



## CYTOLOGY SPECIMEN COLLECTION

### PRINCIPLE:

All Cytopathology specimens must be properly collected and labeled to assure optimal specimen adequacy and interpretation.

The diagnostic value of cytology and specimens is critically dependent on:

1. Proper and adequate sampling, identification, handling and timely receipt
2. Immediate and proper fixation.
3. Adequate clinical history.

### SPECIMENS:

Slides – All non-gynecologic smears must be fixed **IMMEDIATELY** after spreading on glass slides with aerosol fixative.

Fluids – ALL NON-GYN specimens must be added to a 50ml conical tube of CytoRich Red preservative immediately after collection.

All specimens must be properly and adequately identified (i.e., patient name, D.O.B., source for each specimen submitted, etc.)

Any questions regarding collection or fixation of specimens should be directed to the Laboratory ext. 5035 or VRH Cytopathology department at 603-543-5641.

### SUPPLIES

#### Fixatives

1. Cytological Aerosol Spray fixative used for buccal smears, pap smears, Tzanck smears, and FNA smears.
2. CytoRich Red: Pre-filled conical tube containing CytoRich Red preservative are used as a fixative for all NON-GYN specimens.

**A. Requisition Slips: Cytology requisition slips should be filled out completely and clearly with adequate clinical information.** Essential clinical information for accurate cytopathologic interpretation.

1. A brief pertinent clinical history,
2. Description of pertinent symptoms and/or clinical diagnosis.
3. Patients address, social security number, insurance name, group number, and previous name (if any).

#### B. Microscope Slides

- Frosted end clear slides are available.
- When preparing smears be sure to place cellular material on the same side of the slide as the frosted surface and label all slides with the patient's name and D.O.B. by writing on the frosted end surface with **pencil**.

### C. Specimen Containers

- Slide carriers are available for transporting aerosol-fixed smears.
- Prefilled 50 ml conical tubes with CytoRich Red fixative are available for collection of NON-GYN specimens.

## SPECIFIC SPECIMEN INSTRUCTIONS

### A. Breast-Nipple Discharge

1. Express discharge from nipple.
2. Place labeled slide in contact with discharge, and flat surface across nipple to spread discharge. **FIX SLIDE IMMEDIATELY** with aerosol fixative.
3. Repeat several times.
4. Deliver all slides to the laboratory.

### B. Brushings Direct smears (Non-Gyn) (Gastric, Bronchial and Esophageal)

1. Cut end of brush into CytoRich Red conical tube.
2. Label tube.
3. Send to lab as soon as possible.

### C. Fluids

1. Cerebrospinal Fluid
2.
  - a. Deliver specimen to laboratory **IMMEDIATELY** and hand technologist, identifying it as a CSF for cytology. **NOTE: This is important as cells deteriorate rapidly in CSF.**
  - b. Fix CSF in an equal amount of CytoRich Red.
2. Body Fluids (Pleural and Peritoneal)
  - a. Use separate sterile container if bacteriology studies are indicated.
  - b. Deliver **IMMEDIATELY** to laboratory, identifying the specimen and test requested to technologist receiving specimen. Do NOT deliver syringe/glass containers larger than 100mL of fluid to the lab.
  - c. Gently mix specimen and pour up to 30 mL conical tube with equal amount of CytoRich.
3. Cyst Aspirates (Breast and Other)
  - a. Transfer fluid from syringe into a 50 mL conical tube with equal amount of CytoRich Red.

### D. Gastric Cytology

1. Gastric Wash
  - a. Draw off initial fluid and discard.
  - b. Introduce 50-100ml. normal saline into stomach, allow to set, and then draw up and re-instill.
  - c. Fix in an equal amount of CytoRich Red.

## E. Gynecological Specimens

1. Routine Thin Layer "PAP" for Cancer detection
  - a. Cervical sample collection: Insert the Rovers Cervex-Brush into the endocervical canal. Apply gentle pressure until the bristles form against the cervix. Maintaining gentle pressure, hold the stem between the thumb and forefinger and rotate the brush five times in a clockwise direction.
  - b. Preserve the entire sample: Placing your thumb against the back of the brush pad, simply disconnect the entire brush from the stem into the CytoRich preservative vial.
  - c. Cap and label vial: Place the cap on the vial and tighten making sure no leaks will occur. Label the vial and lab requisition form with patient name, D.O.B. and/or number, physician name and date.
  - d. Send vial to the Lab: Place the vial into a biohazard bag putting the requisition in separate pocket and send to the laboratory.
2. Forensic Examination
  - a. Specimens for forensic examinations are not accepted in our laboratory.
  - b. The collecting person should give these specimens directly to the police who are responsible for maintaining a chain-of-custody record and transporting the specimens to the State Crime Lab. See ER policies regarding sexual assault.

## F. Pulmonary Cytology

1. Sputum
  - a. Inpatients and Outpatients: Submit three (3) separate containers. Each container should contain an early morning specimen from three (3) consecutive days or a single specimen is acceptable.
  - b. NOTES:
    1. Collect sputum into an empty container and then add CytoRich Red preservative fluid.
    2. Sputum produced in the first hour following arising in the morning provides a better specimen than a random one.
    3. A post-bronchoscopy sputum is the best.
2. Bronchial Washings
  - a. Bring to a laboratory **IMMEDIATELY** unfixed.
  - b. Hand to a technologist, identifying the specimen and tests) requested.
  - c. Fix in an equal amount of CytoRich Red fixative.

## G. Tzanck Smears

- a. Label a frosted-end slide in pencil with the patient's name and D.O.B before starting procedure.
- b. Obtain the cell sample by scraping the base of an intact vesicle (preferable) or a wet lesion with a sterile scalpel.
- c. Smear the sample on a glass slide.
- d. Fix **IMMEDIATELY** by spraying with aerosol fixative.
- e. Deliver to the lab with a properly filled out cytology request form (including history).

#### H. Urine/Bladder Wash

1. Collect in urine container and deliver to lab **IMMEDIATELY**. **NOTE:** Cells deteriorate very rapidly in urine.
2. If specimen cannot be delivered immediately and processed by the cytology lab, fix in an equal amount of CytoRich Red fixative.

#### I. Washings/Miscellaneous

- a. Process as for Bladder Wash. (See H)

#### J. Fine Needle Aspirates **NOTE: Notifying cytology lab 24 hours prior to procedure if pathologist/cytotechnologist needs to be present to prepare slides.**

1. Preparation
  - a. Cleanse and disinfect the skin overlying the mass using alcohol wipes.
  - b. Pre-moisten the 22-23 gauge, 1–1 1/2 inch, clear hub needle with sterile saline. Expel all excess saline from the 20-ml. syringe barrel by fully depressing the plunger while holding the syringe with the needle pointing down. **NOTE:** This pre-moistening with saline is optional, but recommended.
2. Aspiration
  - a. Stabilize the mass to be aspirated between the thumb and forefinger of one hand.
  - b. Insert the needle into the center of the mass.
  - c. Pull the plunger back as far as possible, and move the needle back and forth in the mass several times along the same track.
  - d. When material (tissue and blood) appears in the needle hub, release all the negative pressure in the syringe by letting go of the plunger.
  - e. Withdraw the needle from the mass.
  - f. Apply pressure to the puncture site with a sterile gauze pad.
  - g. Rinse needle in CytoRich Red fixative.
  - h. Repeat the aspiration in opposing poles, at least 2 more times if the mass is of sufficient size, to assure representative and adequate sampling.
  - i. Deliver the CytoRich Red specimen jar to the laboratory along with a completed cytology requisition including clinical history and pre-operative diagnosis.

#### NON-GYN CYTOLOGY SPECIMEN FIXATION

If Non-Gyn cytology specimens are not fixed at the time of the collection, the receiving laboratory needs to fix the specimen before transferring them to the cytology lab at Valley Regional Hospital. This is very important in order to maintain adequate cell preservation.

**SUPPLIES NEEDED: Available form the Cytology lab at VRH, 603-543-5641**

- CytoRich Red Fixative
- Aerosol fixative (aka hair spray)
- Cytology Requisition Slips

**Instructions:**

1. Fix specimen according to attached guide.
2. Label specimen container properly and send with completed cytology requisition including clinical history, diagnosis, billing information and insurance.

Reference: Cytology Specimen Collection Procedure Valley Regional Hospital 2011