The Christie
NHS Foundation Trust

FLOT

(Fluourouracil/Leucovorin/Oxaliplatin/Docetaxel)

The possible benefits of treatment vary; for some people chemotherapy may reduce the risk of the cancer coming back, for others it may control the cancer and its symptoms. Your treatment will be fully explained by your doctor or nurse who will be happy to answer any questions. You will find it useful to refer to the booklet 'Chemotherapy, a guide' which gives general information on chemotherapy and side effects.

Your treatment

Your doctor has prescribed for you a treatment which includes the chemotherapy fluourouracil (given with leucovorin/folinic acid), oxaliplatin and docetaxel).

Day 1 - (Cycle 1 only*) intravenous dexamethasone

An infusion of oxaliplatin, docetaxel and folinic acid over 3 hours in hospital.

A slow infusion of fluorouracil will be attached to the central venous catheter (Hickman line®) which will have been fitted before the start of your chemotherapy. You can then return home where the infusion will continue to run for 24 hours.

Day 2 – A district nurse will visit at home to remove the pump.

Steroid tablets (dexamethasone).

Day 15 – Return for next cycle.

This is repeated for up to 8 cycles in total.

***** For cycles 2,3 and 4 you will be given steroid tablets to take at home on the day before treatment, the day of treatment and the day after treatment.

Grapefruit: Please do not eat grapefruit or drink grapefruit juice while you are having treatment as this can interact with the docetaxel.

After Cycle 2 of treatment, if clinically possible you will have your treatment at a location closer to home. The Christie are committed to providing treatment closer to home as part of the Outreach and Christie at Home service.

This treatment can have serious or possibly life-threatening side effects. It is very important that you report side effects straight away. Don't delay, if you feel unwell, please ring The Christie Hotline on **0161 446 3658**. The lines are open 24 hours a day.

Remember to take your steroid (dexamethasone) tablets twice daily for 3 days (or according to your doctor's instruction). **Start taking the dexamethasone the day before your chemotherapy.** This is important as dexamethasone helps to prevent allergic reactions to the chemotherapy. If you forget, tell your chemotherapy nurse before you have treatment.

Please note:

- Your **dexamethasone tablets** should be taken twice daily with food as they may cause indigestion. They may also increase your appetite. You should take them earlier in the day, for example with breakfast and lunch, since they can make you feel more alert and prevent sleep.
- These dexamethasone tablets can alter your mood causing you to feel low, irritable or agitated. Please tell the doctor at your next clinic if this is a problem.
- Some people may have an **immediate allergic reaction** to the chemotherapy. You may feel short of breath, develop a rash on your body and have red flushes. ***This is temporary, but call your nurse immediately.*** The nurse can give you an injection to stop this.
- Steroids can cause your **blood sugar** to rise. If you are diabetic then you may need to increase the dose of any diabetic medication you take (insulin or tablets). You should discuss this with your doctor before starting the chemotherapy.

Increased risk of serious infection

You are vulnerable to infection while you are having chemotherapy. Minor infections can become life-threatening in a matter of hours if left untreated. Symptoms of infection include fever, shivering, sweats, sore throat, diarrhoea, discomfort when you pass urine, cough or breathlessness. We recommend that you use a digital thermometer so you can check your temperature. You can buy one from your local chemist.

G-CSF: This is an injection given just under the skin of your abdomen once a day for 5 days, starting on day 2 of the cycle. This helps your body's immune system start recovering from the chemotherapy to help reduce the risk of infection.

If you feel unwell, you have symptoms of an infection or your temperature is 37.5ºC or above, or below 36ºC contact The Christie Hotline straight away.

Flu vaccinations

Is it alright for me to have a flu jab during the time I'm having chemotherapy?

It's safe to have a flu jab, but depending on the sort of chemotherapy you have had, it may not give quite as much protection against infection as usual. Some patients may need two vaccinations. However, if you you're thinking of having any other vaccinations, do check with your Christie doctor first, because some vaccines should be avoided.

Possible side effects

Chemotherapy can cause many different side effects. Some are more likely to occur than others. Everyone is different and not everyone gets all the side effects. Most side effects are usually temporary, but in some rare cases they can be life-threatening. It is important to tell your hospital doctor or nurse about any side effects so they can be monitored and, where possible, treated.

Common side effects (more than 1 in 10)

• Flu-like symptoms

Some chemotherapy may cause flu-like symptoms such as fever, aches and pains and shivering about 3 to 5 hours after your treatment. These symptoms are temporary and should go within 12 to 24 hours. Paracetamol will help. If your symptoms are particularly severe, tell your doctor on your next visit.

• Tiredness

Some chemotherapy may make you feel tired and lacking in energy. It can be frustrating when you feel unable to cope with routine tasks. If you do feel tired, rest and get help with household chores. If necessary, take time off work. Gentle exercise such as walking can be beneficial.

• Strange taste

Chemotherapy can often leave a strange, metallic taste in your mouth. It can also make food seem tasteless and bland. Normal taste will usually come back after the treatment finishes. Ask the staff for a copy of the booklet ‘Eating – help yourself’ which you may find helpful.

• Fluid retention

This chemotherapy can cause fluid retention, and you may find that your hands and feet become swollen. This is usually mild and goes away when treatment ends. Tell your doctor if it becomes a problem.

• Nausea and vomiting

The severity of this varies from person to person. Anti-sickness medication will be given along with your chemotherapy to prevent this. You will also be given anti-sickness tablets to take at home. If you continue to feel or be sick, contact your GP or this hospital, because your anti-sickness medication may need to be changed or increased.

• Diarrhoea

Diarrhoea is a common side effect of your treatment. If you have watery diarrhoea you should immediately take the anti-diarrhoea treatment that the doctor has prescribed for you. This is loperamide dispensed by The Christie pharmacy. Follow the doctor’s instructions **EXACTLY:**

Take 2 loperamide capsules as soon as the first liquid stool occurs. Then take one capsule with each liquid loose stool. (The maximum dose of loperamide in a day is 8 capsules).

If you have an increase of more than 4 bowel movements each day compared to pre-treatment, or any diarrhoea at night, please ring The Christie Hotline for advice.

• Anaemia (low number of red blood cells)

While having this treatment you may become anaemic. This may make you feel tired and breathless. Let your doctor or nurse know if these symptoms are a problem. You may need a blood transfusion.

• Bruising or bleeding

This treatment can reduce the production of platelets which help the blood clot. Tell your doctor if you have any unexplained bruising or bleeding, such as nosebleeds, bloodspots or rashes on the skin, and bleeding gums. You may need a platelet transfusion.

• Hair loss

Some people find that their hair only thins, but for many patients hair loss is total. The hair falls out gradually 10 to 14 days following your first course of treatment. Body and facial hair can also fall out. The time scale varies from person to person. Please remember that this is a temporary side effect and your hair will grow back when your treatment is complete. Very rarely, hair loss can be permanent.

The cancer information centre offers a coping with hair loss service to all patients where support, information and advice will be given. Drop in, contact **0161 446 8100** or email **informationcentre@christie.nhs.uk.** Information about the wig service can also be found here and vouchers for wigs can also be obtained for eligible patients. The wig room provides a drop in service, please see The Christie leaflet ‘The wig fitting service’ for further information.

The Maggie’s Centre runs a Talking Heads hair loss support workshop for anyone who is anticipating or experiencing hair loss (both men and women). These sessions cover the practicalities of hair loss as well as offering support with its emotional impact. Contact Maggie’s on **0161 641 4848** or email **manchester@maggiescentres.org.**

• Sore mouth

Your mouth may become sore or dry, or you may notice small mouth ulcers during this treatment. Drinking plenty of fluids and cleaning your teeth regularly and gently with a soft toothbrush can help to reduce the risk of this happening. We can prescribe a mouthwash for you to use during treatment. You can dilute this with water if your mouth is sore. Ask your doctor or nurse for further advice. There is also general mouth care information in the chemotherapy booklet. **If you continue to have a sore mouth, please contact The Christie Hotline.**

Occasionally during treatment you may experience a strange taste sometimes described as metallic or bitter. A strongly flavoured sweet or mint will help to disguise this.

• Heartburn

Chemotherapy treatment can cause indigestion or reflux. If you experience this please contact The Christie Hotline. Heartburn can be treated with medication from your GP.

• Joint and muscle pain

Pain in the joints (also called arthralgia) or muscles (also called myalgia) can be a temporary side effect while having chemotherapy. It is important to tell your doctor or nurse about this, so that appropriate painkillers can be prescribed.

• Skin and nail changes

PPE (palmar-plantar erythema):
The skin on your hands and feet may become very dry, red and sore with some cracking. Tell your doctor. Creams and tablets can be prescribed to help. Your chemotherapy dose may need to be changed. Try to keep your hands and feet cool and if possible uncovered.
Hyperpigmentation: Less commonly, your skin may appear darker in colour or lightly tanned, especially around the joints. This is known as hyperpigmentation. Asian and African-Caribbean people may develop noticeable light patches on their skin. The skin will return to normal when treatment is finished.
Increased sensitivity to the sun: Your skin will tan or burn in the sun more easily. Sit in the shade, avoid too much sun and use a high factor sunblock cream and wear a hat.
Nail changes: You may have a blue tinge or darkening of the nails, flaking of the nails or pain and thickening of the area where the nail starts growing.

• Numbness in fingers and toes

Oxaliplatin can increase the sensitivity of the nerve endings. You may develop pins and needles, tingling or numbness, or pains like small ‘electric shocks’ and may have difficulty in carrying out delicate tasks such as buttoning clothes (this may sometimes occur in association with cramps). These symptoms are often triggered by exposure to cold. Take care with extreme drops of temperature, for example, opening fridges or freezers. Avoid drinking iced drinks and eating very cold food for 24 hours before the treatment and for 24 hours afterwards. The chance of these symptoms occurring increases as you receive more oxaliplatin and will improve over time once you stop treatment. Rarely, the numbness can be permanent.

Please see the Appendix at the back of this leaflet for further information.

• Constipation

Try to drink plenty of fluids and eat foods high in fibre. Report this to your hospital doctor who may prescribe a suitable laxative. Ask the staff for a copy of 'Eating - help yourself' which has useful ideas about diet when you are having treatment.

• Watery eyes

Your eyes may also water. Often, this will improve in time and needs no specific treatment. If you have ongoing symptoms, please discuss this with your doctor or nurse.

Uncommon side effects (less than 1 in 10)

• Infusion reactions

Difficulty in swallowing

Sometimes you may experience unpleasant feelings in the throat, particularly when swallowing which can give you the sensation of shortness of breath. However, you will still be able to breathe normally. These sensations usually occur while you are receiving oxaliplatin and may be dealt with by slowing down the infusion of oxaliplatin from 2 to 6 hours. Also taking a warm (not hot) drink can help if the cold air is causing you swallowing difficulties. Rarely patients can experience jaw pain.

Extravasation

This is when chemotherapy leaks outside the vein. If you develop redness, soreness or pain at the injection site at any time please let us know

• Tinnitus and high frequency hearing loss

You may develop tinnitus (ringing in the ears). This sensation should subside when your treatment finishes. High frequency hearing loss can also occur with this chemotherapy. This may be permanent.

Rare side effects (less than 1 in 100)

• Allergic reactions

Whilst receiving the oxaliplatin, patients can rarely feel hot, faint, breathless, sick or develop an itchy rash. These can be symptoms of an allergic reaction. If an allergic reaction is suspected the oxaliplatin drip will be stopped and medications can be given to settle the allergic reaction. Allergic reactions are more likely to occur after several months of treatment, or when the treatment is being re-started after a treatment break.

If treatment is being re-started after a break, you will be given additional drugs to reduce the risk of an allergic reaction occurring. If you have an allergic reaction to oxaliplatin, your doctor will discuss with you what treatment options are available.

• Chest pain or stroke (Warning!)

A small number of patients receiving fluorouracil can experience chest pain (angina) or rarely have a heart attack. Extremely rarely this may lead to death. Other complications such as stroke or mini-stroke can happen but are exceptionally rare. If you develop any of these symptoms you should contact your hospital doctor for advice. In an emergency you should go immediately to your nearest accident and emergency department.

• Kidney function

Some chemotherapy can affect your kidneys. It is important to monitor how your kidneys are working while you are having treatment. We do this by a blood test, but a more accurate assessment with a test called a GFR can be arranged if there are concerns about your kidney function.

• Blood clots (Warning!)

During chemotherapy you are more at risk of blood clots in the legs (DVT) or lungs (PE). Occasionally these clots can be life-threatening. To help prevent clots, keep mobile and drink plenty of non-alcoholic fluids.

Serious and potentially life threatening side effects

In a small proportion of patients chemotherapy can result in very severe side effects which may rarely result in death. The team caring for you will discuss the risk of these side effects with you.

• Testing for DPD deficiency

The body makes enzymes which break down chemotherapy drugs so that chemotherapy doesn't build up in the body and cause severe side-effects. A very small percentage of the population (approximately 1 in 20), either don't produce or produce less of an enzyme called DPD which would normally break down the chemotherapy drugs 5FU and capecitabine. This is called DPD deficiency. Reduced production of DPD is not an issue in day-to-day life, but it might mean that some patients experience severe and sometimes life-threatening side effects after 5FU or Capecitabine chemotherapy is given. Patients with DPD deficiency are more likely to develop severe mouth ulcers and diarrhoea and very low bloods counts increasing vulnerability to life threatening infections.

In order to check that it is safe for you to have this treatment, your team will be arranging a one off blood test. This test checks for some of the commonest abnormalities which can cause DPD deficiency.

Although DPD testing identifies many patients who are at risk of severe side-effects from 5FU and capecitabine, it does not identify all at risk patients. Severe and sometimes life-threatening side-effects can occur in patients who have had a normal test result. Therefore it is important that patients receiving chemotherapy monitor their symptoms carefully and contact The Christie Hotline if they become unwell.

Herbal medicine

Some herbal medicine including St John's Wort can affect the chemotherapy. You should let your doctor or nurse know if you are taking any herbal medication, complementary or alternative medicines, including vitamins, minerals and medicines purchased over-the-counter.

Sex, contraception and fertility

Protecting your partner and contraception: We recommend that you or your partner use a condom during sexual intercourse while you are having the course of chemotherapy. Chemotherapy is dangerous to unborn babies and this will also protect you and your partner from any chemotherapy drugs that may be present in semen and in the vagina. If you suspect that you may be pregnant please tell your doctor immediately.

Fertility: This chemotherapy may affect your ability to have children. Your doctor or nurse should have discussed this with you. If not, please ask them before you start treatment.

Late side effects

Some side effects may become evident only after a number of years. In reaching any decision with you about treatment, the potential benefit you receive from treatment will be weighed against the risks of serious long term side effects to the heart, lungs, kidneys and bone marrow. With some drugs there is also a small but definite risk of developing another cancer. If any of these problems specifically applies to you, the doctor will discuss these with you and note this on your consent form.

Contacts

If you have any general questions or concerns about your treatment, please ring the area where you are having treatment:

Administration enquiries - **0161 918 7606/7610**
Chemotherapy nurse - **0161 918 7171**
Clinical trials unit - **0161 918 7663**
For urgent advice ring The Christie Hotline **on 0161 446 3658** (24 hours)

Your consultant is: ....

Your hospital number is: ....

Your key worker is: ....

Appendix

Oxaliplatin-induced peripheral neuropathy

Oxaliplatin is a commonly prescribed drug used in the treatment of gastrointestinal cancers. It has been used for many years, and the safety profile and side-effects are well known. Peripheral neuropathy (nerve damage) is a common side effect due to the effects of oxaliplatin on the nerves. Almost all patients experience temporary symptoms of pins and needles exacerbated by exposure to the cold. However, repeated treatment can cause persistent numbness to develop in more than 30% of patients treated with oxaliplatin, which can be long lasting, troublesome and permanent in up to 10% of patients.

It is important that patients and their carers are alert to the signs and symptoms of peripheral neuropathy. The symptoms should improve slowly after the treatment has finished, but in some people they may never go away and have potential to affect their quality of life forever. Sometimes the effects of the nerve damage become apparent, or even worsen after the discontinuation of the chemotherapy.

Oxaliplatin, in combination with 5-fluorouracil (5FU) or capecitabine-based chemotherapy, is proven to help improve the treatment of patients with bowel cancer in a number of different situations. However, the benefit is relatively modest, compared with 5FU or capecitabine- based chemotherapy used alone. Please do not worry if you are advised to stop oxaliplatin if you develop signs and symptoms of peripheral neuropathy. It is much safer to stop sooner rather than later, and you can still continue to receive and benefit from 5FU or capecitabine-based chemotherapy.

Signs and symptoms of peripheral neuropathy:

For most individuals, tingling in hands will be triggered by anything cold, such as iced drinks and cold air. If you notice that your symptoms are related to the cold, you should avoid cold food and drinks and wrap up warmly (wear gloves, socks and a scarf to cover your nose and mouth) in the cold weather. Use gloves when taking things out of the freezer or fridge. These symptoms are generally short lived and expected with the use of oxaliplatin. If however you have these symptoms all the time, you do need to inform the cancer specialist and the nurse treating you.

The symptoms of peripheral neuropathy are known to worsen in terms of severity and duration with successive treatments. This is known as a cumulative effect. These symptoms can include numbness, tingling and cramping of the hands and feet. You may also find it hard to fasten buttons or to do other fiddly tasks such as tying shoelaces. In more severe or established cases one can experience difficulties writing, using a computer keyboard or difficulties in day to day walking (unable to feel the ground). In severe cases, these symptoms can mean that it is no longer safe for a patient to drive. This is why we want to emphasise the need to stop the drug in a timely manner, rather than carry on too long, causing more difficulties.

The medical team would want to review and adjust the dose of the oxaliplatin drug to account for this and reduce the risk of more severe permanent nerve damage. Therefore every time you attend for a chemotherapy review you should be asked whether you have had any numbness, cramping or tingling of the hands or feet and whether they are worsening.

If persistent symptoms are present, the oxaliplatin drug will be stopped. There is no proven treatment to help reverse existing nerve damage, although symptoms often improve slowly over time. If you have pain associated with the numbness additional medications may be suggested to try to help reduce the pain. If a clinical trial is available your medical team will discuss this with you.

- Whilst receiving and after treatment with oxaliplatin, avoid cold temperatures and objects. For example, cold drinks, ice cream, washing in cold water. Many patients wear gloves when using the fridge or freezer.

- Cover yourself with a blanket while you are receiving your oxaliplatin infusion.

- In winter, after receiving your treatment, take care when leaving the chemotherapy unit as the cold air outdoors can cause you to feel like you can't get your breath. Put on a scarf, gloves and warm coat before going outdoors.

- During the summer, avoid direct contact with air conditioning.

- If persistent symptoms occur mention this at your next hospital visit to the medical or nursing teams so that we can discuss what to do next.

If your tingling or numbness symptoms are persisting or worsening all the time (i.e. no full recovery before next dose), you should certainly inform your cancer specialist and chemotherapy nurse when you attend for a review.

The *earlier* the medical and nursing team are made aware of any signs of nerve damage, the sooner your treatment plan can be adjusted to reduce the risk of you developing any long-term nerve damage.

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

For information and advice visit the cancer information centres at Withington, Oldham or Salford. Opening times can vary, please check before making a special journey.

Contact The Christie Hotline for
urgent support and specialist advice
The Christie Hotline: 0161 446 3658
Open 24 hours a day, 7 days a week

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