**Cancer**

Cancer is a disease where cells in the body grow uncontrollably, forming tumors and potentially spreading to other parts of the body. Normally, cells follow a life cycle where they grow, divide, and die in a controlled way. However, in cancer, genetic mutations cause cells to keep multiplying abnormally, leading to tumor formation.

**Causes of Cancer**

Cancer occurs due to **mutations (changes) in the DNA** of cells. These mutations can be caused by:

1. **Genetic Factors** – Inherited faulty genes from family.
2. **Lifestyle Factors** – Smoking, unhealthy diet, lack of exercise, and alcohol consumption.
3. **Environmental Factors** – Exposure to radiation (UV rays, X-rays), chemicals, and pollution.
4. **Infections** – Viruses like HPV and bacteria like H. pylori increase cancer risk.
5. **Random Mutations** – Spontaneous DNA changes during cell division.

A combination of these factors leads to uncontrolled cell growth, resulting in cancer.

**Types of Cancer**

Tumors are classified into two main types:

1. **Benign Tumors** – These are **non-cancerous** and do not spread to other parts of the body. They grow slowly and usually do not pose a serious threat. Examples:
   * **Lipoma** (fat tissue growth)
   * **Fibroma** (connective tissue growth)
   * **Adenoma** (glandular tissue growth)
2. **Malignant Tumors** – These are **cancerous** and can grow rapidly, invading nearby tissues and spreading (metastasizing) to other parts of the body.

Cancer is classified based on the type of cells it affects:

1. **Carcinomas** – Affect skin and organ linings (e.g., lung, breast, prostate cancer).
2. **Sarcomas** – Affect connective tissues like bones, muscles, and fat.
3. **Leukemias** – Affect blood-forming tissues, leading to abnormal white blood cells.
4. **Lymphomas** – Affect the lymphatic system, part of the immune system.
5. **Myelomas** – Affect plasma cells in the blood.
6. **Brain & Spinal Cord Cancers** – Affect the nervous system.

**Normal Cell Function vs. Cancerous Cells**

**1. Normal Cell Function:**

* Cells grow, divide, and die in a regulated cycle (apoptosis).
* They respond to signals that tell them when to start and stop dividing.
* The immune system removes damaged or abnormal cells.

**2. How Cells Become Cancerous:**

* DNA mutations disrupt normal cell regulation.
* Damaged cells **do not die** when they should.
* Cells **continue to divide uncontrollably**, forming a tumor.
* Cancer cells **ignore signals** that control growth and spread to other parts of the body (metastasis).

These uncontrolled cancer cells take nutrients from healthy cells, weaken the body, and can interfere with vital organ functions.