

# **Introduction to PATHOLOGY**

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# Introduction to pathology

## What is pathology??

- ***Pathology*** is the science concerned with studying of diseases.
- ***Studying of diseases*** includes identification of causes and effects of diseases, and also structural and functional changes of organs due to this disease.
- ***Practically:*** pathology is essential for diagnosis of diseases through examination of tissues or examination of different body fluids.
- ***Disease*** is feeling of illness and loss of comfort.
- ***Patient*** is the person affected by a disease.

# Introduction to pathology

## Branches of pathology:

### A. Surgical (anatomical) pathology:

- Concerns diagnosis of a disease based on gross and microscopic changes of an organs affected by this disease.

### B. Clinical pathology:

- Concerned diagnosis of a disease based on the laboratory analysis of body fluids (such as blood, urine or other fluids) using chemistry, microbiology and hematology

# Introduction to pathology

## Branches of pathology:



**Surgical pathology**



**Clinical pathology**

# Introduction to pathology

## Important definitions

1. **Etiology**: causes that induce the disease (may be one or more than one etiology)
2. **Predisposing factors**: factors that help development of a disease
3. **Pathogenesis**: mechanism of disease development
5. **Symptoms**: means complain of the patient such as fever, pain, colic, swelling ..... etc.
6. **Signs**: findings that are detected by physician such as tenderness, high temperature, mass ..... etc.

# Introduction to pathology

## Important definitions

7. Pathological features (morphology) of the disease include:

*a. Gross changes:* changes induced by the disease and can be detected by naked eye examination

*b. Microscopic changes (Histopathology):* changes induced by the disease can be identified by microscopic examination.



# Introduction to pathology

## Important definitions

### 8. Course of the disease:

- Means how the disease progress.
- Course of a disease can be:
  1. Progressive: indicate that the disease become more aggressive
  2. Regressive: indicate that the patients recovers and returns to normal
  3. Stationary: not progressive or regressive

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## Important definitions

9. **Prognosis of a disease:** means the expected outcome of a disease based on nature of the disease as well as symptoms and signs of the patient.
10. **Complications:** A term used to describe additional medical problems that develop due to the disease itself, due to surgical procedure or due to certain treatment.
11. **Fate:** means end result of the disease either by cure or by death of the patient.

# Introduction to pathology

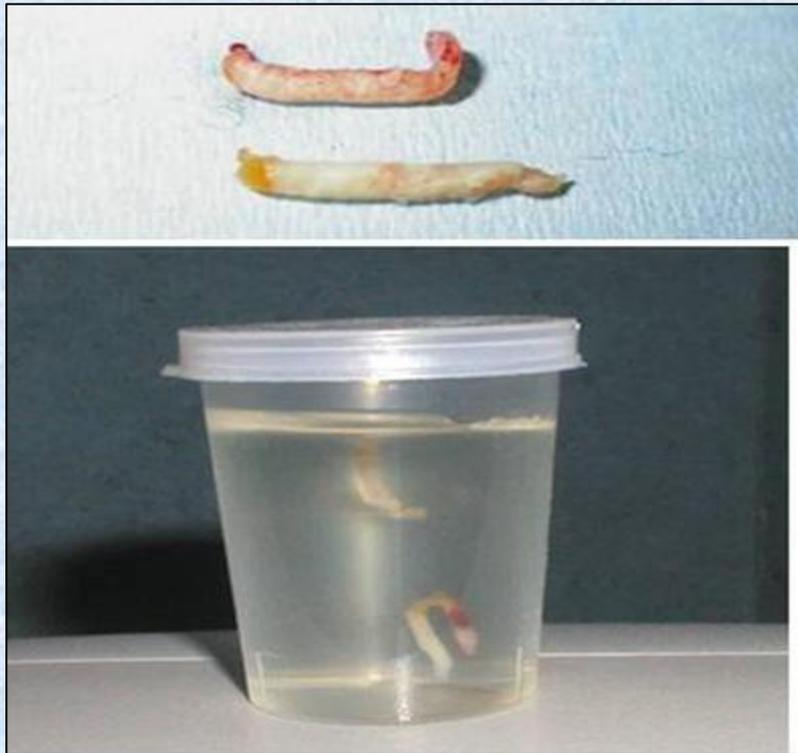
## Samples referred to surgical pathology laboratory:

1. **Biopsy**: Tissue obtained from diseases site or organ for histo-pathological diagnosis. It can be:
  - a. *Punch biopsy, core biopsy or incisional biopsy*:
    - Obtaining a small part of diseases tissue.
    - Example: endoscopic biopsy
  - b. *Excision biopsy*:
    - Total excision of the diseased tissue or organ by surgery.
    - Example: appendectomy or cholecystectomy
  - c. *Radical specimen*:
    - Removal of whole organ and related adnexa and lymph nodes
    - Example: radical mastectomy in which the whole breast with axillary lymph nodes are removed and radical hysterectomy in which the uterus, cervix, ovaries and tubes are removed.

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## Samples referred to surgical pathology laboratory:

1. **Biopsy**: Tissue obtained from diseases site or organ for histo-pathological diagnosis



**Core biopsy**

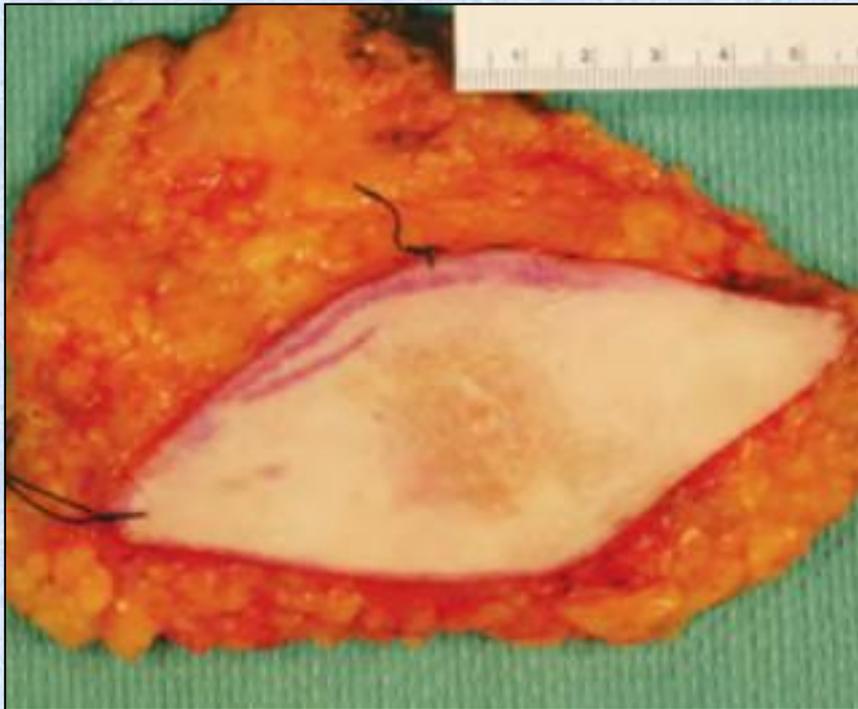


**Punch biopsy**

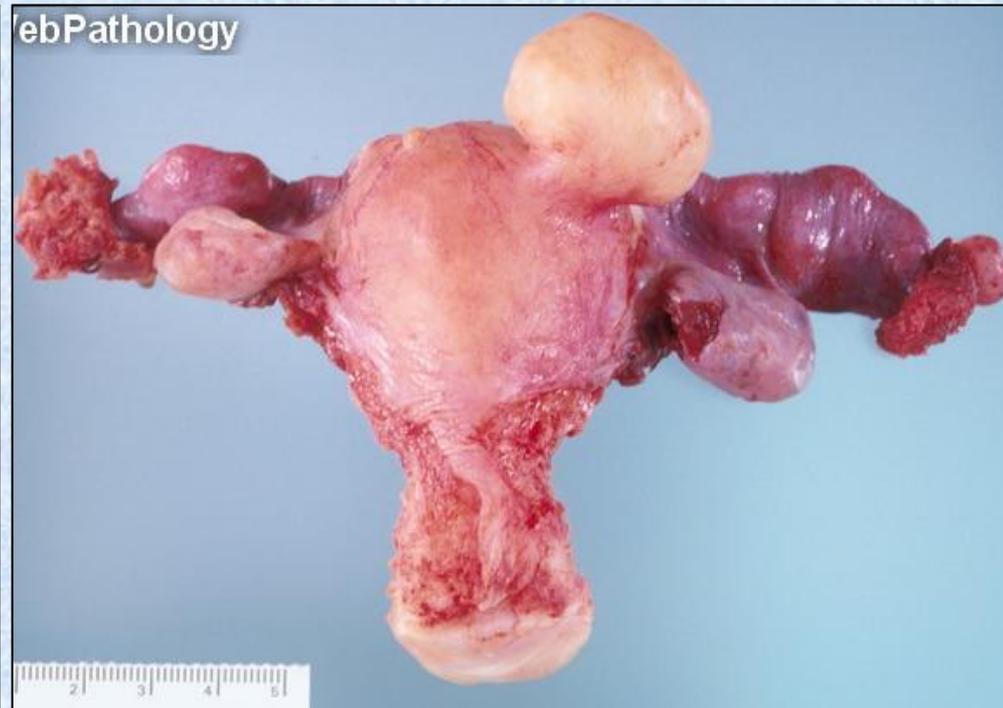
# Introduction to pathology

## Samples referred to surgical pathology laboratory:

1. **Biopsy:** Tissue obtained from diseases site or organ for histo-pathological diagnosis



**Excision biopsy**  
(Excision of skin ulcer)



**Radical biopsy**  
(Radical hystrectomy)

# Introduction to pathology

## Samples referred to surgical pathology laboratory:

### 2. Cytology samples:

- Obtaining body fluids for evaluation of cells floating in this fluid.
- Examples: obtaining pleural fluid, obtaining ascites, discharge from nipple, smears of uterine cervix, bronchial wash, or obtaining of fluid from a thyroid cyst or breast cyst.

### 2. Autopsy: Obtaining a cadaver or organ to identify cause of death

# Introduction to pathology

## **Main aims or objectives of pathology course:**

*By the end of this course; you should be able to:*

1. Gain basic knowledge of general pathology.
2. Identify etiology, predisposing factors, pathogenesis, pathological features (gross & microscopic), fate and complications of common diseases.
3. Correlate the pathological changes in a disease with clinical manifestation presentation
4. Predict the course and outcome of the disease.
5. Realize the role of histopathology and cytology in the diagnosis of diseases.

# Introduction to pathology

## □ Homework:

- *Define the subject Pathology*
- *What are the main branches of Pathology?*
- *What are the main items to study pathology of any disease?*
- *Mention types of samples referred to pathology laboratory.*

# Cell injury

**Link to this lecture**

<http://staffsites.sohag-univ.edu.eg/stuff/subjects/8996>

***GOOD LUCK***