

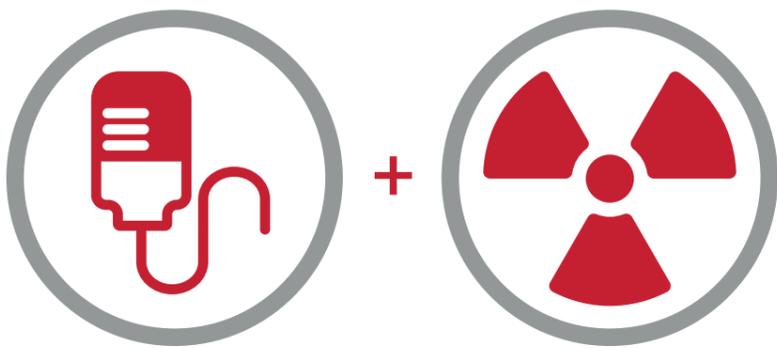
ADVANTAGE

Chemotherapy and Radiotherapy



May | 2016

What is Chemotherapy and Radiotherapy?



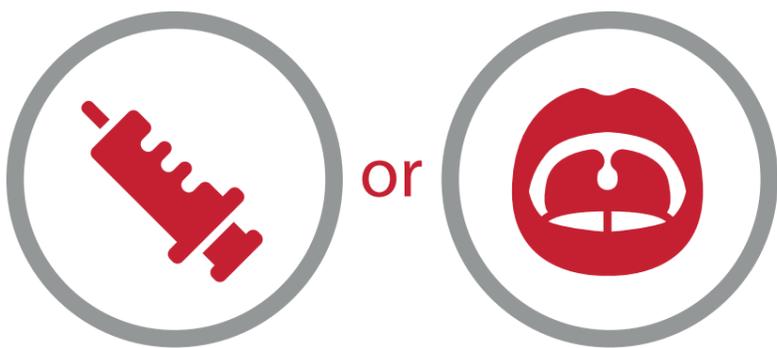
Chemotherapy and Radiotherapy are used to treat cancer

How does Chemotherapy work?



Chemotherapy means using drugs to kill or slow the growth of cancerous cells

How is Chemotherapy administered?



Injected into veins or taken orally

How does Radiotherapy work?

Radiotherapy damages the genes of rapidly dividing cells



Questions

for Dr Thapelo Motshudi

1 What are they?

Chemotherapy and Radiotherapy are used to treat cancer, either separately or together. The choice of treatment depends on the type of cancer one has. Often the two are also combined with surgery. As an example, doctors can first administer radiation to shrink a tumour and then cut it out during surgery, after which chemotherapy is given orally to kill the remaining cancer cells. Doctors who specialize in these areas are called Medical Oncologists or Radiation Oncologists, and they work in multidisciplinary teams with radiologists, surgeons, and many other health professionals.

2 How does Chemotherapy work?

Chemotherapy simply means using drugs or medication to kill or slow the growth of cancerous cells. It aims to cure if possible, delay progress if cure is not possible, and/or to relieve the symptoms. It works by targeting cells that divide quickly, which is a feature of cancer cells. Unfortunately there are other normal cells in the body that also divide quickly, like hair and nails, resulting in the loss of these during active treatment.

3 How is Chemotherapy administered?

Most commonly the drugs are injected into veins or taken orally. However, they can also be injected into muscles, or applied over the skin. There are different types available and they work in vastly different ways. The drugs are often used in combination, and the oncologist will choose appropriate combinations depending on the specific type of cancer. When given after surgery to kill cancer cells that may still be present, the drug combination is called adjuvant therapy. When given to shrink a tumour before surgery or radiation therapy, it's called neoadjuvant therapy. Treatment is given daily, weekly or monthly, but usually in on-and-off cycles. This means, for example, that you may get chemo for the first 2 weeks and then have a week off, making it a 3-week cycle that will start over again after the week off. The break allows your body to build healthy new cells and regain its strength.

4 How does Radiotherapy work?

They are 2 main types of radiotherapy, and both work by damaging the genes of rapidly dividing cells. The type of radiation employed is called ionization radiation, and x-rays are commonly used for this purpose. Since it also targets rapidly dividing cells, healthy rapidly dividing cells in the vicinity of the radiation beam will also be damaged because the radiation is not able to discriminate.

5 How is Radiotherapy administered?

The radiation can be administered by a machine outside the body, which is called external beam radiotherapy. In this instance cancer cells are targeted using special computers to minimize radiation exposure to normal parts of the body. Alternatively radiation can come from inside the body, which is called internal radiation or brachytherapy. It gets into the body after a doctor injects radioactive substances into the relevant body part, or one can swallow or drink the substance.