Treating Penile Cancer

Making treatment decisions

After the cancer is found and staged, your cancer care team will discuss treatment options with you. You should take time and think about all of your choices. In choosing a treatment plan, some factors to consider include:

- The type and stage of your cancer
- Your overall physical health
- Your personal preferences about treatments and their side effects

The main types of treatments used to treat penile cancers are:

- Surgery
- Local therapy (other than surgery) for some very early penile cancers
- Radiation therapy
- Chemotherapy

Surgery is the main treatment for most penile cancers, but sometimes radiation therapy may be used, either instead of or in addition to surgery. Other local treatments might also be used for early-stage tumors. Chemotherapy may be given for some larger tumors or if the cancer has spread.

Depending on the type and stage of your cancer and your treatment options, you might have different types of doctors on your treatment team, including:

- A urologist: a surgeon who specializes in diseases of the male genitals and urinary tract
- A radiation oncologist: a doctor who uses radiation to treat cancer
- A medical oncologist: a doctor who uses chemotherapy and other medicines to treat cancer

Many other specialists might be part of your treatment team as well, including other
doctors, physician assistants (PAs), nurse practitioners (NPs), nurses, psychologists, social workers, rehabilitation specialists, and other health professionals. See Health Professionals Associated With Cancer Care for more on this. The goal of your cancer care team is to treat the cancer while limiting the treatment’s effects on the function and appearance of the penis. If the cancer can’t be cured, the goal may be to remove or destroy as much of the cancer as possible and to prevent the tumor from growing, spreading, or returning for as long as possible. Sometimes treatment is aimed at relieving symptoms, such as pain or bleeding, even if you might not be cured.

It’s important to discuss all of your treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. It’s also very important to ask questions if there is anything you’re not sure about. You can find some good questions to ask in What Should You Ask Your Doctor About Penile Cancer?

If time permits, it’s often a good idea to seek a second opinion. A second opinion can give you more information and help you feel more confident about the treatment plan you choose.

**Thinking about taking part in a clinical trial**

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they are not right for everyone.

If you would like to learn more about clinical trials that might be right for you, start by asking your doctor if your clinic or hospital conducts clinical trials. See Clinical Trials to learn more.

**Considering complementary and alternative methods**

You may hear about alternative or complementary methods that your doctor hasn’t mentioned to treat your cancer or relieve symptoms. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

Complementary methods refer to treatments that are used along with your regular medical care. Alternative treatments are used instead of a doctor’s medical treatment. Although some of these methods might be helpful in relieving symptoms or helping you
feel better, many have not been proven to work. Some might even be dangerous.

Be sure to talk to your cancer care team about any method you are thinking about using. They can help you learn what is known (or not known) about the method, which can help you make an informed decision. See Complementary and Alternative Medicine to learn more.

Help getting through cancer treatment

Your cancer care team will be your first source of information and support, but there are other resources for help when you need it. Hospital- or clinic-based support services are an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also has programs and services – including rides to treatment, lodging, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained specialists.

For information about some of the most common treatment approaches based on the extent of the disease, see Treatment of Penile Cancers, by Stage.

The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don’t hesitate to ask him or her questions about your treatment options.

Surgery for Penile Cancer

Surgery is the most common treatment for all stages of penile cancer. If the cancer is found early, the tumor can often be treated without having to remove part of the penis. If the cancer is found at a more advanced stage, part of or all of the penis might have to be removed with the tumor. Your team will discuss with you the treatment options that give you the best chance of curing your cancer while preserving as much of the penis as possible.

Men with cancers that have grown deep within the penis (stage T2 or higher) usually need to have some nearby lymph nodes in the groin removed as well to check for
cancer spread. Instead of removing all of the groin lymph nodes to look for cancer, some doctors prefer to do a sentinel lymph node biopsy, which is discussed later in this section.

Several different kinds of surgery are used to treat penile cancers.

**Circumcision**

If the cancer is only on the foreskin, circumcision can often cure the cancer. This operation removes the foreskin and some nearby skin.

Circumcision is also done to remove the foreskin before radiation therapy to the penis. Radiation can cause swelling and constriction of the foreskin, which could lead to other problems.

**Simple excision**

In this operation, the tumor is cut out with a surgical knife, along with some surrounding normal skin. If the tumor is small, the remaining skin can then be stitched back together. This is the same as an excisional biopsy.

In a **wide local excision**, the cancer is removed along with a large amount of normal tissue around it (called **wide margins**). Removing this healthy tissue makes it less likely that any cancer cells are left behind. If not enough skin remains to cover the area, a skin graft may be taken from another part of the body and placed over the area.

**Mohs surgery (microscopically controlled surgery)**

Using the Mohs technique, the surgeon removes a layer of the skin that the tumor may have invaded and then checks the sample under a microscope right away. If it contains cancer, another layer is removed and examined. This process is repeated until the skin samples are found to be free of cancer cells.

This process is slow, but it means that more normal tissue near the tumor can be saved. This creates a better appearance and function after surgery. This is a highly specialized technique that should be used only by doctors who have been trained in this specific type of surgery. It can be used for carcinoma in situ (CIS), where the cancer is in only the top layers of the skin, and for some early-stage cancers that have not grown deeply into the penis.
Partial or total penectomy

This operation removes part or all of the penis. It is the most common and most effective way to treat a penile cancer that has grown deeply inside the penis. The goal is to remove all of the cancer. To do this the surgeon needs to remove some of the normal looking penis as well. The surgeon will try to leave as much of the shaft as possible.

The operation is called a partial penectomy if only the end of the penis is removed (and some shaft remains).

If not enough of the shaft can be saved for the man to urinate standing upright without dribbling, a total penectomy will be done. This operation removes the entire penis, including the roots that extend into the pelvis. The surgeon creates a new opening for urine to drain from the perineum, which is the area between the scrotum (sac for the testicles) and the anus. This is known as a perineal urethrostomy. Urination can still be controlled because the sphincter (the “on-off” valve) in the urethra is left behind, but the man will have to sit down to urinate.

For advanced tumors, sometimes the penis is removed along with the scrotum (and testicles). This operation is called emasculation. Since this operation removes the testicles, which are the body's main source of the male hormone testosterone, men who have this procedure must take testosterone supplements for the rest of their lives.

Any of these operations can affect a man’s self-image, as well as his ability to have sexual intercourse. For more information, see What Happens After Treatment for Penile Cancer?

Surgery to remove lymph nodes

Men with cancer that has grown deep within the penis (stage T2 or higher) usually need to have some nearby lymph nodes in the groin area removed to check for cancer spread.

Sentinel lymph node biopsy (SLNB): This operation can sometimes help the surgeon see if the groin lymph nodes contain cancer without having to remove all of them. It is most often done when lymph nodes are not enlarged but there is a chance that the cancer reached them.

The surgeon finds the first lymph node that drains the tumor (called the sentinel node) and removes it. If the cancer has spread outside the penis, this lymph node is the one the cancer is most likely to go to first. If the sentinel node contains cancer, a more
extensive operation, known as a lymph node dissection or inguinal lymphadenectomy, is done (see below). If the sentinel node does not have cancer cells, the surgeon doesn’t have to remove any more lymph nodes.

To find the sentinel lymph node, a radioactive tracer is injected into the region around the tumor the day before surgery. A radiation detection device is used to determine whether the lymphatic vessels around the cancer drain into the left groin or right groin. This tells the doctor which side is likely to have cancer if it has spread. On the day of surgery, a blue dye is injected into the region of the tumor.

The lymphatic vessels will carry the dye and radioactive material to the sentinel node. The surgeon finds this node during the operation either by seeing the blue dye or with a radiation detector and removes it.

Using this approach, fewer patients need to have many lymph nodes removed. The more lymph nodes that are removed, the higher the risk of side effects such as lymphedema (swelling in the groin and legs caused by the buildup of fluid) and problems with wound healing.

Not all doctors agree on how useful this type of operation is for penile cancer. Early studies showed that SLNB was helpful in finding those men whose cancer had spread to their lymph nodes, but later studies did not show that it was very accurate, and some men with lymph node spread could be missed if the SLNB was used.

If your doctor is considering a SLNB, it might be useful to find out how many he/she has done. Experience is very important to the success of this procedure. Discuss the procedure with your doctor.

Inguinal lymphadenectomy (groin lymph node dissection): Many men with penile cancer have swollen groin lymph nodes when they are first diagnosed. These lymph nodes need to be removed if they contain cancer cells, but about half of the time, the swelling is from infection or inflammation, not from cancer. If the lymph nodes are swollen, doctors routinely give a course of antibiotics and wait 4 to 6 weeks after the main penile tumor is removed. If the swelling goes away, it was likely caused by infection or inflammation. If it doesn’t go away over time, then a second operation, called an inguinal lymphadenectomy, is done to remove the lymph nodes.

This operation may also be done if cancer is found during a SLNB.

In this procedure, the surgeon makes an incision about 4 inches long in your groin and carefully removes the lymph nodes. This must be done with care because important muscles, nerves, and blood vessels run through this area. The nodes are then sent to a
lab, where a pathologist looks at them under a microscope to see if they have cancer.

**Side effects of lymph node surgery:** The groin lymph nodes normally help excess fluid drain out of the legs and back into the bloodstream. Removing many lymph nodes in an area can lead to problems with fluid drainage, causing abnormal swelling. This condition is called *lymphedema*. In the past, this was a common problem after treatment because the lymph nodes from groin areas on both sides were removed to check for cancer spread. Now fewer lymph nodes are usually removed, which lowers the chance that lymphedema will occur. Still, lymphedema can occur even when only one lymph node or the lymph nodes from only one groin area are removed. For more on this, see *Lymphedema*.

Other side effects can occur after lymph node surgery, and can include problems with wound healing, infection, and skin breakdown (necrosis). These are not common.

- **References**
  
  See all references for Penile Cancer

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**Radiation Therapy for Penile Cancer**

Radiation therapy uses high-energy rays or particles to destroy cancer cells. It can be used in different situations for penile cancer:

- It can be used to treat some early-stage penile cancers instead of surgery.
- If the cancer has reached several lymph nodes, radiation may be used along with the surgical removal of lymph nodes to try to reduce the risk the cancer will come back.
- Radiation can be used for advanced cancer to try to slow the growth of the cancer or to relieve symptoms it causes.

For uncircumcised men who are going to get radiation to the penis, the foreskin is removed first. This is because radiation can cause swelling and constriction of the foreskin, which could lead to other problems.
There are 2 main ways to get radiation therapy.

**External beam radiation therapy**

The most common way to get radiation therapy is from carefully focused beams of radiation aimed at the tumor from a machine. The treatment is much like getting an x-ray, but the radiation is much stronger. The procedure itself is painless. Each treatment lasts only a few minutes, but the setup time – getting you into place for treatment – usually takes longer. Treatments are usually given 5 days a week for 6 weeks or so.

**Brachytherapy**

For brachytherapy, a radioactive source is placed into or right next to the penile tumor. The radiation travels only a short distance, so nearby healthy tissues don’t get much radiation. This type of treatment is done while you are in the hospital. There are 2 ways to get brachytherapy for penile cancer.

**Interstitial radiation:** In this method, hollow needles are first placed into the penis in the operating room. Then tiny pellets of radioactive materials are put into the needles to treat the tumor. The pellets are kept in place for several days while they release radiation. After the treatment is over, the needles are removed.

**Plesiobrachytherapy:** This type of brachytherapy puts the radiation source close to (but not into) the tumor. In this method, a plastic cylinder is placed around the penis, and then another cylinder with a radiation source is placed on top of the first cylinder. Another way to do this is to make a sponge-like mold of the penis and put the radioactive material into hollowed-out spaces in the mold. Treatment is usually given for several days in a row.

**Possible side effects of radiation therapy**

The main drawback of radiation therapy is that it can destroy or damage nearby healthy tissue along with the cancer cells. The skin in the treated area can become red and sensitive. There may be patches of skin that are oozing and tender. For some, the skin may even peel. For a while, you may feel a burning sensation when you urinate. The area may also swell for a time.

Patients treated with brachytherapy will find their side effects tend to be worse 1 to 2 weeks after the treatment is finished. If external beam radiation is used, the side effects tend to occur during treatment and then improve after radiation is stopped. Most
symptoms go away over a couple of months. Over time, men treated with radiation may notice the skin of the penis has become darker or less elastic. Tiny web-like blood vessels (called telangiectasia) may be visible.

Some less common but more serious side effects can include:

- Some of the skin or tissue at the end of the penis might die (called necrosis).
- The urethra might become narrow from scar tissue (called stenosis), leading to problems urinating.
- An abnormal opening (fistula) might form between the urethra and skin, which could result in urine leaking out through the opening.

Radiation to the shaft of the penis might affect a man’s ability to have erections. But in cases where the tumor has not grown beyond the glans, radiation is directed only at the tip of the penis, so the ability to achieve erections should not be affected.

In many cases, the function and appearance of the penis gradually return to normal in the months and years after radiation therapy.

Possible side effects of radiation to the pelvic area and groin lymph nodes include tiredness, nausea, or diarrhea.

For more information, see Radiation Therapy.

- References

See all references for Penile Cancer

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**Local Treatments (Other than Surgery) for Penile Cancer**

Some very early penile cancers, especially carcinoma in situ (CIS, where the cancer is only in the top layers of the skin) can be treated with techniques other than surgery.
Examples include radiation therapy (described in Radiation Therapy for Penile Cancer), laser ablation, cryotherapy, and applying drugs directly to the skin of penis (called topical therapy).

**Laser ablation**

In this approach, the doctor uses a beam of laser light to destroy (ablate) cancer cells. This can be useful for squamous cell carcinoma in situ (CIS) and for very thin or shallow basal cell carcinomas.

**Cryosurgery**

For this approach, the doctor uses liquid nitrogen to freeze and kill the cancer cells. This is useful for some verrucous penile cancers and carcinoma in situ (CIS) of the glans.

This is often repeated a couple of times in the same office visit. After the dead area of skin thaws, it will swell, blister and crust over. The wound may have fluid draining from it for a while and take a month or two to heal. It can leave a scar.

**Topical chemotherapy**

Topical chemotherapy means that an anti-cancer medicine is put directly onto the skin instead of being taken as a pill or injected into a vein. The drug used most often to treat penile cancer topically is 5-fluorouracil (5-FU), which is applied daily as a cream for several weeks.

When put directly on the skin, 5-FU reaches cancer cells in the top layers of skin, but it cannot reach cancer cells that have grown deeply into the skin or spread to other organs. For this reason, treatment with 5-FU generally is used only for pre-cancerous conditions or carcinoma in situ (CIS).

Because the drug does not spread throughout the body, the side effects that often occur with systemic chemotherapy do not occur with topical chemotherapy. Treatment with 5-FU cream makes the treated skin red and very sensitive for a few weeks. Using other topical medicines or creams can help relieve this.

**Imiquimod**

Imiquimod is a drug that is sometimes used as a cream to treat CIS of the penis. It causes the immune system to react to the skin lesion and destroy it. It is typically
Chemotherapy for Penile Cancer

Chemotherapy (chemo) is the use of drugs to treat cancer. Two types of chemotherapy can be used in treating penile cancer:

- Topical chemotherapy (described in Local Treatments (Other than Surgery) for Penile Cancer)
- Systemic chemotherapy

Systemic chemotherapy

Systemic chemo uses anti-cancer drugs that are injected into a vein or given by mouth. These drugs go through the bloodstream and reach cancer cells in all areas of the body. This treatment is useful for cancers that have spread to lymph nodes or distant organs. Chemo can also be used to shrink cancers before surgery to make them easier to remove. It is also being studied to see if giving it after surgery (called adjuvant chemotherapy) will keep the cancer from coming back and improve survival.

Doctors give chemo in cycles, with each cycle of treatment followed by a rest period to give the body time to recover. Chemo cycles generally last about 3 to 4 weeks. Some of the drugs used to treat penile cancer include:

- Cisplatin
- Fluorouracil (5-FU)
- Paclitaxel (Taxol®)
Ifosfamide (Ifex®)
Mitomycin C
Capecitabine (Xeloda®)

Often, 2 or more of these drugs are used together to treat penile cancer that has spread to lymph nodes or other organs. Some common combinations include:

- Cisplatin plus 5-FU
- TIP: paclitaxel (Taxol), ifosfamide, and cisplatin ("platinum")

**Possible side effects:** Chemo drugs attack cells that are dividing quickly, which is why they work against cancer cells. But other cells in the body, such as those in the bone marrow (where new blood cells are made), the lining of the mouth and intestines, and the hair follicles, divide quickly, too. These cells can also be affected by chemotherapy, which can lead to some side effects.

The **side effects** of chemo depend on the type and dose of the drugs and how long they are used. Common side effects can include:

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting
- Diarrhea or constipation
- Increased chance of infections (from low white blood cell counts)
- Easy bruising or bleeding (from low blood platelet counts)
- Fatigue (from low red blood cell counts)

These side effects usually go away after treatment is finished. There are often ways to lessen chemo side effects. For example, you can get medicine to help prevent or reduce nausea and vomiting.

Some of the drugs used to treat penile cancer can have other side effects.

- Cisplatin and paclitaxel can cause nerve damage (neuropathy), which can lead to numbness and tingling in the hands and feet.
- Cisplatin can also cause and kidney damage (nephropathy). Doctors give a lot of intravenous (IV) fluid with cisplatin to help prevent this.
- 5-fluorouracil (5-FU) and capecitabine can cause sores in the mouth (mucositis) that can make it hard to eat. These drugs can also cause diarrhea.
- Ifosfamide can damage the lining of the bladder (called hemorrhagic cystitis). A drug called mesna is often given with ifosfamide to prevent this problem.
Be sure to ask your doctor or nurse about medicines to help reduce side effects, and let them know when you do have side effects so they can be managed effectively.

For more information, see Chemotherapy.

- References
  See all references for Penile Cancer

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Treatment Options for Penile Cancer, by Stage

The treatment options for penile cancer are based mainly on the stage (extent) of the cancer, although other factors can also be important. This section sums up the most common treatment options based on the stage of the cancer.

**Stage 0**

Stage 0 includes 2 types of tumors: carcinoma in situ (CIS) and verrucous carcinoma. Both of these tumors are only in the top layers of skin, but they have some different treatment options.

Patients with CIS that is only in the foreskin can often be treated with circumcision. If the tumor is in the glans and does not affect other tissues, it may be possible to treat it with some type of local therapy (such as laser ablation, topical 5-FU or imiquimod, or cryotherapy). Other options might include some type of surgery, such as Mohs surgery or wide excision. Radiation therapy might also be a possible option. Partial penectomy (removal of part of the penis) is usually not needed.

Verrucous carcinoma can often be treated with laser therapy, Mohs surgery, wide excision, or cryotherapy. Only rarely will a partial penectomy be needed. Radiation is not used for this type of tumor, because it can make it more likely to spread.
Stage I

These tumors have grown below the skin of the penis but not into deeper layers.

Options for treatment may include circumcision (for tumors confined to the foreskin) or a more extensive surgery (Mohs surgery, wide excision, or removal of part of the penis [partial penectomy]), or radiation therapy. Laser ablation may also be an option.

Stage II

Stage II penile cancer includes tumors that have grown deep into the tissues of the penis (such as the corpus spongiosum or cavernosum) or the urethra, but have not spread to nearby lymph nodes.

These cancers are usually treated with a partial or total penectomy, with or without radiation therapy. A less common approach is to use radiation therapy as the first treatment with surgery remaining as an option if the cancer is not destroyed completely by the radiation. Radiation may also be used as the main treatment in men who can’t have surgery because of other health problems.

Some doctors recommend checking groin lymph nodes for cancer, even if they are not enlarged. This may be done with a sentinel lymph node biopsy or with a more extensive lymph node dissection. If the lymph nodes show cancer spread, then the cancer is not really a stage II. It is a stage III or IV (and is treated as such).

Stage III

Stage III penile cancers have reached nearby lymph nodes in the groin. The main tumor may have grown into the deeper tissues of the penis (the corpus spongiosum or corpus cavernosum) or urethra, but has not grown into nearby structures like the bladder or prostate.

Stage III cancers are treated with a partial or total penectomy. In a few cases, chemotherapy (chemo) or chemo plus radiation may be used first to shrink the tumor so that it can be removed more easily with surgery.

These cancers require an inguinal lymphadenectomy to remove lymph nodes in the groin. Radiation therapy to the groin may be used as well, either after surgery or instead of surgery in selected cases. If lymph nodes are very large, chemotherapy (with or without radiation) might be used as well.
These cancers can be hard to cure, so men may want to consider taking part in clinical trials of new treatments.

**Stage IV**

Stage IV penile cancer includes different groups of more advanced cancers.

In some stage IV cancers, the main tumor has grown into nearby tissues, like the prostate, bladder, scrotum, or abdominal wall. Treatment typically includes surgery, which is often a total penectomy. If the tumor is in the scrotum or parts of the abdominal wall, the testicles and/or the scrotum may also need to be removed. A new opening can be made in the abdomen or the perineum (space between the scrotum and anus) to allow urination. If the tumor has grown into the prostate or bladder, these may need to be removed as well. Chemo (sometimes with radiation) may be given before surgery (called neoadjuvant treatment) to try to shrink the tumor and make it easier to remove. The inguinal (groin) lymph nodes on both sides will be removed as well. This area may also be treated with radiation after surgery (unless it was given before surgery).

Stage IV also includes cancers that have spread more extensively in the lymph nodes, such as cancer in groin lymph nodes that has grown through the nodes and into surrounding tissue or cancer spread to lymph nodes inside the pelvis. These cancers are treated with surgery to remove the main tumor in the penis, such as penectomy. The lymph nodes in both groin areas are also removed. The lymph nodes inside the pelvis will also be removed if they are thought to contain cancer spread (if they are enlarged, for example). After the lymph nodes are removed, those areas are often treated with radiation to try to kill any cancer cells that may be have left behind. Chemotherapy might be part of this treatment as well.

Penile cancer that has spread to distant organs and tissues is also considered stage IV. These cancers can't be removed or destroyed completely with surgery and radiation. Treatment is aimed at keeping the cancer in check and preventing or relieving symptoms to the best extent possible. Choices to treat the penile tumor usually include wide local excision, penectomy, or radiation therapy. Surgery or radiation therapy (sometimes along with chemotherapy) may also be considered to treat nearby lymph nodes. Radiation may also be used to treat areas of cancer spread in the bones or in the brain or spinal cord.

Chemo is often used to treat cancer that has spread to other areas, like the lungs or liver. Studies are under way to determine the value of chemotherapy combined with surgery or radiation therapy.
Stage IV cancers are very hard to cure, so men may want to think about taking part in clinical trials of new treatments.

**Recurrent cancer**

The treatment of cancer that comes back after treatment (recurrent cancer) depends on where the cancer recurs and what treatments were used before. If penectomy was not done before, a recurrent penile cancer may be treated with surgical removal of part or all of the penis. Radiation therapy may also be an option. Surgery, radiation therapy, and/or chemotherapy may also be options for some cancers that recur in the lymph nodes. Chemo may also be helpful in treating penile cancers that come back in other parts of the body.

These tumors can be hard to treat, so men may want to think about taking part in a clinical trial of a newer treatment.

- References
  See all references for Penile Cancer

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