Treating Basal and Squamous Cell Skin Cancer

If you've been diagnosed with basal or squamous cell skin cancer, your treatment team will discuss your options with you. It's important to weigh the benefits of each treatment option against the possible risks and side effects.

How are basal and squamous cell skin cancers treated?

Based on the type and stage of the cancer and other factors, your treatment options may include:

- Surgery for Basal and Squamous Cell Skin Cancers
- Non-surgical Local Treatments for Basal and Squamous Cell Skin Cancers
- Radiation Therapy for Basal and Squamous Cell Skin Cancers
- Systemic Chemotherapy for Basal and Squamous Cell Skin Cancers
- Targeted Therapy for Basal and Squamous Cell Skin Cancers
- Immunotherapy for Advanced Basal or Squamous Cell Skin Cancers

Common treatment approaches

Different approaches might be used to treat basal cell carcinoma, squamous cell carcinoma, actinic keratosis, and Bowen disease. Fortunately, most of these cancers and pre-cancers can be cured with minor surgery or other types of local treatments. (Other skin cancers, such as melanoma, lymphoma of the skin, Merkel cell carcinoma, Kaposi sarcoma, and other sarcomas are treated differently and are covered elsewhere.)

- Treating Basal Cell Carcinoma

- Treating Squamous Cell Carcinoma of the Skin
- Treating Actinic Keratosis and Bowen Disease
- Skin Cancer Treatments [PDF]

Who treats basal and squamous cell skin cancers?

You might have different types of doctors on your treatment team. Most basal and squamous cell cancers (as well as pre-cancers) are treated by **dermatologists** – doctors who specialize in treating skin diseases.

In some situations, such as if the cancer is more advanced, you may be treated by other types of doctors as well, such as:

- A **surgical oncologist:** a doctor who treats cancer with surgery
- A **medical oncologist:** a doctor who treats cancer with chemotherapy or other medicines
- A **radiation oncologist:** a doctor who treats cancer with radiation therapy

You might have many other specialists on your treatment team as well, including physician assistants (PAs), nurse practitioners (NPs), nurses, pharmacists, nutrition specialists, social workers, and other health professionals.

- Health Professionals Associated with Cancer Care

Making treatment decisions

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. Some important things to consider include:

- The type and location of your skin cancer
- The likelihood that treatment will cure your cancer (or help in some other way)
- Your age and overall health
- Possible side effects of treatment, such as scars or changes in your appearance, and your feelings about them

You might feel that you need to make a decision quickly, but it's important to give yourself time to absorb the information you have just learned. It's also very important to ask questions if there is anything you're not sure about.

If time permits, it is 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.

- Questions to Ask About Your Basal or Squamous Cell Skin Cancer
- Seeking a Second Opinion

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're 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.

- Clinical Trials

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 harmful.

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.

- Complementary and Integrative Medicine

Help getting through cancer treatment

People with cancer need support and information, no matter what stage of illness they may be in. Knowing all of your options and finding the resources you need will help you make informed decisions about your care.

Whether you are thinking about treatment, getting treatment, or not being treated at all, you can still get supportive care to help with pain or other symptoms. Communicating with your cancer care team is important so you understand your diagnosis, what treatment is recommended, and ways to maintain or improve your quality of life.

Different types of programs and support services may be helpful, and can be 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.

- Palliative Care
- Programs & Services

Choosing to stop treatment or choosing no treatment at all

For some people, when treatments have been tried and are no longer controlling the cancer, it could be time to weigh the benefits and risks of continuing to try new treatments. Whether or not you continue treatment, there are still things you can do to help maintain or improve your quality of life.

Some people, especially if the cancer is advanced, might not want to be treated at all. There are many reasons you might decide not to get cancer treatment, but it’s important to talk to your doctors and you make that decision. Remember that even if you choose not to treat the cancer, you can still get supportive care to help with pain or other symptoms.

- If Cancer Treatments Stop Working

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 your

cancer care team any questions you may have about your treatment options.

Surgery for Basal and Squamous Cell Skin Cancers

Surgery is a common treatment for both basal cell cancers (BCCs) and squamous cell cancers (SCCs) of the skin. Different surgical techniques can be used. The options depend on the type of skin cancer, how large the cancer is, where it is on the body, and other factors. Most often the surgery can be done in a doctor's office or hospital clinic using a local anesthetic (numbing medicine).

For skin cancers with a high risk of spreading, surgery sometimes will be followed by other treatments, such as radiation or chemotherapy.

- Standard excision
- Shave excision
- Curettage and electrodesiccation
- Mohs surgery and related techniques
- Lymph node surgery
- Skin grafting and reconstructive surgery

Standard excision

A standard excision is similar to an excisional biopsy[1], but in this case the diagnosis is already known, and a slightly wider margin of normal skin might be removed along with the tumor.

For this procedure, the skin is first numbed with a local anesthetic. The tumor is then cut out with a surgical knife, along with some surrounding normal skin. This is done by making a wedge-shaped incision around the tumor that is deep enough to get underneath it. Most often, the remaining skin is then carefully stitched back together.

This type of surgery will leave a scar.

Shave excision

A shave excision is similar to a shave biopsy[2], but in this case the diagnosis is already known, so the doctor will likely remove deeper layers of skin to help make sure the

tumor has been removed completely.

For this procedure, the skin is first numbed with a local anesthetic. The doctor then uses a small surgical blade to shave off the top layers of the skin (including the tumor). Bleeding from the biopsy site is then stopped by applying an ointment or a chemical that stops bleeding, or by using a small electrical current to cauterize the wound.

A shave excision might be a good option for low risk basal cell and squamous cell cancers[3].

This treatment will likely leave a small scar.

Curettage and electrodesiccation

In curettage and electrodesiccation, the doctor removes the cancer by scraping it with a long, thin instrument with a sharp looped edge on one end (called a *curette*). The area is then treated with an electric needle (electrode) to destroy any remaining cancer cells. This process is often repeated once or twice during the same office visit.

Curettage and electrodesiccation[4] might be a good option for superficial (confined to the top layer of skin) basal cell and squamous cell cancers that don't have any high-risk features[5].

This treatment will likely leave a scar.

Mohs surgery and related techniques

Mohs surgery[6] (also known as **Mohs micrographic surgery**, or MMS) is sometimes used to treat BCC or SCC when:

- There is a high risk[7] the skin cancer will come back after treatment
- The extent of the skin cancer is not known
- The goal is to save as much healthy skin as possible (such as with cancers near the eye or other critical areas such as the central part of the face, the ears, or fingers)
- Standard excision (see above) wasn't able to remove a cancer completely

The Mohs procedure is done by a surgeon with special training. First, the surgeon removes a very thin layer of skin (including the tumor), which is rapidly frozen, stained, and then checked under a microscope. If cancer cells are seen, another layer is

removed and checked. This is repeated until the skin samples are free of cancer cells. This is a slow process, often taking several hours, but it means that more normal skin near the tumor can be saved. This can help the area look better after surgery.

Mohs often results in better outcomes than some other forms of surgery and other treatments. But it's also usually more complex and time-consuming than other methods. In recent years, skin cancer experts have developed guidelines for when it's best to use this technique based on the type and size of skin cancer, where it is on the body, and other important features.

Mohs surgery is the most common type of **micrographic technique** (sometimes called **peripheral and deep en face margin assessment or PDEMA**), but there are others. Other techniques might differ slightly in how the surgery is done, how the tumor samples are processed, or how long the procedure might take. But they all allow the surgeon to check the edges (margins) of the removed tumor sample and then remove more layers of tissue if needed.

Lymph node surgery

If lymph nodes near a squamous or basal cell skin cancer are enlarged, the doctor might biopsy them to check for cancer cells (see Tests for Basal and Squamous Cell Skin Cancer[8]).

Sometimes, many nodes might be removed in a more extensive operation called a **lymph node dissection**. The nodes are then looked at under a microscope for signs of cancer. This type of operation is more extensive than surgery on the skin and is usually done while you are under general anesthesia (in a deep sleep).

Lymphedema[9], a condition in which excess fluid collects in an arm or leg, is a possible long-term side effect of a lymph node dissection. If it's severe enough, it can cause skin problems and an increased risk of infections in the limb. Talk to your doctor about your risk of lymphedema. It's important to know what to watch for, and to take the steps to help reduce your risk.

Skin grafting and reconstructive surgery

After surgery to remove a large BCC or SCC, it may not be possible to stretch the nearby skin enough to stitch the edges of the wound together. In these cases, healthy skin can be taken from another part of the body and grafted over the wound to help it heal and to restore the appearance of the affected area. Other reconstructive surgical procedures, such as moving 'flaps' of nearby skin over the wound, can also be helpful in

some cases.

Hyperlinks

1. www.cancer.org/cancer/types/skin-cancer/skin-biopsy-treatment-procedures/standard-local-excision.html
2. www.cancer.org/cancer/types/skin-cancer/skin-biopsy-treatment-procedures/shave-biopsy.html
3. www.cancer.org/cancer/types/basal-and-squamous-cell-skin-cancer/detection-diagnosis-staging/staging.html
4. www.cancer.org/cancer/types/skin-cancer/skin-biopsy-treatment-procedures/curettage-electrodesiccation.html
5. www.cancer.org/cancer/types/basal-and-squamous-cell-skin-cancer/detection-diagnosis-staging/staging.html
6. www.cancer.org/cancer/types/skin-cancer/skin-biopsy-treatment-procedures/mohs-surgery.html
7. www.cancer.org/cancer/types/basal-and-squamous-cell-skin-cancer/detection-diagnosis-staging/staging.html
8. www.cancer.org/cancer/types/basal-and-squamous-cell-skin-cancer/detection-diagnosis-staging/how-diagnosed.html
9. www.cancer.org/cancer/managing-cancer/side-effects/swelling/lymphedema.html

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Non-surgical Local Treatments for Basal and Squamous Cell Skin Cancers

Cryotherapy, photodynamic therapy, topical chemotherapy, or other local treatments might be options to treat basal and squamous cell skin cancers (or pre-cancers) that haven't spread beyond the skin.

These are called **local treatments** because they only affect the area being treated. Some of these techniques might be described as types of surgery because they destroy a targeted area of body tissue. But these techniques are different from surgery because they don't use scalpels or cut into the skin. (Radiation therapy is also a type of local treatment.)

- Cryotherapy (cryosurgery)
- Photodynamic therapy (PDT)
- Topical chemotherapy
- Immune response modifiers
- Laser surgery
- Chemical peeling

Cryotherapy (cryosurgery)

Cryotherapy is used most often for pre-cancerous skin conditions such as actinic

keratosis. It might also be used for squamous cell carcinoma in situ (Bowen disease) or for small basal cell and squamous cell carcinomas.

For this treatment, the doctor applies liquid nitrogen to the tumor to **freeze and kill** the cells. 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 treated area may have fluid draining from it for a while, and it might take a month or two to heal. It will leave a scar, and the area might have less color after treatment.

Photodynamic therapy (PDT)

PDT can be used to treat actinic keratoses. It might also be an option to treat some small, low risk basal cell skin cancers, as well as very early forms of squamous cell cancer (known as squamous cell carcinoma in situ, or Bowen disease).

For this treatment, a drug is applied to the skin as a gel or liquid. The drug collects in the tumor cells over several hours, where it is converted to a different chemical that makes the cells very sensitive to certain types of light. A special light source is then focused on the tumor(s), which kills the cells. Another option to activate the drug, especially when large areas need to be treated, is to have the person go out into the sunlight for a specific amount of time (known as **daylight PDT**).

PDT can cause redness and swelling on the skin where it is used. Another possible side effect of PDT is that it can make a person's skin very sensitive to sunlight for some time, so precautions may be needed to avoid severe burns.

To learn more about this technique, see Photodynamic Therapy[1].

Topical chemotherapy

Chemotherapy (chemo) uses drugs that kill cancer cells. Topical chemotherapy means that **an anti-cancer medicine is put directly on the skin** (usually in a cream or ointment) rather than being taken by mouth or given as an IV into a vein.

5-fluorouracil (5-FU): The drug most often used in topical treatment of actinic keratoses, as well as some basal and squamous cell skin cancers, is 5-FU (with brand names such as **Efudex, Carac,** and **Fluoroplex**). It is typically applied to the skin once or twice a day for several weeks. Sometimes it might be used along with calcipotriol (calcipotriene), a drug related to vitamin D, which could shorten the length of treatment to days instead of weeks.

When put directly on the skin, 5-FU kills tumor cells on or near the skin's surface, but it can't reach cancer cells deeper in the skin or those that have spread to other parts of the body. For this reason, topical 5-FU is generally used only for pre-cancerous conditions such as actinic keratosis and for some very superficial skin cancers (cancers that only affect the surface of the skin).

Because the drug is only applied to the skin, it doesn't spread throughout the body, so it doesn't cause the same side effects as systemic chemotherapy (treatment that affects the whole body). But it does make the treated skin red and very sensitive for a few weeks. Other topical medicines can be used to help relieve this, if needed. 5-FU can also make the skin more sensitive to sunlight, so treated areas must be protected from the sun to prevent sunburn for a few weeks after treatment.

A very small portion of people have a condition called **DPD deficiency**, which makes it hard for their bodies to break down and get rid of 5-FU. This can result in serious or even life-threatening side effects. If you are applying 5-FU and have any reactions beyond those you were told to expect on your skin, call your doctor or nurse right away.

Tirbanibulin (Klisyri): This chemo drug comes in an ointment that can be used to treat actinic keratoses on the face or scalp. It is usually applied to the skin once a day for 5 days. It's important to avoid getting this drug in or near your eyes or mouth.

The most common side effects of this drug include itching or pain in the treatment area. Some people might have more serious skin reactions, such as severe redness or swelling in the area, flaking, scaling, peeling, or crusting of the skin, blisters, pus, sores, or breakdown of the skin.

Diclofenac (Solaraze): A gel containing the drug diclofenac is sometimes used to treat actinic keratoses. This drug is part of a group of drugs called nonsteroidal anti-inflammatory drugs (NSAIDs), which includes aspirin and ibuprofen. The gel is usually applied twice daily for 2 or 3 months. It may cause less severe skin reactions than the chemo drugs above, but it can also take longer to work.

Immune response modifiers

Some drugs can **boost the body's immune response** against the cancer, causing it to shrink and go away.

Imiquimod (Zyclara) is a cream that can be applied to actinic keratoses and some very early basal cell cancers. It causes the immune system to react to the skin lesion and destroy it. It's typically applied at least a few times a week for several weeks, although

schedules can vary. Like other topical products, it can cause severe skin reactions in some people. It can also cause flu-like symptoms.

Laser surgery

This approach uses a **beam of laser light** to destroy the top layers of the skin. It might be an option for actinic keratosis, squamous cell carcinoma in situ (Bowen disease), or for very superficial basal cell cancers (those only on the surface of the skin). It's not yet known if this type of treatment is as effective as standard methods of treatment, and it's not widely used.

Chemical peeling

For this treatment, the doctor **applies a chemical** such as trichloroacetic acid (TCA) to the skin tumor, killing the tumor cells. This can lead to redness and peeling of the skin over the course of several days. This approach is sometimes used to treat actinic keratosis.

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/treatment-types/radiation/photodynamic-therapy.html

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Radiation Therapy for Basal and Squamous Cell Skin Cancers

Radiation therapy uses high-energy rays (such as x-rays) or particles (such as electrons) to kill cancer cells.

When is radiation therapy used?

While surgery is the most common treatment approach for basal and squamous cell skin cancers, radiation therapy may be used as the main treatment in some situations. For example, radiation might be used if a skin tumor is very large or if it's in an area that makes it hard to remove with surgery. Radiation can also be used for people who can't have (or don't want) surgery for some reason.

Radiation can also be useful when combined with other treatments. For example, radiation can be used after surgery as an adjuvant (additional) treatment to kill any small areas of remaining cancer cells that may not have been visible during surgery. This can help lower the risk of cancer coming back after surgery.

Radiation may also be used to help treat skin cancer that has spread to lymph nodes or other organs.

Radiation can often be effective in treating skin tumors, but one drawback is that if a tumor comes back in the same area, it can't usually be treated with radiation again because the side effects tend to be more severe.

How is radiation therapy given?

The 2 main ways radiation therapy can be used to treat skin cancers are external radiation therapy and brachytherapy.

External radiation therapy

In the most common approach, the radiation is focused from outside the body onto the tumor. This is often done using a beam of low-energy x-rays (**superficial radiation therapy**) or electrons (**electron beam radiation**). These types of radiation don't go much deeper than the skin, which helps limit the side effects to other organs and body tissues.

Getting external radiation treatment is much like getting an x-ray, but the radiation is stronger and aimed more precisely at the cancer. The procedure itself is painless. Each treatment lasts only a few minutes, although the setup time – getting you into place for treatment – takes longer.

The number of radiation treatments a person gets depends on why it's being given. When radiation is used as the main treatment for a skin tumor (or after surgery), it's often given 5 days a week for several weeks. Another option might be to give higher doses of radiation over fewer treatments (known as **hypofractionation**).

Brachytherapy

Brachytherapy is another way to deliver radiation to skin tumors, especially those on the head and neck. In this technique, a hollow applicator device is placed either on top the tumor (known as **superficial brachytherapy**) or directly into the tumor (known as **interstitial brachytherapy**). A radioactive source is then put into the applicator, usually

for a short amount of time. This type of radiation travels only a short distance, so not much of it reaches nearby normal tissues. One advantage of brachytherapy is that it can typically be done in a small number of treatments, so it can be more convenient for the person getting it.

Possible side effects of radiation

Side effects of radiation are usually limited to the area being treated, and can include:

- Skin irritation, ranging from redness to blistering and peeling
- Changes in skin color
- Hair loss in the area being treated
- Damage to saliva-making glands and teeth (resulting in dry mouth and tooth decay) when treating cancers near these structures

With longer treatment, these side effects may get worse.

After many years, **new skin cancers** sometimes develop in areas previously treated by radiation. For this reason, radiation usually is not used to treat skin cancer in young people.

Radiation is also not recommended for people with certain inherited conditions[1] (such as basal cell nevus syndrome or xeroderma pigmentosum), who may be at higher risk for new cancers

Radiation isn't recommended for people with connective tissue diseases (such as lupus or scleroderma), which radiation might make worse.

More information about radiation therapy

To learn more about how radiation is used to treat cancer, see Radiation Therapy[2].

To learn about some of the side effects listed here and how to manage them, see Managing Cancer-related Side Effects[3].

Hyperlinks

1. www.cancer.org/cancer/types/basal-and-squamous-cell-skin-cancer/causes-risks-prevention/risk-factors.html
2. www.cancer.org/cancer/managing-cancer/treatment-types/radiation.html
3. www.cancer.org/cancer/managing-cancer/side-effects.html

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Systemic Chemotherapy for Basal and Squamous Cell Skin Cancers

Systemic chemotherapy (chemo) uses anti-cancer drugs that are given through an IV into a vein or taken by mouth. These drugs travel through the bloodstream to all parts of the body. Unlike topical chemotherapy, which is applied to the skin, systemic chemotherapy can attack cancer cells that have spread to lymph nodes and other organs.

Chemotherapy for squamous cell skin cancer

For **squamous cell carcinomas (SCCs)**, chemo might be used along with radiation therapy if surgery isn't a good option, and if radiation alone isn't likely the get rid of the cancer completely.

Chemo might also be used (either by itself or with radiation) if the cancer has spread too far to be cured with surgery or radiation, although an immunotherapy drug is often used first.

The chemo drugs most often used to treat SCC include cisplatin, carboplatin, 5-fluorouracil (5-FU) and paclitaxel. Sometimes two of these drugs are combined (for example, carboplatin is often given with paclitaxel). These drugs are given into a vein (intravenously, or IV), usually once every few weeks. They can often slow the spread of these cancers and relieve some symptoms. In some cases, they might shrink tumors enough so that other treatments such as surgery or radiation therapy can then be used.

Chemotherapy for basal cell skin cancer

Basal cell carcinoma (BCC) very rarely reaches an advanced stage, so systemic chemotherapy is not typically used to treat these cancers. Advanced basal cell cancers are more likely to be treated with targeted therapy or immunotherapy.

Possible side effects of chemotherapy

Chemo drugs can cause side effects. These depend on the type and dose of drugs given and how long they are used. The side effects of chemo can include:

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting
- Diarrhea or constipation
- Increased risk of infection (from having too few white blood cells)
- Easy bruising or bleeding (from having too few blood platelets)
- Fatigue (from having too few red blood cells)

These side effects usually go away once treatment is finished. Some drugs can also have other side effects that aren't listed above, so be sure to talk with your cancer care team about what you might expect.

There are often ways to lessen these side effects. For example, drugs can help prevent or reduce nausea and vomiting. Tell your medical team about any side effects or changes you notice while getting chemo so that they can be treated promptly.

More information about chemotherapy

For more general information about how chemotherapy is used to treat cancer, see Chemotherapy[1].

To learn about some of the side effects listed here and how to manage them, see Managing Cancer-related Side Effects[2].

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html
2. www.cancer.org/cancer/managing-cancer/side-effects.html

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Targeted Therapy for Basal and Squamous Cell Skin Cancers

As researchers have learned more about some of the changes inside skin cancer cells that help them grow, they have developed newer types of drugs that target these changes. These drugs target parts of skin cancer cells that make them different from normal skin cells.

- Hedgehog pathway inhibitors
- EGFR inhibitors
- More information about targeted therapy

Targeted drugs work differently from standard chemotherapy (chemo) drugs. They may

work sometimes when chemo drugs don't. They can also have different side effects.

Like chemo and immunotherapy, targeted drugs enter the bloodstream and reach almost all areas of the body, so they can sometimes be helpful against skin cancers that have spread too far to be treated with surgery or radiation.

Doctors are still learning the best way to use these drugs to treat skin cancers.

Hedgehog pathway inhibitors

These targeted drugs can be used to treat some advanced or recurrent **basal cell skin cancers (BCCs)**. Examples include:

- **Vismodegib (Erivedge)**
- **Sonidegib (Odomzo)**

It's very rare for BCCs to reach an advanced stage, but if they do, these cancers can be hard to treat. In most BCCs, the cells have mutations (changes) in genes that are part of a cell signaling pathway called *hedgehog*. (Cell signaling pathways are how a cell gives instructions from one part of the cell to another, or to other cells.) The hedgehog pathway is crucial for the development of the embryo and fetus and is important in some adult cells, but it can be overactive in BCC cells, helping them grow. These drugs target a protein in this pathway.

These drugs are taken as capsules, typically once a day.

For BCCs that have spread, that have come back after surgery or radiation therapy, or that can't be treated with surgery or radiation, these targeted drugs can often help shrink tumors or slow their growth.

Side effects of hedgehog pathway inhibitors

Side effects can include muscle spasms, joint pain, hair loss, fatigue, problems with taste, poor appetite and weight loss, nausea and vomiting, itchy skin, diarrhea, and constipation. These drugs can also cause women to stop having their periods.

Because the hedgehog pathway affects fetal development, these drugs should not be taken if someone is pregnant or could become pregnant. It is not known if these drugs could harm the fetus if taken by a male partner. Anyone taking these drugs should use reliable birth control during and for some time after treatment.

EGFR inhibitors

In **squamous cell cancer (SCC)** of the skin, the cells often have too much of a protein called EGFR on their surfaces, which can help them grow.

Drugs that target the EGFR protein, such **cetuximab (Erbitux)**, have been shown to shrink some SCCs in early studies. Although the evidence for their use so far is limited, they might help some people who aren't helped by other treatments.

Side effects of EGFR inhibitors can include:

- Skin problems
- Diarrhea
- Mouth sores
- Loss of appetite

Skin problems can include an acne-like rash on the face and chest, which in some cases can lead to skin infections.

More information about targeted therapy

To learn more about how targeted drugs are used to treat cancer, see Targeted Cancer Therapy[1].

To learn about some of the side effects listed here and how to manage them, see Managing Cancer-related Side Effects[2].

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/treatment-types/targeted-therapy.html
2. www.cancer.org/cancer/managing-cancer/side-effects.html

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Immunotherapy for Advanced Basal or Squamous Cell Skin Cancers

Immunotherapy is the use of medicines to stimulate a person's own immune system to recognize and destroy cancer cells more effectively. Some types of immunotherapy can be used to treat people with advanced basal cell carcinoma (BCC) or squamous cell carcinoma (SCC) of the skin.

Immune checkpoint inhibitors

An important part of the immune system is its ability to keep itself from attacking normal cells in the body. To do this, it uses "checkpoint" proteins on immune cells, which act

like switches that need to be turned on (or off) to start an immune response.

Cancer cells sometimes use these checkpoints to avoid being attacked by the immune system. But drugs that target checkpoint proteins, called **checkpoint inhibitors**, can help the immune system find and attack cancer cells.

PD-1 inhibitors

Cemiplimab (Libtayo) and **pembrolizumab (Keytruda)** are drugs that target PD-1, a checkpoint protein on immune cells called T cells that normally helps keep these cells from attacking other cells in the body. By blocking PD-1, these drugs can boost the immune response against cancer cells.

These drugs are given as an intravenous (IV) infusion, typically every 3 to 6 weeks.

These drugs haven't been studied in people with weakened immune systems, such as people who take medicines for autoimmune diseases or who have had an organ transplant, so the balance between benefits and risks in these people isn’t clear.

For squamous cell skin cancer

Cemiplimab or pembrolizumab can be used to treat people with advanced SCC that cannot be cured with surgery or radiation therapy.

For basal cell skin cancer

Cemiplimab can be used to treat advanced BCC in people who are no longer being helped by (or cannot take) targeted drugs called **hedgehog pathway inhibitors.**

Possible side effects

Common side effects of checkpoint inhibitors can include:

- Feeling tired
- Diarrhea
- Skin rash
- Nausea
- Constipation
- Bone or joint pain
- Loss of appetite

Other, more serious side effects occur less often.

Infusion reactions: Some people might have an infusion reaction while getting one of these drugs. This is like an allergic reaction, and can include fever, chills, flushing of the face, rash, itchy skin, wheezing, and trouble breathing.

Autoimmune reactions: These drugs work by basically removing one of the safeguards on the body's immune system. Sometimes the immune system starts attacking other parts of the body, which can cause serious or even life-threatening problems in the lungs, intestines, liver, hormone-making glands, kidneys, or other organs.

It's very important to report any new side effects to your health care team right away. If serious side effects do occur, treatment may need to be stopped and you may get high doses of corticosteroids to suppress your immune system.

To learn more about this type of treatment, see Immune Checkpoint Inhibitors to Treat Cancer[1].

More information about immunotherapy

To learn more about how drugs that work on the immune system are used to treat cancer, see Cancer Immunotherapy[2].

To learn about some of the side effects listed here and how to manage them, see Managing Cancer-related Side Effects[3].

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy/immune-checkpoint-inhibitors.html
2. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy.html
3. www.cancer.org/cancer/managing-cancer/side-effects.html

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Treating Basal Cell Carcinoma

Several types of treatment can be used to remove or destroy basal cell skin cancers (BCCs). The options depend on factors such as the tumor size and location, and a person's age, general health, and preferences. These cancers very rarely spread to other parts of the body, although they can still grow into nearby tissues and cause serious problems if not treated.

- Surgery
- Radiation therapy
- Other local and topical treatments
- Treating cancers that aren't removed completely or that come back after treatment
- Targeted therapy or immunotherapy for advanced basal cell cancers

All of the treatments listed here can be effective when used in appropriate situations. The chance of the cancer coming back (recurring) ranges from less than 5% after Mohs surgery to up to 15% or higher after some of the others, but this depends on the size of the tumor. Small tumors are less likely to recur than larger ones. Even if a tumor does come back, it can often still be treated effectively.

Surgery

Different types of surgery can be used to treat basal cell cancers.

Curettage and electrodesiccation: This is a common treatment for small BCCs that are at low risk[1] for coming back after treatment. It might need to be repeated to help make sure all of the cancer has been removed.

Shave excision: Shaving off the top layers of the skin (including the tumor) with a small surgical blade might be another option for small BCCs that are at low risk for coming back after treatment.

Standard excision: This type of surgery, in which the tumor and a margin of normal skin around it are removed, is a common treatment for low-risk BCCs. It might also be an option for some BCCs at higher risk for coming back, especially if they're on the trunk (chest or back), arms, or legs.

Mohs surgery: Mohs surgery is especially useful for treating BCCs that are at higher risk for coming back, such as large tumors, tumors where the edges are not well-defined, tumors in certain locations (such as on or near the nose, eyes, ears, forehead, scalp, fingers, and genital area), and those that have come back after other treatments. However, this approach is also usually more complex and time-consuming than other methods. Other surgical techniques similar to Mohs might also be an option in these situations.

Radiation therapy

Radiation therapy is often a good option for treating people who aren't able (or don't want) to have surgery, as well as for treating tumors on the eyelids, nose, or ears, which can be hard to treat surgically.

Radiation might also be a good option for some older people if curing the cancer may not be as important as controlling it over the long term (and limiting side effects).

Radiation is also sometimes used after surgery if it's not clear that all of the cancer has been removed, or if there's a higher risk that the cancer might come back.

Other local and topical treatments

Other local treatments are sometimes options for treating superficial BCCs (tumors that haven't grown too deeply into the skin). These include:

- Cryotherapy
- Photodynamic therapy (PDT)
- Topical chemotherapy
- Immune response modifiers

Close follow-up is needed after these treatments because these they don't destroy any cancer cells that have grown deep below the surface. Therefore, the risk of the cancer returning is a bit higher than it is after surgery.

Treating cancers that aren't removed completely or that come back after treatment

Treatment options for BCC that remains after treatment or that comes back later depend on where the tumor is, what the first treatment was, and other factors.

If possible, surgery (such as a re-excision or Mohs surgery) is often recommended to try to remove any remaining cancer. Radiation therapy might be another option, especially if surgery can't be done for some reason. Radiation usually can't be repeated in the same area if it was the first treatment, because it's more likely to cause serious side effects.

If the cancer comes back in nearby lymph nodes or in other parts of the body, systemic treatments such as targeted therapy or immunotherapy drugs might be an option (see below).

Targeted therapy or immunotherapy for advanced basal cell cancers

In rare cases where basal cell cancer spreads to other parts of the body or can't be cured with surgery or radiation therapy, a targeted drug such as vismodegib (Erivedge) or sonidegib (Odomzo) can often shrink or slow its growth.

If these drugs are no longer working (or if they can't be taken for some reason), the immunotherapy drug cemiplimab (Libtayo) can sometimes be helpful.

Hyperlinks

1. www.cancer.org/cancer/types/basal-and-squamous-cell-skin-cancer/detection-diagnosis-staging/staging.html

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Treating Squamous Cell Carcinoma of the Skin

Treatment options for squamous cell cancer (SCC) of the skin depend on the risk of the cancer coming back[1], which is based on factors like the size and location of the tumor and how the cancer cells look under a microscope, as well as if a person has a weakened immune system.

- Surgery
- Radiation therapy
- Cryotherapy
- Treating cancers that aren't removed completely or that come back after treatment
- Treating advanced squamous cell cancers

Most SCCs are found and treated at an early stage, when they can be removed or destroyed with local treatments such as surgery or radiation therapy. Small SCCs can usually be cured with these treatments. Larger SCCs are harder to treat, and fast-growing cancers have a higher risk of coming back.

While it's not common, SCC can sometimes spread to lymph nodes or distant parts of the body. If this happens, treatments such as radiation therapy, immunotherapy, and/or chemotherapy may be needed.

(To learn about treating precancers and very early forms of squamous cell skin cancer, see Treating Actinic Keratosis and Bowen Disease.)

Surgery

Different types of surgery can be used to treat squamous cell skin cancers (SCCs).

Curettage and electrodesiccation: This approach might be useful in treating some small, thin SCCs that have a low risk of coming back, but it's not usually used for larger tumors.

Shave excision: Shaving off the top layers of the skin (including the tumor) with a small

surgical blade might be another option for some small SCCs that are at low risk for coming back after treatment.

Standard excision: This type of surgery, in which the tumor and a margin of normal skin around it are removed, is often used to treat SCCs.

Mohs surgery: Mohs surgery is especially useful for SCCs that are at higher risk for coming back[2], such as larger tumors, tumors with poorly defined edges, cancers that have come back after other treatments, cancers that are spreading along nerves under the skin, and cancers on certain areas of the face or genital area. Mohs surgery might also be done after a standard excision if it didn't remove all of the cancer (that is, if the surgical margins were positive). This approach is typically more complex and time-consuming than other types of surgery. Other surgical techniques similar to Mohs might also be an option in these situations.

Radiation therapy

Radiation therapy might be an option for people with large SCCs, especially for tumors in areas where surgery would be hard to do (such as the eyelids, ears, or nose), or for people who can't have (or don't want) surgery. Radiation isn't often used as the first treatment for younger people with SCC because of the possible risk of long-term problems.

Radiation is sometimes used after surgery (standard excision or lymph node dissection) if all of the cancer was not removed (if the surgical margins were positive), if nerves are involved, or if there is a chance that some cancer may still be left. Sometimes chemotherapy might be given at the same time, which might help the radiation work better.

Radiation can also be used to treat cancers that have come back after surgery and have become too large or deep to be removed surgically.

Cryotherapy

Cryotherapy (cryosurgery) might be an option for some early squamous cell cancers that are at low risk for coming back, especially in people who can't have surgery, but it's typically not recommended for larger SCCs or those on certain parts of the nose, ears, eyelids, scalp, or legs.

Treating cancers that aren't removed completely or that come back

after treatment

Treatment options for SCC that remains after treatment or that comes back later depend on where the tumor is, what the first treatment was, and other factors.

If possible, surgery (such as Mohs surgery or a re-excision) is often recommended to try to remove any remaining cancer. Radiation therapy might be another option, especially if surgery can't be done for some reason. Radiation usually can't be repeated in the same area if it was the first treatment, because it's more likely to cause serious side effects.

If the cancer comes back in nearby lymph nodes or in other parts of the body, systemic treatments such as immunotherapy or chemotherapy drugs might be an option (see below).

Treating advanced squamous cell cancers

Different types of treatments might be used for SCCs that have spread beyond the skin.

Lymph node dissection: Removing regional (nearby) lymph nodes might be recommended for some SCCs that are very large or have grown deeply into the skin, as well as if the lymph nodes feel enlarged and/or hard. The removed lymph nodes are then looked at under a microscope to see if they contain cancer cells. Sometimes, radiation therapy might be recommended after surgery.

Immunotherapy: For advanced SCCs that can't be cured with surgery or radiation therapy, one option might be using an immunotherapy drug such as cemiplimab (Libtayo) or pembrolizumab (Keytruda). However, these drugs haven't been studied in people with weakened immune systems, such as people who take medicines for autoimmune diseases or who have had an organ transplant, so the balance between benefits and risks for these people isn't clear.

Systemic chemotherapy and/or targeted therapy: Chemotherapy and targeted therapy drugs (EGFR inhibitors) might be other options for people with SCC that has spread to lymph nodes or distant organs. These types of treatment might be combined or used separately.

Hyperlinks

1. www.cancer.org/cancer/types/basal-and-squamous-cell-skin-cancer/detection-diagnosis-staging/staging.html
2. www.cancer.org/cancer/types/basal-and-squamous-cell-skin-cancer/detection-diagnosis-staging/staging.html

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Treating Actinic Keratosis and Bowen Disease

Actinic keratosis (AK) is usually considered to be a pre-cancer, while Bowen disease is a very early form of squamous cell skin cancer. These conditions are often treated so that they don't have a chance to grow into something more serious.

Treating actinic keratosis

Actinic keratosis (AK) is often treated because it might turn into squamous cell skin cancer. But because this risk is low, treatments are generally aimed at avoiding scars or other disfiguring marks as much as possible.

Treatment options for actinic keratosis depend on several factors, including the number and location of the tumors, a person's preferences, and which treatments are available to them.

If there is only **one tumor (or just a few tumors)**, the most common treatment options include cryotherapy (cryosurgery) or minor surgery such as curettage and electrodesiccation or shave excision. Other local treatments such as photodynamic therapy (PDT) or laser surgery might be options as well.

Often, people have **several AKs** in the same area of sun-damaged skin. In these situations, treatments are typically aimed at the whole area (known as **field-directed therapies**). Treatment options include topical creams, gels, or ointments such as fluorouracil (5-FU), tirbanibulin, imiquimod, or diclofenac. These treatments destroy the affected area of the epidermis, the outermost layer of the skin, which usually cures actinic keratosis. Other local treatments such as photodynamic therapy (PDT), laser surgery, or chemical peeling might also be options.

Treating Bowen disease

Bowen disease (squamous cell carcinoma in situ) is a very early form of squamous cell carcinoma in which the cancer cells are still only in the top layers of the skin.

Bowen disease is usually treated by surgery, usually standard excision (cutting out the tumor and a small margin of normal skin around it). Mohs surgery might be an option as well, especially for larger tumors or those in which the borders aren't clear.

Other treatment options, depending on the size and location of the tumor, might include curettage and electrodesiccation, radiation therapy, photodynamic therapy (PDT), topical fluorouracil (5-FU) and cryosurgery. Laser surgery or other topical therapies may also be considered in some situations.

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