

# Cytology

## I. GYNECOLOGIC SPECIMENS (PAP SMEARS)

### Required Labeling

1. Please remember to label the slide or vial with the patient's full name. The laboratory cannot accept a Pap specimen without positive identification on the label.
2. For conventional smears, use **pencil** to label the frosted end of the slide. Never use ink on the slide.

### Required Requisition Information

1. For Medicare, you must include an ICD-9 code indicating reason for testing (low-risk screen, high-risk screen, or diagnostic test).
2. Indicate gynecological testing requested. To order a PAP test, you must select one of the following:
  - Conventional Pap Smear Slide**
  - Liquid Based Pap Test**

If you are sending a liquid based specimen, you may select one or more of the following tests, if desired:

- HPV Testing (Regardless of Pap result)**
- Reflex HPV DNA if Pap ASCUS**
- Reflex HPV DNA if Pap ASCUS or Negative**
- HPV 16, 18/45 if Pap Negative, HPV positive**
- HPV 16, 18/45 if HPV positive, regardless of Pap**
- Chlamydia trachomatis PCR**
- GC PCR**

These tests will be performed from the liquid-based vial. HPV testing may be requested up to 30 days from date of collection. Chlamydia/GC testing must be ordered at the time of collection.

3. Source of specimen (vaginal, cervical, endocervical, etc.)
4. Date of patient's last menstrual period.
5. Result of last Pap test.
6. Pap test history previous to the last Pap test.

## **CONVENTIONAL PAP SMEAR**

### **Materials Required**

- 1-3 Pap smear holders
- 1-3 Frosted-end slides
- 1-2 Cytospatulas (Ayre spatula)
- 1 Cytobrush
- Spray fixative

### **Patient Preparation**

The patient should not be menstruating (a mid-cycle smear is preferred). The patient should not use vaginal medication, vaginal contraceptives, personal lubricants or douches during the 48 hours before the exam.

1. If desired, use lukewarm water to warm and lubricate the speculum. Water-soluble gel lubricant sparingly applied to posterior blade of the speculum can be used if necessary.
2. Gently remove excess mucus or other discharge present with a cotton swab before taking the sample. The cervix should not be cleaned by washing with saline or it may result in a relatively acellular specimen.

Note: The sample should be obtained before the application of acetic acid.

### **Procedure: Routine Vaginal Smear**

Scrape material from vaginal pool with cytospatula. Smear material on clean glass slide bearing patient identification. (See figure 1.) Spray-fix immediately. Allow smears to dry on the slide before closing the cardboard holder.

### **Procedure: Cervical Smear**

With a second cytospatula, using a rotary motion, sample the entire 360 degrees of the cervix. Smear material on clean glass slide bearing patient identification (See figure 1.) Spray-fix immediately. Allow smears to dry on the slide before closing the cardboard holder.

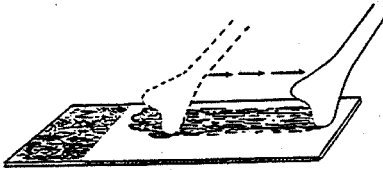
### **Procedure: Endocervical Smear**

With the cytobrush, using a rotary motion, sample the endocervical canal. Smear material on a clean glass slide bearing patient identification. (See figure 1.) Spray-fix immediately. Allow smears to dry on the slide before closing the cardboard holder.

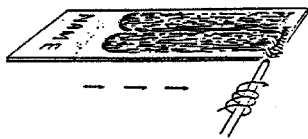
Store/Transport specimens at room temperature.

## Conventional Pap Smear Sample Protocol –Figure 1

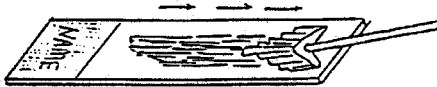
### Transferring the Sample(s) to the Slide



To transfer material from the spatula: Smear sample with a single stroke motion using moderate pressure to thin out clumps of cellular and mucus material. Avoid excessive force or manipulation which will damage cells.



To transfer material from the brush: Roll the bristles across the slide by twirling the brush handle.



To transfer material from the broom: Smear sample with a painting action, using both sides of the broom.

## **MONOLAYER (THIN PREP) PAP TEST**

### **Materials Required**

- 1 PreservCyt vial
- 1 Cytospatula/Cytobrush or Broom

### **Patient Preparation**

The patient should not be menstruating (a mid-cycle smear is preferred). The patient should not use vaginal medication, vaginal contraceptives, personal lubricants or douches during the 48 hours before the exam.

1. If desired, use lukewarm water to warm and lubricate the speculum. Water-soluble gel lubricant sparingly applied to posterior blade of the speculum can be used if necessary.
2. Gently remove excess mucus or other discharge present with a cotton swab before taking the sample. The cervix should not be cleaned by washing with saline or it may result in a relatively acellular specimen.

Note: The sample should be obtained before the application of acetic acid.

### **Procedure - Brush/Spatula Protocol**

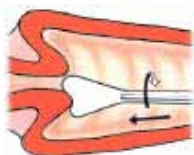
1. Open the PreservCyt vial.
2. With the cytospatula, sample the entire 360 degrees of the cervix, using a rotary motion.
3. Rinse the spatula as quickly as possible into the PreservCyt solution by swirling the spatula vigorously in the vial 10 times. Discard the spatula.
4. With the cytobrush, insert the brush into the cervix until only the bottom-most fibers are exposed. Slowly rotate  $\frac{1}{4}$  or  $\frac{1}{2}$  turn in one direction. DO NOT OVER-ROTATE.
5. Rinse the brush as quickly as possible in the PreservCyt solution by rotating the brush in the solution 10 times while pushing against the vial wall. Swirl the brush vigorously to further release material. Discard the brush.
6. Tighten the cap on the vial so that the torque line on the cap (black line) passes the torque line on the vial (black line).
7. Record the patient's name and ID number on the vial.
8. Place the vial and requisition in a specimen bag for transport.
9. Store/Transport specimens at room temperature.

### **Procedure - Brush/Spatula Protocol**

1. Open the PreservCyt vial.
2. With the broom, insert the central bristles of the broom into the endocervical canal until the shorter bristles are in contact with the ectocervix. Slowly rotate the broom in a clockwise direction 5 times.
3. Rinse the broom quickly as possible in the PreservCyt solution by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart. Swirl the brush vigorously to further release material. Discard the broom.
4. Tighten the cap on the vial so that the torque line on the cap (black line) passes the torque line on the vial (black line).
5. Record the patient's name and ID number on the vial.
6. Place the vial and requisition in a specimen bag for transport.
7. Store/Transport specimens at room temperature.

## Brush/Spatula Protocol

### ThinPrep® Pap Test Quick Reference Guide – Endocervical Brush/Spatula Protocol



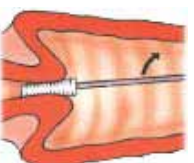
#### Obtain...

...an adequate sampling from the ectocervix using a plastic spatula. If desired, use lukewarm water to warm and lubricate the speculum. Water-soluble gel lubricant sparingly applied to the posterior blade of the speculum can be used if necessary.



#### Rinse...

...the spatula as quickly as possible into the PreservCyt® Solution vial by swirling the spatula vigorously in the vial 10 times. Discard the spatula.



#### 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 1/4 or 1/2 turn in one direction. DO NOT OVER-ROTATE.



#### Rinse...

...the brush as quickly as possible 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. Discard the brush.



#### Tighten...

...the cap so that the torque line on the cap passes the torque line on the vial.



#### Record...

...the patient's name and ID number on the vial.

...the patient information and medical history on the cytology requisition form.



#### Place...

...the vial and requisition in a specimen bag for transport to the laboratory. Store and Transport at room temperature.

## ***Broom-Like Device Protocol***

ThinPrep® Pap Test Quick Reference Guide: Broom-Like Device Protocol

### **Obtain...**

...an adequate sampling from the cervix using a broom-like device. If desired, use lukewarm water to warm and lubricate the speculum. Water-soluble gel lubricant sparingly applied to the posterior blade of the speculum can be used if necessary. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction five times.

### **Rinse...**

...the broom as quickly as possible into the PreservCyt® Solution vial by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart. As a final step, swirl the broom vigorously to further release material. Discard the collection device.

### **Tighten...**

...the cap so that the torque line on the cap passes the torque line on the vial.

### **Record...**

...the patient's name and ID number on the vial.

...the patient information and medical history on the cytology requisition form.

### **Place...**

...the vial and requisition in a specimen bag for transport to the laboratory. Store and transport at room temperature.

## II. NON-GYNECOLOGIC CYTOLOGY SPECIMENS

### General

1. Submit all specimens with a Cytology requisition or Meditech cytology transmittal, containing pertinent clinical history.
2. Label specimen containers with patient's full name.
3. Specimens collected fresh must be delivered to Specimen Receiving immediately.
4. Shared specimens are submitted with all pertinent paperwork, e.g. a bronchial washing shared between Microbiology and Cytology, is sent with Microbiology and Cytology requisitions/Meditech transmittals and delivered to Specimen Receiving.

### BLADDER/URETERAL/RENAL PELVIS SPECIMENS

Brushings: Collect the brush tip in a container of saline.

Washing: Collect the washings fresh.

Note: Refrigerate the specimens if there is a delay in transport.

### BODY FLUIDS

All body cavity fluids should be collected in a fresh state.

These specimens consist of:

1. Thoracentesis (pleural fluid)
2. Paracentesis (abdominal fluid, ascites fluid)
3. Pericardial fluid
4. Pelvic washings

### BRONCHIAL SPECIMENS

Bronchial Brushing: Collect the brush tip in a container of Cytolyt. Cytolyt solution is provided by the laboratory.

Bronchial Washing: Collect washings fresh or in Cytolyt solution.

Bronchoalveolar Lavages: Collect lavages fresh or in Cytolyt solution.

Post-Bronchoscopy sputum may be ordered as a follow-up to bronchoscopy; supply the patient with a cup at bedside and collect sputum for 4 hours after bronchoscopy. If a severe cough persists, this may be repeated.

### CEREBROSPINAL FLUID

Collect fluid fresh and send immediately to Specimen Receiving.

### ESOPHAGEAL BRUSHINGS AND WASHINGS

Esophageal Brushing: Collect the brush tip in a container of Cytolyt. Cytolyt solution is provided by the laboratory.

Esophageal Washing: Collect washings fresh or in Cytolyt solution.



**EYE FLUID**

Collect fluid fresh and send immediately to Specimen Receiving.

**GASTRIC WASHINGS**

1. No barium is to be given by mouth for at least 48 hours prior to the procedure. No food or liquid is to be allowed for 6 to 8 hours prior to the procedure.
2. The patient must rinse his/her mouth and blow his/her nose before the procedure.
3. A rubber or plastic Levin tube is introduced into the stomach via either the nose or mouth.
4. A fasting specimen of the stomach contents is obtained and discarded.
5. The lavage is performed in 2 parts, each using 100 ml aliquots of cold normal saline solution (during the second washing, the patient is turned from side to side and the upper abdomen is massaged).
6. The 100 ml portions are collected separately, placed on ice and sent immediately to Specimen Receiving.

**NIPPLE DISCHARGE SMEAR**

Smear the secretion lengthwise on a clean glass slide. If the secretion is thick, use another glass slide to spread the material evenly. Spray-fix immediately.

**SPUTUM**

Sputum is thick mucus produced by the lungs and is not to be confused with saliva. Sputum should be collected first thing in the morning, before eating or brushing the teeth. The patient should be instructed to cough deeply, to obtain an adequate sample from the lower respiratory tract.

This procedure should be repeated for 3 consecutive days (excluding holidays and weekends). The fresh sputum should be collected in a cup and sent immediately to Specimen Receiving.

If the specimen is deemed unsatisfactory (e.g., saliva only), the nursing unit should notify Respiratory Therapy for induction of an acceptable sputum.

**TZANCK SMEAR FOR HERPETIC LESIONS**

Material obtained must be from the base of the vesicle; the fluid, surface skin, and any crusted material associated with vesicle formation is devoid of diagnostic cells. Smear the material obtained onto a glass slide. Spray-fix immediately.

**URINE**

1. Instruct the patient to drink as much water as possible the night before the collection.
2. Discard the first voided urine.
3. Patient should void again in 2–3 hours. Collect 50 ml of fresh urine.

Please contact Cytology with questions regarding specimen collection at extension 10615.