



cancer**care** 

Chemotherapy

What is chemotherapy?

Chemotherapy is the treatment of cancer by means of chemicals that kill cancer cells. These “anti-cancer” drugs destroy cancer cells by stopping their growth and reproduction. Unfortunately, normal healthy cells are also affected and this causes the well-known side effects of chemotherapy. The normal healthy cells have an organised cell structure and repair mechanisms in place. This results in them being able to reproduce new normal tissue after chemotherapy.

Often, two or more drugs are given. This is called combination chemotherapy and forms the basis of most of chemotherapy today. The rationale is that the different drugs enhance each other’s effect and create a better effect combined than if they were used as single agents. Different chemotherapy drugs are chosen so that they do not have the same side effects on tissue, in order for the side effects to be minimized.

Chemotherapy can have different goals:

- To cure cancer.
- To control the growth of cancer.
- To alleviate symptoms such as pain caused by cancer.

Chemotherapy can be used as a single treatment modality, but is also commonly used in combination with surgery, radiotherapy and biological treatment in order to:

- shrink a tumour before radiotherapy or surgery. This is called neo-adjuvant therapy.
- destroy any remaining cancer cells after surgery or radiotherapy. This is called adjuvant therapy.
- enhance the effect of radiotherapy and biological therapy.
- destroy recurring cancer or destroy cancer that has spread to other parts of the body.



How will your chemotherapy treatment plan be decided upon?

Each treatment plan is tailor-made to suit every individual and will depend on:

- the type of cancer.
- the area of the body where the cancer is.
- the stage of the development of the cancer, eg. the size of the tumour in the affected organ.
- has there been any spread to the rest of the body?
- how the cancer influences the functioning of your body.
- your general health.
- the purpose of the treatment, either curative or to relieve symptoms.

Clinical trials, also called treatment studies or research studies, test new treatment regimes. These could include new drugs, new approaches to surgery or radiotherapy or new treatments such as gene therapy. The purpose of this research is to find better methods of treatment for cancer patients. You might be chosen to take part in one of these clinical trials. If this should happen, you will be given all of the relevant information. Please speak to us if you have doubts or fears.

How is chemotherapy administered?

Chemotherapy can be given in different ways, namely: intravenous (into a vein), orally (in pill form) or an injection under the skin or into muscle. In some cases it can be applied to the skin.

Intravenous administration

This is the most common method of administration. A thin needle is inserted into a vein on the hand or lower arm. This needle is removed once the chemotherapy has been completed. Chemotherapy can also be given intravenously by means of catheters, ports and pumps. A port is a round plastic or metal chamber that is placed under the skin. It is connected via a thin tube to one of the major vessels in the chest cavity. This method is more permanent and can be used for as long as necessary.

Oral administration

The chemotherapy is given in the form of a pill or capsule

Injection

A needle and syringe deliver the chemotherapy drug either intramuscularly (into a muscle) or subcutaneously (just below the skin).

Most patients receive chemotherapy as out-patients in the oncology unit and do not need to be admitted to hospital. Sometimes, it may be necessary for hospital admission for certain chemotherapy regimes.

How often is the chemotherapy given and how long does it take?

This is decided by:

- the type of cancer.
- the goal of the treatment, either curative or to relieve symptoms.
- the different chemotherapy drugs.
- how your body copes with the chemotherapy.

Chemotherapy can be given daily, weekly or monthly. It is given in cycles where treatment is alternated with rest periods. It is important to keep to the chemotherapy schedule in order to get the optimum results. Your doctor may decide to postpone your treatment if the blood tests are not satisfactory.

Can I take other medication while undergoing chemotherapy?

Some medication may interfere with or affect your chemotherapy treatment. Please give your oncologist a list of the medication you are taking before starting with chemotherapy. This includes over the counter medication eg vitamins, allergy pills, indigestion aids, pills for colds and flu, aspirin, pain killers and any minerals or herbal supplements.

How will I know if the chemotherapy is working?

When necessary, you will be sent for examinations and tests which will help your oncologist determine how effective the treatment has been. Please ask your oncologist to explain these tests to you.



Important questions to ask about chemotherapy

Prior to your appointment with the oncologist, prepare for the questions that you would like to ask.

- Why should I receive chemotherapy?
- What are the benefits of chemotherapy?
- What are the associated risks of chemotherapy?
- Are there any other methods of treatment available for my specific cancer?
- What is the standard of treatment for my type of cancer?
- Are there any ongoing clinical trials for my type of cancer?

Ask these questions about your treatment schedule:

- How many chemotherapy treatments must I get?
- Which chemotherapy drugs/agents will I receive?
- How will the chemotherapy be administered?
- Where will the chemotherapy be given?
- How long will each chemotherapy treatment take?

Ask these questions about the side effects of chemotherapy:

- What are the possible side effects of my chemotherapy?
- When will the side effects start?
- What side effects usually occur with my type of cancer?
- Are there any side effects that need to be reported immediately?
- What can I do to minimise the side effects?
- My fertility now and in the future?
- My libido?

Chemoradiation

Chemoradiation involves a combination of treatments given together: chemotherapy and radiotherapy.

Chemotherapy is a form of drug treatment given to treat or control cancer cells, while radiotherapy is the use of precise, accurately measured doses of radiation (x-ray beams) directed to a specific area to treat cancer cells.

Chemoradiation can be used to treat all types of oesophageal cancers, but has a specific, defined role in squamous cell cancer. It can be used either as an alternative to surgery, or when a tumour cannot be surgically removed.

The chemotherapy increases the sensitivity of the cancer cells to radiation and it is known as a radiosensitizer.

Chemotherapy is usually given by an injection directly into a vein, usually by an infusion or drip. Chemotherapy drugs can sometimes be given orally in a tablet form. The intravenous chemotherapy is usually given in the first and last week of treatment. Radiation therapy is given as an out-patient. Some chemotherapy infusions will require an overnight stay in hospital to hydrate the patient and monitor their urine output.

The commonly drugs used for chemoradiation to treat cancer of the oesophagus are Cisplatin and 5 Fluoro-uracil or Capecitabine.

Treatment usually ranges from 5 to 6 weeks depending on the duration of the radiotherapy. Your oncologist will discuss the duration of treatment with you. A treatment request will be submitted to your medical aid. Once authorisation has been obtained a radiographer will contact you regarding an appointment to set up a scan. This is a special X-ray taken with you lying on a couch.

You will be asked to undress from the waist up. You will have the radiation treatment on a linear accelerator, which is a special type of X-ray machine.

When radiation and chemotherapy are given in combination it is likely that the side effects will increase. Your oncologist will discuss these side effects in more detail with you.

Words that may be new to you....

Adjuvant therapy: administration of chemotherapy and/or radiation therapy after the surgical removal of the tumour

Benign: not cancerous

Biopsy: removal of cells or tissues for examination by a pathologist

Bone marrow: the soft sponge-like tissue in the centre of most large bones. It produces white blood cells, red blood cells and platelets



Brachytherapy: a procedure in which radioactive material sealed in needles, seeds, wires or catheters is placed directly into or near a tumour, under general anaesthetic

Cancer: a term for diseases in which abnormal cells divide without control

Carcinoma: cancer that begins in the skin or in tissues that line or cover internal organs

Cell: individual unit that makes up the tissues of the body

Chemotherapy: treatment with drugs that kill cancer

CT scan: a series of detailed pictures of areas inside the body taken from different angles (computerised tomography)

Estrogen (oestrogen): a hormone that promotes the development and maintenance of female sex characteristics

Haematology: the study of blood disorders

Haemoglobin: an iron-containing protein in red blood cells that transports oxygen around the body

Histology: the science of dealing with the minute structure of tissues

Hormone therapy: treatment that adds, blocks or removes hormones

Infection: invasion and multiplication of germs in the body

Lymph node: these are found all over the body and filter lymph and store white blood cells

Lymphatic system: tissues and organs that produce, store and carry white blood cells that fight infections and other diseases

Malignant: cancerous

Metastasis: the spread of cancer from one part of the body to another

MRI: *magnetic* resonance imaging – a diagnostic imaging procedure that creates detailed pictures of areas inside the body. Makes better images of organs and soft tissues than other scanning techniques, but is more expensive

Neo-adjuvant therapy: administration of chemotherapy to shrink a tumour before it is removed surgically

Oncology: the study of solid tumours

Pathologist: a doctor who identifies diseases by studying cells and tissues under a microscope

PET scan: a highly sensitive imaging procedure that scans the body for internal abnormalities

Platelets: cells in the blood which play a part in the clotting process

Primary cancer: the site of the original tumour

Quality of life: the overall enjoyment of life

Radiation therapy: also known as radiation or radiotherapy. The use of high energy radiation to shrink or kill cancer cells

Recurrence: the return of the cancer, at the same place as the original tumour or in another location after the tumour has disappeared

Secondary cancer: the site/s of spread of the original cancer

Side effect: a problem that occurs when treatment affects healthy organs or tissues

Stage: extent of the cancer within the body. Based on the size of the tumour, whether lymph nodes contain cancer, and whether the disease has spread from the original site to other parts of the body

Tumour: a mass of excess tissue that results from abnormal cell division. The tumour performs no useful body function and can be either benign or malignant.



Tumour marker (also called bio-markers): a substance sometimes found in the blood that may indicate the presence of certain cancers. Not all cancers have tumour markers

White blood cells: found in the blood and help the body to fight infection

X-ray: a type of high energy radiation used to create images of the inside of the body



OUR BRANCHES:

**Cape Town
Head Office**
021 949 4060
info@cancercare.co.za

**Cape Town
Cape Gate**
021 944 3800
Capegate@cancercare.co.za

**Cape Town
Constantiaberg**
086 199 9914
constantiaberg@cancercare.co.za

**Cape Town
Panorama**
021 930 4245
panorama@cancercare.co.za

**Cape Town
Rondebosch**
086 199 9914
rondebosch@cancercare.co.za

**Cape Town
Somerset West**
021 851 2255
vergelegen@cancercare.co.za

George
044 884 0705
outeniqua@cancercare.co.za

Port Elizabeth
041 363 0581
langenhoven@cancercare.co.za

East London
043 722 1222
border@cancercare.co.za

*These units have clinical research units on site