Purpose:
The purpose of cytologic examination of body fluids, lavages, aspirations, and scrapings is to determine the nature of the cells present within the specimen for diagnostic and potential therapeutic treatment. This examination is facilitated by using direct smear and concentration techniques to optimize recovery of material. A multitude of stains and ancillary tests may also be performed on this material to assist in diagnosis. A variety of quality control measures are in place to assure continuity of reliable diagnoses.

Reagents:
- Frosted-end glass slides.
- Cardboard carrier.
- Spray fixative (Baxter Cat. #S7741-2).
- RPMI or sterile saline.
- Thin Prep Preservcyte Vials.

Procedure:
A. GYNECOLOGIC – CONVENTIONAL
1) Prepare patient and collect specimen in the usual and accepted procedure by appropriate and qualified medical personnel.
2) Smear the specimen from collection utensil in appropriate fashion (i.e., Brush-roll onto slide; Spatula-smear onto slide; Broom-one pass vertically down the slide).
3) Immediately spray slides 10-12 inches away with spray fixative or place immediately in 95% alcohol.
4) Label each slide with the patient’s name and date of birth and place in cardboard carrier. Label the carrier with proper patient and special identification.
5) Fill out requisition properly with the patient’s name, physician, date of birth, last menstrual period and the date the specimen was collected.
6) Deliver the specimen to the laboratory with the proper cytology requisition completed.

B. GYNECOLOGIC – THIN PREP
1) Prepare the patient and collect the specimen using the spatula, brush or broom in the usual
and accepted procedure by appropriate and qualified medical personnel.

2) Transfer the specimen to the pink Thin Prep Preservcyte sample vial. Swish the collection device several times to dislodge the sample.
3) Label the vial with the patient’s name, doctor, and the date.
4) Fill out the requisition slip properly with the patient’s name, physician, date of birth, last menstrual period and the date the specimen was collected.
5) Deliver the specimen to the laboratory with the proper cytology requisition slip completed.

C. SPUTUM – CONVENTIONAL:
1) Collect the specimen in a sterile expectorate container.
2) Collect prior to breakfast and after washing the mouth with water.
3) Have the patient produce an early morning deep cough directly into expectorate container.
4) Label the container with the proper patient and specimen identification.
5) Keep the specimen refrigerated until delivery to the laboratory.
6) Deliver to The Pathology Laboratory with the proper cytology requisition slip completed.

D. BODY CAVITY:
1) Prepare the patient and collect the specimen in the usual and accepted procedure by appropriate qualified medical personnel.
2) Label the container (bag) with the proper patient and specimen identification.
3) Keep the specimen refrigerated until delivery to the laboratory.
4) Deliver to The Pathology Laboratory with the proper cytology requisition slip completed.

E. BRONCHIAL WASHINGS/LAVAGES:
1) Prepare patient and collect specimen in the usual and accepted procedure by appropriate qualified medical personnel.
2) Label the container with proper patient and specimen identification.
3) Keep the specimen refrigerated until delivery to the laboratory.
4) Deliver to The Pathology Laboratory with the proper Cytology requisition slip completed.

F. BRUSHINGS: (esophageal, bronchial, gastric, renal, etc.)
1) Prepare patient and collect specimen in the usual and accepted procedure by appropriate qualified medical personnel.
2) Cut the disposable brush and place directly into vial of isolyte, sterile saline, or RPMI.
3) Label the vial with proper patient and specimen identification.
4) Deliver the specimen with proper requisition to the laboratory ASAP.

G. CYST FLUIDS:
1) Aspirate cyst fluids aseptically. Remove needle and replace with syringe hub.
2) Label the syringe with proper patient and specimen identification.
3) Deliver the specimen with proper requisition to the laboratory ASAP.

H. CEREBRAL SPINAL FLUID (CSF):
1) Prepare patient and collect specimen in the usual and accepted procedure by appropriate qualified medical personnel.
2) Place specimen in sterile conical tubes.
3) Label the tubes with proper patient and specimen identification.
4) Deliver the specimen with proper requisition to the laboratory ASAP.
I. URINE, BLADDER, RENAL PELVIC AND URETERAL WASHINGS:

1) Collect voided urine as follows:
   - Hydrate the patient by having him/her drink as much water as possible for 1½ to 2 hours.
   - Have the patient void the urine and discard it at the end of the hydration period.
   - Collect the next voided urine (about ½ hour later), in a sterile specimen container.
   - Collect the specimen fresh and unfixed.
   - Collect 50-100 mls. of urine.
   - Label the container with proper patient and specimen identification.
   - Deliver the specimen with proper requisition to the laboratory ASAP and place in the refrigerator or keep it refrigerated until it can be delivered.
   - Repeat for three successive days if clinically indicated.

   NOTE: If the patient cannot be hydrated, send random voided urines. Never send 24-hour urine or first morning urine:

2) Collect catheterized urine as follows:
   - Hydrate the patient with several glasses of water and exercise the patient if possible.
   - Collect the specimen from the catheter directly into a sterile specimen container.
   - Collect specimen after a good urine flow is established.
   - Do not submit urine obtained at the time of initial catheterization since it has been in the bladder for sometime and contains only degenerated cells.
   - Collect 50-100 mls. of fresh, unfixed specimen.
   - Label the proper container with specimen and patient identification.
   - Deliver the specimen with proper requisition to the laboratory ASAP and place in the refrigerator or keep it refrigerated until it can be delivered.

3) Collect bladder washings, cystoscopic urine, renal pelvic washings, and ureteral washings as follows:
   - Have the patient void the urine.
   - Inject electrolyte solution into the bladder and retrieve.
   - Collect 50-100 mls. of fresh, unfixed specimen in a sterile container.
   - Label the proper container with specimen and patient identification.
   - Deliver the specimen with proper requisition to the laboratory ASAP or keep it refrigerated until it can be delivered.

J. BREAST SECRETIONS:

1) Label glass slides with patient name, date of birth and specimen identification.
2) Have the patient hold a coplin jar with 95% alcohol below breast.
3) Have the patient gently stroke sub-areolar area and nipple using thumb and forefinger. Allow only a drop, the size of a pea, to accumulate on the apex of the nipple.
4) Place a slide upon the nipple touching the drop of secretion and allowing it to spread a little laterally. Then draw the slide quickly across the nipple.
5) Immediately place the slide in a 95% alcohol coplin jar or spray fix.
6) Repeat procedure and allow a slide to air-dry and place in cardboard carrier.
7) Continue above steps until all the secretions obtainable are utilized.
8) Deliver the specimen with proper cytology requisition to the laboratory ASAP.

K. FNA: Refer to procedures for pathologist and radiology guided FNA’s.
L. **Tzanck smear:**

1) Label glass slides with patient name and date of birth.
2) Rupture one of the vesicles (blisters) and gently scrape the ulcerated area with a sterile scalpel or edge of clean slide.
3) Smear on to labeled slides.
4) Allow slide to air dry.
5) Deliver the specimen with proper cytology requisition to the laboratory ASAP.