

Clinical cytology examines cells from organs and tissues sampled with different methods. The cellular material is prepared and examined under the microscope in the laboratory.

Specimens

Core needle biopsy and fine needle aspiration:

(e.g., from thyroid, salivary glands, lymph nodes, breast, soft tissues).

- Fix entire specimen in liquid-based cytology (LBC) BD SurePath fixative, or prepare conventional smear on glass slide.
- Immediately fix fresh smears in alcohol, use fixative spray and/or place in 96% ethyl alcohol.
- If material remains in the hub of the needle, rinse in LBC and send to laboratory.

Cyst fluids:

(e.g., breast, ovarian cyst)

- Preferably unfixed specimen in sterile vial.
- Alternatively, entire specimen in LBC.
- Small specimens (drops, <0,3 ml) on fixed smear slide.

Exfoliated cell smear:

(e.g., from oral mucosa, skin, vulva, vagina, penis, or the anorectal area)

- In LBC (additional tests can be performed, e.g., HPV PCR-based test)
- Alternatively, conventional, fixed smear slide.

Cerebrospinal fluid:

- In LBC
- Fresh cerebrospinal fluid without added fixative must be delivered to the cytopathology laboratory for examination within 60 minutes of sampling.

Breast/nipple discharge:

- Preferably conventional, fixed smear slide.
- Alternatively, entire specimen in LBC.

Urine:

- **Midstream urine.** Early morning urine is not recommended. No 24-hour urine collection.
Submit the entire collected specimen, or no less than 50 ml, in container with leak-proof cap.
- Submit unfixed specimen.

Bladder washing:

- Submit entire collected specimen, or no less than 50 ml, in container with leak-proof cap.
- Submit unfixed specimen.

Effusions:

(e.g., pleural, pericardial, ascites, joints)

- Submit the entire collected specimen, as the volume of fluid maximises the yield of diagnostic material. The fluid is then centrifuged by the laboratory, and the sediment used to prepare the smears.
- Submit collected fluid immediately, if possible by courier. Store specimen in the refrigerator at 5 to 8°C before sending to the laboratory, or over the weekend if necessary. Do not add fixative or anticoagulant. If transport to the laboratory takes a long time or occurs in high temperatures, send samples by cooled transport boxes or on dry ice.
- Submit unfixed specimen.

Peritoneal washing:

- Submit unfixed specimen.

Sputum:

- A series of sputum specimens obtained on three consecutive days is recommended. Experience shows that in about half of the patients, the malignant cells are not always found in the examination of the first sputum.
- Collect and submit sputum/expectorate specimens in cups with large opening and tight-fitting lid, as these are best suited for this purpose.
- Submit unfixed specimen.

Post-vasectomy semen:

- Submit unfixed specimen.