

PACLITAXEL (TAXOL)

An abstract graphic consisting of two overlapping, rounded, organic shapes. The larger shape on the left is a vibrant orange, and the smaller shape on the right is a bright yellow. They overlap in the center, creating a darker orange area. The background is a solid, bright pink.

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ABOUT THIS BOOKLET

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

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

WHAT IS PACLITAXEL?

Paclitaxel is a chemotherapy drug. Chemotherapy is a treatment that destroys cancer cells using anti-cancer drugs.

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.

Some people are given a drug called nab-paclitaxel (Abraxane). You may have this if you have an allergic reaction to paclitaxel (see page 11).

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 GIVEN?

Primary breast cancer

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

Before surgery

Paclitaxel can be given before surgery to shrink a larger breast cancer. This may mean breast-conserving surgery is an option, rather than a mastectomy. Or it might be given before surgery

to slow down the growth of a fast-growing breast cancer and reduce the chance of it spreading to other parts of the body.

When chemotherapy is given before surgery it's called primary or neo-adjuvant chemotherapy.

After surgery

Paclitaxel is given after surgery to reduce the risk of breast cancer coming back in the future. It usually starts within a few weeks of your operation.

If you are going to have radiotherapy you will usually complete your course of paclitaxel first.

When chemotherapy is given after surgery it is called adjuvant therapy.

Breast cancer that has spread

Paclitaxel is also used alone or with other chemotherapy or anti-cancer drugs to treat breast cancer that has:

- Spread to the tissues and lymph nodes around the chest, neck and under the breastbone (known as regional recurrence or locally advanced breast cancer)
- Spread to other parts of the body (secondary breast cancer)

BEFORE STARTING PACLITAXEL

Before starting your treatment most 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.

You may have blood tests and some people may have an ECG (electrocardiogram), a simple test that checks your heart rhythm.

Your height and weight will also be measured. This is needed to work out the correct dose of chemotherapy for you.

You'll be given contact numbers so you know who to phone if you have any questions or concerns.

HOW IS PACLITAXEL GIVEN?

Paclitaxel is given into a vein (intravenously). This will usually be as a drip, also called an infusion, into the hand or arm.

Other intravenous methods may be used depending on factors such as how easy it is for the chemotherapy team to find suitable veins, and your preferences. For more information see our **Chemotherapy for breast cancer** booklet.

Paclitaxel can be given once every two weeks, over two hours (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 (see page 5).

You will be given paclitaxel as an outpatient.

Before each dose you will be given medication to reduce the chances of any possible allergic reactions. See 'Allergic reaction' page 11.

How long will I have paclitaxel for?

For primary breast cancer three to six treatment cycles are usually given.

For locally advanced and secondary breast cancer the number of cycles will vary depending on the individual.

SIDE EFFECTS OF PACLITAXEL

Like any treatment, paclitaxel 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 are 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.

Common side effects

Effects on the blood

Paclitaxel can temporarily affect the number of 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 will 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. The number of white blood cells usually returns to normal before your next course of chemotherapy is due.

Your treatment team may give you guidelines to follow for reporting signs of an infection, but generally you should contact your hospital immediately if you experience any of the following:

- 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 shivery

Before starting chemotherapy, your treatment team should give you a 24-hour contact number or tell you how to get emergency

care. You may need antibiotics. Sometimes your doctor may recommend injections of drugs called growth factors. This helps the body produce more 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 treatment team know.

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 treatment team if you experience any of these symptoms.

Hair loss

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.

Hair loss should be temporary and in most cases your hair will begin to grow back a few weeks after your treatment has ended.

Permanent hair loss is described as incomplete regrowth of hair six months or more after completing treatment. There is currently no definite evidence to say how often this happens.

If you are concerned about hair loss when making decisions about treatment, talk to your treatment team.

For more information about hair loss, see our booklet

Breast cancer and hair loss.

You can also get support and information, including on scalp cooling, from the charity Cancer Hair Care (cancerhaircare.co.uk).

Numbness and tingling in hands or feet

People having paclitaxel may experience pain, 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. For some people the symptoms are mild and go away soon after treatment stops. For most people the symptoms will gradually improve over the weeks and months after treatment has finished, but may not disappear completely. If it's severe, it may be necessary to reduce the dose of paclitaxel or stop it 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) or loss of balance, mention this to your treatment team so the symptoms can be monitored. You can find more information about peripheral neuropathy on our website [breastcancer.org](https://www.breastcancer.org)

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 last a bit longer for some people. It can be very painful and you may need to take pain relief or anti-inflammatory drugs such as ibuprofen. It's a good idea to have some of these available before starting your treatment just in case you need them. Be aware that pain relief such as paracetamol or ibuprofen can mask the signs of infection.

Before using anti-inflammatory pain relief, ask your doctor about the correct dose, how long you should use it for and any possible side effects, especially if you have a stomach ulcer or asthma.

Nausea and vomiting

You may feel sick (nausea) although this is usually mild and most people will not actually be sick (vomit). You may start to feel unwell a few hours after your treatment. You'll be given

anti-sickness medication, by mouth or into a vein, before each cycle of chemotherapy. You'll also have some anti-sickness tablets to take home.

If nausea and vomiting are affecting you, let someone in your treatment team know.

Contact your hospital if you have severe vomiting and cannot drink any fluids without vomiting, even if it happens at the weekend or during the night.

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 might discolour. This could be red and itchy or you may feel flushed. Your doctor might prescribe medicine to help.

If you have skin reactions, mention this to your treatment 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 daily activities and can have an impact on quality of life. Your treatment team may prescribe gels or creams to apply to the affected areas.

Ask your treatment team if they recommend any particular creams for your skin before using anything on it yourself.

You can find out more information about hand-foot syndrome on our website **breastcancernow.org**

Sore mouth

Your mouth may become sore and small ulcers can develop. You will usually be given mouthwash to reduce the risk of a sore mouth developing.

Looking after your mouth, including your teeth and gums, is very important during treatment. If you do get a mouth infection your specialist or chemotherapy nurse can advise you about different mouthwashes or suitable medicine.

It's advisable to see your dentist for a check-up before chemotherapy begins. If you need any dental work speak to your treatment team about the best time to have this.

For more information on coping with a sore mouth, see our **Chemotherapy for breast cancer** booklet.

Diarrhoea and constipation

You may have diarrhoea or constipation. Your chemotherapy team can prescribe medicine to help control it and can give you information about diet.

Contact your chemotherapy team if you have four or more episodes of diarrhoea in a 24-hour period.

Extreme tiredness

Cancer-related fatigue is extreme tiredness that doesn't go away with rest or sleep. It's a very common side effect of breast cancer treatment and may affect you physically and emotionally.

If you think you have fatigue, tell your GP or treatment team. They can assess you and offer advice on how to manage your energy levels.

You can find lots more information on our website or by calling our Helpline on 0808 800 6000. Macmillan Cancer Support produces a booklet called Coping with fatigue.

Effects on your concentration

Some people find treatment affects their ability to concentrate and makes them more forgetful. This is sometimes referred to as 'chemo brain' or 'chemo fog', but your treatment team may call it cognitive impairment. It usually improves over time after treatment has finished.

We have more information about this on our website, breastcancer.org

Low blood pressure

Your blood pressure will be checked regularly while you are on paclitaxel. Let your treatment team know if you feel dizzy or lightheaded.

Less common side effects

Nail reactions

Paclitaxel may cause changes to the appearance of your nails on your fingers and toes. This can be a change in the nail colour or texture, such as ridges forming. Nails can become more brittle and cracked. Occasionally the nail may lift off the nail bed and fall out, but nails will grow back.

As you're more at risk of infection while having chemotherapy, report any signs of infection such as redness, heat, swelling or pain in or under your fingernails and toenails to your treatment team.

Reaction in the injection site

Pain, redness, discolouration or swelling can occur where the needle has been inserted or anywhere along the vein.

Tell your chemotherapy nurse immediately if you have pain, stinging or a burning sensation around the cannula (small plastic tube) while the drug is being given.

If paclitaxel leaks out of the vein it is being given in (called extravasation), it can damage the surrounding tissue.

After a few weeks you may notice tenderness, darkening and hardening around where the needle was inserted. This should fade in time.

Effects on 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.

If you are concerned about your fertility, it is important to talk to your treatment team before treatment begins.

If you want to know more about your fertility or pregnancy after treatment, see our **Fertility, pregnancy and breast cancer** booklet.

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 will have regular blood tests to monitor your liver function throughout your treatment.

Rare side effects

Changes in heart rate

Paclitaxel can alter your heart rate, so you will 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 will 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 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 treatment team know.

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 can also increase 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 (PE). 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 treatment team straight away:

- Pain, redness/discolouration, heat and swelling of the calf 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

- Pain or tightness in the chest
- Unexplained cough or coughing up blood

TRAVEL AND VACCINATIONS

If you're planning a holiday or need to travel overseas, check with your treatment team first.

You should not have any live vaccines while you are having chemotherapy. Live vaccines include mumps, 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 is safe to have these vaccines six months after your chemotherapy finishes. Talk to your GP or treatment team before having any vaccinations.

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

Coronavirus (Covid-19) vaccination

People having chemotherapy are advised to speak to their treatment team before having the coronavirus (Covid-19) 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 does not contain any active viruses. Talk to your chemotherapy team or breast care nurse about the best time to have your flu jab.

SEX, CONTRACEPTION AND PREGNANCY

You're advised not to become pregnant while having treatment because paclitaxel can harm a developing baby. If you haven't been through the menopause, talk to your team about the most suitable method of contraception for you. It's still possible to become pregnant even if your periods become irregular or stop.

You can still have sex during treatment. It's thought that chemotherapy drugs cannot pass into vaginal fluids or semen, but this cannot be completely ruled out as chemotherapy drugs can pass into the blood and some other body fluids.

Most hospital specialists will advise using barrier methods of contraception, such as condoms, during treatment and for a few days after chemotherapy is given.

Chemotherapy will almost certainly affect how you feel about sex and intimacy. You may not feel like being intimate when you are dealing with treatment, or you may find intimacy helps you feel more normal. Everyone's reaction will be different.

See our booklet **Your body, intimacy and sex** for information on how treatment may affect body image, sex and intimacy.

FURTHER SUPPORT

You can find out more about all our information and support services for people with breast cancer by calling our Helpline on **0808 800 6000** or visiting our website **breastcancer.org**

HELP US TO HELP OTHERS

If you have found this information helpful, would you consider making a donation to support our care and research work? You can donate on our website **breastcancer.org/donate**

ABOUT THIS BOOKLET

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



For a full list of the sources we used to research it:
Email health-info@breastcancer.org



You can order or download more copies from
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At Breast Cancer Now we're powered by our life-changing care. Our breast care nurses, expertly trained staff and volunteers, and award-winning information make sure anyone diagnosed with breast cancer can get the support they need to help them to live well with the physical and emotional impact of the disease.

We're here for anyone affected by breast cancer. And we always will be.

For breast cancer care, support and information, call us free on **0808 800 6000** or visit **breastcancernow.org**

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