University College Hospital

Penile cancer
Urology Directorate

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What is penile cancer?
Cancer of the penis is rare. Approximately 500 men are diagnosed with it in the UK each year. It is most often diagnosed in men over the age of 50 although younger men are also at risk.

The exact cause of cancer of the penis is unknown. It is much less common in men who have had all or part of their foreskin removed (been circumcised) soon after birth. This is because men who have not been circumcised may find it more difficult to pull back the foreskin enough to clean thoroughly underneath. The human papilloma virus (HPV) that causes penile warts also increases the risk of cancer of the penis, as does smoking. Some skin conditions that affect the penis can go on to develop into cancer if they are left untreated. These often cause white patches, red scaly patches, or red moist patches of the skin on the penis.

Cancer of the penis is not infectious and cannot be passed on to your partner or others. It is not caused by an inherited faulty gene, and so other members of your family will not be affected.
What are the signs and symptoms of penile cancer?
The first signs of a penile cancer are often a change in colour of the skin and skin thickening. Later symptoms include a growth or sore on the penis, especially on the glans (head of the penis) or foreskin, but also sometimes on the shaft of the penis. There may be a discharge or bleeding. Most penile cancers are painless.

Sometimes the cancers appear as flat growths that are bluish-brown in colour, or as a red rash, or small crusty bumps. Often the cancers are only visible when the foreskin is pulled back. These symptoms may occur with conditions other than cancer. Like most cancers, cancer of the penis is easiest to treat if it is diagnosed early.

How is it diagnosed?
The doctor will examine the whole of the penis and both of your groins to feel for any swellings. To make a firm diagnosis, the doctor may take a sample of tissue (a biopsy) from any sore or abnormal areas on the penis. This will be done under an anaesthetic (local or general) and the procedure should be painless. However, this can differ from person to person. The biopsies will be examined under a microscope.

What other tests may I need to have?
You will need further tests to check whether or not the cancer has spread. Cancer can spread in the body, either in the bloodstream or through the lymphatic system. The lymphatic system is part of the body’s defence against infection and disease. It is made up of a network of lymph glands which are also known as lymph nodes.
These glands are linked by fine ducts which contain lymph fluid. If the cancer has spread to the lymph nodes in your groin they may be enlarged.

The results of these tests will help the doctor to decide on the best type of treatment for you.

**CT (computerised tomography) scan**
A CT scan is a specialised type of X-ray. A series of pictures is taken and fed into a computer to build up a detailed picture of the inside of the body. In particular, the CT scan looks at your chest, abdomen and pelvis. The scan can show whether or not the cancer has spread to other parts of the body. It is painless and takes 10 to 30 minutes.

**MRI (magnetic resonance imaging) scan**
An MRI scan is a specialised type of X-ray that uses strong magnetic fields and radio waves to produce detailed images of the inside of the body. A series of pictures is taken and fed into a computer to build up a detailed picture of the inside of the penis.

You may be given an injection of Caverject®, a drug given into the penis to induce an erection. The scan can help to show how extensive the tumour is within the penis and help the doctors to determine the correct surgical treatment for you.

Not all men will need an MRI scan and the surgeon will discuss this with you. Although the MRI scan is painless, you may find it uncomfortable if you suffer from claustrophobia. Additionally the administration of Caverject® can cause some men discomfort. The scan can take up to 45 minutes. If you have concerns please talk to your nurse specialist.
Ultrasound
An ultrasound scan, sometimes called a sonogram, is a procedure that uses high-frequency sound waves to create an image of part of the inside of the body. Your surgeon will request an ultrasound of your groins to show whether cancer has spread to the lymph nodes. Ultrasound is also used following surgery to monitor you following the completion of your treatment.

Lymph node biopsy
If you have any enlarged lymph nodes in the groin, the radiologist may put a needle into the node to get a sample of cells (biopsy). This is to see whether or not the enlargement is due to cancer.

What happens if the cancer does spread?
Once the cancer cells get into the lymphatic system they may travel to other areas of the body such as the lungs, and start growing there. These cancers are called secondary cancers or metastases. If cancer cells have spread to the lymph nodes in either groin, we will offer you surgery to remove the lymph nodes.

What does staging and grading of the cancer mean?

Staging
The stage of a cancer is a term used to describe its’ size and whether or not it has spread beyond its original site in the body. Knowing the particular type and the stage of the cancer helps the doctors to decide on the best treatment.
TNM Staging system for penile cancer
(T=tumour, N=nodes, M=metastases)

<table>
<thead>
<tr>
<th>TX</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>TX</td>
<td>Primary tumour cannot be assessed</td>
</tr>
<tr>
<td>T0</td>
<td>No evidence of primary tumour</td>
</tr>
<tr>
<td>Tis</td>
<td>Carcinoma in situ (flat superficial tumour)</td>
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<tr>
<td>Ta</td>
<td>Non-invasive verrucous (cauliflower-like superficial tumour) -type carcinoma</td>
</tr>
<tr>
<td>T1</td>
<td>Tumour invades sub-epithelial connective tissue (i.e. below the surface layer of skin cells)</td>
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<tr>
<td>T2</td>
<td>Tumour invades corpus cavernosum and spongiosum (i.e. the erectile tissue)</td>
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<tr>
<td>T3</td>
<td>Tumour invades urethra (water pipe) or prostate (gland surrounding the water pipe)</td>
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<tr>
<td>T4</td>
<td>Tumour invades other adjacent structures</td>
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</tbody>
</table>

Some doctors may describe your stage of cancer as:

**Early disease:** the cancer only affects the foreskin or the surface of the head of the penis (glans).

**Intermediate disease:** the cancer has spread below the surface of the skin into the shaft of the penis and/or tiny amounts of cancer cells can be found in one of the lymph nodes in the groin (microscopic disease).

**Advanced disease:** the cancer is found in one or several enlarged lymph nodes in the groin and/or has spread to other parts of the body.

If your cancer comes back after initial treatment, this is known as recurrent cancer.
Grading
Grading refers to the appearance of the cancer cells under a microscope, and gives an idea of how quickly the cancer may develop.

Low-grade (G1) means that the cancer cells look very like normal cells; they are usually slow-growing and are less likely to spread. In high-grade tumours (G3), the cells look very abnormal, are likely to grow more quickly, and are more likely to spread.
As with all cancers, the outcome will depend on how advanced the cancer is when diagnosed.

What types of surgery are available?
If the cancer is small or only a surface cancer and has not spread, then it can usually be treated by removing only the affected area and a small area around it. The cancer can be removed with can we say ‘standard’ surgery, using laser or by freezing (cryotherapy). Cryotherapy is carried out with a cold probe which freezes and kills the cancer cells.
If the cancer is affecting only the foreskin, it may be possible to treat it by the surgical removal of the foreskin (circumcision) alone.
All the above treatments can usually be carried out as a day case. They may be done under local or general anaesthetic, depending on individual circumstances.

Wide local excision
If the cancer has spread over a wider area then this will require a wide local excision. This means removing the cancer with a border of healthy tissue around it to reduce the risk of the cancer coming back in the future. The operation is done under general anaesthetic and will involve a short stay in hospital.
Surgery to preserve the penis and reconstruction
For larger cancers of the head of the penis, the bulbous part (the glans) will be removed. It is possible to give back a normal appearance by using skin from somewhere else in the body (skin graft). This is called a glansectomy. The foreskin and tip of penis are removed and replaced by a skin graft from the thigh. This gives an excellent cosmetic and functional result.

Depending on your home circumstances, you will need to stay in hospital for one night after surgery. You will be discharged with a urethral catheter and operative wound dressing in place and you will return to clinic at 10-12 days for removal of dressings and catheter with your nurse specialist. Your thigh donor site will not need changing unless it leaks. This dressing will also be removed when you are seen back in clinic by the specialist team. At this point your nurse specialist will provide you with wound advice and how to care for your graft.

Removing the penis (penectomy)
This may be advised if the cancer is large and is covering a large area of the penis. Amputation may be partial (where only part of the penis is removed) or total (removal of the whole penis). This depends on the position of the tumour. If the tumour extends to near the base of the penis then total amputation may be the only option. This operation is now much less common, as doctors will aim to preserve the penis if possible.

Reconstructive surgery
If there are no signs that the cancer has spread, penis reconstruction may be possible after amputation. This will require more surgery and will be done at a later stage once you have recovered from the amputation and once the doctors are sure that there is no cancer spread.
The techniques that may be used include taking a flap of skin and muscle from the arm and using this to make a new penis. Sometimes, it is also possible for surgeons to reconnect some of the nerves in order to provide sensation.

**Removal of lymph glands**
The surgeon may also recommend removing a small number of lymph nodes from your groin to find out if the cancer has spread. If the nodes in your groin are obviously enlarged (palpable) and this is due to cancer spread from the penis the doctor will recommend that you have all the glands in your groin removed (radical groin dissection).

**Sentinel lymph node biopsy**
This surgery is less invasive than radical lymph node dissection. It can be done if the lymph nodes cannot be felt on examination (are impalpable) by your doctor, and your ultrasound has not shown any abnormality.

A sentinel lymph node is the very first node that is reached by lymph fluid from the site of a penile cancer and so it is the first lymph node to which cancer (if present) is likely to have spread from the primary site of malignancy. When cancer spreads, the malignant cells may appear first in the sentinel node before spreading to the other lymph nodes, which are more distant.

Sentinel lymph node dissection is carried out to find and remove the sentinel lymph node. The idea behind this surgery is to remove and analyse the one node that is most likely to have malignant cells in it instead of removing ten or more lymph nodes and investigate all of them for cancer from the primary tumour.

There is a higher risk of developing lymphoedema; the more lymph nodes are removed.
This results in the lymphatic fluid accumulating in the soft tissues (for example in the legs, scrotum or abdomen) instead of being carried back into the central circulation. Your doctors will only recommend removal of all lymph nodes if cancer has spread to this particular area and this is essential to control the spread of disease.

If you experience lymphoedema, discuss with your nurse specialist about a referral to a lymphoedema nurse specialist who can help to manage these symptoms.

**Asking for your consent**

We want to involve you in all the decisions about your care and treatment. If you decide to go ahead, by law we must 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 again before they ask you to sign a consent form. If you are unsure about any aspect of your proposed treatment, please speak with a senior member of your urology team again.

**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, and 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 alternatives are there to surgery?

Radiotherapy
Radiotherapy treats cancer using high-energy rays to destroy cancer cells, while doing as little harm as possible to healthy cells. Radiotherapy is occasionally used instead of surgery. This may be when someone is not well enough to have an operation or doesn’t want to have surgery.

Radiotherapy is no longer recommended to treat penile tumours. Instead, it is used to treat affected lymph nodes in the groin after surgery to help reduce the risk of the cancer spreading.
It may also be given to treat symptoms, such as pain, if the cancer has spread to other parts of the body such as the bones.

Radiotherapy can be given externally (from outside the penis) or internally when radioactive material is placed into the penis near the cancer. External radiotherapy is normally given as a series of short daily treatments in the hospital’s radiotherapy department. High energy X-rays are directed at the area of the cancer by using a machine.

The number of treatments will depend on the type and size of the cancer, but the whole course of treatment for early cancer will usually last up to six weeks and you will be expected to attend on a daily basis (Monday to Friday). Your doctor will discuss the treatment and possible side effects with you.

**External radiotherapy** is not painful, but you do have to lie still for a few minutes while your treatment is being given. The treatment will not make you radioactive and it is perfectly safe for you to be with other people, including children, after your treatment.

**Internal radiotherapy** involves having wires inserted into the penis while you are under anaesthetic. While the wires are in, you will be radioactive and you will need to be in a room on your own.

Treatment may take up to seven days and is it not advisable for children or pregnant women to be close to you. Once treatment is finished the wires are removed and it would be safe to go home as all the radio activity will be gone (please note this treatment is not available at UCLH).
Side effects of radiotherapy
There are sometimes side effects from radiotherapy treatment to the penis. Towards the end of your treatment, the skin in the affected area can become sore and may break down. In the longer term, radiotherapy can cause thickening and stiffening of healthy tissues (fibrosis).

Chemotherapy
Chemotherapy is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. It can be one drug or several drugs used together.

It is not commonly used in the initial treatment of penile cancer but may be offered to those men who present with advanced metastatic disease, in order to shrink the tumour before surgery. Small early-stage cancers on the foreskin or end of the penis may be treated with chemotherapy cream. This cream only destroys the cancer cells near the surface of the skin, so it is not used to treat deeper cancers.

Chemotherapy may also be given as tablets, or by injection or into a vein for more advanced cancer. It may be given along with surgery or radiotherapy (or both).

Side effects of chemotherapy
Side effects are more severe and more common with chemotherapy given by injection or into a vein. Many of these side effects can be controlled with drugs and almost all are only short-term and will gradually disappear once the treatment has stopped.

Different chemotherapy drugs cause different side effects. Everyone is different and will react to chemotherapy treatment in a different way. Some people may have very few side effects while others will have a lot.
If you are prescribed topical chemotherapy cream, the skin may become sore, red and inflamed. Other creams and painkillers may also be prescribed to reduce any pain and inflammation. These side effects should wear off within a couple of weeks after your treatment is complete.

If having chemotherapy as injection or into a vein, the main areas of your body that may be affected are those where normal cells rapidly divide and grow, such as the lining of your mouth, the digestive system, your skin, hair and bone marrow (the spongy material that fills the bones and produces new blood cells).

Common side effects of chemotherapy may include:
- Lowered resistance to infection
- Bruising or bleeding—the production of platelets which cause blood to clot can fall, leading to bruising or bleeding
- Anaemia
- Nausea and vomiting – anti-sickness drugs can help this
- Sore mouth – may cause small ulcers
- Poor appetite
- Hair loss—hair should grow back within three to six months of finishing treatment.

You doctor or nurse specialist will be able to tell you what side effects may be caused by your chemotherapy treatment. Although the side effects of chemotherapy can be unpleasant, they need to be weighed against the benefits of the treatment. It is important to tell your doctor or chemotherapy nurse if the treatment is making you feel unwell. You may be able to have medicines to help you, or changes can be made to your treatment to reduce any side effects.
After care
After your treatment is completed, you will have regular check-ups and possibly scans or X-rays. These will probably continue for several years.
If you have any problems, or notice any new symptoms between these check-ups, let your doctor or nurse specialist know as soon as possible.

Feelings
Being diagnosed with penile cancer may lead to many different emotions including anger, resentment, guilt, anxiety and fear. These are all normal reactions, and are part of the process many people go through in trying to come to terms with their illness.

Everyone has their own way of coping with difficult situations. Some people find it helpful to talk to friends or family, while others prefer to seek help from people outside their situation. Some people prefer to keep their feelings to themselves. There is no right or wrong way to cope, but help is there if you need it.
You may wish to contact the cancer support services provided by Macmillan Cancer Support about counselling in your area.
UCLH also hold a monthly penile and urethral cancer support group which is held on the first Tuesday of each month. Please speak to your nurse specialist or a member of the Macmillan Support and Information Service (MSIS) for further information.

Sex after penile cancer
You may worry that you will never be able to have sex again. However, most treatment for penile cancer will not affect your ability to have sex. But, some men who have had part of their penis removed, and those who have had the whole penis removed, will find that their sex life is affected. This can be very distressing and may take time to come to terms with.
It can help to talk to your partner about how you are feeling, and about the changes in your relationship. This can be very difficult and you may need to get help from a specialist nurse or counsellor. They can help you, and your partner, to deal with these changes. Your GP, hospital doctor, nurse specialist or a cancer support services nurse such as those provided by Macmillan Cancer Care can usually put you in touch with a counsellor or specialist nurse.

**Where can I get more information?**

**Macmillan Support and Information Service**

Inside the UCH Macmillan Cancer Centre you will find the support and information service which is staffed by an experienced team of staff and trained volunteers. They can provide individual support, information and practical advice and the centre offers a welcoming and quiet space for patients, friends, family members and carers.

Address: UCH Macmillan Cancer Centre
Huntley Street
London, WC1E 6AG
Telephone: 020 3447 8663
Website: www.macmillan.org.uk

**Macmillan Cancer Care**

The helpline number is also free from these mobile phone networks: 3, O2, Orange, T-Mobile, Virgin, and Vodafone when calls are made from the UK

Freephone helpline: 0808 800 1234
Monday to Friday 09:00 to 20:00
Cancer Research UK
Their website provides facts about cancer including treatment choices.
Website: www.cancerhelp.org.uk
The website provides facts about cancer, including treatment choices.

RNID Typetalk
Text phone: 18001 0808 800 1234
Website: www.typetalk.org
Email: helpline@rnid-typetalk.org.uk

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

NHS Direct
Telephone: 111
Website: www.nhsdirect.nhs.uk

UCLH support group
12.00 - 13.30 first Tuesday of every month, not including August and January. No need to confirm attendance.

Other support groups
See Patient UK website for a list of self-help and support groups for cancer patients.
Website: www.patient.co.uk

UCLH cannot accept responsibility for information provided by other organisations.

References
This text is based on information supplied by CancerBackup and Macmillan Cancer Support, Orchid, a charity dealing with male cancers and Cancer Research UK.
Key Worker contact details

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