

# Collection of material for histological examination

**Histological examination** is carried out either for the purpose of establishing a diagnosis or as a method of scientific work.

- **Necropsy** - taking a tissue sample from a dead organism.
- **Biopsy** - taking a tissue sample from a living organism.

*Intraoperative biopsy* - the surgeon takes a sample during surgery. According to the results of the immediate histological examination ( malignant / non-malignant , etc.), the next procedure of the ongoing operation is selected.

## Sampling technique

The sampling technique is subject to the fact that the sample is taken as quickly and gently as possible and that the tissues are not bruised. During the biopsy, care must be taken to ensure that the sampling is patient-friendly and painless. The volume of the sample is usually not larger than 1 cm<sup>3</sup>.

### Excision (cut out)

It is performed with a sharp instrument (scalpel, etc.). A common method for intraoperative biopsy (during surgery) and for necroptic sampling (during autopsy).

### Puncture (impaling)

The collection tool is a hollow needle, with which a roll of tissue is taken during a biopsy, e.g. from the liver, muscle, bone marrow, etc.

### Curettage

The sampling tool is a curette (a wire loop with a long handle). A piece of tissue is scraped off with a curette, e.g. a sample of the endometrium.

### Exfoliative cytology

A smear from the surfaces of the mucous membranes to obtain a sample of the surface epithelium. It is used in the examination of the cervix and vagina.

### Aspirations

Aspirates a sample of cells from hollow organs (uterus, stomach).

### Excision using an endoscope

Taking a sample from places that are difficult to access in a living individual (esophagus, stomach, intestine, bladder, trachea, etc.).

## Fate of the sample after collection

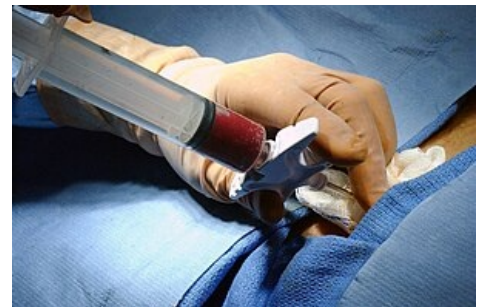
After separating the tissues from the organism, the enzymes in the lysosomes reverse their function against the cell. This causes autolysis . The collected sample is at risk of rapid deterioration. Therefore, it is necessary to ensure the preservation of the structure of the sample - to fix it.

**Fixation** of the sample is carried out by placing it in a fixation container with a fixation solution, which must be at least 20 times more than the volume of the sample. The container will be provided with a label with data that identifies the sample. It is advisable to write the same data with an ordinary pencil (the pencil is insoluble and resistant to the fixing solution) on a piece of paper and insert it directly into the container. It is necessary to send a filled-in **accompanying sheet for the shipment of histological material** with the container . Everything will be received by the histology laboratory, where the sample will be registered and processed.

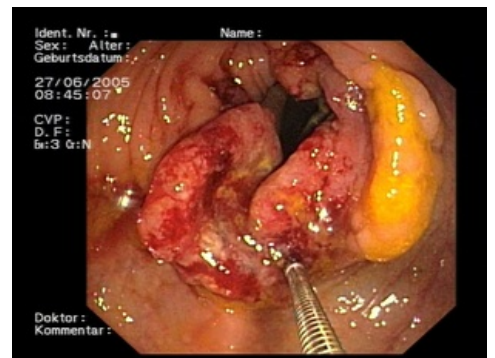
## Links

### Related articles

- Biopsy
- Sample processing for histological examination



Aspiration – Bone marrow biopsy



Endoscopic biopsy of colon cancer

## Sources

- BRICHOVÁ, Hana: *Odběr vzorků pro histologické vyšetření*. Praktikum z obecné histologie pro 1. ročník 1.LF UK (obecná histologie a embryologie, všeobecné lékařství).
- JIRKOVSKÁ, Marie. *Histologická technika*. 1. edition. Galén, 2006. pp. 80. ISBN 80-7262-263-3.