

NONGYNECOLOGICAL CYTOLOGY BODY CAVITY FLUID SPECIMENS

I. Purpose

Body cavity fluids include **pleural, pericardial, peritoneal, joint fluids** and **crystal analysis**. Body cavity fluids are commonly evaluated for the presence of malignant cells from metastatic disease. Body cavity fluids in general are relatively easy to obtain and are relatively difficult to compromise. However, in some instances, due to a large number of inflammatory cells, specimens may degenerate rapidly. In addition, if large amounts of protein are present, the specimen may clot, trapping diagnostic cells within the clot.

II. Specimen

General Information for all Specimens

For Specimens Processed for Cytology (Non-Gynecological Specimens):

Add 70% alcohol, as soon as possible, in a volume equal to the specimen collected. Label each container with the patient name, site source and the requisition peel-off number. Submit the specimen along with the completed Heartland Pathology Consultants requisition at room temperature.

For Specimens Processed for Microbiology or Clinical Analysis:

Specimens intended for culture must be collected in a sterile container or in sterile saline (*without 70% alcohol or 10% neutral buffered formalin*) and *split* from the main Non-Gynecological specimen prior to transport with the proper requisition for microbiology culture or clinical testing. Consult the clinical lab test catalog for specific specimen requirements.

A. Collection of Body Cavity Fluids

1. Indications

Detection and characterization of malignant cells in body cavity fluid.

2. Specimen Required

10 mL (or more) of fluid obtained from an appropriately performed paracentesis.

3. Supplies

Standard paracentesis equipment, clean collection container of appropriate size and fixative (70% alcohol).

4. Collection Procedure

- a. Using standard paracentesis technique, obtain a fluid specimen from the desired body cavity. If necessary, move the patient into multiple positions to suspend cellular material in the fluid. **A minimum of 10 mL of specimen is desirable for optimal cytologic evaluation.** If other studies are required, withdraw a fraction of the specimen and submit it to the appropriate clinical laboratory separately, following their guidelines for specimen collection. Heparin may be added to the specimen to reduce clotting. Place three (3) units of heparin per mL capacity of the collection container. Agitate the container to coat the sides with heparin. Rinse the paracentesis instrument with a small amount of heparin to prevent clotting of specimen before it is put into the collection container. Add specimen to the heparinized container. Gently agitate to thoroughly mix the specimen and heparin.
- b. Add 70% alcohol as soon as possible in a volume equal to the specimen collected. Label each container with the patient name, site source and requisition peel-off number.
- c. **STORAGE:** Submit the specimen at room temperature along with the completed HPC requisition and copies of insurance card(s).

B. Collection of Joint Fluid for Crystal Analysis**1. Indications**

Detection of presence of urate crystals

2. Specimen Required

- a. 5 mL of joint fluid fresh (no preservative)

NOTE: If a microbiology culture is indicated, please split the specimen into two (2) sterile containers. Consult your clinical lab testing catalog for specific specimen requirements.

- b. Tissue may be submitted in 10% neutral buffered formalin if microbiology culture is not indicated.

- c. **STORAGE:** Submit the specimen at room temperature.

3. Supplies

Appropriate gauge needle and syringe

Collection containers (i.e., sterile red top Vacutainer or 10% neutral buffered formalin)

References

- A. Koss, Leopold G MD: *Diagnostic Cytology and its Histopathologic Basis*, Volume 2, JB Lippincott Company, 1992
- B. Lester, Susan C MD, PhD: *Manual of Surgical Pathology*, Churchill Livingstone, Philadelphia, 2001.