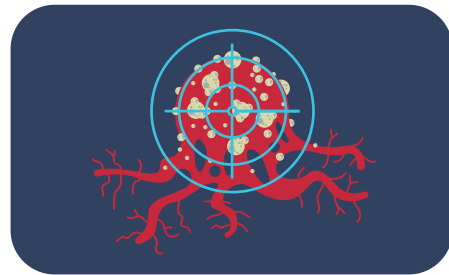


Understanding targeted therapies



What they are

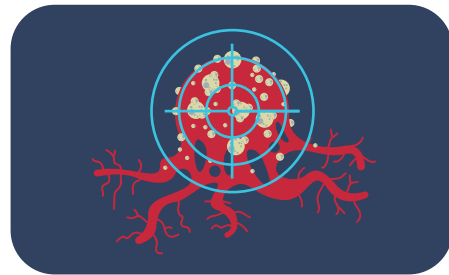
Targeted therapies are treatments designed to target cancer cells in a more precise manner than chemotherapy. They have often been designed to target proteins that cancer cells are producing too much of, or that are forcing cancer cells to multiply.

These treatments include:

- Antibodies¹ that attach to proteins found on the surface of some cancer cells. These treatments then block signals which tell the cell to grow. Trastuzumab, which is sometimes given to patients with cancers that have HER2 receptors on the surface of their cells, is an example of this type of treatment
- Antibodies that have had a chemotherapy drug attached to them (called antibody-drug conjugates). These antibodies carry chemotherapy directly to a person's cancer cells. Polatuzumab vedotin, is an example of this type of treatment. It is given to some people with a blood cancer called diffuse large B cell lymphoma
- Antibodies and small chemical compounds that attack a cancer's blood supply by targeting its blood vessels. This can sometimes limit the supply of oxygen and energy needed for cancer cells to grow. Bevacizumab, which blocks a signal called VEGF, is an example of this type of treatment
- Small molecule drugs (often taken as tablets) that can easily enter cancer cells and block something inside them that is forcing them to grow and multiply. One example is osimertinib. This drug blocks a faulty version of a protein called the epidermal growth factor receptor (EGFR). Faulty versions of EGFR are sometimes found inside the cancer cells of people with lung cancer
- Small molecule drugs (again, often taken as tablets) that stop cancer cells from repairing themselves. These treatments include olaparib, which blocks a protein called PARP. Cancer cells sometimes rely heavily on PARP to repair damage and keep themselves alive. By blocking PARP, olaparib causes these cancer cells to die

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

Understanding targeted therapies



How they work

Scientists have made huge advances in how much we understand about how cells become cancerous, and what drives their behavior². They have used this knowledge to develop treatments which target a particular aspect of cancer cells to help patients with cancer.

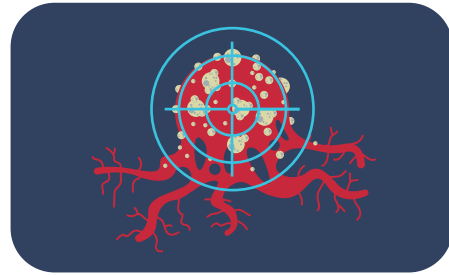
Many targeted treatments are only given to patients if healthcare staff have tested their cancer to find out if the treatment is likely to help them. This is because many targeted therapies will only work if their target is present in the person's cancer cells. For example, trastuzumab, an antibody treatment, is only effective if a patient's cancer cells have the HER2 receptor protein on their surface.

Other targeted treatments are given to patients without prior testing of their cancer cells, but only if there's evidence to support this. For example, research studies involving thousands of people with bowel cancer have shown that an antibody treatment (such as cetuximab or panitumumab) is useful if given alongside chemotherapy. We also know that bevacizumab and other treatments that block the VEGF signal are helpful for many people with kidney cancer and for people with some other cancer types.

When someone is prescribed a targeted therapy, it might be given on its own, or in combination with another treatment like chemotherapy or immunotherapy.

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Understanding targeted therapies



Potential side effects

Despite being targeted, these therapies can still cause a variety of side effects for patients receiving treatment. However, these side effects tend to differ from many of those which patients treated with chemotherapy experience. For example, targeted therapies are unlikely to cause patients to lose their hair. However, many patients receive combination treatments which may include targeted therapies given alongside chemotherapy. They may therefore experience side effects from the different treatments they have been given.

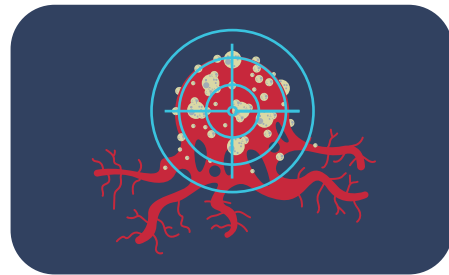
Many targeted treatments can cause tiredness and an increased risk of infections. Other side effects depend on what type of treatment it is (whether it's an antibody treatment or a small chemical compound), and what the treatment's target is.

For example, treatments that target EGFR (such as osimertinib) often cause skin problems, mouth sores and diarrhoea. Whereas a treatment that targets HER2 (such as trastuzumab) might cause patients to develop heart problems. Treatments that target VEGF (such as bevacizumab) can cause high blood pressure, bruising and bleeding.

It is important to obtain a clear treatment history from patients to help identify whether their symptoms may be related to the cancer treatments they are receiving.

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Understanding targeted therapies



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](#)