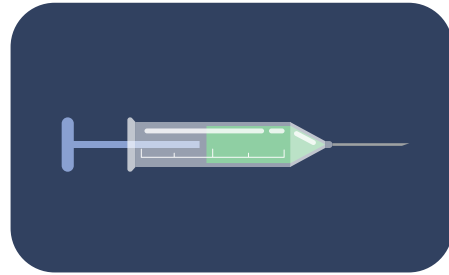


Helping patients on types of
cancer treatment in the pharmacy

Understanding immunotherapy



What it is

Immunotherapies are treatments that help the patients' immune system to recognise and destroy cancerous cells.

There are a few different types of immunotherapy, such as:

- Antibodies that have been designed to boost some of the body's white blood cells
- Antibodies that have been designed to attach to cancer cells and that tell the immune system to destroy them
- Treatments that involve modifying some of the patient's own white blood cells and returning them to the body



How it works

Immunotherapy for solid tumours:

T cells are important white blood cells in our immune system. They help to protect us from infections, but they can also identify and destroy cancer cells. Sadly, T cells that get into tumours often become suppressed and worn out. The goal of immunotherapy given to patients with solid tumours is to wake up and revitalise T cells, which then help to fight their cancer. Examples of immunotherapy include nivolumab, pembrolizumab, durvalumab, atezolizumab and ipilimumab. Immunotherapy may be given alone, in combination or with chemotherapy or another treatment, depending on the patients diagnosis.

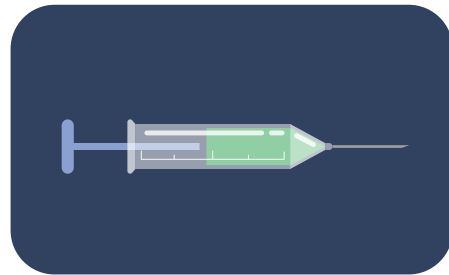
Immunotherapy for blood cancers:

These treatments are often antibodies that attach to specific markers found on the surface of cancer cells. These treatments are sometimes referred to as targeted therapies, because they attach to a specific target on the surface of the patients' cancer cells and leave other cells without the specific marker unaffected. The antibody then acts like a flag, highlighting cells with the specific marker for white blood cells to destroy cells that the antibody has attached to. Examples of antibody treatments include rituximab and daratumumab.

There are also treatments which are made by fusing together parts from two different antibodies. These are sometimes called bi-specific antibodies. One side of the antibody attaches to a cancer cell, while the other attaches to a T cell. By bringing the cells together, this tells the T cell to kill the cancer cell. An example is a treatment for some people with leukaemia called blinatumomab.

The full Let's Communicate Cancer course is available by clicking [here](#)

Understanding immunotherapy



How it works (continued)

Immunotherapy for blood cancers(continued):

Some people with blood cancer are now treated with a form of immunotherapy called CAR T cell therapy. This involves taking some T cells from their blood, modifying them in the laboratory allowing them to target cancer cells, and then returning them to the patient. Back in the body, these modified T cells work to destroy the person's blood cancer cells.



Potential side effects

Side effects of immunotherapy for solid tumours

The side effects of these treatments are caused by T cells that have been boosted by the treatment. This can cause the patients' immune system to become active against normal, healthy cells resulting in a variety of side effects. These side effects sometimes resemble those caused by chemotherapy, such as diarrhoea or rashes. However, given the difference in how immunotherapy and chemotherapy work, the treatment for these side effects needs to be very different. It is therefore important to know what type of treatment the person has been given.

Common symptoms include diarrhoea and abdominal pain, skin rashes, tiredness, headache, coughing, nausea, poor appetite, constipation, muscle and joint pain.

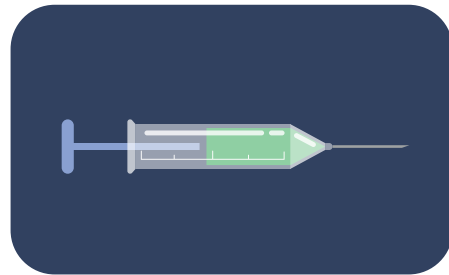
These side effects can occur at any point during treatment and for up to 12 months after treatment has finished. Pharmacy staff should be aware of delayed side effects in all patients who have been prescribed immunotherapy treatments.

Side effects of immunotherapy for blood cancers

Many of the side effects are similar to those described above for solid tumours. However the precise side effect profile will depend on which treatment the person has been given. It is therefore important to obtain a clear history of what treatments patients have given.

The full Let's Communicate Cancer course is available by clicking [here](#)

Understanding immunotherapy



Support in assessing the severity of side effects, treatment recommendations and referral criteria

Guidance regarding assessment of the severity of side effects, alongside OTC treatment recommendations and referral criteria are available in factsheet series 2.

These factsheets cover the following topics: diarrhoea, constipation, nausea and vomiting, peripheral neuropathy, rashes and mucositis.

- diarrhoea
- constipation
- nausea and vomiting
- peripheral neuropathy
- rashes
- mucositis



Please be aware that comprehensive information regarding individual cancer therapies is available from the **Macmillan website**

The full Let's Communicate Cancer course is available by clicking [here](#)