

Cytology Process Instructions

Last Edited August 8th, 2020 by Jeremy Deisch, M.D.

NOTE: all specimen containers and slides should be labeled with Patient Name (first and last) and a second unique identifier (e.g. Date of Birth or Medical record number). Enclose the specimen container and a copy of the completed "Pathology Non-Gyn Request" in separate pockets of the Biohazard bag and submit to the laboratory.

BODY FLUIDS (CSF):

- Submit up to 10 ml of fluid per container within 30 minutes of collection. If a delay in transport is anticipated, mix fluid with equal volume of Cytolyt (LLUMC only) or Saccomanno fixative (RUHS only) or 50% alcohol

BODY FLUIDS (Urine, Pleural/Peritoneal/Pericardial):

- Submit 200 mL of fluid per container for large volume specimens. If volume is less than 50 mL and a delay in transport is anticipated, mix fluid with equal volume of Cytolyt (LLUMC only) or Saccomanno fixative (RUHS only) or 50% alcohol

RESPIRATORY FLUIDS (Sputum, Bronchial washings, Bronchiolo-alveolar lavage):

- Collect fluid in containers labeled "Cytology fixative" which contains a special fixative

BRONCHIAL BRUSHINGS:

- Make direct smears and immediately fix slides in container filled with 95% ethanol. Alternately, rinse brush in Cytolyt (LLUMC only) or Saccomanno fixative (RUHS only) and submit fluid and brush in second container

LIPID-LADEN OR HEMOSIDERIN-LADEN MACROPHAGES:

- Submit unfixed fluid in specimen container

FINE NEEDLE ASPIRATION SLIDES:

- Make four direct smears and immediately fix slides in container with 95% ethanol. Make two additional smears and air dry completely. Rinse needle and combine with any remaining specimen in container filled with 50% ethanol or formalin. Submit smears and specimen container.

Process Instructions:

- Cervical and Vaginal cancer high risk factors
 - Fewer than three negative Pap smears within the previous seven years
 - DES (diethylstilbestrol)- exposed daughters of women who took DES during pregnancy
 - Early onset of sexual activity (under 16 years of age)
 - Multiple sexual partners (five or more in a lifetime)
 - History of sexually transmitted disease (including HIV infection)

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- Cigarette smoking
- To ensure the best possible result from a Pap smear, be sure the patient:
 - Abstains from sexual intercourse for 24-48 hours prior to examination
 - Abstains from using vaginal lubricant or medication, vaginal contraceptives, or douches for 24-48 hours prior to the examination
 - Is not having a menstrual period: If so, the appointment should be rescheduled if possible
 - The optimal time for a Pap smear is around day 16-18 of menstrual cycle

Instructions for Obtaining a ThinPrep Pap Smear (Brush/Spatula/Broom-like collections):

- **NOTE:** At the time of specimen collection, label the specimen vial with Patient name (first and last) and a second unique identifier (e.g. Date of Birth or Medical record number) and not last menstrual period (LMP)
- To optimize cellular yield, **DO NOT USE LUBRICANT ON THE SPECULUM.** The speculum may be run under warm water for easier insertion if desired
- **Step 1a:** Sample ectocervix with a plastic spatula collection device
 - Rinse spatula in the PreservCyt vial by swirling vigorously 10 times. Discard collection device. Place cap on vial until step 2
 - Sample from the endocervix with an endocervical brush collection device. Proceed to step 2
- **Step 1b:** Sample from the cervix using a broom-like collection device. Proceed to step 2
- **Step 2:** Rinse collection device in the PreservCyt vial by pushing and rotating the brush into bottom of the vial 10 times. While pushing against the PreservCyt vial wall, force the bristles to bend apart. Finally, swirl the brush vigorously to further release cellular material. Discard the collection device
- **Step 3:** Tighten the PreservCyt vial cap so that the black “torque” line on the cap passes the black “torque” line on the vial
- **Step 4:** Enclose the specimen vial and a copy of the MC PATHOLOGY GYN request form in separate pockets of a biohazard bag and submit to the laboratory.

Instructions for Obtaining a Conventional Pap Smear:

- **NOTE:** At the time of specimen collection, label the specimen vial with Patient name (first and last) and a second unique identifier (e.g. Date of Birth or Medical record number) and not last menstrual period (LMP)
- **DO NOT USE LUBRICANT ON THE SPECULUM.** The speculum may be run under warm water for easier insertion if desired.
- Place the vaginal pool mucus on the slide near the frosted end. Do not smear.
- Scrape the cervix with the spatula provided. Do not smear
- Insert the endocervical brush into the endocervical canal until the bristles are barely visible. Turn endocervical brush 9—180 degrees and remove.

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- Now in rapid succession:
 - Mix half of the vaginal pool mucus with the spatula specimen and smear along the entire length of the slide using only half the surface
 - Mix the remaining half of the vaginal pool mucus with the brush specimen and smear by rolling the brush along the entire length of the slide using the remaining half of the slide surface. Bending the bristles will help transfer the cells to the slide
 - Spray-fix the slides IMMEDIATELY! To spray fix the slides, hold the spray 8-10 inches from the slide. Spray 3-4 times. Allow the spray to dry thoroughly. Failure to fix immediately may render the smear unsatisfactory for evaluation.
- Enclose the slide in its properly labeled transporting container and a copy of the MC PATHOLOGY GYN request form in separate pockets of a Biohazard bag and submit to the laboratory