

## Concurrent chemo-radiation with cisplatin and etoposide for non-small-cell lung cancer

You have recently been diagnosed with non-small-cell lung cancer and your specialist has recommended chemotherapy and radiotherapy treatment. A way of combining the two treatments is to give radiotherapy at the same time as chemotherapy – called ‘concurrent’ chemo-radiotherapy. The intention of the treatment is to shrink the tumour and occasionally cure the cancer. However, it is not possible to guarantee a cure. The success of the treatment differs from patient to patient. So it is not possible to give precise details in this leaflet, but please discuss this with your consultant. This is not a clinical trial but a routine treatment offered at The Christie.

You will also find it useful to refer to the booklet ‘Chemotherapy: a guide’ and ‘Radiotherapy: a guide’ which give general information on treatment and side effects.

### Your treatment

The chemotherapy part of your treatment (cisplatin and etoposide) will be given slowly into the vein through a ‘drip’ in your arm at the hospital. The chemotherapy will be given during the first week of treatment, and first day of the second week, and repeated on the fifth week and first day of the sixth week.

The radiotherapy treatment will be delivered once a day, Monday to Friday - and takes approximately 15 to 30 minutes.,

for 6 weeks and 3 additional days of the final week on a Monday, Tuesday and Wednesday and will take around 15 minutes a day. Chemotherapy and radiotherapy will start on the same day. You will need 33 sessions of radiotherapy in total although this may change.

For a full schedule of treatment please refer to page 7.

You will have a routine blood test every Monday.

We strongly advise current smokers **to stop smoking while having this treatment.** If you would like help with stopping smoking, please let your doctor or nurse know and they can arrange support for you.

### Possible chemotherapy side effects

Chemotherapy can cause many different side effects. They may be greater with this treatment than if chemotherapy and radiotherapy are given separately. Everyone is different and not everyone gets all the side effects. Most side effects are usually temporary. It is important to tell your hospital doctor or nurse about any side effects so they can be monitored and, where possible, treated.





## Kidney function

Cisplatin occasionally will cause problems with your kidney function. Blood tests will be taken to check your kidney function and this will be closely monitored at each clinic visit.

It is important to monitor how your kidneys are working while you are having treatment. We will do this through routine blood tests or GFR test (most accurate test of kidney function). It is important to drink plenty of fluids (at least 8 cups) the day before and for a few days after chemotherapy.

- **Extravasation** 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 straightaway.

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.

## 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're thinking of having any other vaccinations, do check with your Christie doctor first, because some vaccines should be avoided.

## Common side effects (more than 1 in 10)

### 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. You may be given injections or antibiotics to help reduce the risk of having a serious infection.

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

- **Anaemia**

You may become anaemic (decreased red blood cells) and experience excessive tiredness, feel dizzy, breathless and/or look pale. You may need a blood transfusion.

- **Increased risk of bleeding**

You may get nose bleeds, bruising or bleeding gums. You may need a transfusion of platelets.

- **Nausea and vomiting (sickness)**

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, and you may need extra fluid through a drip.

- **Hair loss**

Hair loss is usually total. The hair falls out gradually 10 to 14 days following your first course of treatment. 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 completed. 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**.

- **Lethargy**

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, take rest and get help with household chores. If necessary, take time off work. Gentle exercise such as walking can be beneficial.

- **Loss of appetite**

If you experience a loss of appetite, please be sure to tell your doctor or nurse at your next hospital visit.

- **Strange taste**

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. Occasionally some patients report they have lost their sense of taste during treatment. This usually returns but it can last several weeks after treatment has finished.

- **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.

- **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.

## Uncommon side effects (less than 1 in 10)

- **Upset bowels**

You may get upset bowels with this chemotherapy:

**Diarrhoea.** If this becomes a problem while you are having treatment, anti-diarrhoea tablets can be prescribed by your GP for a temporary period until this is resolved. If the problem persists contact The Christie. Ask the staff for a copy of 'Eating: help yourself' which has useful ideas about diet when you are having treatment.

**Constipation.** Try to drink plenty of fluids and eat foods high in fibre. Tell your doctor who may prescribe a suitable laxative.

## Rare side effects (less than 1 in 100)

- **Blood clots**



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.

- **Tingling and numbness in the fingers or toes**

Usually only mild and temporary. Please report these symptoms to your doctor on your next hospital visit. On rare occasions, this may be permanent.

## **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.

### **Other medicines:**

Please ask your doctor at The Christie for advice about any other medication you are taking, including non-prescribed medicines, complementary therapies and herbal medicines.

## **Possible radiotherapy side effects**

Acute side effects are temporary and affect everyone having radiotherapy. They will vary depending on which area is being treated, and your general fitness. They usually develop 10 to 14 days after the first day of your treatment and can last for about two weeks after treatment is complete.

The early side effects of concurrent chemo-radiotherapy may include:

- **Persistent difficulty in swallowing**

Inflammation of the gullet (oesophagitis) can cause discomfort when swallowing (dysphagia). Your doctor can prescribe medicines to alleviate this symptom and the hospital dietitian can advise about modifications to your diet and supplements. You should concentrate on maintaining a good fluid intake.

- **Tiredness**

Tiredness related to radiotherapy varies a lot from person to person. You should stay moderately active but avoid making yourself too tired.

- **Pain**

Some pain in the chest in the 24 hours after the first treatment. This is usually mild and settles down fairly quickly.

- **Cough**

Increase in your cough and sputum (spit) which may contain a little blood. Don't worry, this is quite normal. If you are having difficulties with this during treatment, let your doctor know. Coughs can sometimes worsen when treatment finishes.

- **Shortness of breath**

Inflammation of lung tissue (pneumonitis) can cause a cough and a degree of breathlessness during or shortly after radiotherapy. A variant of this side effect can cause troublesome breathlessness about 6 weeks after radiotherapy is completed. In rare circumstances, this may need urgent assessment and could become life-threatening without any treatment. You should ring The Christie Hotline if you are concerned.

- **Skin rash**

Skin reaction can be caused by radiotherapy treatment, similar to sunburn. On rare occasions a cream may be needed. These side effects tend to build up during treatment and are at their worst in the last week of treatment or in the first 2 weeks after treatment is completed. They then recover 3-6 weeks after treatment.

## **Late side effects**

Some side effects may become evident only after a number of years. However, your doctor can take action to avoid these for most patients, so the potential benefit you receive from treatment should outweigh 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 an increased chance 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.

- **Shortness of breath**

Damage to the normal lung tissue may occur from radiotherapy. This can result in shortness of breath and increased risk of infections. Radiotherapy may leave the lung with some scarring (fibrosis). This can mean that your lung does not work quite as well as it did before, and you may notice a slight increase in breathlessness. It may be possible to learn breathing exercises or use medicine to reduce your breathlessness but, in some rare cases, the breathing deterioration can be irreversible.

- **Persistent difficulty in swallowing**

Rarely, radiotherapy can cause inflammation and narrowing of the gullet (oesophagitis). In this case you may need a minor procedure to stretch the gullet (dilatation) or in rare cases surgery. If you experience swallowing difficulties months after completion of the combined treatment, further investigations (gastroscopy – tube into the stomach) may be necessary.

- **Bone (ribs) weakness**

Radiotherapy in rare cases can produce some thinning of the ribs. Following a severe cough, this can result in chest pain and/or minor rib fracture.

- **Spinal cord damage**

Radiotherapy may in extremely rare cases lead to injury of the spinal cord which can cause permanent difficulties in walking and loss of sensation in the lower body. Every effort is made to carefully plan your treatment so as to avoid this problem.

The risk of these late side effects is generally small as the treatment is planned carefully to try to avoid them. If you do have late side effects they will become noticeable 6-18 months after radiotherapy is completed and are generally permanent.

## **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.

### **Loss of periods**

Due to the effect of chemotherapy on the ovaries, you may find that your periods become irregular or stop. This is more likely in women over the age of 40 when most women will notice some change in their periods. It is less common in women under the age of 40 but does still happen and can result in significant menopausal symptoms (see section below). Even if your periods stop completely during chemotherapy your periods may come back several years later. This means that you may be able to become pregnant even many years after chemotherapy. It is very important to use contraception if you don't want to get pregnant.

### **Menopausal symptoms**

When the ovaries stop working due to chemotherapy or during a natural menopause most women experience symptoms such as hot flushes, sweats (night and day) and vaginal dryness. These hormonal changes can make the vagina feel as though it has shrunk and become less easy to stretch. This is called vaginal atrophy and can result in discomfort, pain on sexual intercourse, itching and recurrent urine infections. If your ovaries don't start to work again the vaginal symptoms can be permanent, although the flushes and sweats tend to reduce and stop over a small number of years. Some women who have already gone through menopause may notice their symptoms worsening for a time after chemotherapy.

## Treatment schedule

### Concurrent chemo-radiation with cisplatin and etoposide for non-small-cell lung cancer

Clinic reviews will take place weekly. Blood tests will usually be taken on a Friday or a Monday. During your initial consultation this will be discussed. If you have any questions about your treatment schedule, please contact the lung nurse specialist team on **0161 918 2595**.

Week	Date	Monday	Tuesday	Wednesday	Thursday	Friday
<b>1</b>		Radiotherapy Cycle 1 Chemotherapy Cisplatin & Etoposide (5-6 hours approx) Bloods needed 90 mins prior to chemo	Radiotherapy Chemotherapy Etoposide (2 hours approx)	Radiotherapy Chemotherapy Etoposide (2 hours approx)	Radiotherapy Chemotherapy Etoposide (2 hours approx)	Radiotherapy Chemotherapy Etoposide (2 hours approx)
<b>2</b>		Radiotherapy Chemotherapy Cisplatin (4 hours approx) Bloods needed 90 mins prior to chemo	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy
<b>3</b>		Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy
<b>4</b>		Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy
<b>5</b>		Radiotherapy Cycle 2 Chemotherapy Cisplatin & Etoposide (5-6 hours approx) Bloods needed 90 mins prior to chemo	Radiotherapy Chemotherapy Etoposide (2 hours approx)	Radiotherapy Chemotherapy Etoposide (2 hours approx)	Radiotherapy Chemotherapy Etoposide (2 hours approx)	Radiotherapy Chemotherapy Etoposide (2 hours approx)
<b>6</b>		Radiotherapy Chemotherapy Cisplatin (4 hours) Bloods needed 90 mins prior to chemo	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy	Radiotherapy only No chemotherapy
<b>7</b>		Radiotherapy only	Radiotherapy only	Radiotherapy only TREATMENT COMPLETE	No treatment	No treatment

After completion of this concurrent chemo-radiation your medical team will discuss having a scan after treatment to assess response to treatment and to see if you may be eligible for a further maintenance course of treatment called immunotherapy (Durvalumab).

If you are eligible this will be discussed with you towards the end of the chemo-radiotherapy treatment.

## What happens after this treatment?

You will be reassessed in clinic after completion of the combined treatment. We will see you as often as every couple of weeks until all side effects have gone. When the full treatment is completed you will be followed up every 3 months in clinic for the first year, 6 monthly until 2 years, and annually thereafter.

Another CT scan of your chest and abdomen will be done after completion of the full treatment and a year after the start of the treatment. You will also have chest x-rays done at each visit to the hospital.

## Contacts

For urgent advice ring The Christie Hotline on **0161 446 3658** (24 hours)

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**
- Lung specialist nurse team   **0161 918 2595**
- Your doctor's secretary ..... **0161** .....

Your consultant is: .....

Your hospital number is: .....

Your key worker is: .....

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](mailto: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