PACLITAXEL (TAXOL)

BREAST CANCER NOW The research & support charity

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About this booklet

If you've been offered paclitaxel as part of your breast cancer treatment, it's natural to have questions about the drug and how it may affect you.

This booklet explains what paclitaxel is, how it works, when you might have it 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 destroys cancer cells by affecting their ability to divide and grow.

Paclitaxel is the 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). This is paclitaxel combined with a protein called albumin. You may have this if you have an allergic reaction to paclitaxel (see page 13).

When is paclitaxel given?

Primary breast cancer

Paclitaxel is used to treat 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 at **breastcancernow.org**

Before surgery

You may have paclitaxel before surgery to shrink a larger breast cancer. This may mean breast-conserving surgery is an option rather than a mastectomy. Breast-conserving surgery is where the cancer is removed with a margin (border) of normal breast tissue around it, also known as wide local excision or lumpectomy. A mastectomy is where all the breast tissue is removed, usually including the nipple.

Or you might have it 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.

You may be more likely to have chemotherapy before surgery if you have a certain type of breast cancer, such as inflammatory breast cancer, HER2-positive breast cancer or triple negative breast cancer.

When you have chemotherapy before surgery, it's called primary or neo-adjuvant chemotherapy.

After surgery

You may have paclitaxel 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're going to have radiotherapy, you will usually finish your course of paclitaxel first.

Chemotherapy given after surgery is called adjuvant therapy.

Breast cancer that has spread

You may have paclitaxel, either on its own or with other chemotherapy drugs or targeted therapy, to treat breast cancer that has:

- Spread to the chest wall or skin of the breast, or the 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 a member of the treatment team will discuss how and when you'll have chemotherapy and how side effects can be managed.

You'll have blood tests and your height and weight will be measured.

You may also have tests to check your heart function, such as:

- An ECG (electrocardiogram), a simple test that checks your heart rhythm
- An echocardiogram (an ultrasound scan of the heart)

You should be given a 24-hour contact number or told who to contact if you feel unwell at any time during your treatment, including at night or at the weekends.

How paclitaxel is given

Paclitaxel is given into a vein (intravenously).

This will usually be through a cannula, a small tube that's inserted into a vein in the back of your hand or lower arm.

You could also have paclitaxel through:

- A skin-tunnelled catheter (Hickman line): a tube inserted into a vein in your chest
- A peripherally inserted central catheter (PICC): a tube inserted into a vein in your arm at or above the bend in your elbow
- An implanted port: a small device with a tube that goes into a vein that's put under the skin, usually in your chest or arm

You will have paclitaxel as an outpatient.

Paclitaxel can be given once every 2 weeks, over 3 hours (known as accelerated or dose-dense chemotherapy). Or it may be given weekly in lower doses over 1 hour.

The gap between each cycle of treatment gives your body time to recover. Treatment can reduce the amount of blood cells in your body. You might have a longer gap between cycles if your blood tests show that the number of blood cells has not returned to normal.

Before each dose you may be given steroids to reduce the chances of an allergic reaction (see page 13).

How long will I have paclitaxel for?

For primary breast cancer, you'll usually have paclitaxel either every week or every 2 weeks for between 9 and 12 weeks. Your treatment team will explain how often you will have your treatment and for how long.

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

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're concerned about any side effects, regardless of whether they're listed here, talk to your chemotherapy nurse or treatment team.

If you have other chemotherapy drugs or targeted therapy with paclitaxel, you may also have 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 is made up of red cells, white cells and platelets.

You’ll have regular blood tests. If these show the number of blood cells is too low, your next cycle of treatment may be delayed or the dose of chemotherapy reduced.

Risk of infection

Not having enough white blood cells can increase your risk of getting an infection.

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 have any of the following:

- A high temperature (over 37.5°C) or low temperature (under 36°C), or whatever your chemotherapy team has advised
- Suddenly feeling unwell, even with a normal temperature
- Symptoms of an infection, for example a sore throat, a cough, needing to pass urine often 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 treatment for an infection.

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 breathless, dizzy or particularly tired, 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 have 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 2 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.

You can try scalp cooling to stop you losing some or all the hair on your head. This involves wearing a cold cap before, during and for 1 to 2 hours after your treatment with the chemotherapy drugs. It lowers the temperature of your scalp, which reduces blood flow to your hair follicles to stop the chemotherapy drugs from reaching them. 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 means your hair has not completely grown back 6 months or more after completing treatment. There is currently not enough evidence to say how often this happens.

If you’re 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

You may have pain, numbness or tingling in your hands and feet after you have your treatment. This is due to the effect of paclitaxel on the nerves and is known as peripheral neuropathy.

Other symptoms of peripheral neuropathy can include difficulty doing “fiddly” tasks like doing up buttons, a feeling of warmth or cold in your hands and feet, or loss of balance.

Symptoms are often mild to start with and can gradually get worse.

For some people the symptoms stay mild and go away soon after treatment stops. However, for most people, the symptoms will gradually improve over the weeks and months after treatment has finished.

Symptoms may take longer to improve and, in some cases, may not go away completely.

If you have symptoms of peripheral neuropathy, tell your treatment team so they can monitor them.

You can find more information about peripheral neuropathy on our website at **breastcancernow.org**

Painful muscles and joints

Your muscles or joints may ache or feel painful 2 or 3 days after you have your treatment. This usually wears off after a few days to a week but may last a bit longer.

This is sometimes called taxane acute pain syndrome, or TAPS.

It can be very painful and you may need to take pain relief or anti-inflammatory drugs like paracetamol or 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 can mask the signs of infection such as a high temperature, so you need to look out for the other signs (see page 6).

Before using anti-inflammatory pain relief, ask your treatment team 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, as tablets 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 your treatment team know.

Contact your treatment team or the 24-hour helpline number 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 change colour. 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 so they can monitor the symptoms.

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

Hand-foot syndrome can make it harder to carry out daily activities and can affect your 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

Looking after your mouth, including your teeth and gums, is very important during treatment.

You may be given mouthwash to reduce soreness and prevent mouth ulcers developing. It’s a good idea to use a small, soft toothbrush during this time.

See your dentist for a check-up before chemotherapy begins. Avoid dental work during these treatments if possible.

If you need any dental work during treatment, 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 treatment team if you have diarrhoea 4 or more times in 24 hours.

Extreme tiredness

Cancer-related fatigue is extreme tiredness that does not 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 also produces a booklet called Coping with fatigue.

Effects on your concentration

Treatment can affect your ability to concentrate and make you 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.

You can find more information about this on our website at **breastcancernow.org**

Low blood pressure

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

Less common side effects

Nail reactions

Paclitaxel may make your fingernails and toenails look different. Their colour or texture might change or ridges might form in the nails. They might also become more brittle and cracked.

Occasionally the nail may lift off the nail bed and fall out, but they’ll 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

You might get pain, redness, discolouration or swelling where the cannula (small plastic tube) 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 while the drug is being given.

If paclitaxel leaks out of the vein it's 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 cannula was inserted. This should fade in time.

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 cause changes in your heart rate, so you will be carefully monitored for this during your treatment.

Changes to your heart rate 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.

Effects on the lungs

Paclitaxel can cause scarring or inflammation of the lung tissue. You may hear this called interstitial lung disease (ILD) or pneumonitis.

Contact your treatment team straight away if you have:

- Shortness of breath
- A cough, with or without a high temperature
- Any new or worsening breathing problems, such as chest tightness or wheezing

You may need a chest x-ray or CT scan to check if you have ILD.

If paclitaxel has caused inflammation to your lungs, you may need to stop treatment temporarily and have steroids to treat the inflammation. Early treatment of the inflammation can help to prevent long-term damage to the lungs.

In some cases, lung damage from ILD can be permanent and may get worse over time. Treatment for ILD can relieve symptoms, improve quality of life and slow the progression of the disease.

Other important information

Allergic reaction

Before your treatment starts, you may be given steroids to reduce the risk of an allergic reaction. You'll have these as tablets or 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 of an allergic reaction 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. You may also be given the paclitaxel more slowly.

Blood clots

People with breast cancer have a higher risk of blood clots.

Having paclitaxel also increases the risk of blood clots such as a DVT (deep vein thrombosis).

If you have a DVT, there's a risk part of the blood clot could break away and travel to the lung. This is known as a pulmonary embolism (PE).

Blood clots can be life-threatening and should be treated quickly.

Blood clot symptoms

Contact your treatment team or go to your local A&E department straight away if you have any of the following symptoms:

- Pain, redness/discolouration of the skin, heat and swelling of the arm or leg
- 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

Effects on fertility

At the moment, we do not know whether paclitaxel affects fertility. The effects will depend on any other chemotherapy drugs you're having at the same time, or have had in the past, and your age.

It's important to discuss any fertility concerns with your treatment team before you begin your treatment.

Some women stop having periods (amenorrhoea) during chemotherapy, although this may be temporary.

Your periods are less likely to come back after finishing chemotherapy if you're over 40.

We've got more information on fertility in our booklet **Fertility, pregnancy and breast cancer**.

Sex, contraception and pregnancy

You can still have sex during treatment. It's thought chemotherapy drugs cannot pass into vaginal fluids or semen, but this cannot be completely ruled out.

Most treatment teams will advise using barrier methods of contraception, such as condoms, during treatment and for 6 months after treatment. Men should also continue to use contraception for 6 months after treatment ends.

You're advised not to become pregnant while having treatment because paclitaxel can harm a developing baby. If you have not 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 are irregular or have stopped.

To find out more about how breast cancer and its treatment can affect sex and intimacy, you might want to read our **Your body, intimacy and sex** booklet.

Alcohol

Paclitaxel contains alcohol, so after you have your treatment, your blood alcohol level may be above the legal limit. You should not drive or operate machinery for a few hours after your treatment.

If you're addicted to alcohol, or are worried about it, tell your treatment team before you start your treatment. And let them know if you notice any side effects from the alcohol after your treatment.

Travel and vaccinations

Travel 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're having chemotherapy.

Live vaccines include:

- Mumps
- Measles
- Rubella (German measles)
- Polio
- BCG (tuberculosis)
- 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 vaccinations 6 months after your treatment finishes. Talk to your GP or treatment team before having any vaccinations.

If anyone 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.

COVID-19 vaccination

If you're having chemotherapy or targeted therapies, you're advised to speak to your treatment team about the best time to have a 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.

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 **breastcancernow.org**

BREAST CANCER NOW The research & support charity

We're Breast Cancer Now, the research and support charity. However you're experiencing breast cancer, we're here.

Life-changing support

Whoever you are, and whatever your experience of breast cancer, our free services are here. Whether you're worried about breast cancer, dealing with a diagnosis, working out life with or beyond treatment – or someone you love is.

World-class research

We support over 290 of the brightest minds in breast cancer research. They're discovering how to prevent breast cancer, live well with the disease, and save lives. Every day, they get closer to the next breakthrough.

Change-making campaigns

We fight for the best possible treatment, services and care for everyone affected by breast cancer, alongside thousands of dedicated campaigners.

Could you help?

We don't get any government or NHS funding for our support services or health information. So, we rely on donations and gifts in wills to make our vital work happen. If you'd like to support us, go to **breastcancernow.org/give**

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@breastcancernow.org**

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BREAST CANCER NOW The research & support charity

We’re here

Information you can trust, support you can count on

Whatever breast cancer brings, we’re here for you.

Whether you’re looking for information about breast cancer or want to speak to someone who understands, you can rely on us.

Call **0808 800 6000** to talk things through with our helpline nurses.

Visit **breastcancernow.org** for reliable breast cancer information.

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