University College Hospital

Dynamic sentinel node biopsy in penile cancer

Urology Directorate
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**Introduction**

This leaflet aims to give you information about an operation to remove lymph nodes from your groin (sentinel node). It will explain what these nodes are and why you need to have a biopsy as part of your treatment for penile cancer. It will also outline what to expect when having the procedure and the after care needed. The information in this booklet is in addition to any discussions you have had with your medical and nursing team.

**What is a sentinel node?**

This is a lymph node that drains fluid from a specific part of the body and is thought to be the first node to be involved with cancer when cancer spreads. By locating it with special scanning equipment we can then remove it and test it for cancer cells. This method is called dynamic sentinel lymph node biopsy and it uses a small and safe dose of radioactive material, followed by special scans to detect the location of the sentinel node.

**How can a dynamic sentinel lymph node biopsy help?**

Penile cancer is a disease that can be treated with surgery. The usual site of spread is to the lymph nodes in the groins. The surgery you would usually undergo involves removal of the penile tumour and in some cases the lymph nodes in the groins. The lymph nodes are examined under a microscope in the laboratory and from this we are able to ensure that the cancer has not spread to the groin areas.

The standard surgery to remove the lymph nodes from the groin can result in complications such as wound infection and leg swelling (lymphoedema) in addition to reduced mobility whilst the wound heals.
Dynamic sentinel lymph node biopsy is an improved method of detecting whether the nodes in the groin are involved with tumour and can minimise the extent of groin surgery that is needed, and consequently the potential complications. A dynamic sentinel node biopsy uses a small dose of radioactive material into the sentinel lymph nodes and pictures are taken to detect the location of the sentinel node. If the result of these biopsies is negative then it means you will avoid having to undergo extensive surgery to remove the lymph nodes.

**What are the risks of having this type of biopsy?**

All treatments and procedures have risks and we will talk to you about the risks of dynamic sentinel node biopsy.

When you are admitted to hospital you will have your scan in the Nuclear Medicine department. There is a possibility of discomfort at the time of the initial injection for this scan, although local anaesthetic will be used in the area to minimise this. As you are having these injections you will be observed closely for any reaction. However in our experience the risk of the injection causing an allergic reaction or later long term problems is extremely low and is no more a risk than having a normal chest X-ray.

During surgery whilst you are asleep under a general anaesthetic you will have an injection of blue dye. This blue dye may make your urine coloured blue-green and make your skin turn a greyish colour temporarily after your operation.

**Pain**

You may experience some discomfort following your operation. Please take your painkillers regularly as prescribed on the packet. Do not exceed the stated dose. This discomfort will settle down after a few weeks but if it does not please contact your doctor.
Bleeding

You should not experience any major bleeding. It is normal for there to be a spot of blood on the dressing. This can be stopped by applying pressure to the area. Use a clean piece of gauze and press firmly on the wound site for about 10 minutes. If bleeding does not stop, seek medical advice.

Swelling and bruising

You may experience some bruising to the wound site. You may also notice some swelling in the groin area. This is usually an accumulation of lymphatic fluid and will settle down as your lymphatic system takes up this drainage. Please contact your Nurse Specialist/Key Worker with any concerns or if this area becomes red, hot to touch or has a discharge from the wound as this may signify infection.

Need for further surgery

Dynamic sentinel node biopsies involve removing the main draining lymph node in each groin. Should this show evidence of cancer, your medical team will suggest further surgery to remove a “packet” of lymph nodes in your groin to ensure that there is no further cancer cells remaining.

What are the risks of a general anaesthetic?

There are a number of factors that affect the chances of suffering complications from anaesthesia; these may include age, weight, smoking, lifestyle and the general state of your health. Your anaesthetist and/or your surgeon can provide further details.

The following information on risks is provided by the Royal College of Anaesthetists.
Very common (one in 10) and common (one in 100) side effects:

Feeling sick and vomiting after surgery, sore throat, dizziness, blurred vision, headache, itching, aches, pains, backache, pain during injection of drugs, bruising and soreness, confusion or memory loss.

Uncommon (one in 1000) side effects and complications:

Chest infection, bladder problems, muscle pains, slow breathing (depressed respiration), damage to the mouth, an existing medical condition getting worse, awareness (becoming conscious) during operation.

Rare (one in 10,000) or very rare (one in 100,000 or less) complications:

Damage to the eyes, serious allergy to drugs, nerve damage, death.

Death from anaesthesia is very rare, and is usually caused by a combination of four or five complications together. In the UK there are approximately about five deaths for every million anaesthetics.

What will happen if I choose not to have this type of biopsy?

This is not something we would recommend. Scans such as CT, MRI and ultrasound are not accurate enough in excluding cancer spread to your groins. The only way to be sure that cancer has not spread to your groins is using surgery. Sentinel node surgery is the least invasive of the different surgical approaches.

What alternatives are available?

For the type of cancer you have this is the best approach for staging your lymph nodes. If you have low risk cancer then simply examining your groins on a regular basis may be enough but if your cancer has higher risk features we may need to do more extensive lymph node sampling.
Your case will have been discussed in our multidisciplinary meeting whereby a team of specialist doctors, oncologists, radiologists and a histopathologist (who examines the tissue samples) attend in order to agree the safest and most appropriate management for your care.

Other forms of imaging such as MR (X-Ray) scanning have not been fully tested in penile cancer as a method of detecting cancer spread.

**Asking for your consent**

If you decide to go ahead with treatment, by law we must ask for your consent and will ask you to sign a consent form. This confirms that you agree to have the procedure and understand what it involves.

Staff will explain all the risks, benefits and alternatives before they ask you to sign a consent form. If you are unsure about any aspect of your proposed treatment, please don’t hesitate to speak with a senior member of staff again.

**How should I prepare for dynamic sentinel node biopsy?**

Prior to your surgery you will attend an appointment at pre-assessment to assess your fitness for surgery. Here you will be advised of any medications that may require omitting prior to or on the day of your surgery. You will be expected to stop eating from midnight before the day of your operation.

You may drink water until 18:00 unless advised differently.

You will be admitted via the surgical admissions lounge on the day of your surgery. Here you will be seen by your consultant who will consent you for your surgery. You may wish to bring a book or newspaper to read whilst waiting for your appointments. Should you be staying in overnight you may wish to bring overnight clothes and toiletries.
What happens during a dynamic sentinel node biopsy?
You will be admitted to hospital on the day of surgery. You will be seen by the medical team in the morning to consent you for your surgery and you will be given some local anaesthetic gel. The doctor/ nurse will explain the area of your penis you should apply this one hour before your morning scan in nuclear medicine.

You will receive an appointment to attend the Nuclear Medicine department on the fifth floor at UCH to have a scan the morning of your surgery. This is called a dynamic sentinel node scan. It is used to detect the main lymph nodes in your groins which we think are the first nodes to be involved in the spread of your cancer. The scan involves having an injection of half a teaspoon of very mildly radioactive dye into three separate places around your penis, after applying local anaesthetic spray. We will then take a series of pictures, with a special camera that detects the radioactive material, over a period of approximately two hours. These pictures will show the site of the sentinel node on each side of the groin. This site, in each groin, will be marked on the skin with a pen and covered with a plaster. You may remain in the department for up to three hours.

On the afternoon of the day of surgery, you will have a general anaesthetic, and then a blue dye will be injected into the same three sites of the penis as in the morning. This will be done 10 minutes before the actual surgery, but while you are asleep. The dye will then be absorbed into the lymph nodes and will help us identify the sentinel lymph nodes.

Whilst you are asleep we will use the pictures from the morning, the marks on your skin and also a smaller camera to detect the sentinel node/gland. A small skin incision will be used to remove this gland on each side of the groin. There will be no additional scars in the groins.

Sentinel node surgery takes about 45 minutes, you will then recover from the anaesthetic in the recovery room before returning to the ward.
What should I expect after the procedure?

If you live nearby you may be able to be discharged on the same day as your surgery, should you live far away you will remain in hospital for one night.

You will be asked to attend hospital for a routine appointment, about two to three weeks later for your wound to be checked and to discuss the results of your biopsy and future management.

Keep your wound clean and dry. You will be discharged with a dressing covering the site if this is deemed to be necessary otherwise the wound site will be left exposed. You will be able to shower but please do not sit and soak in a bath until you are reviewed in clinic. Any stitches used are dissolvable. You will be discharged home with antibiotics and painkillers.

You may notice some swelling at the wound site over the first few weeks following your operation. This is normal, however if you experience increased pain, redness, a discharge from the wound site or feel unwell please contact your nurse key worker on the number highlighted below.

For out of hours in emergencies please attend your nearest Accident and Emergency Department (Casualty).

It would be ideal to wear loose clothing for four weeks. Avoid belts and tight trousers as this will increase the swelling you experience.
References

Contact details
University College Hospital
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**Where can I get more information?**

**Orchid**
Website: www.orchid-cancer.org.uk

**Macmillan Cancer Support**
Website: www.macmillan.org.uk

Please also see our UCLH Surgery video information by going to: www.uclh.nhs.uk/PandV/Pages/HavingsurgeryatUCLH-vids.aspx