through an auditory speculum.

Tissues – Subcutaneous and Skin

1. Burn specimens
 - a. Disinfect the surface of the burn with 70% alcohol and then with an iodine solution. Allow the disinfectant to dry prior to collecting the specimen.
 - b. Collect a punch biopsy sample, 3 to 4 mm, for quantitative culture.
2. Superficial wound, bacterial
 - a. Syringe aspiration is preferable to swab collection.
 - b. Disinfect the surface of the wound with 70% alcohol and then with an iodine solution. Allow the disinfectant to dry prior to collecting the specimen.
 - c. Aspirate the deepest portion of the lesion. If a vesicle is present, collect both fluid and cells from the base of the lesion.
 - d. If the initial aspiration fails to obtain material, inject sterile, nonbacteriostatic 0.85% NaCl subcutaneously.
 - e. Repeat aspiration attempt.
3. Superficial lesions, fungal
 - a. Clean the surface with sterile water.
 - b. Using a scalpel blade, scrape the periphery of the lesion border. Samples from scalp lesions should include hair that is selectively collected for examination. If there is nail involvement, obtain scrapings of debris or material beneath the nail plate.
 - c. Transport in a sterile container or sterile petri dish.
4. Ulcers and nodules
 - a. Clean the area with 70% alcohol and then with iodine solution, remove overlying debris.
 - b. Curette the base of the ulcer or nodule, if exudate is present, collect it with a syringe or sterile swab.

Tissues – Deep Wounds and Aspirates

1. Bite wounds
 - a. Aspirate pus from wound, or collect during incision, drainage, or debridement of infected wound. (Do not culture fresh bite wounds, infectious agents will likely not be recovered.)
2. Deep wounds or abscesses
 - a. Disinfect the surface with 70% alcohol and then an iodine solution (1 to 2% tincture of iodine or a 10% solution of povidone-iodine. Tincture of iodine must be removed with 70% alcohol to prevent burn.)
 - b. Aspirate the deepest portion of the lesion, avoiding contamination of the wound surface.
 - c. If collection is done at surgery, a portion of the abscess wall should also be sent for culture.
3. Punch skin biopsies
 - a. Disinfect the skin surface with 70% alcohol and then with an iodine solution (1 to 2% tincture of iodine or a 10% solution of povidone-iodine. Tincture of iodine must be removed at completion of procedure to prevent burn.
 - b. Collect a 3 to 4 mm sample with a dermal punch.
 - c. Submit for microbiological analysis in sterile containers without formalin.
4. Soft tissue aspirate

- a. Disinfect the surface with 70% alcohol and then with iodine solution (1 to 2% tincture of iodine or a 10% solution of povidone-iodine. Remove tincture of iodine with alcohol after the procedure to avoid burn.)
5. Aspirate deepest portion of lesion or sinus tract. Avoid contamination by wound surfaces.

Urine

General Considerations

- Never collect urine from a bedpan or urinal.
- Thoroughly clean the urethral opening (vaginal vestibule in females) prior to collection to ensure that the specimen obtained is not contaminated with colonizing microorganisms.
- Soap rather than disinfectants is recommended for cleaning the urethral area. If disinfectants are introduced into the urine during collection, it may inhibit the growth of microorganisms.
- Use BD Vacutainer Urine Complete Cup Kit (for routine Urine Culture and Urinalysis)
- Do not submit 24 hour urine collections for culture.

1. Collection techniques

- a. Clean-catch urine specimens (female)
 - i. The person obtaining the urine specimen should wash hands with soap and water, rinse, and dry. If the patient is collecting, provide detailed instructions, including diagrams or pictorial display.
 - ii. Cleanse the urethral opening and vaginal vestibule area with soapy water or clean gauze pads soaked with liquid soap.
 - iii. Rinse the area well with water or wet gauze wipes.
 - iv. Hold labia apart during voiding.
 - v. Allow a few milliliters of urine to pass. (Do not stop the flow of urine.)
 - vi. Collect the midstream portion of urine in a sterile container. Any excess urine should be voided into the toilet.
- b. Clean-catch urine specimens (male)
 - i. The person obtaining the urine specimen should wash their hands with soap and water, rinse, and dry. If the patient is collecting, provide detailed instructions, including diagrams or pictorial display.
 - ii. Cleanse the penis, retract the foreskin (if not circumcised), and wash with soapy water.
 - iii. Rinse the area well with sterile water.
 - iv. Keep the foreskin retracted (to minimize contamination with skin flora), allow a few milliliters of urine to pass. (Do not stop the flow of urine.)
 - v. Collect the midstream portion of urine in a sterile container. Any excess urine should be voided into the toilet.
- c. First Catch Urine (male or female)
 - i. Pass the initial urine stream directly into a sterile cap container (20-50mL) any excess urine should be voided into the toilet.
 - ii. First catch urine is for Chlamydia and N. gonorrhoeae and Trichomonas vaginalis specimens. Transfer urine to Cepheid CT/NG urine transport tube.
- d. Ileal conduit urine
 - i. Remove the external urinary appliance and discard the urine within the appliance.
 - ii. Gently swab and clean the stomal opening with a 70% alcohol pad and then with iodine solution (1 to 2% tincture iodine or a 10% solution of povidone-iodine.)
 - iii. Remove excess tincture of iodine with 70% alcohol after procedure to avoid burn. iv.

- Using sterile technique, insert a double catheter into the stoma.
- iv. Catheterize the ileal conduit to a depth beyond the fascial level.
- v. Collect the urine drained into a sterile container.
- e. Straight catheter urine (in/out catheter urine specimens)
 - i. Prior to catheterization, the patient should force fluids until the bladder is full.
 - ii. Clean the patient's urethral opening (and in females, the vaginal vestibule) with soap, and carefully rinse the area with water.
 - iii. Using sterile technique, pass a catheter into the bladder.
 - iv. Collect the initial 15 to 30 mL of urine and discard from the mouth of the catheter.
 - v. Collect a sample from the mid-or later flow of urine in a sterile container.
- f. Indwelling catheter urine
 - i. Clean the catheter collection port with a 70% alcohol wipe.
 - ii. Use a 10 cc syringe to aspirate urine from the port.
 - iii. Attach BD transfer device onto syringe and fill gray top tube to the fill line, then put remaining urine in the yellow top tube.
 - iv. For tests other than Urinalysis and Culture, transfer urine to a sterile container.
 - v. Discard transfer device and syringe in sharps container. NOTE: Do not collect urine from the collection bag.

XII. Point of Care Testing

Point of Care testing allows for the timely and efficient delivery of quality services at the patient's bedside. Testing performed at the patient's bedside is monitored by the laboratory to ensure only qualified personnel perform testing in accordance with all regulatory agencies. The following POCT's are in use at Conway Regional:

ROM Plus	Membrane Rupture
AccuCheck Inform II	Glucose
iStat	Creatinine, Chem 8
AVOXimeter 1000E	Hemoglobin, Oxyhemoglobin
Hemochron Sig Elite	ACT
Urine Pregnancy	Qualitative hCG
Hemoprompt Occult Blood	Occult Blood

Point of Care staff may be reached 24 hours a day, 7 days a week by Teams for non-emergent issues. For emergencies, please contact the main lab (513-5752) and ask for the POC staff member on call.

XIII. Drug Screens

1. Medical Drug Screen, Urine
 - a. Collect approximately 25ml of urine and keep refrigerated if transport is delayed.
 - b. The following drugs are qualitatively tested in house as presumptive positive or negative. Confirmation testing must be ordered separately except LRDP; positive tests from patients in this area will be referred for confirmation:
 1. THC
 2. Methadone
 3. PCP

4. Amphetamines
5. Barbiturates
6. Benzos
7. Opiates
8. Cocaine
9. Fentanyl
- c. Other drugs are available by request and are sent to a reference lab.
2. Cord Blood Drug Screen
 - a. Cut a 6-inch segment of the Umbilical cord. ii. Pinch the specimen between the finger and thumb, then run your fingers down the specimen 3-4 times to drain any excess blood.
 - b. Rinse the outside of the cord with normal saline or an equivalent rinsing solution. No soap, hand sanitizer, or alcohol-based products please.
 - c. Pat the specimen dry and place it in the cup.
 - d. Label the container with two identifiers (Name, DOB and/or Medical Record Number).
 - e. Complete the provided chain of custody document and transport to the lab.

XIV. 24 Hour and Timed Urine Collections

1. The patient is to empty his or her bladder completely before the collection is to start.
2. Discard this specimen. Once the bladder has been emptied, begin timing for the appropriate hours of collection.
3. The patient should collect all urine for the full testing time (6, 12, or 24 hours) determined the ordering provider.
4. The urine is collected in a small container and transferred to the larger jug within the refrigerator.
5. Catheter bags must be emptied into the urine jug every two hours.
6. The patient or nurse must indicate each time of voiding on the instruction sheet.
7. The patient must collect their last specimen exactly at the terminal time, if possible.
8. See Appendix I for Patient Instructions for 24 Hour Urine Collection

XV. Pathology

1. Pathology services are provided by Arkansas Pathology Associates (APA). There is on-site coverage by the pathologist Monday through Friday from 7:30 AM to approximately 5:00 PM. After 5:00 PM a pathologist is on call for consultation. On site pathology procedures include intraoperative consultations (rapid gross diagnosis and frozen sections). Routine gross examination of specimens will be performed by the on-site pathologist if requested. Primary gross examination will be performed at the APA laboratory facility. Tissue blocks are processed in the CRMC (Conway Regional Medical Center) histology laboratory.
2. All specimens should be clearly labeled with the patient's name, date collected, and specimen source. Unlabeled or improperly labeled specimens should be investigated to obtain the correct information. If a specimen is submitted unlabeled, the nurse or clinician responsible for transporting the specimen must return to the laboratory to visually confirm the specimen identity.
3. All approved autopsies are performed at UAMS after appropriate consent forms are completed and transportation arranged.