

Cytology

Collection of Non-Gynecological Specimens

- Sterile specimen cups
- Plain red top tubes
- Glass microscope slides
- ACM specimen bag
- 95% alcohol
- Saccomanno Fixative (green)

- Saccomanno fixative (white label)
- 95% Alcohol (pink label)



Recommendation for collection of cellular samples for optimal cytologic evaluation:

- Collect all specimens in sterile containers,
- **Label all specimen containers with patient name, date of birth or medical record number and source of specimen.** Ensure that containers are closed tightly.
- Label frosted end of all slides in pencil with patient name and specimen source. *Date of birth or medical record number is also recommended.*
- Complete ACM test requisition – clinical information is extremely important for diagnosis.
- Enclose the requisitions with specimen in ACM specimen bag.
- Contact the Cytology Department, (585) 368-4512, with any questions on obtaining samples.

URINE

Includes voided, catheterized, bladder washing

1. 50 mL is recommended for testing.
2. Voided urine specimens can be obtained at a collection center. Otherwise, obtain a freshly voided, mid-stream urine (“clean-catch” for women) in a sterile plastic container. This should not be a first void.
3. Refrigerate prior to transport or add an equal amount of Saccomanno fluid to specimen, (preferred).

FINE NEEDLE ASPIRATION (FNA) Includes Breast Aspirates

1. Submit specimen in sterile container or plain red top tube and/or prepare slides/specimen.
2. Aspirations from different sites should be clearly designated.
3. Place a drop of aspirated material on the slide and use an additional slide to spread the collected material evenly over the front of the slide. Avoid excessive pressure when pulling apart glass slides, which can crush cells and limit diagnosis.
4. Immediately place slides in fixative container (95% alcohol) to prevent air-drying.
5. After preparing slides, rinse needle/syringe in Saccomanno Fixative.
6. If tissue fragments are aspirated, place them in a separate container with formalin.
7. If lymphoma or other hematologic malignancy is suspected, rinse needle in **RPMI cell transport media** for flow cytometry obtained by calling (585) 368-4516.

BODY FLUIDS:

Fresh, unfixed fluid samples are preferred. Submit all collected specimen for testing. Plain red top tubes should be used for small amounts (10 cc or less). Refrigerate until transport to Cytology.

CEREBROSPINAL FLUID:

Fresh, unfixed samples are preferred. Send the CSF sterile collection tube or use red top tube for transport. These specimens are extremely fragile - send to lab **immediately**.

RESPIRATORY TRACT:

Bronchial Brushings: Make direct smears of brush sample and **immediately** place in a container of 95% alcohol. After slides are made, agitate the brush vigorously in a 5 to 10 cc vial of saline or Saccomanno fixative. If possible, detach the brush and submit with specimen.

Bronchial Lavages (LAV)/Bronchial Washings: Send specimen fresh. Refrigerate until transport to Cytology.

SPUTUM:

1. Sputum samples must be deep cough material collected in a sterile container. Samples from three consecutive days increases the chance of obtaining diagnostic material.
2. Refrigerate until transport to Cytology.

ANAL (RECTAL)/ANAL PAP:

- Collect anal-rectal specimens using a Dacron swab.
- Moisten the swab in tap water and insert into the anal canal.
- Slowly rotate the swab in one direction with firm lateral pressure on the walls as the swab is slowly being withdrawn.
- Care should be taken to ensure that the transition zone is sampled (where columnar epithelium of rectum transitions into the squamous mucosa of the anus).

ThinPrep® Specimen (Preferred)

- Vigorously rotate the swab in the PreservCyt® solution while pushing against the wall of the ThinPrep® vial.
- Swirl the swab vigorously to release additional material.
- Discard the swab.
- Tighten the cap on the ThinPrep® PreservCyt® solution container so that the torque line on the cap passes the torque line on the vial.

MISCELLANEOUS:

Fluids: Place the collected fluid into a plain red top tube or sterila specimen container. Refrigerate until transport to Cytology.

Smears/Brushings: After making the smears/brushings, place slides immediatly into 95% alcohol.

Cytology

Conventional Pap Smear

ACM Specimen bags

PapKits include:

Slide
Cervex-brush®
Spray-fix

Other:

95% alcohol
Endocervical brush
Spatula

Safetex® PapKit



Recommendation for collection of cellular samples for optimal cytologic evaluation:

- Wear gloves
- **Label each specimen with patient name, date of birth or medical record number and source of specimen.**
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Please note: Due to regulatory requirements ACM cannot accept unlabeled slides.

Routine Patient Exam:

1) Have all of your supplies at hand before obtaining the Pap smear, including gloves, PapKit and spray-fixative.

2) Open the PapKit and **label the slide with patient name, date of birth or medical record number and source of specimen** on the frosted end of the slide with a No. 2 pencil. (Pen ink will come off in the staining solutions.)

3) Do not remove the slide from the kit. Tear kit in half along perforation and throw away right portion which does not contain the slide.

4) Using the Cervex-brush® ("broom") that comes with the kit, obtain the sample in the following manner:

- Using gentle pressure, insert the long central bristles into the cervical os until the lateral bristles bend fully against the ectocervix.

- Maintain gentle pressure and rotate the "broom" 5 full rotations in only one direction.

- Transfer the sample to the slide by a single "paint-stroke" action with each side of the brush:
 - a) apply first one side of the bristles, then turn brush over,
 - b) now "paint" the slide again in exactly the same direction.
 Always apply the brush at approximately a 45 degree angle to the slide.

5) Using the spray-fixative that comes with the PapKits, IMMEDIATELY spray the slide, holding the spray-fix bottle approximately 4-5 inches away from the slide. Also, be sure to completely coat the entire specimen with fixative - about 3 sprays.

6) Close the kit and **label with patient name, date of birth or medical record number and source of specimen.**

- Delay in fixation may cause marked distortion (drying artifact) and may result in a suboptimal or unsatisfactory diagnosis. *Spray-fix the slide immediately and completely after it has been prepared!* 95% alcohol may be used to preserve the specimen instead of using spray-fix. Once the slide has been prepared, immediately place the slide into a bottle of 95% alcohol.

SPECIMEN COLLECTION: BRUSH/SPATULA

If the cytobroom (Cervex-brush) is not used for conventional smears, the brush with spatula combination may be used to obtain the specimen.

- Using the spatula, obtain the ectocervical sample by rotating the notched end around the ectocervix. Spread the material evenly and lengthwise down one half of the slide.
- Using the endocervical brush, obtain the cervix until only the bottom most fibers are exposed. Slowly rotate a quarter to a half turn in one direction. **DO NOT OVER-ROTATE.** Gently remove the brush and spread the material evenly and lengthwise down the other half of the slide. Immediately “fix” the slide(s).

Additional Notes:

Lubricants increase the risk of contaminating or obscuring the cellular sample with both conventional pap smears and all liquid-based methods. The Clinical and Laboratory Standards Institute (CLSI; formerly the NCCLS) recommends that lukewarm water be used to lubricate and warm the speculum. If a lubricant must be used due to patient discomfort or other circumstances, it should be applied sparingly on the outer portion of the speculum *with great care to avoid the tip*, using a water-based lubricant such as Astroglide®.

Menstrual blood can obscure significant findings. Therefore it is preferable to avoid sample collection during menses, and ideal to schedule an exam two weeks after the first day of the last menstrual period (i.e. mid-cycle.) ACOG and CLDI guidelines state that woman should be advised to schedule the examination “two weeks after her last menstrual period and preferably when she is not menstruating.”

MENOPAUSAL AND POST MENOPAUSAL PATIENT:

The addition of a vaginal pool aspiration in this age group may be useful in the detection of Endometrial Adenocarcinoma. Collect a sample on any patient with abnormal bleeding.

HORMONAL EVALUATION:

Collect the sample from the vaginal wall. The upper third of the lateral wall is optimal.

THE "DES" EXPOSED PATIENT:

Collect a sample from all four quadrants of the vaginal wall. Use a separate slide labeled with the patient's name, date of birth and quadrant for each sample, or Thin Prep vial ***labeled with patient name, date of birth or medical record number and source of specimen/quadrant for each sample.***

Cytology

Collection of Gynecological specimens for **ThinPrep® Pap Test™**

Gloves

PreservCyt® Solution vial

Broom-like device

or

Endocervical brush/plastic spatula

ACM Specimen bag

PreservCyt®



- Wear gloves
- **Label each ThinPrep vial with patient name, date of birth or medical record number and source of specimen.**
- Complete ACM test requisition
- Enclose in an ACM specimen bag

TO OBTAIN USING A BROOM-LIKE DEVICE:

- 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 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.
- PLACE the vial and requisition in an ACM specimen bag for transport to the laboratory.

TO OBTAIN USING ENDOCERVICAL BRUSH/PLASTIC SPATULA:

- SELECT contoured end of plastic spatula and rotate it 360° around the entire exocervix while maintaining tight contact with exocervical surface. (Do not use a wooden spatula).
- RINSE the spatula into the PreservCyt® solution vial by swirling the spatula vigorously in the vial 10 times. Discard the spatula.
- INSERT the brush into the cervix using an endocervical brush device. Insert the brush into the cervix until only the bottom-most fibers are exposed. Slowly rotate 1/4 or 1/2 turn in one direction. **DO NOT OVER-ROTATE.**
- 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. Discard the brush.
- TIGHTEN the cap so that the torque line on the cap passes the torque line on the vial.
- PLACE the vial and requisition in an ACM specimen bag for transport to the laboratory.

Additional Notes:

Lubricants increase the risk of contaminating or obscuring the cellular sample with both conventional pap smears and all liquid-based methods. The Clinical and Laboratory Standards Institute (CLSI; formerly the NCCLS) recommends that lukewarm water be used to lubricate and warm the speculum. If a lubricant must be used due to patient discomfort or other circumstances, it should be applied sparingly on the outer portion of the speculum *with great care to avoid the tip*, using a water-based lubricant such as Astroglide®.

Menstrual blood can obscure significant findings. Therefore it is preferable to avoid sample collection during menses, and ideal to schedule an exam two weeks after the first day of the last menstrual period (i.e. mid-cycle.) ACOG and CLDI guidelines state that woman should be advised to schedule the examination “two weeks after her last menstrual period and preferably when she is not menstruating.”

Tissue Pathology

Collection of **Tissue Specimens**

- Gloves
- Biopsy Bottle
- Tissue Pathology Requisition
- ACM specimen bag

Label each specimen with patient name, date of birth or medical record number and source of specimen.

List all specimens from the same patient on one requisition and include any relevant clinical history. Do not put label on container lid.

Immediately after procedure, place tissue specimen in biopsy bottle provided. (Filled with 10% Neutral buffered formalin).

Send each specimen promptly to the laboratory.

Caution: Contains formaldehyde. Read warning label about skin contact and inhalation.

Biopsy Bottles



Tissue Pathology

Collection of **Bone Marrow Specimens**

Gloves

Biopsy Bottle

Tissue Pathology Requisition

ACM specimen bag

Slides

Green top tubes

RPMI media

Label each specimen with patient name, date of birth or medical record number and source of specimen.

BONE MARROW CORE BIOPSY

Place in 10% neutral buffered formalin. Label specimen container with patient name, date of birth or medical record number and source of specimen.

BONE MARROW ASPIRATES

Place in 10% neutral buffered formalin. Label container with patient name, date of birth or medical record number and source of specimen.

BONE MARROW SMEAR SLIDE/PERIPHERAL BLOOD SMEAR SLIDES.

Place air dried slides in mailer. Label with patient name, date of birth or medical record number and source of specimen.

FLOW/CYTOGENETICS FOR ONCOLOGY

PERIPHERAL BLOOD FOR FLOW/CYTOGENETICS

Draw a green top tube. Label with patient name, date of birth or medical record number and source of specimen.

BONE MARROW ASPIRATE FOR FLOW/CYTOGENETICS

Draw a green top tube. Label with patient name, date of birth or medical record number and source of specimen.

SPECIMENS FOR CYTOGENETICS CANCER SCREENING

Draw green top tube of peripheral blood or bone marrow aspirate. Keep cool by placing ice pack with the specimen. Label with patient name, date of birth or medical record number and source of specimen.

CYTOGENETICS FOR OB/GYN

SPECIMEN FOR CYTOGENETICS FETAL TISSUE CHROMOSOME ANALYSIS

Place in RPMI media a sample of placental tissue or fetal tissue measuring approximately 1.0 x 0.5 cm. Specimen may also be placed in sterile saline. Keep specimen cool with ice pack, not placed directly on RPMI container. Label with patient name, date of birth or medical record number and source of specimen.

General Laboratory

Collection of **24-Hour Urine**

24 Hour Plain Urine Container

Unless otherwise instructed by your doctor, drink fluids less frequently.

- Do not drink any alcoholic beverages
- Label specimen with patient name, patient weight and specimen source
- Complete ACM test requisition

Urinate upon awakening, before starting the 24 hour urine collection process. Note the time of day. **Do not save this sample.**

For the next 24 hours urinate into a separate cup and carefully pour the sample into the large container provided.

Collect the final sample upon awakening the second day.

Plain urine container



General Laboratory

Collection of **Random Urine**

90 mL specimen cup

ACM specimen bag

- Wear gloves
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Have the patient:

Wash hands. Remove cap from specimen cup.

Void a small amount of urine into the toilet and then place the specimen container midstream voiding about two ounces of urine (until about half full) into the container. Finish voiding into toilet.

Tighten the cap on the container securely and wipe any spilled urine from the outside of the specimen container.

Wash hands.

90 mL specimen cup



General Laboratory

Collection of specimens for Stool Occult Blood

Hemawipe®

or

Hemoccult® collection cards

ACM specimen bag

- Label specimen with patient name and specimen source
- Include completed ACM requisition with kit
- Enclose in specimen bag and store at room temperature

HEMAWIPE® SYSTEM:

Stool samples are collected by the patient by wiping with the Hemawipe® pad immediately after a bowel movement. The stool is forced through the perforations in the tissue paper onto the test area. The tissue paper is peeled off and discarded by the patient after wiping. The pad is then folded by the patient along the dotted line and sealed by pressing the folded pad.

HEMOCCULT® SYSTEM:

Before a bowel movement, the patient should flush the toilet and allow the bowl to fill with clean water. The patient then unfolds the flushable collection tissue and floats it on the surface of the water allowing the edges to stick to the sides of the bowl. The stool is allowed to fall onto the collection tissue. The front of the card is opened and using one stick the patient collects a small sample of the stool and applies it to box A on the card. Using the same stick a second sample is collected from a different part of the stool and applied to box B. The collection tissue is flushed and the stick discarded into a waste container. Do Not Flush Stick! Close the cover flap.

Either procedure is repeated for patient's next 2 bowel movements. The collected samples are stored at room temperature for up to 2 weeks in the envelope provided. Collected samples should be delivered to the laboratory as soon as possible.

PATIENT PREPARATION:

The patient should not eat raw or red meat for 2 days prior to sample collection and throughout the collection period. The patient should avoid raw vegetables and fruits including: broccoli, turnips, horseradish, cauliflower, red radishes, parsnips and cantaloupe, and Vitamin C (250 mg/day or more).

Hemoccult and Hemawipe



Aspirin, and anti-inflammatory drugs should be avoided for 7 days before collection and throughout the collection period.

The patient should try to eat cooked vegetables and fresh fruit; lettuce, spinach, corn, prunes, grapes, plums, and apples, as well as, peanuts, popcorn, bran cereals, well-cooked fowl, and canned tuna.

The specimen should not be collected while patient presents bleeding hemorrhoids or is constipated, during or immediately after a menstrual period or while rectal medications are in place. Hands and test area should be kept clean and free from blood.

Certain medications such as aspirin, indomethacin, reserpine, phenylbutazone, naproxen, zomepirac, tolmetin, anticoagulants, antimetabolites, cancer chemotherapeutic