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Pembrolizumab (Keytruda)

Pembrolizumab (Keytruda)



Also called

Keytruda

What is it?

It is a type of immunotherapy and works by helping your immune system to kill cancer cells. It is a treatment for a number of cancers.

How do you have it?

You have it as a drip into your bloodstream. How often you have it depends on your type of cancer.

Side effects

How often and how severe the side effects are can vary from person to person. Some are more serious than others. Contact your advice line if you have severe side effects, if they aren't getting better or are getting worse.

Pembrolizumab is a type of immunotherapy. You pronounce pembrolizumab as pem-bro-lih-zoo-mab. It is also known by its brand name, Keytruda.

You might have it as a treatment by itself or in combination with another treatment for a number of different cancer types.

Find out more about your cancer type

How does pembrolizumab work?

Pembrolizumab is a type of [immunotherapy](#). It stimulates the body's [immune system](#) to fight cancer cells.

Pembrolizumab targets and blocks a protein called PD-1 on the surface of certain immune cells called [T cells](#). Blocking PD-1 triggers the T cells to find and kill cancer cells.

How do you have pembrolizumab?

You have pembrolizumab as a drip into your bloodstream (intravenous). You might have treatment through a long plastic tube that goes into a large vein in your chest. The tube stays in place throughout the course of treatment. This can be a:

- central line
- PICC line

- portacath

If you don't have a central line

You might have treatment through a thin short tube (a cannula) that goes into a vein in your arm. You have a new cannula each time you have treatment.

How often do you have pembrolizumab?

You have pembrolizumab in cycles of treatment 🕒. A treatment cycle is every 3 to 6 weeks. It takes about 30 minutes each time you have it. You have pembrolizumab for as long as it works and the side effects are not too bad.

You usually have it for up to 2 years, but some people might have treatment for longer than 2 years.

Depending on your cancer type, you might have pembrolizumab on its own or with other cancer treatments.

Tests

You have blood tests before and during your treatment. They check your levels of blood cells and other substances in the blood. They also check how well your liver and kidneys are working.

Depending on your cancer type, your doctor may also check for a protein called PD-L1 on the surface of cancer cells. To test your cancer cells, doctors need a sample of your cancer. They might be able to use a sample from a biopsy or operation you have already had.

What are the side effects of pembrolizumab?

Side effects can vary from person to person. They also depend on what other treatment you are having.

This treatment affects the immune system. This may cause inflammation in different parts of the body which can cause serious side effects. They could happen during treatment, or some months after treatment has finished. In some people, these side effects could be life threatening.

When to contact your team

Your doctor, pharmacist or nurse will go through the possible side effects. They will monitor you closely during treatment and check how you are at your appointments. Contact your advice line as soon as possible if:

- you have severe side effects
- your side effects aren't getting any better
- your side effects are getting worse

Early treatment can help manage side effects better.

Contact your healthcare team immediately if you have signs of infection, including a temperature above 37.5C or below 36C.

We haven't listed all the side effects here. Remember it is very unlikely that you will have all of these side effects, but you might have some of them at the same time.

Common side effects

These side effects happen in more than 10 in 100 people (more than 10%). You might have one or more of them. They include:

Feeling or being sick (nausea)

Feeling or being sick is usually well controlled with anti sickness medicines. It might help to avoid fatty or fried foods, eat small meals and snacks and take regular sips of water. Relaxation techniques might also help.

It is important to take anti sickness medicines as prescribed even if you don't feel sick. It is easier to prevent sickness rather than treat it once it has started.

Skin changes

You might notice skin changes, such as dryness, itching and rashes similar to acne on your face, neck and trunk.

Tell your doctor if you have any rashes or itching. Don't go swimming if you have a rash because the chlorine in the water can make it worse.

If your skin gets dry or itchy, smoothing in unperfumed moisturising cream may help. Check with your doctor or nurse before using any creams or lotions. Wear a high factor sun block if you're going out in the sun.

Breathlessness

You might be breathless and look pale due to a drop in red blood cells. This is called anaemia.

You may also be breathless and have a cough. This could be due to infection, such as pneumonia or inflammation of the lungs (pneumonitis). Let your doctor or nurse know straight away if you suddenly become breathless or develop a cough.

Low levels of thyroid hormones

The level of your thyroid hormones may drop (hypothyroidism). You may feel tired or cold, gain weight, feel sad or depressed, or your voice may deepen. You will have regular blood tests to check your thyroid hormone levels.

Loss of appetite

You might lose your appetite for various reasons while having cancer treatment. Sickness, taste changes or tiredness can put you off food and drinks.

Headaches

Tell your healthcare team if you keep getting headaches. They can give you painkillers to help.

Diarrhoea or constipation

Tell your healthcare team if you have diarrhoea or constipation. They can give you medicine to help.

Pain

You might have pain in different parts of your body such as the tummy (abdomen), muscles, joints and back. Let your doctor or nurse know if you have pain during or after treatment. There are lots of ways to treat pain, including relaxation and painkillers.

Tiredness (fatigue)

You might feel very tired and as though you lack energy.

Various things can help you to reduce tiredness and cope with it, for example exercise. Some research has shown that taking gentle exercise can give you more energy. It is important to balance exercise with resting.

Fluid build up

You may have swelling of your face, hands and legs due to a build up of fluid (oedema).

High temperature

Tell your healthcare team straightaway if you get a high temperature. Ask them if you can take paracetamol to help lower your temperature.

Occasional side effects

These side effects happen in between 1 and 10 out of every 100 people (between 1 and 10%). You might have one or more of them. They include:

- a drop in the number of white blood cells and platelets in your body which may increase your risk of infection and cause bruising and bleeding
- an allergic reaction that can cause a rash, shortness of breath, redness or swelling of the face and dizziness. Some allergic reactions can be life threatening, alert your nurse or doctor if notice any of these symptoms.
- inflammation of the bowel (colitis) which can cause diarrhoea and tummy pain
- inflammation of the muscles causing weakness and pain
- high levels of thyroid hormones causing anxiety, difficulty sleeping and weight loss
- low levels of minerals and salts in your body such as sodium, potassium and calcium
- difficulty sleeping
- dizziness
- taste changes
-

numbness or tingling in your hands and feet

-

dry eyes

-

dry mouth

-

heart changes such as an abnormal heart rhythm

-

high blood pressure

-

hair loss

-

swelling in your joints

-

chills and flu-like symptoms

-

liver changes that are usually mild and unlikely to cause any symptoms

Rare side effects

These side effects happen in fewer than 1 in 100 people (fewer than 1%). You might have one or more of them. They include:

-

a severe skin reaction that may start as tender red patches which leads to peeling or blistering of the skin. You might also feel feverish and your eyes may be more sensitive to light. This is serious and could be life threatening.

-

break down of red blood cells in your body which can cause yellowing of the skin and eyes, dark coloured urine and high temperature (fever)

-

a condition where cells in your body clump together to make lumps. This usually affects your lungs and skin.

-

inflammation in different organs of your body including thyroid, pituitary gland, liver, kidneys and pancreas

-

damage to the adrenal gland which can cause a drop in the level of certain hormones such as cortisol

-

high levels of glucose in your body (type 1 diabetes)

-

seizures (fits)

-

a condition where your immune system attacks healthy nerve cells which can cause numbness, pain and weakness in your feet and hands

-

severe muscle weakness that worsens with physical exercise

-

inflammation of the eyes and brain

-

infection of the membranes that surround the brain and spinal cord (meningitis) which can be life threatening

-

inflammation of certain skin cells called melanocytes

- a collection of fluid around your heart
-

Coping with side effects

We have more information about side effects and tips on how to cope with them.

[Read more about how to cope with side effects](#)


What else do you need to know?

Other medicines, foods and drink

Cancer drugs can interact with medicines, herbal products, and some food and drinks. We are unable to list all the possible interactions that may happen. An example is grapefruit or grapefruit juice which can increase the side effects of certain drugs.

Tell your healthcare team about any medicines you are taking. This includes vitamins, herbal supplements and over the counter remedies. Also let them know about any other medical conditions or allergies you may have.

Loss of fertility

It is not known whether this treatment affects [fertility](#)  in people. Talk to your doctor before starting treatment if you think you may want to have a baby in the future.

Pregnancy and contraception

This drug may harm a baby developing in the womb. It is important not to become pregnant or get someone pregnant while you are having treatment with this drug and for at least 4 months afterwards.

Talk to your doctor or nurse about effective contraception before starting treatment. Let them know straight away if you or your partner become pregnant while having treatment.

Breastfeeding

Don't breastfeed during this treatment because the drug may come through into your breast milk.

Treatment for other conditions

If you are having tests or treatment for anything else, always mention your cancer treatment. For example, if you are visiting your dentist.

Immunisations

Don't have immunisations with live vaccines while you're having treatment and for up to 12 months afterwards. The length of time depends on the treatment you are having. Ask your doctor or pharmacist how long you should avoid live vaccinations.

In the UK, live vaccines include rubella, mumps, measles, BCG, yellow fever and one of the shingles vaccines called Zostavax.

You can have:

- other vaccines, but they might not give you as much protection as usual
- the flu vaccine (as an injection)
- the coronavirus (COVID-19) vaccine - talk to your doctor or pharmacist about the best time to have it in relation to your cancer treatment

Members of your household who are aged 5 years or over are also able to have the COVID-19 vaccine. This is to help lower your risk of getting COVID-19 while having cancer treatment and until your [immune system](#) recovers from treatment.

Find out more about the COVID-19 vaccine and cancer

Contact with others who have had immunisations - You can be in contact with other people who have had live vaccines as injections. Avoid close contact with people who have recently had live vaccines taken by mouth (oral vaccines) such as the oral typhoid vaccine. Sometimes people who have had the live shingles vaccine can get a shingles type rash. If this happens they should keep the area covered.

If your immune system is severely weakened, you should avoid contact with children who have had the flu vaccine as a nasal spray as this is a live vaccine. This is for 2 weeks following their vaccination.

Babies have the live rotavirus vaccine. The virus is in the baby's poo for about 2 weeks and could make you ill if your immunity is low. Get someone else to change their nappies during this time if you can. If this isn't possible, wash your hands well after changing their nappy.

More information about this treatment

For further information about this treatment and possible side effects go to the electronic Medicines Compendium (eMC) website. You can find the patient information leaflet on this website.

eMC website

You can report any side effect you have to the Medicines Health and Regulatory Authority (MHRA) as part of their Yellow Card Scheme.

Report a side effect to the MHRA

+ References

Electronic Medicines Compendium

Accessed July 2023



Immunisation against infectious disease: Chapter 6: General contraindications to vaccination

Public Health England

First published: March 2013 and regularly updated on the Gov.UK website

Systemic Anti-cancer Therapy (SACT)

Accessed July 2023

Related links

Immunotherapy

Immunotherapy uses our immune system to fight cancer. It's a standard treatment for some types of cancer and is in clinical trials for other types of cancer. Find out more about it.

Your cancer type

Search for the cancer type you want to find out about. Each section has detailed information about symptoms, diagnosis, treatment, research and coping with cancer.

Coping with cancer

Coping with cancer can be difficult. There is help and support available. Find out about the emotional, physical and practical effects of cancer and how to manage them.

Side effects of cancer drugs

Cancer drugs have side effects and these can vary from person to person. But there are things that you can do to help you cope.

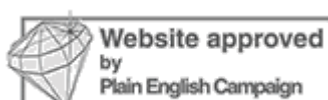
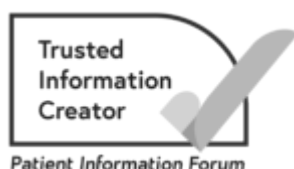


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