Specimen Collection Guide

GENERAL GUIDELINES

Requisition Specifications

All requisitions must include the following:

- full name of ordering provider and the ordering provider’s address
- full name of any copy-to physicians
- patient name (last, first, middle initial) as listed on the patient’s insurance card
- patient date of birth
- patient sex
- patient identification - number specific to clinic if applicable
- patient demographics (complete address and telephone numbers)
- patient insurance information (insurance name, insurance ID and group number)
- ICD-10 diagnosis code
- date and time of specimen collection
- specimen source
- requested testing (by indicating a source in the surgical pathology portion of the request this qualifies the need for requested testing for routine surgical pathology and non-gynecological cytopathology specimen testing)
- clinical info, where appropriate
- LMP for women’s health testing requests

Patient demographics and insurance information on a facesheet can be attached to the requisition rather than filling the information in on the requisition directly, but the requisition does need to contain patient name and date of birth at a minimum for identification should the paperwork be separated.

EMR generated requisitions are welcome providing all the requirements above are included.

Requisitions should be placed in the outer portion of a biohazard specimen bag containing the associated specimens for transport to the laboratory.

*Please note that incomplete information may result in delayed testing results as well as phone calls from the NWP client associates team to obtain the information needed.*

Labeling Specifications

It is recommended that all patient materials be prepared and labeled in the presence of the patient after the confirmation of the patient by two unique identifiers.

Label all containers with at least two unique patient identifiers. These include:

- patient name as listed on the patient’s insurance card and requisition
- patient date of birth
- patient SSN
- patient identification number specific to the clinic that is also listed on the requisition
  - Please avoid using any nicknames.
  - Please avoid any pre-labeling of materials to avoid possible errors.
Label all slides using a pencil (ink will dissolve during staining process) with two unique patient identifiers. These include:

- patient name as listed on the patient’s insurance card and requisition
- patient date of birth
- patient SSN
- patient identification number specific to the clinic that is also listed on the requisition

Please note that incomplete information may result in delayed testing results as well as phone calls from the NWP client services team to obtain the information needed.

Specimen Rejection

- Submissions without a requisition or unlabeled specimen containers will be sent back to the originating facility for proper labeling.
- Northwest Pathology does not accept any specimens, implant device or other material containing moderate or high levels of radiation.
- Northwest Pathology does not process any tissue known or suspected to be infected with a prion disease e.g. Creutzfeldt - Jakob disease. If you have any questions regarding this procedure please contact the pathologist on call.

Specimen Transportation

Fresh Specimens
Specimens for immediate pathologist review and preliminary diagnosis include:

- frozen sections
- touch preps
- gross only for margin review

These specimens need to be picked up and processed as soon as possible.

In the Bellingham area, a 10-minute phone call prior to the specimen being available for pick-up is appreciated during normal business hours (Monday-Friday; 8am-5pm). Outside of normal business hours, a phone call 30 minutes prior, to the pathologist’s on-call phone, is necessary to avoid delays and ensure results will be readily available.

Within Whatcom and Skagit Counties, Northwest Pathology should be notified 30 minutes prior to the specimen being available to avoid delays and ensure results will be readily available. Outside these areas, please make arrangements in advance with Northwest Pathology.

Fresh specimens need to be kept refrigerated or with an ice pack prior to pick-up by a Northwest Pathology courier and should be transported to Northwest Pathology with minimal delay. For those specimens coming from outside of Bellingham, an ice pack is recommended to keep the specimen cool during transport.

Both EDTA and Sodium Heparin tubes can be stored anywhere from 4-25°C (39-77°F) while waiting for or during transport to Northwest Pathology.
Fixed specimens
By placing specimens into appropriate fixative immediately upon collection, cellular distortion and degeneration can be minimized. Specimens in a fixative are stable at ambient temperatures. Samples should be placed in a clean container and tightly capped to prevent any spillage and to retain adequate moisture during transit to the laboratory.

All specimen collection devices can be ordered through your account online at https://nwpathology.com/order-supplies-online.html or by emailing supplies@nwpathology.com with your requests.

WOMEN’S HEALTH TESTING

ThinPrep®
There are two options for specimen collection with the ThinPrep® system:

- **Brush/Spatula**
  1. Obtain an adequate sampling from the *exocervix* with the plastic spatula. Select contoured end of plastic spatula and rotate it 360° around the entire exocervix while maintaining tight contact with the exocervical surface.
  2. Rinse the spatula into the PreservCyt® Solution vial by swirling the spatula vigorously in the vial 10 times.
  3. Discard the spatula.
  4. Obtain an adequate sampling from the *endocervix* using an endocervical brush device. Insert the brush into the cervix until only the bottommost fibers are exposed. Slowly rotate one fourth to one-half turn in one direction being careful to not over rotate.
  5. Rinse the brush in the PreservCyt® Solution by rotating the device in the solution 10 times while pushing against the PreservCyt® vial wall. Swirl the brush vigorously to further release material.
  6. Discard the brush.

- **Broom**
  1. Obtain an adequate sampling from the cervix using a broom-like device.
  2. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix.
  3. Push gently and rotate the broom in a clockwise direction five times. **Do not rotate the broom in a counter-clockwise manner (the bristles of the broom are specifically designed to scrape the cervix when rotated clockwise).**
  4. Rinse the broom into the PreservCyt® Solution by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart.
  5. Swirl the broom vigorously to further release material.
  6. Discard the broom device. Do not break off in container.

*Please note that inadequate samples and interference by lubricants or blood may obscure results or produce insufficient findings.*
MOLECULAR TESTING

- **One Swab**
  1. Collect specimen by vigorously swabbing site involved for 10-30 seconds.
  2. Break swab and insert into medium.
  3. Replace cap to vial. Close tightly.

- **Urine**
  1. Wait one hour between voids when collecting urine.
  2. The patient should collect the sample in a sterile urine container.

*Please note that collecting specimens in other media types is not advised because only specific media is validated for testing at Northwest Pathology. Collection in a non-validated media may result in a recollection and/or delay to patient results.*

CYTOPATHOLOGY TESTING

**Routine cytopathology general specifications:**
Volume necessary for processing, minimum: 3mL
Volume necessary for processing, optimal: anywhere from 10mL for scantly cellular specimens such as CSFs to 50mL collections for abundant and highly cellular specimens such as pleural fluid. Large collections, typically those over 100mL, will be agitated, and have two random 40mL samplings taken for processing, at a minimum.

Specimen collection vessels: sterile containers, capped syringes without needles, RPMI tubes, CytoLyt® cups, CytoLyt® tubes, Slides, ThinPrep® vial, or any other clean/unused, and leak-proof container will also be accepted. Specimens placed in RPMI and CytoLyt® containers should have a specimen-to-media ratio of no more than 1:1. Excess media is preferred to prevent specimen degradation. Examples:

- 10-15mL specimen in 20mL CytoLyt® adequately preserves the specimen.
- 25-30mL specimen in 20mL CytoLyt® is insufficient to preserve the specimen and will produce specimen degradation.
- 5mL specimen in 10mL RPMI solution adequately maintains specimen integrity.
- 15mL specimen in 10mL RPMI solution is insufficient for specimen integrity and will produce specimen degradation.

Seal the specimen container tightly. Wrap the container lid with Parafilm before transportation.
Fluid specimens collected with a suspected diagnosis of lymphoma should always be kept fresh or put into RPMI and held refrigerated.

Specimens can be kept fresh without fixative when there will be minimal delays in transporting the specimen to the laboratory. When deciding whether to leave a specimen fresh or to apply fixative, it is helpful to consider the suspected diagnosis, the cellularity of the specimen, the nutritional viability of the fluid, and the time the specimen will spend in transport. For specimens that will not reach Northwest Pathology within 24 hours, or if there is no mechanism available to keep the fresh specimen cold, add the appropriate media to maintain specimen integrity, e.g. RPMI for flow cytometry specimens, CytoLyt® for cytology specimens.

Please note that fluid specimens should never be submitted to the lab in formalin or with any sharps inside or attached to the collection container.

Specimen types with special considerations:

Anal PAPs
Preferred collection media: ThinPrep® container
Additional Testing Available: High-Risk HPV with optional HPV16/18 subtyping for specimens in ThinPrep® media
Specimen Holding Temperature: Ambient
Collection Instructions:
1. Insert a tap water-moistened Dacron swab about 5-6 cm into the anal canal past the anal verge, into the rectal vault.
2. Apply lateral pressure to the swab handle as it is rotated and slowly withdrawn from the anal canal, inscribing a cone-shaped arc.
3. Care should be taken to ensure that the transition zone is sampled.
4. Immediately place the swab in a ThinPrep® container, and agitate 10 times release cellular material from the swab.
5. Discard the swab and cap the vial.

Bladder Washings
Preferred collection media: CytoLyt® or empty sterile container
Minimum Volume: 20ml
Specimen Holding Temperature: Ambient when in CytoLyt®, refrigerate if fresh
Collection Instructions:
1. For best results, bladder washings should be done prior to any instrumentation.
2. Use 50mL of normal saline to irrigate the bladder.
3. Agitate thoroughly.
4. Remove sample from bladder.
5. Submit in an empty container or mix with at least equal parts CytoLyt®.

Body Cavity Fluid Effusions, Local Clients
Preferred collection media: Fresh, CytoLyt®, RPMI
Additional Testing Available: Flow Cytometry – only fresh or RPMI.
Minimal Volume: 10mL, 100-200mL is optimal
Specimen Holding Temperature: Ambient if in CytoLyt®, refrigerate if fresh
Collection Instructions:
1. Using standard paracentesis technique, obtain a fluid specimen from the desired body cavity.
2. If necessary, move the patient into multiple positions to suspend cellular material in the fluid.
3. Dispense the specimen into a clean container.
4. If submitting in CytoLyt® media with an equal or greater amount of CytoLyt®.

Body Cavity Fluid Effusions, Remote Clients
For specimens that appear cloudy or richly cellular:
1. Describe the total quantity of each specimen received on the requisition slip.
2. Ensure each specimen is closed securely.
3. Agitate the specimen container to disperse the cells that have settled on the bottom of the container. No sediment should be visible in the container.
4. If more than 60mL of sample are available from the original specimen, remove (2) 30mL samplings of the specimen from the original container.
5. Place each 30mL sampling into a separate pre-filled, appropriately labeled CytoLyt® cup.
6. Agitate the CytoLyt® cups briefly to ensure proper fixation.
7. Parafoil and package the CytoLyt® cups for delivery to NW Pathology with the accompanying requisition.

For specimens that appear clear or acellular:
1. Describe the total quantity of each specimen received on the requisition slip.
2. Ensure each specimen is closed securely.
3. Agitate the specimen container to disperse the cells that have settled on the bottom of the container. No sediment should be visible in the container.
4. Take four 50mL samplings from the original container and place into four separate 50mL conical vials.
5. Centrifuge the specimen samplings for 5 minutes.
6. Pour off and discard approximately half of the supernatant in each conical vial.
7. Agitate the specimens.
8. Combine two of the conical vials into one tube. Repeat for the other two vials.
9. Centrifuge the specimen samplings for 5 minutes.
10. Pour off and discard approximately half of the supernatant in each conical vial.
11. Agitate the specimens.
12. Pour each conical vial into a pre-filled, appropriately labeled CytoLyt® cup.
13. Agitate the CytoLyt® cup briefly to ensure proper fixation.
14. Parafoil and package the CytoLyt® cup for delivery to NW Pathology with the accompanying requisition.

Breast Secretions
Preferred collection media: CytoLyt®, ThinPrep® container, or microscope slides
Specimen Holding Temperature: Ambient
Collection Instructions:
1. Specimens that can be aspirated from the nipple surface with a pipette or syringe, should be immediately placed in a CytoLyt® container or ThinPrep® container.
2. It is recommended to collect several expressed secretions during the procedure to ensure an adequate amount of cells are collected.
3. If it is not possible to collect the aspiration in a syringe, or if by doing so the amount of material would be further compromised, the discharge can be smeared directly onto a blank slide.
4. When making smear slides, it is helpful to get the smear as thin and uniform as possible.
5. Slides should be left air-dried and transported to NW Pathology.

Brushings
Preferred collection media: Saline, CytoLyt®
Specimen Holding Temperature: Ambient if in CytoLyt®, Refrigerated if fresh
Collection Instructions:
1. Identify the lesion.
2. Brush edges and floor of the lesion.
3. Agitate the brush vigorously in a vial of fixative or saline.

Cerebrospinal Fluid
Preferred collection media: Fresh, RPMI, CytoLyte®
Additional Testing Available: Flow Cytometry from fresh and RPMI specimens
Minimal Volume: 5mL
Specimen Holding Temperature: Ambient if in CytoLyte®, Refrigerated if fresh or in RPMI
Collection Instructions:
1. Collect the sample in a sterile tube.
2. The sample should be free of blood and solid materials.
3. All fresh cerebrospinal fluid are to be sent to the Northwest Pathology as soon as possible.
4. The time lag between collection and preparation at the lab should be minimal (1-2 hours) for fresh specimens.
5. If the specimen will be in transit for more than 2 hours place half the specimen in RPMI.
6. Add CytoLyte® in equal parts to the remaining specimen. Mark both the tube and the requisition that CytoLyte® has been added.

FNA/Aspiration
Preferred collection media:
- RPMI: For suspected lymphoma.
- CytoLyte®: For all other non-lymphoma differential diagnoses i.e. solid tumor, infection, etc.
- CytoLyte® and RPMI: For broad differential diagnoses including lymphoma and solid tumor.
- Microscope slides: suggested, for thyroid collections (see below)

Additional Testing Available: Flow Cytometry for specimens in RPMI
Specimen Holding Temperature: Ambient if in CytoLyte®, Refrigerated if fresh or in RPMI
Collection Instructions:
1. If the needle is to be inserted through skin, prep the area with alcohol.
2. Locate the mass with palpation or imaging
3. Select a needle of appropriate gauge and length
4. Attach a syringe to the needle.
5. Insert the needle with attached lateral to the mass.
6. Apply suction when the mass is reached as even solid masses can become necrotic in their center and the cortex may be the only source of evaluable tissue.
7. Maintain suction and make several passes into and out of the mass at the level of the cortex.
8. Release suction before exiting the skin.
9. Dispense specimen into collection tube (RPMI or CytoLyte®™), based on criteria above
10. Rinse syringe with specimen tube fluid
11. Repeat for second and third FNA passes to sample the remainder of the mass.

Note: If submitting both CytoLyte® and RPMI, then 2-3 FNAs should be dedicated to CytoLyte® for solid tumor workup, and 1 FNA dedicated to RPMI for lymphoma workup.

It is recommended that direct smears be made if the specimen is a thyroid:
1. Apply a small amount of material, approximately a 4mm drop onto a slide if this can be easily accomplished without the risk of losing specimen to splatter.
2. Lay another slide on top of the material with the front of the slide facing the material and frosted end of the toward the non-frosted end of the bottom slide.
3. Allow surface tension to spread the material thinly between the two slides.
4. Quickly pull the two slides apart in a horizontal motion to distribute the material in a thin film over both slides.
5. If possible, air-dry one slide and immediately alcohol-fix the other; if not possible, air-dry both slides.
6. Repeat FNA collection two more time for a total of six prepared slides.
7. For each needle pass, rinse the needle in CytoLyt®.
8. Repeat FNA collection one more time and add specimen entirely into the same CytoLyt® container.
9. Total yield is 6 prepared slides and a CytoLyt® container.
10. If slide preparation is not feasible, place all collected specimen in CytoLyt® container.

Oral Paps

*Preferred collection media:* ThinPrep® media (PreservCyt)
*Additional Testing Available:* HR-HPV testing with optional HPV16/18 subtyping
*Specimen Holding Temperature:* Ambient

*Collection Instructions:*
1. Use a toothbrush to brush the area of abnormality.
2. Brush the edges of an ulcer as well as the floor vigorously to obtain diagnostic yield.
3. Agitate the brush vigorously in a 5–10 mL vial of saline or PreservCyt to release cells into the media.
4. Repeat as necessary until the suspect area just starts to bleed, this aids in obtaining sampling from the base of the lesion.
5. After the brush has been thoroughly rinsed in saline or PreservCyt, discard the brush.

Sputum

*Preferred collection media:* Fresh if local, CytoLyt® if remote
*Additional Testing Available:* Lipid laden macrophages if fresh
*Minimal Volume:* 3mL

*Specimen Holding Temperature:* Ambient if in CytoLyt®, Refrigerated if fresh

*Collection Instructions:*
1. Obtain sample from a deep cough specimen, not saliva.
2. Instruct the patient to inhale and exhale deeply, forcing air from the lungs using the diaphragm.
3. Repeat until the patient coughs and is able to produce a sputum specimen.
4. Collect the specimen in a sterile container, attempting to obtain at least one teaspoon of sputum.
5. If a specimen is not obtainable by this method, or if the patient is unable to comply, obtain an induced sputum or tracheal aspirate.

Urine, voided

*Preferred collection media:* CytoLyt® cup or empty sterile container
*Minimal Volume:* 10mL

*Specimen Holding Temperature:* Ambient if in CytoLyt®, Refrigerated if fresh

*Collection Instructions:*
1. Do not send fresh urine from remote locations. Urine needs to be received and processed by the lab within 24 hours of being collected.
2. First morning urine should be discarded.
3. NWP will not accept 24-hour pooled urine because of the vitality of the cells.
4. The patient should do a clean catch collection into a sterile container.
5. Transfer up to 30ml of the specimen into a prefilled CytoLyt® cup or add CytoLyt® in equal volumes to the sterile container.

6. If the patient is unable to produce 10ml of urine, send what is produced, and testing will be attempted but results may be inconclusive.

**Washings**

*Preferred collection media:* CytoLyt®, Fresh  
*Minimal Volume:* 5mL; 10-20mL preferred  
*Specimen Holding Temperature:* Ambient if in CytoLyt®, Refrigerated if fresh  

**Collection Instructions:**  
1. Preferably at least 10mL of the region of the suspected lesion.  
2. Lavage the area of interest using normal sterile saline.  
3. Aspirate the solution and place into a clean specimen container.  
4. If there is an anticipated delay of more than 24 hours in arrival to NW Pathology, add equal volume of CytoLyt®

**SURGICAL PATHOLOGY TESTING**

**Routine surgical pathology general specifications:**

*PROVIDED NO SPECIAL PROCEDURES ARE REQUESTED BY THE SURGEON/CLINICIAN (e.g. Frozen Section, Lymphoma Protocol/Flow, Immunofluorescence, Cytogenetics, Nerve/Muscle Biopsy, etc.)* 10% BUFFERED FORMALIN FIXATION IS RECOMMENDED/PREFERRED. IF TISSUE IS NOT FORMALIN FIXED IT MUST BE REFRIGERATED (NOT FROZEN) FROM THE TIME OF COLLECTION THROUGH TRANSPORT TO NWP LAB.

**FRESH TISSUE FOR CULTURE IS TO REMAIN AT ROOM TEMPERATURE.**

Specimen collection vessels: sterile container, RPMI tube (please maintain a minimum ratio of 1:1 specimen to RPMI, though a higher percentage of RPMI to specimen is acceptable), formalin container, prostate needle fixative container, and any other clean/unused and leak-proof container or collection device available will also be accepted. Snap top containers should be taped, parafilmed, or secured in some fashion to ensure the specimen will not leak or come out of the container.

Tissue specimens collected with a suspected diagnosis of lymphoma should always be put into RPMI or held fresh/refrigerated if RPMI is not available. If traveling a long distance and no RPMI is available, wrap the tissue/specimen in a saline dampened sterile gauze sponge/Telfa® and place in an appropriately labeled sterile container. Please mark the container as indentifying that saline has been added.

Prostate needle fixative is preferred for all prostate core biopsies and 10% neutral buffered formalin is the preferred fixative to preserve specimens to guard against cellular decay, and provide adequate cell morphology. Specimens can be kept fresh without fixative when there will be minimal delays in transporting the specimen to the laboratory or if the specimen is too large for formalin, such as an amputation.
Specimen types with special considerations:

**Amputations**
- Specimens too large for formalin container should be double bagged in appropriately labeled red biohazard bags, accompanied by an appropriately filled out requisition placed in a separate Ziploc biohazard bag and held refrigerated until a NWP courier picks up the specimen and transports the specimen in a cooler chest with ice.
- Amputations (leg/arm) with exposed bone should have an empty specimen cup/bucket taped over the protruding bone in the O.R. immediately after surgery and then double bagged in a red biohazard bag, in order to prevent:
  - Injury by hospital, transport, and pathology staff;
  - Puncture and subsequent leakage of body fluid along the transport route.
  The refrigerated amputation will be transported to Northwest Pathology without delay.

**Immunofluorescence**
- Place the specimen in immunofluorescence transport media.
- The media with specimen should then be kept cold and away from the light.
- If immunofluorescence media is not immediately available; keep the tissue fresh and refrigerated and call for a pick-up.
- Specimens should not be placed in formalin or any other fixative.
- The ideal skin specimen is a 3mm punch biopsy adjacent to the blister.

**Lymph Nodes**
- Specimens should be kept in RPMI transport media and refrigerated, if RPMI is not available, wrapped in saline dampened sterile gauze sponge or Telfa® and placed in a sterile container and refrigerated.
- Call NWP for immediate pickup.

**Bone Marrows**
Materials to be submitted:
- 3mL bone marrow aspirate in EDTA
- 3mL bone marrow aspirate in Sodium Heparin
- Bone marrow clot and aspirate in formalin
- 10 aspirate smears
- Bone marrow core in formalin, if desired

Note: if no aspirate can be obtained, submit three pieces of core (can be all from the same core as long as sample is large or from multiple cores); one in formalin and two RPMI containers with one core each.

- Put two drops of EDTA into a watch glass
- Dispense some aspirate (approximately 1mL or less as needed) into the watch glass.
- Swirl to check for the presence of spicules and sample adequacy.
- If the sample appears to be blood only, reposition the needle and resample to check for adequacy.
- Once the sample is adequate:
  - Collect 3mL of aspirate in an EDTA (lavender topped) tube, invert 8 to 10 times
  - Collect 3mL of aspirate in Sodium Heparin (green topped) tube, invert 8 to 10 times
  - Collect 1-2mL of aspirate and leave the aspirate in the syringe to clot
  - Prepare 10 aspirate smears:
    - Swirl the watch glass to look for spicules.
- Collect the spicules with a plastic transfer pipet.
- Place a 5mm drop on a slide with the transfer pipet.
- Tilt the slide and allow the drop to run down towards the bottom, while drawing off excess blood with a transfer pipet.
- Lay another slide facedown over the first and allow capillary action to draw the sample across the slides.
- Pull the slides apart quickly and allow them to air dry.
  - Transfer the remaining aspirate and spicules to formalin
  - Remove the clotted aspirate from the syringe and place into formalin; this can be placed in same container as the aspirate from the watch glass.
- Collect bone marrow core, if desired, and make two touch preps.
- Place bone marrow core into formalin.

**Muscle or Nerve Biopsy**
- Please schedule the biopsy in advance.
- Special instructions are needed. Please call NWP at (360) 734-2800 for further instructions.
- Wrap fresh tissue in a saline dampened gauze sponge or Telfa® and place in a appropriately labeled sterile container.
- Call NWP for immediate pickup.

**Oversized Specimens (i.e. too large for a formalin container) e.g. Placentas**
- Formalin fixed tissue is the preferred sample.
- In lieu of formalin – fresh/refrigerated placentas/ large specimens should be packaged in an appropriately labeled container with a snug lid taped or secured with parafilm to the bucket to avoid spilling.
  Bucket/adhered lid placed in two red biohazard bags (double bagged) with a wet ice pack to keep the placenta cool and with the accompanying completed pathology requisition in a separate zipper-closure biohazard bag. The specimen should be held inside a biohazard refrigerator until the NWP courier pick-up and should be transported via the courier in a cooler. Formalin will then be added at NWP laboratory.

**Ticks**

*Please note that the CDC recommends blood testing for conclusive diagnoses of Lyme disease, as testing ticks may not yield results or may yield results that give false assurances if another unknown tick bite exists.*

**Worm ID**
- Pin Worms
  - Pin worms should be collected on a sticky paddle first thing in the morning and submitted in the accompanying, appropriately labeled container without fixative.
- Other visible worms should be thoroughly cleaned of fecal matter and submitted in formalin.

*Please note: if O&P is desired, this must be a separate specimen from the one submitted for pathology as path does not perform O&P which should be submitted to the clinic lab appropriate for your location.*

**Pemphigus**
- Direct Immunofluorescence transport media, refrigerate and call NWP for pick-up.

**Cardiac Biopsies**
- If the specimen is from a heart transplant patient please provide the name of the institution the samples need to be sent, and what testing should be performed (electron microscopy, immunofluorescence, and light microscopy).
- Submit the tissue on a saline dampened sterile gauze or Telfa® in an appropriately labeled sterile cup. Call for immediate pick-up.

**Chromosomal Analysis**
Fresh tissue in appropriately labeled sterile container (refrigerate)

**Culture**
Sterile/fresh tissue in an appropriately labeled sterile container, kept at room temperature

**Electron Microscopy**
Glutaraldehyde Fixative

**Renal Studies**
Three fixatives; Formalin for light microscopy, Glutaraldehyde for electron microscopy, Michel’s or Zeus’s Immuno-transport media for Immunofluorescence