

Paclitaxel (Taxol)

This booklet explains what paclitaxel is, how it works, when it may be prescribed and the side effects you may experience.



What is paclitaxel?

Paclitaxel is a chemotherapy drug. Chemotherapy is a treatment using anti-cancer drugs which aims to destroy cancer cells.

Paclitaxel is the generic (non-branded) name of the drug, but you may hear it called by one of its brand names such as Taxol.

If you have had an allergic reaction to paclitaxel you may be given paclitaxel combined with a protein. This drug is called nab-paclitaxel or Abraxane.

You may find it useful to read this booklet alongside our **Chemotherapy for breast cancer** booklet.

How does paclitaxel work?

Paclitaxel works by stopping the cancer cells from dividing and multiplying, which blocks the growth of the cancer.

When is paclitaxel prescribed?

Paclitaxel is sometimes used in combination with other drugs to treat primary breast cancer (cancer that has not spread beyond the breast or the lymph nodes under the arm) or it might be given as part of a clinical trial for primary breast cancer. You can find information about clinical trials on our website breastcancercare.org.uk

Paclitaxel is also used alone or with other chemotherapy or anti-cancer drugs to treat breast cancer that has spread to areas around the breast such as the lymph nodes above or below the collarbone (known as regional or locally advanced recurrence), or to other parts of the body (secondary breast cancer).

How is paclitaxel given?

Paclitaxel is given as a drip into a vein (intravenously) in the hand or arm, although there are other ways of giving it depending on factors such as how easy it is for chemotherapy staff to find suitable veins and your preferences. For more information see our **Chemotherapy for breast cancer** booklet.

Paclitaxel can be given over three hours once every three weeks, or once every two weeks (known as accelerated or dose dense), or it may

be given weekly in lower doses over one hour. The interval between each cycle of treatment gives your body time to recover, and may vary depending on whether the number of blood cells has returned to normal between each cycle.

You will have paclitaxel as an outpatient.

Before each dose you'll be given medication to reduce the chances of any possible reactions. See 'Allergic reaction' page 9.

Before starting paclitaxel

Before starting your treatment many hospitals will arrange a chemotherapy information session. At this appointment a nurse will discuss how and when your chemotherapy will be given and how side effects can be managed. Contact numbers will also be given so you know who to phone if you have any questions or concerns.

How long will I have paclitaxel for?

For primary breast cancer four treatment cycles are usually given. For locally advanced and secondary breast cancer the number of cycles will vary depending on the individual.

What are the side effects of paclitaxel?

Like any treatment, paclitaxel chemotherapy can cause side effects. Everyone reacts differently to drugs and some people have more side effects than others. These side effects can usually be managed and those described here will not affect everyone.

If you're concerned about any side effects, regardless of whether they are listed here, talk to your chemotherapy nurse or cancer specialist (oncologist) as soon as possible.

If you're being given other chemotherapy or anti-cancer drugs with paclitaxel, you may have additional side effects from these drugs.

For more information about the side effects of chemotherapy, see our **Chemotherapy for breast cancer** booklet.

Blood clots

People with breast cancer have a higher risk of blood clots. Their risk is higher because of the cancer itself and some treatments for breast cancer. If the cancer has spread to other parts of the body (secondary breast cancer), this also increases the risk.

Having paclitaxel increases the risk of blood clots such as deep vein thrombosis (DVT). People with a DVT are at risk of developing a pulmonary embolism. This is when part of the blood clot breaks away and travels to the lung.

Blood clots can be harmful but are treatable so it's important to report symptoms as soon as possible.

If you experience any of the following symptoms contact your local A&E department, GP or specialist team straight away:

- pain, redness/discolouration, heat and swelling of the calf, leg or thigh
- swelling, redness or tenderness where a central line is inserted (to give chemotherapy, for example) in the arm, chest area or up into the neck
- shortness of breath
- tightness in the chest
- unexplained cough (may cough up blood)

Common side effects

Effects on the blood

Paclitaxel can temporarily affect the number of healthy blood cells in the body. Blood cells (white blood cells, red blood cells and platelets) are released by the bone marrow (the spongy material found in the hollow part of bones) to replace those that are naturally used up within the body. Chemotherapy reduces the ability of the bone marrow to make these cells.

You'll have regular blood tests throughout your treatment to check your blood count. If the number of blood cells is too low, your next course of treatment may be delayed or the dose of the chemotherapy reduced.

Risk of infection

When the white blood cells fall below a certain level, it's known as neutropenia. Not having enough white blood cells can increase the risk of getting an infection. Your resistance to infection is usually at its lowest point around 7–14 days after the paclitaxel has been given. The number of white blood cells usually returns to normal before your next course of chemotherapy is due.

Contact your hospital immediately if:

- **you have a high temperature (over 37.5°C) or low temperature (under 36°C), or whatever your chemotherapy team has advised**
- **you suddenly feel unwell, even with a normal temperature**
- **you have any symptoms of an infection, for example a sore throat, a cough, a need to pass urine frequently or feeling cold and/or shivery**

Before starting chemotherapy you should be given a 24-hour contact number or told where to get emergency care by your specialist team. You may need antibiotics. Sometimes your doctor may recommend injections of drugs called growth factors to stimulate the production of white blood cells to reduce your risk of infection.

Anaemia

Having too few red blood cells is called anaemia. If you feel particularly tired, breathless or dizzy, let your specialist team know. A blood transfusion may be necessary during your treatment if the number of red blood cells falls significantly.

Bruising and bleeding

Paclitaxel can reduce the number of platelets, which help the blood to clot. You may bruise more easily, have nosebleeds or your gums may bleed when you brush your teeth. Tell your specialist team if you experience any of these symptoms.

Hair loss (alopecia)

Paclitaxel causes hair loss. Most people will lose all their hair, including eyebrows, eyelashes and body hair.

You may begin to lose your hair about two weeks after the first treatment, but it can happen earlier. Hair loss is usually gradual but it can happen very quickly, possibly over a couple of days. Scalp cooling may stop you losing some, or all of the hair on your head. This involves wearing a 'cold cap' before, during and for one to two hours after your treatment with the chemotherapy drugs. How well the cold cap works depends on the drugs and doses used, and it does not work for everyone.

Any hair loss should be temporary and in most cases your hair will begin to grow back a few weeks after your treatment has ended. Prolonged or permanent hair loss has been reported in a very small number of cases.

If you are concerned about hair loss when making decisions about treatment, talk to your oncologist and breast care nurse.

For more information about hair loss, see our booklet **Breast cancer and hair loss**.

Numbness and tingling in hands or feet

Some people having paclitaxel experience numbness or tingling in their hands and feet. This is due to the effect of paclitaxel on the nerves and is known as peripheral neuropathy. In most cases it's mild and goes away soon after treatment stops. If it's severe, it may be necessary to reduce the dose of paclitaxel or stop it completely. It normally improves a few months after the treatment has finished, but it may not disappear completely.

If you have tingling or numbness (such as difficulty doing up buttons, or difficulty feeling the difference between hot and cold water with your fingertips), mention this to your specialist team when you see them next so that the symptoms can be monitored.

Painful muscles and joints

Your muscles or joints may ache or become painful two to three days after you have your treatment. This usually wears off after a few days to a week but may persist a bit longer for some people. However, it can be severe and you may need to take mild pain relief or anti-inflammatory drugs. It's a good idea to have some of these available before starting your treatment just in case you need them. It's important to be aware that pain relief such as paracetamol or ibuprofen can mask the signs of infection.

Nausea and vomiting

Nausea (feeling sick) is usually mild and most people will not actually vomit (be sick). You may start to feel unwell a few hours after your treatment but you will be prescribed anti-sickness drugs to reduce or stop this happening.

For more information about nausea and vomiting, see our [Chemotherapy for breast cancer](#) booklet.

Skin reactions

You may develop a rash anywhere on your body or your skin may discolour. This may be red and itchy. Or you may feel flushed. Your doctor may prescribe medicine to help. If you have skin reactions, mention this to your specialist team when you see them next so they can monitor the symptoms.

Some people have a skin reaction called hand-foot syndrome, often called Palmar-plantar syndrome. It usually affects the palms of the hands and soles of the feet, but you may also have symptoms in other areas such as the skin on the knees or elbows.

For some people, hand-foot syndrome can make it harder to carry out usual daily activities and can have an impact on quality of life. Your specialist team may prescribe drugs as gels or creams to apply to the affected areas.

Sore mouth

Your mouth may become sore and small ulcers can develop. You will usually be provided with mouthwash to reduce the risk of a sore mouth developing. If you do get a mouth infection your specialist or chemotherapy nurse can advise you about different mouthwashes or suitable medicine. For more information on coping with a sore mouth, see our [Chemotherapy for breast cancer](#) booklet.

Diarrhoea

If you have diarrhoea, your specialist team or GP can prescribe medicine to help control it. Contact your chemotherapy team if you have four or more episodes of diarrhoea in a 24-hour period.

Fatigue (extreme tiredness)

You may become extremely tired during your treatment. For some people, this fatigue can last for several weeks or even months after the treatment has finished. There are some things that can help improve fatigue – your specialist team may be able to help you with this.

Cognitive impairment or ‘chemo brain’

Your ability to concentrate or think clearly might also be affected, which can be very frustrating. This is known as cognitive impairment, but you might hear it referred to as ‘chemo brain’ or ‘chemo fog’. This usually improves over time after treatment has finished.

For more information see our [Chemotherapy for breast cancer](#) booklet.

Low blood pressure

Your blood pressure will be checked regularly while you are on paclitaxel. Let your doctor or nurse know if you feel dizzy or light headed.

Less common side effects

Nail reactions

After a few cycles of paclitaxel, the colour of your nails may change but this will normally grow out over several months. The nails may also become brittle, crack or change in texture, for example ridges may form. A few people lose nails on their fingers or toes during or shortly after treatment, but they will grow back.

Reaction in the injection site

Pain, redness, discolouration or swelling can occur where the needle has been inserted or anywhere along the vein. If you experience any of these, tell your chemotherapy nurse. After a few weeks you may notice tenderness, darkening and hardening around where the needle was inserted. This should fade in time.

Fertility

It is not known exactly what effect paclitaxel has on fertility. However, any effects will also depend on other chemotherapy drugs you are having at the same time or have received in the past, and your age.

Some women stop having periods (amenorrhoea) during chemotherapy, although this may be temporary. Women aged around 40 and above are less likely to have their periods return after completing chemotherapy than women under this age. It's important to use a barrier method of contraception, such as condoms, to prevent pregnancy while you are having paclitaxel, as it may have a harmful effect on a developing baby.

If you're concerned about your fertility, it's important to talk to your specialist team before treatment begins. If you want to know more about your fertility or pregnancy after treatment, see our [Fertility and breast cancer treatment](#) booklet.

Paclitaxel is not recommended during pregnancy or while breastfeeding.

Effects on the liver

Paclitaxel may affect how well your liver works. This is temporary and your liver function will usually return to normal when the treatment has stopped. You are unlikely to notice any symptoms. You'll have regular blood tests to monitor this throughout your treatment.

Rare side effects

Changes in heart rate

Paclitaxel can alter your heart rate, so you'll be carefully monitored for this during your treatment. If changes to your heart rate occur this can usually be treated easily and you will not have to stop your treatment. This is not the same as having an allergic reaction to paclitaxel (see below).

Allergic reaction

Before your treatment starts, you will be given drugs including steroids to reduce the risk of an allergic reaction. These are taken as tablets or given intravenously.

If you have an allergic reaction to paclitaxel, it will probably happen within the first few minutes of your treatment. It's more likely to happen the first or second time you have the drug. Reactions can vary from mild to severe, although severe reactions are uncommon.

You'll be monitored closely during your treatment so that any reaction can be dealt with immediately. Symptoms include flushing, skin rash, itching, back pain, shortness of breath, faintness, fever or chills. If you have a severe reaction, treatment will be stopped immediately. You may not be given paclitaxel again or it may be given with extra drugs to prevent another reaction, and/or the paclitaxel may be given more slowly.

Effects on the lungs

This may include scarring or inflammation of the lung tissue. This is a rare side effect, but if you become breathless, or develop a dry cough during or in the few weeks after your treatment, let your specialist team know.

Vaccinations

Some vaccines are safe to have during chemotherapy, others are not. If you need a vaccination, discuss this with your specialist team first.

You shouldn't have any live vaccines while you're having chemotherapy. Live vaccines include measles, rubella (German measles), polio, BCG (tuberculosis), shingles and yellow fever.

Live vaccines contain a small amount of live virus or bacteria. If you have a weakened immune system, which you may do during chemotherapy, they could be harmful.

It's safe to have these vaccines six months after your chemotherapy finishes. Talk to your GP or specialist before having any vaccinations.

If someone you live with needs to have a live vaccine speak to your specialist or GP. They can advise what precautions you may need to take depending on the vaccination.

Flu vaccination

Anyone at risk of a weakened immune system, and therefore more prone to infection, should have the flu vaccine. This includes people due to have or already having chemotherapy. The flu vaccine is not a live vaccine so doesn't contain any active viruses. If you're already having chemotherapy, talk to your chemotherapy specialist or breast care nurse about the best time to have your flu jab.

Contraception

Having paclitaxel while pregnant may be harmful to a developing baby. Some women can still become pregnant even if their periods are irregular or have stopped, so effective barrier contraception such as a condom should be used.

Speak to your oncologist if you are considering trying to get pregnant after chemotherapy.

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About this booklet

Paclitaxel (Taxol) was written by Breast Cancer Care's clinical specialists, and reviewed by healthcare professionals and people affected by breast cancer.



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Central Office

Chester House
1–3 Brixton Road
London SW9 6DE
Phone: 0345 092 0800
Email: info@breastcancercare.org.uk

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