

## Norfolk & Norwich Skin Tumour Unit

### Patient Information – Isolated Limb Infusion (ILI)

#### **What is isolated limb infusion (ILI)?**

Isolated limb infusion is a form of treatment which uses chemotherapy to treat cancer which is confined to a limb.

#### **When is ILI used?**

ILI is used in patients who have melanoma, or other cancer, which is confined to a limb, and which is not suitable for treatment with surgery or other methods. This is usually because the cancer has spread widely or deeply in the limb, or because it is spreading quickly.

#### **What does ILI involve?**

Isolated limb infusion involves an operation under general anaesthetic. The first part of the procedure is to isolate the affected arm or limb from the rest of the body using a tourniquet which blocks the normal blood supply to the limb. Secondly, chemotherapy drugs are given in a high dose without affecting the rest of the body because the tourniquet keeps the chemotherapy drugs confined to the affected limb. This means that the anti-cancer drugs can be focused where they are needed – in the affected limb.

#### **Investigations required prior to Isolated Limb Infusion.**

On your first visit we check that you are suitable for ILI and explain the procedure in some detail. Prior to having the procedure carried out a number of investigations are needed. These include:

- **A vascular assessment:** This test shows us how well the blood vessels in your limb work
- **A CT scan:** This allows us to check if the cancer is in any other parts of the body. This may have been done before you were referred to us.
- **Blood tests:** These are done to ensure that the blood count and blood clotting are not abnormal.
- **A pre-anaesthetic assessment:** This enables us to check that you are fit to have a general anaesthetic.
- **Perometer:** You will need to visit the Dermatology outpatient department to have your affected limb measured. They use a large machine to do this called a perometer, which uses infra-red light to measure your limb. This allows us to work out the drug dosage for the ILI procedure.

We will try to arrange for all or some of these tests to be done on the same day to avoid you having to visit the hospital often. This will normally be on your second or third visit, when we will also discuss the procedure with you again at that visit to answer any questions you may have.

**The Day of Surgery:** On the morning of the operation you will be seen by the team who will do the operation.

- The affected leg or arm will be marked to show the position of the tourniquet. The lumps (called 'satellites' or 'in transit metastases') on your limb will be measured and recorded if this has not been done already. The procedure will be explained again, although you will already have received a detailed explanation about ILI in clinic.
- You will be asked to sign the consent form.
- Whilst on the ward a special blanket will be applied to your limb and lower body to keep it warm.
- Later in the morning you will be taken to the X-ray department where some catheters (tubes) will be inserted through the skin in the groin of the **unaffected** limb. This is done using local anaesthetic to numb the skin. Pumps are then connected to the tubes to keep them open and stop blood from clotting in them.
- During the late morning or early afternoon you will be taken to the operating theatre and be given a general anaesthetic.
- Once asleep your blood will be thinned with a drug that stops it from clotting, and the tourniquet will be placed around the affected limb to cut off its blood supply; this prevents the chemotherapy leaking into the rest of the body.
- The chemotherapy is then injected into the limb over about 5 minutes. It is then circulated around the limb for about 20-25 minutes. During this time the blood circulating through the limb is warmed by passing it through a heating coil. Warming the blood makes the chemotherapy more effective.
- When the procedure is completed the limb is flushed with saline (salty water) to remove any residual drugs, the tourniquet is removed, and the normal circulation to the limb is therefore restored.
- The blood thinning is reversed, and the catheters (tubes) are removed.
- A small procedure is then performed to seal off the big blood vessels in the groin to prevent any bleeding.
- In general you will be in the operating theatre for about 120 – 180 minutes.

On return to the ward you will have to remain in bed for several days whilst the limb is rested, and whilst we check that it is recovering from the treatment. This will involve measuring the size of the limb, how soft or firm it is its colour, and checking the pulses in the limb. **If the limb is painful you must tell the ward staff** – if the pain is increasing it is important that the doctors check your limb. During this time your blood will be thinned using daily injections under the skin, and you will wear a stocking/s to prevent a clot forming in your calf, called a deep vein thrombosis (DVT). You will normally be in hospital for 7-10 days.

### **Are there any side effects?**

Shortly after the ILI it is normal for all or some of the following effects to occur because some normal tissues are affected at the same time as the cancer cells are destroyed.

- The limb will become swollen, warm and red.

- Sometimes mild ‘pins and needles’ sensations are experienced for the first few days and very occasionally discomfort in the limb due to inflammation of nerves (neuritis) for a few weeks.
- The skin may peel.
- Nails and hair on the treated limb may stop growing for a few weeks.

Occasionally more dramatic inflammation in the limb occurs, which usually settles after about 6 weeks. This is more likely if large doses of chemotherapy and high limb temperatures are used, for instance if there is a lot of melanoma in the limb. If this occurs anti – inflammatory drugs are prescribed and an operation to release the pressure in the limb may occasionally be necessary to prevent further damage to muscles or nerves in the leg. Sometimes this inflammation can lead to serious damage to the limb, and this could lead to amputation. This is the main reason why we normally only use ILI when other methods have failed. The potentially serious risks of ILI are less when the team treating you are practised and experienced in the techniques. Another serious but rare side effect is thrombosis (clotting) in the veins or arteries of the limb. This too may lead to loss of the limb. To reduce the risk of thrombosis you will be given anti-coagulants (anti-clotting drugs) and you will need to remain in hospital to rest the limb.

### **Following the ILI**

Following the ILI you will be required to stay on strict bed rest for 6 days. Initially on your return to the ward your limb will be checked frequently, even through the night. Some patients experience some mild nausea in the early post-operative period. This can be readily controlled with drugs (anti emetics).

### **Following the ILI at home**

You will generally be allowed to go home between 7-14 days. You will have spent the last few days lying in bed and therefore this may leave you feeling weak and tired. Most people find that they need more help at home than they expected. We therefore advise that you arrange for someone to look after you or that you stay with a friend or relative on your discharge. Please let us know immediately if you are not able to arrange this.

### **How long before I will see any improvement?**

Approximately 40% of people who have ILI experience a complete disappearance in their tumours. Good control (or a partial response) is experienced in another 30-40% of cases. It may be many weeks before you will see any benefit from the treatment. The treatment can be repeated if required.

### **How frequently will I be followed up?**

We will review you at 2 weeks and 6 weeks following treatment. If all is going well we would see you again at 10 – 12 weeks. If you have been referred from outside East Anglia we will try to minimise your visits by sharing your care with the doctors looking after you locally.

**Discharge Contact Numbers:**

Earsham Ward (Weekends, Bank Holidays and out of hours): 01603 289950  
Plastics Dressing Clinic (Week Days only, not Bank Holidays): 01603 288014  
Skin Cancer Nurse Specialist: 01603 288365

**National Organisations**

Macmillan Cancer Support [www.macmillan.org.uk](http://www.macmillan.org.uk)  
0808 808 0000  
Cancer Research UK [www.cancerresearchuk.org](http://www.cancerresearchuk.org) 0207 242 0200

**Websites**

Department of Health 'Sunsafe' [www.doh.gov.uk/sunsafe](http://www.doh.gov.uk/sunsafe)  
Skin Cancer Surgery [www.skincancersurgery.co.uk](http://www.skincancersurgery.co.uk)

**Further information**

If you require further information about this procedure please contact:

Skin Cancer Clinical Nurse Specialists: 01603 288365  
Mr. Moncrieff's Secretary: 01603 288127

