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## How Is a Cytology Test Done?

Diagnosing diseases by looking at single cells and small clusters of cells is called **cytology** or **cytopathology**. It's an important part of diagnosing some types of cancer.

- [Fine needle aspiration](#)
- [Cytology tests on body fluids](#)
- [Scrape or brush cytology](#)

Cytology tests are different from biopsy tests because only a few cells are needed, instead of a tissue sample. Compared to doing a biopsy, getting a cytology sample is usually:

- Easier to do
- Less likely to be painful
- Less likely cause serious complications
- Less expensive

The disadvantage is that cytology tests don't always provide as much information as a biopsy. But in many cases a cytology test may be just as helpful.

Cytology tests may be used for screening or for diagnosis:

- A **screening test** is used to find out if a person might have a certain disease like cancer, even before they develop symptoms. A screening test is expected to find nearly all people who are likely to have the disease, but it can't always tell for sure if the disease is present.
- A **diagnostic test** is used if a person has signs, symptoms, or some other reason to suspect that they might have a disease like cancer (such as an abnormal

screening test result). A diagnostic test shows if a disease is present. Often it can help classify the disease as well.

Some cytology tests are mainly used for screening, while others are used more often to diagnose cancer (see “Scrape or brush cytology” below). When cytology results show cancer, often a biopsy is also done to be sure before treatment is started.

## Fine needle aspiration

Fine needle aspiration (FNA) uses a very thin, hollow needle attached to a syringe to remove a small amount of fluid and very small pieces of tissue from an abnormal area. This is sometimes considered a cytology test and sometimes a type of biopsy. It's discussed in [How Is a Biopsy Done?](#)<sup>1</sup>

## Cytology tests on body fluids

Different types of body fluids can be tested to see if they contain cancer cells. Some of the body fluids that can be tested in this way include:

- Urine
- Sputum (phlegm)
- Spinal fluid, also known as *cerebrospinal fluid* or *CSF* (from the space surrounding the brain and spinal cord)
- Pleural fluid (from the space around the lungs)
- Pericardial fluid (from the sac that surrounds the heart)
- Ascitic fluid, also called *peritoneal fluid* (from the space in the belly)

## Scrape or brush cytology

Another way to get cytology samples is to gently scrape or brush some cells from the organ or tissue being tested. (This is also sometimes called a **brush biopsy**.)

An example of a cytology test that samples cells this way is the [Pap test](#)<sup>2</sup>. For this test, a small spatula and/or brush is used to remove cells from the cervix (the lower part of the uterus or womb).

Many other parts of the body can also be brushed or scraped to collect cells for testing, include the mouth and throat, esophagus (swallowing tube), stomach, bile and

pancreatic ducts, and the breathing passages in the lungs.