

Cancer

► Definition:

the uncontrolled growth and division of cells and result in abnormal growth of cells called a **tumour**

► Why do cells start to grow uncontrollably?

When cells divide there can be a change in the genetic material, which is called a **mutation**. Sometimes, this makes a cell divide very fast and out of control, leading to formation of a tumour.

► Types of Cancer:

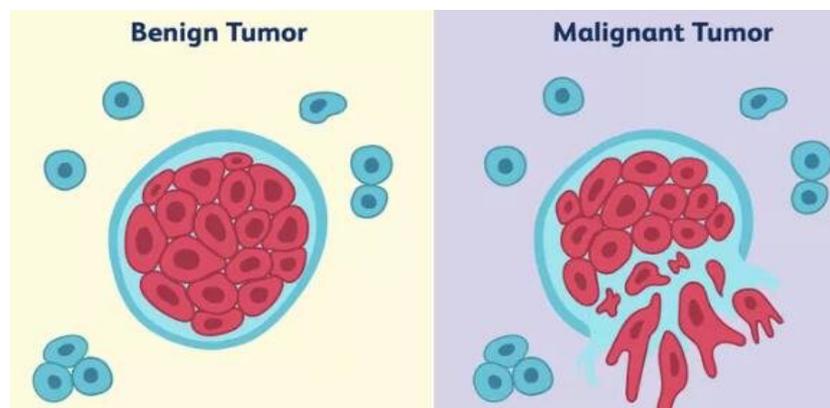
- 1- Benign tumour
- 2- Malignant tumour

1- Benign tumour:

- Tumours do not have to be cancerous.
- These tumours do not move from their site of origin and are often contained in one area.
- Benign tumours are not normally **dangerous**.

2- Malignant tumour:

- Malignant tumours are **cancerous**.
- Some tumours spread from their site of origin. These are malignant tumours, and they damage neighbouring tissue.
- They can also spread through the blood and form **secondary tumours** in other parts of the body. This is **metastasis**.
- They also damage the tissues near to them.



The main differences between most benign and malignant tumors include those below.

Benign tumors	Malignant tumors
Not cancerous	Cancerous
Don't invade surrounding tissue	May invade surrounding tissue
Don't spread to other parts of the body	May spread to other parts of the body
Grow slowly	Grow quickly
Are not likely to recur	Are more likely to recur
Have a smooth, regular shape	May have an uneven shape
Move around when pushed on	Don't move around when pushed on
May or may not require treatment	Require treatment

► **Risk Factors:**

- **Some risk factors for cancer.** cancer can be increased by certain factors:
 - a) Carcinogens, such as cigarette smoke,
 - b) ionising radiation
 - c) viral infection can increase the risk of cancer e.g.
 - d) HPV can increase the risk for developing cervical cancer.
- **genetic risk factors for cancer.** Genes can lead to an increased risk of cancer.
- For example, women with the BRCA gene are predisposed to breast cancer.



Ionising Radiation



Viral Infection



Genes



Smoking

Fig 4. Lifestyle Risk Factors for Cancer.