

## PATIENT INFORMATION

# How do cancers grow and spread?

If left untreated, cancers often go through three stages:

### 1. Growth and damage to nearby tissues

A cancerous (malignant) tumour is a lump or growth of cancer cells. Cancerous tumours normally first develop in one site - the primary tumour. To grow a tumour has to develop a blood supply to obtain oxygen and food for the new and dividing cells. Cancer cells make chemicals that make tiny blood vessels to grow around them.

Cancer cells also have the ability to push through or between normal cells. So, as they divide and multiply, cancer cells invade and damage the local tissues.

### 2. Spread to lymph glands (nodes)

Some cancer cells may get into local lymph channels. There are many lymph nodes all over the body. A cancer cell may be carried to a lymph node and there it may become trapped. It may multiply and develop into a tumour. This is why lymph nodes that are near to a tumour may enlarge and contain cancer cells.

### 3. Spread to other areas of the body

Cancer cells may get carried in the bloodstream to other parts of the body. The cells may then multiply to form secondary tumours (metastases) in one or more parts of the body. These secondary tumours may then grow, invade and damage nearby tissues, and spread again.

### Types of cancer

There are more than 100 different types of cancer. Each type of cancer generally falls into one of three groups:

- Carcinomas are cancers that arise from cells which line a body surface, or the lining of a gland – the most common type of head and neck cancer is squamous cell carcinoma (SCC). Squamous cells are the skin cells lining the mouth, nose and throat.
- Sarcomas are cancers that arise from cells which make up the connective tissues such as bones or muscles.
- Leukaemias and lymphomas are cancers of cells in bone marrow and lymph glands. For example, [leukaemia](#) is a cancer of cells that make white blood cells.

## What is cancer staging?

Staging is a way of describing how much a cancer has grown and spread. Cancers are staged using the TNM classification:

- T describes the size of the tumour.
- N describes whether the cancer has spread to the lymph nodes and which nodes are involved.
- M describes if the cancer has spread to another part of the body.

## Why are cancers staged?

By finding the stage of a cancer, it:

- Helps doctors to advise on what is the best treatment.
- Gives a reasonable indication of outlook (prognosis).
- Describes the cancer in a standard language (a kind of shorthand language) which is useful when doctors discuss patients, and when patients are involved in clinical trials.

## How are cancers staged?

After a cancer is first diagnosed, to get an accurate staging you may need special tests. This may include blood tests and scans such as [CT scan](#), [MRI scan](#), [bone scan](#), [ultrasound scan](#), etc. You may even need an operation to look inside part or parts of your body.

Sometimes a cancer cannot be accurately staged until after an operation has been done to remove the primary tumour. The tissues removed with the tumour are examined under a microscope to see how far the cancer cells have grown through the normal tissues, and whether the nearby lymph glands (nodes) contain cancer cells.

## What is cancer grading?

Some cancers are also graded. A sample of the cancer (a biopsy) is looked at under the microscope or tested in other ways. By looking at certain features of the cells, the cancer can be graded as low, intermediate or high.

- Low-grade means the cancer cells tend to be slow-growing, look quite similar to normal cells, tend to be less aggressive, and are less likely to spread quickly.
- Intermediate-grade is a middle grade.
- High-grade means the cancer cells tend to be fast growing, look very abnormal, tend to be more aggressive, and are more likely to spread quickly. High-grade tumours – may respond better to treatment.

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**Head and Neck CNS**

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