

## NEOPLASIA (TUMOR)

The uncontrolled, abnormal growth of cells (or) tissues in the body is called tumor.

### Types / Classification of tumor

#### 1. Benign tumor (or) Noncancerous tumor

- Abnormal but noncancerous collection of cells.
- Don't need treatment.

Ex. Lipomas and fat cells.

#### 2. Malignant tumor (or) Cancerous tumor

- Abnormal cells divide uncontrollably and destroy body tissues.
- Treatment needed like surgery, chemotherapy and radiation therapy.

Ex. Various types of Cancer.

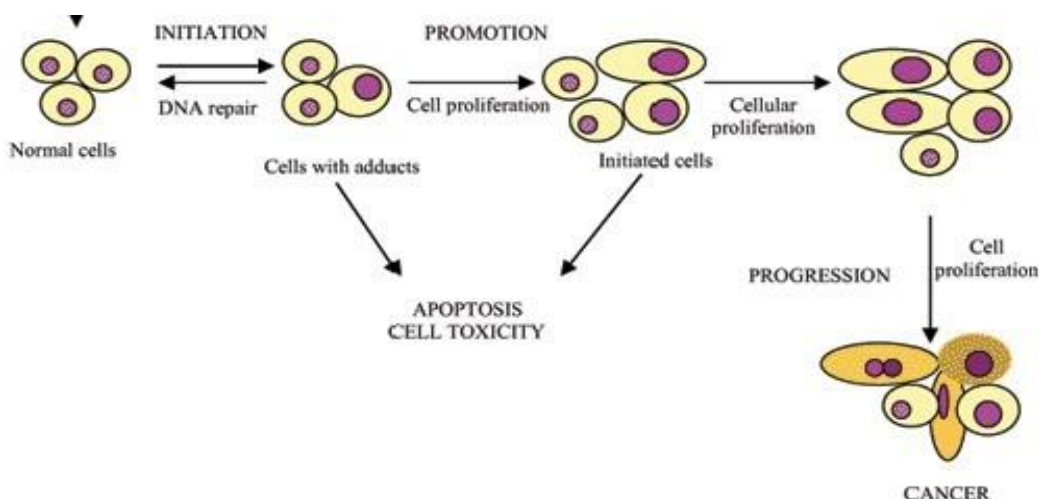
## Carcinogenesis

The process by which a normal cell is divides repeatedly to become a cancer is called carcinogenesis. It may takes as long as 15-25 years.

The substance helps to causes the cancer is called carcinogens.

### Stages (or) Process

1. **Initiation** – Genetic change due to Bacteria, chemical hazards, radiation, etc., The initiated cells appears normal but contain mutated DNA.
2. **Promotion** – Activation of tumor rapidly dividing cells.( formation of benign tumor)
3. **Progression** – Formation of malignant tumor.



## **Spread of tumor**

The spread of cancer cells from the place where they first formed to another place of the body.

### **Methods**

1. Direct spread
2. Lymphatics
3. Vascular spreads
4. Transcoelomic spread
5. Perineural spread

## **AUTOPSY (POSTMORTEM)**

- Dissection and examination of a dead body and its organs
- Used to determine the cause and manner of death.
- It helps to observe the effects of disease and mechanisms of disease.

### **Types of Autopsy**

1. **Forensic Autopsy** – To define the causes and manner of death. Ex. Natural, Accidental, Suicidal and undetermined.
2. **Clinical Autopsy** – To find the medical causes of death used for research purposes.

### **Types of Examination**

#### **1. External Examination**

It includes the examination of the following

- Clothes
- Stains of mud, blood, urine, stools, etc.,
- Body orifices
- Finger, toe-nails
- Injuries / surgical invention
- Identity
- Rigor mortis
- Decomposition / other changes

#### **2. Internal Examination**

It includes the examination of three major cavities

- Skull / Cranium
- Thorax
- Abdomen

## **BIOPSY**

A procedure to remove a piece of tissue / sample cells from the body and tested in a laboratory in order to examine exactly.

Its done based on the symptoms and signs.

### **Procedure Biopsy**

An anesthetic may be injected into the skin around the area to numb it. In some cases, you'll receive a medication to relax you during the procedure.

### **Performance a biopsy**

The whole procedure from start to finish usually takes no more than 10 to 15 minutes. However, please allow an hour for your visit because of registration and possible waiting time in the office.

### **Types of biopsy**

- **Needle biopsy-** Most biopsies are needle biopsies, meaning a needle is used to access the suspicious tissue.
- **CT-guided biopsy-** A person rests in a CT-scanner; the scanner's images help doctors determine the exact position of the needle in the targeted tissue.
- **Ultrasound-guided biopsy -** An ultrasound scanner helps a doctor direct the needle into the lesion.
- **Bone biopsy -** A bone biopsy is used to look for cancer of the bones. This may be performed via the CT scan technique or by an orthopedic surgeon.
- **Bone marrow biopsy -** A large needle is used to enter the pelvis bone to collect bone marrow. This detects blood diseases such as leukemia or lymphoma.
- **Liver biopsy -** A needle is injected into the liver through the skin on the belly, capturing liver tissue.
- **Kidney biopsy -** Similar to a liver biopsy, a needle is injected through the skin on the back, into the kidney.
- **Aspiration biopsy -** A needle withdraws material out of a mass. This simple procedure is also called fine-needle aspiration.

- **Prostate biopsy** - Multiple needle biopsies are taken at one time from the prostate gland. To reach the prostate, a probe is inserted into the rectum.
- **Skin biopsy** - A punch biopsy is the main biopsy method. It uses a circular blade to get a cylindrical sample of skin tissue.
- **Surgical biopsy** - Either open or laparoscopic surgery may be necessary to obtain a biopsy of hard-to-reach tissue. Either a piece of tissue or the whole lump of tissue may be removed.