Skin Cancer: Basal and Squamous Cell Overview

What are basal and squamous cell skin cancers?

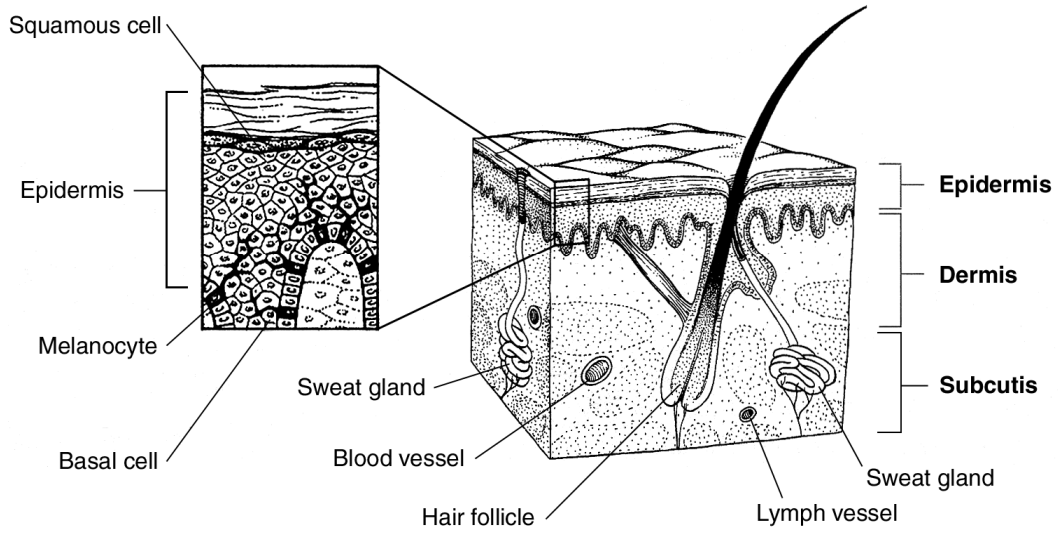
Cancer starts when cells in a part of the body start to grow out of control. Cells in nearly any part of the body can become cancer. To learn more about how cancer starts and spreads, go to *What Is Cancer?*

To understand basal and squamous cell skin cancers, it helps to know a little about the skin.

Normal skin

The skin has 3 layers. From the outside in, they are:

- **Epidermis:** This top layer of the skin is very thin. The flat cells at the top of this layer are called *squamous cells*, and below this are cells called *basal cells*. These are the cells that can become squamous cell or basal cell skin cancers. The epidermis also contains cells called *melanocytes*, which make the brown pigment melanin. These are the cells that can become melanoma.
- **Dermis:** This middle layer of the skin is much thicker than the epidermis. It contains hair shafts, sweat glands, blood vessels, and nerves.
- **Subcutis:** This deepest layer of the skin contains proteins and fat, which help keep in body heat and act as a shock absorber to help protect the body's organs from injury.



Types of skin cancer

There are many types of skin cancer, but by far the 2 most common types are basal cell cancer (also known as *basal cell carcinoma*) and squamous cell cancer (also known as *squamous cell carcinoma*).

Basal cell cancer

About 8 of 10 skin cancers are basal cell cancers (BCCs). This is not only the most common type of skin cancer, but the most common type of cancer. BCC begins in the lowest layer of the epidermis, the basal cell layer.

BCC usually begins on skin exposed to the sun, such as the head and neck. It was once found mostly in middle-aged or older people. But now it is also being seen in younger people. This may be because people are spending more time out in the sun.

BCC tends to grow slowly. It is very rare for BCC to spread to other parts of the body. But if it is not treated, it can grow into nearby areas and spread into the bone or other tissues under the skin.

After treatment, BCC can come back (recur) in the same place on the skin. New basal cell cancers can also start in other places on the skin. As many as half of the people who have one BCC will get a new skin cancer within 5 years.

Squamous cell cancer

Squamous cell cancer (SCC) starts in the squamous cells in the upper part of the epidermis. It accounts for about 2 in 10 skin cancers. It most often starts on skin that has been exposed to the sun, like the face, ears, neck, lips, and backs of the hands. It can also start in scars or chronic skin sores elsewhere. Less often, it forms in the skin of the genital area.

SCC is more likely than BCC to spread into deeper layers of the skin. It is also more likely to spread to other parts of the body, but this is not common.

Keratoacanthomas are dome-shaped tumors found on sun-exposed skin. They may start out growing quickly, but their growth usually slows down. Many shrink or even go away on their own over time without any treatment. But some keep growing, and a few may even spread to other parts of the body. Many cancer experts think of them as a type of squamous cell skin cancer and treat them as such.

Melanoma

These cancers start from the pigment-making cells of the skin (melanocytes). Melanocytes can also form growths called *moles* that are not cancer. Melanomas are much less common than basal and squamous cell cancers, but they are more likely to grow and spread if left untreated. Melanoma and moles are discussed in *Melanoma Skin Cancer*.

Less common types of skin cancer

Other types of skin cancers account for less than 1% of all skin cancers. They include:

- Merkel cell carcinoma
- Kaposi sarcoma
- Lymphoma of the skin
- Skin adnexal tumors (tumors that start in hair follicles or skin glands)
- Sarcomas (soft tissue cancers)

Pre-cancerous and pre-invasive skin conditions

These conditions may develop into skin cancer over time, or they may be very early stages of skin cancer.

Actinic keratosis

Actinic keratosis is also known as *solar keratosis*. It is a pre-cancer caused by too much time in the sun. It appears as a small, rough or scaly spot that may be pink-red or flesh-colored. It is most often seen on the face, ears, back of the hands, and arms of middle-aged or older people with fair skin. People who have them often get more than one.

Actinic keratoses are slow growing and do not usually cause any problems, although some might be itchy or sore. But they may turn into squamous cell cancers. This does not happen very often, but it can be hard sometimes for doctors to tell these apart from true skin cancers, so doctors often advise treating them. If they are not treated, your doctor should check them regularly to see if they have changes that could mean cancer.

Squamous cell carcinoma in situ (Bowen disease)

Squamous cell carcinoma *in situ* is also called *Bowen disease*. *In situ* means that the cancer is only in the epidermis where it began. This is the earliest form of squamous cell skin cancer. Bowen disease looks like scaly, reddish patches that may be crusted. Like actinic keratosis, it often doesn't cause any symptoms, although it might be itchy or sore.

The major risk factor for Bowen disease is too much sun exposure. Bowen disease in the anal and genital skin is often linked to the virus that causes genital warts (human papilloma virus or HPV).

Bowen disease can sometimes become invasive squamous cell skin cancer, so doctors usually recommend treating it.

Skin tumors that are not cancer

Most skin tumors are benign (not cancer). These tumors include:

- Most types of moles (see *Melanoma Skin Cancer* for more about moles)
- Seborrheic keratoses: tan, brown, or black raised spots with a waxy texture or rough surface
- Hemangiomas: benign blood vessel growths often called strawberry spots
- Lipomas: soft tumors made up of fat cells
- Warts: rough-surfaced growths caused by some types of human papilloma virus (HPV)

How many people get basal and squamous cell skin cancer?

Cancers of the skin (including melanoma and basal and squamous cell skin cancers) are by far the most common of all cancers. The exact number of basal and squamous cell cancers is not known for certain, so the numbers given here are estimates.

About 3.5 million basal and squamous cell skin cancers are found each year (in about 2.2 million Americans, because some people have more than one). About 8 in 10 of these are basal cell cancers. Squamous cell cancer is less common.

People rarely die of these cancers. It is thought that about 2,000 people die of these skin cancers each year in the United States; this rate has been dropping in recent years. Most people who die from these cancers are older and may not have seen a doctor until the cancer had already grown quite large. Other people more likely to die of these cancers are those with immune systems that are not working well (such as people who have had organ transplants).

What are the risk factors for basal and squamous cell skin cancers?

A risk factor is anything that affects a person's chance of getting a disease such as cancer. Different cancers have different risk factors. Some risk factors, like smoking, can be changed. Others, like a person's age or family history, can't be changed.

But having a risk factor, or even several, does not mean that you will get the disease. And some people who get the disease may have had few or no known risk factors.

Risk factors for basal and squamous cell skin cancer

Ultraviolet (UV) light: Ultraviolet (UV) light is thought to be the major risk factor for most skin cancers. Sunlight is the main source of UV rays. Tanning beds are another source of UV rays. To learn more about the effects of UV rays on the skin and what you can do to protect yourself, see *Skin Cancer Prevention and Early Detection*.

Light-colored skin: Whites have a much higher risk of skin cancer than African Americans or Hispanics. People with fair (light-colored) skin that freckles or burns easily are at extra high risk.

Older age: The risk of skin cancer goes up as people get older.

Male gender: Men are about twice as likely as women to have basal cell cancers and about 3 times as likely to have squamous cell cancers of the skin.

Chemicals: Exposure to large amounts of arsenic increases the risk of skin cancer. Workers exposed to coal tar, paraffin, and certain types of oil may have an increased risk, too.

Radiation: People who have had radiation treatment have a higher risk of getting skin cancer in the area that was treated. This is a special concern in children who have had cancer treatment.

Having had skin cancer before: Anyone who has had a basal or squamous cell cancer has a much higher chance of having another one.

Certain long-term or severe skin problems: Scars from bad burns, areas of skin over bad bone infections, and skin damaged by certain skin diseases are more likely to develop skin cancer, but this risk is fairly small.

Psoriasis treatment: Patients with psoriasis (a long-lasting inflammatory skin disease) who get PUVA treatments have a higher risk for skin cancer.

Certain diseases people are born with: People born with **xeroderma pigmentosum (XP)** or **basal cell nevus syndrome (Gorlin syndrome)** often get many skin cancers, starting at a young age.

Weakened immune system: People with weak immune systems are more likely to develop some types of skin cancer. This includes people who have had organ transplants and people infected with HIV, the virus that causes AIDS.

HPV infection: A small number of skin cancers in the genital and anal areas and around the fingernails seem to be linked to infection with human papilloma virus (HPV).

Smoking: Smoking is a risk factor for squamous cell skin cancer, but it is not a known risk for basal cell cancer.

Can basal and squamous cell skin cancer be prevented?

Not all basal and squamous cell skin cancers can be prevented. But there are things you can do that could help reduce your risk of skin cancer.

Limit your exposure to ultraviolet (UV) rays

The best way to lower the risk of skin cancer is to practice sun safety when you are outdoors to limit your exposure to UV rays.

Seek shade

Simply staying in the shade is one of the best ways to limit your UV exposure.

"Slip! Slop! Slap! ® … and Wrap"

This catchphrase that can help remind you of some of the key steps you can take to protect yourself and those you love from UV rays. If you are going to be in the sun:

- Slip on a shirt
- Slop on sunscreen
- Slap on a hat
- Wrap on sunglasses to protect the eyes and sensitive skin around them

Avoid tanning beds and sunlamps

Many people believe the UV rays of tanning beds are harmless. This is not true. These also give off UV rays and can increase the risk of skin cancer. Most skin doctors and health groups advise against using tanning beds and sun lamps.

Protect children from the sun

Be especially careful about sun protection for children. Children tend to spend more time outdoors, and they burn more easily. Parents and other caregivers should protect children from excess sun exposure by using the steps above. Children need to be taught about the dangers of too much sun exposure as they become more independent.

To learn more…

To find out more about how to protect yourself and your family from UV rays, see *Skin Cancer: Prevention and Early Detection*.

Avoid harmful chemicals

Certain chemicals, such as arsenic, can increase a person's risk of skin cancer. People can be exposed to arsenic from well water in some areas, pesticides and herbicides, some medicines, and in some imported herbal remedies. Certain jobs, such as mining and smelting, can also expose workers to arsenic.

Check your skin regularly

Checking your skin regularly may help you spot any new growths or abnormal areas and show them to your doctor before they even have a chance to turn into skin cancer. To learn more, see the section “How are basal and squamous cell skin cancers found?”

How are basal and squamous cell skin cancers found?

Basal and squamous skin cancers can often be found early, when they are likely to be easier to treat.

As part of a routine check-up, your doctor should look at your skin carefully. This is even more important for people who have a high risk of skin cancer, such as those with lowered immunity. Ask your doctor how often you should have your skin examined.

Skin self-exam

Many doctors advise that you also check your own skin once a month. Skin self-exams are best done in front of a full-length mirror. Use a hand-held mirror for places that are hard to see. You should know the pattern of moles, freckles, and other marks on your skin so that you’ll notice any changes.

Friends and family members can also help you with these exams, especially for those hard-to-see areas, such as your scalp and back. For more details about skin self-exams, see *Skin Cancer: Prevention and Early Detection*.

Be sure to show your doctor any area that concerns you and ask them to look at areas that may be hard for you to see. If you can’t see your doctor right away, you might want to take good close-up photos of the area so your doctor can see if the area is changing when you do get an appointment.

Signs and symptoms of basal and squamous cell skin cancer

Skin cancers often don’t cause symptoms until they become quite large. Then they can itch, bleed, or even hurt. But they can often be seen or felt long before they reach this point.

Basal cell cancers usually start on places exposed to the sun, especially the head and neck, but they can occur anywhere on the body. These cancers can appear as:

- Flat, firm, pale or yellow areas that might look like a scar

- Raised reddish patches that might be itchy
- Small, pink or red, shiny, pearly bumps, which might have blue, brown, or black areas
- Pink growths with raised edges and a lower area in their center, which might have abnormal blood vessels
- Open sores (which may have oozing or crusted areas) that don't heal, or that heal and then come back

Basal cell cancers often bleed easily after shaving or after a minor injury. Sometimes people go to the doctor because they have a sore or a cut from shaving that just won't heal, which turns out to be a basal cell cancer. A simple rule of thumb is that most shaving cuts heal within a week or so.

Squamous cell cancers also tend to occur on areas of the body exposed to the sun, such as the face, ears, neck, lips, and backs of the hands. Less often, they form in the skin of the genital area. They can also start in scars or skin sores elsewhere.

These cancers can show up as:

- Rough or scaly red patches, which might crust or bleed
- Raised growths or lumps, sometimes with a lower area in the center
- Open sores (which may have oozing or crusted areas) that don't heal, or that heal and then come back
- Wart-like growths

Both of these types of skin cancer can also develop as a flat area showing only slight changes from normal skin. To see some examples of basal and squamous cell cancers, visit our Skin Cancer Image Gallery.

Any spot on the skin that is new or changing in size, shape, or color should be seen by a doctor promptly.

If you or your doctor finds something that doesn't look normal, your doctor will do exams and tests to find out if it is cancer or something else. If it is skin cancer, more tests may be done to find out if it has spread to other places.

Medical history and physical exam

Your doctor will ask you when the mark on your skin first appeared, whether it has changed in size or the way it looks, and if it has caused any symptoms (pain, itching, bleeding, etc.). You might also be asked about sunburns and the use of tanning beds and

other exposures to causes of skin cancer. You will probably be asked if you or anyone in your family has had skin cancer.

During the exam, the doctor will note the size, shape, color, and texture of the area in question, and whether it is bleeding, oozing, or crusting. He or she may check the rest of your body for spots and moles that could be related to cancer. The doctor may also check nearby lymph nodes (bean-shaped collections of immune system cells) to feel if they are larger or firmer than usual. This could mean the cancer has spread to the nodes.

Your regular doctor might refer you to a doctor called a *dermatologist*. This doctor has special training in skin diseases and will look at the area more closely. He or she may use a special magnifying lens (a dermatoscope) to see spots on the skin. Pictures of the spot may be taken.

Skin biopsy

If the doctor thinks that an area might be skin cancer, a sample of skin will be taken and looked at under a microscope. This is called a *skin biopsy*. If the biopsy removes the whole tumor, it is often enough to cure the skin cancer without further treatment.

Skin biopsies are done using numbing medicine, which is put into the area with a very small needle.

Types of skin biopsies

There are different ways to do a biopsy. Any biopsy is likely to leave at least a small scar.

Shave biopsy: The top layers of the skin are shaved off with a surgical blade.

Punch biopsy: This method is used to remove a deeper sample of skin. A tool that looks like a tiny round cookie cutter is used to remove the tissue sample. The edges of the biopsy site are often stitched together.

Incisional and excisional biopsies: These types of biopsies are used if the doctor needs to look at deeper layers of the skin. A scalpel is used to cut through the full thickness of the skin. A wedge of skin is removed, and the edges are often sewn back together. An *incisional biopsy* removes only part of the tumor. If the whole tumor is removed, it is called an *excisional biopsy*.

All skin biopsy samples are sent to a lab, where they are looked at with a microscope by a doctor called a pathologist.

Lymph node biopsy

In rare cases when basal or squamous cell skin cancer spreads, it can go first to nearby lymph nodes, which are small, bean-sized collections of immune cells. If your doctor

feels the lymph nodes are too large or too firm, a lymph node biopsy may be done to find out if the cancer has spread to the nodes.

There are 2 ways to do a lymph node biopsy.

- In *fine needle aspiration* (FNA), a thin, hollow needle is used to remove very small pieces of tissue from a lymph node.
- If the doctor suspects there is cancer in a lymph node that the FNA did not find, a *surgical lymph node biopsy* may be done. For this, the doctor removes the whole lymph node.

Staging of basal and squamous cell skin cancers

The stage of a cancer describes how far it has spread.

Basal cell skin cancer is almost always cured before it spreads to other organs, so it is seldom staged unless the cancer is very large.

Squamous cell cancers have a higher (but still small) risk of spreading. Staging is sometimes done, especially for people who have a high risk of spread. This includes people who have had organ transplants and those with HIV, the virus that causes AIDS.

The tests and exams described in the section “How are basal and squamous cell skin cancers found?” are the main ones used to help figure out the stage of the skin cancer. In rare cases, tests like x-rays, CT scans, or MRI scans may be used as well.

When these skin cancers are staged, most doctors use the TNM staging system. This system is based on 3 key pieces of information:

- **T** stands for the main **tumor** (its size and how far it has grown into the skin or nearby structures).
- **N** stands for spread to nearby lymph **nodes**.
- **M** is for **metastasis** (spread to distant organs).

These factors are combined to determine an overall stage, using the number 0 and the Roman numerals I through IV (1-4). The lower the number, the less the cancer has spread. A higher number, such as stage IV (4), means a more advanced cancer.

Be sure to ask your doctor to explain your stage in a way you understand. This will help you decide on the best treatment for you.

How are basal and squamous skin cancers treated?

This information represents the views of the doctors and nurses serving on the American Cancer Society's Cancer Information Database Editorial Board. These views are based on their interpretation of studies published in medical journals, as well as their own professional experience.

The treatment information here is not official policy of the 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 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.

About treatment

If you have basal or squamous cell skin cancer, your doctor will discuss your treatment options with you. You may have different types of doctors on your treatment team. Many basal and squamous cell cancers (as well as pre-cancers) are treated by dermatologists – doctors who are experts in treating skin diseases. If the cancer is more advanced, you may be treated by another type of doctor, 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

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

- Surgery
- Other forms of local treatment
- Radiation treatment
- Chemotherapy
- Targeted therapy

Most basal cell and squamous cell cancers can be cured with fairly minor surgery or other types of local treatments.

It's important to discuss all of your treatment options as well as their side effects with your doctors to help you decide which one best fits your needs. If there is anything you

don’t understand, ask to have it explained. (See the section “What are some questions I can ask my doctor about basal and squamous cell skin cancer?”)

Surgery for basal and squamous cell skin cancers

Often basal cell and squamous cell cancers can be cured by minor surgery. For skin cancers with a high risk of spreading, surgery might be followed by other treatments like radiation or chemo.

There are many different kinds of surgery. The type that’s best for you depends on the type of skin cancer, how large it is, where it is on the body, and other factors.

- **Excision:** The tumor is cut out with a scalpel, along with some normal skin around it. The remaining skin is carefully stitched back together. This will leave a scar.
- **Curettage and electrodesiccation:** The cancer is removed by scraping it with a long, thin tool called a *curette*. The area is then treated with an electric needle to destroy any remaining cancer cells. The process is often done more than once. This treatment will leave a scar.
- **Mohs surgery:** The doctor removes very thin layers of skin and then checks them under a microscope. Layers of skin are removed until they do not show cancer cells. This process is slow, often taking several hours, but it means that more normal skin around the tumor can be saved.
- **Lymph node surgery:** If lymph nodes near the cancer are growing larger, it could be a sign that the cancer has spread to these nodes. In that case, the nodes will be biopsied (see “How are basal and squamous cell skin cancers found?”), or many nodes might be removed in a more thorough operation called a *lymph node dissection*. The removed nodes will be looked at under a microscope to see if they have cancer cells. This operation is more involved than surgery on the skin. You would most likely have general anesthesia (you are put into a deep sleep).
- **Skin grafting and reconstructive surgery:** If a large skin cancer has been removed, it might not be possible to stretch the nearby skin enough to stitch the edges of the wound together. Skin grafts taken from other parts of the body or other methods might be used to help the wound heal and help the treated skin look as normal as possible.

Local treatments other than surgery for basal and squamous cell skin cancers

Methods other than surgery can be used to treat basal and squamous cell skin cancers that have not spread to lymph nodes or other parts of the body. Some of these treatments are

described as types of “surgery” since they destroy tissue. But these methods don’t involve cutting into the skin.

- **Cryosurgery (cryotherapy):** Very cold liquid nitrogen is used to freeze and kill cancer cells. This treatment is used most often for pre-cancers and for small basal cell and squamous cell cancers.
- **Photodynamic therapy (PDT):** A drug that makes the cancer cells sensitive to certain types of light is put right on the skin cancer. A special light source is then focused on the cancer. It “turns on” the drug so it kills the cancer cells. PDT is used mainly to treat actinic keratoses. To learn more about this treatment, see *Photodynamic Therapy*.
- **Topical chemotherapy:** Chemotherapy (“chemo”) is the use of drugs to kill cancer cells. *Topical* chemo means that a drug is put right on the skin (usually in a cream or ointment) rather than being given by mouth or put into a vein. This kind of treatment is most often used only for very early skin cancers or for pre-cancers like actinic keratosis.
- **Immune response modifiers:** Certain drugs can be put on skin cancers or pre-cancers as a cream or injected into tumors to boost the body’s immune system response to the cancer, causing the cancer to shrink or go away.
- **Laser surgery:** A beam of laser light is used to kill cancer cells. This is sometimes used for actinic keratosis and very early basal and squamous cell cancers. This treatment is not widely used.
- **Chemical peeling:** A small amount of a chemical is applied to destroy the skin tumor over the course of several days. This approach is sometimes used to treat actinic keratosis.

Radiation therapy for basal and squamous cell skin cancers

Radiation therapy is treatment with high-energy rays (such as x-rays) to kill cancer cells. The radiation is focused from outside the body onto the skin tumor.

When radiation is used to treat skin cancers, it is often done with *electron beam radiation*. This type of treatment uses electrons, which do not go deeper than the skin. This helps limit the side effects in other parts of the body.

Radiation may be used as the main treatment instead of surgery if the tumor is very large, or if it is in an area that makes surgery hard to do. It might also be used for people in poor health who can’t have surgery.

In some cases, radiation can be used after surgery to lower the risk of cancer coming back. Radiation may also be used to treat skin cancer that has spread to lymph nodes or other organs.

The process is much like getting an x-ray but the radiation used is stronger. Each treatment is painless and lasts only a few minutes, although the setup time – getting you into place for treatment – takes longer.

Possible side effects of radiation treatment

Side effects of radiation can include skin irritation, redness, dryness, and hair loss in the area being treated. With longer treatment, these side effects may get worse. After many years, new skin cancers may start in areas that had been treated with radiation. Because of this, radiation is not usually done to treat skin cancer in young people or in others who are at higher risk for new skin cancers.

To learn more about radiation treatment, see the Radiation Therapy section of our website or *Understanding Radiation Therapy: A Guide for Patients and Families*.

Systemic chemotherapy for basal and squamous cell skin cancers

Systemic chemotherapy (chemo) uses drugs that are injected into a vein or given by mouth. These drugs travel through the bloodstream to all parts of the body. Unlike chemo that is put on the skin, systemic chemo can attack cancers that have spread to lymph nodes and other organs.

Systemic chemo can often slow the spread of squamous cell cancer and help relieve symptoms. In some cases, they may shrink tumors enough so that other treatments such as surgery or radiation can be used.

Chemo is not typically used to treat basal cell cancers. Advanced basal cell cancers are more likely to be treated with targeted therapy.

Possible side effects of chemotherapy

The side effects of chemo depend on the type and dose of drugs given and the length of time they are taken. These side effects may include:

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting

- Diarrhea or constipation
- Higher chance of infection (from having too few white blood cells)
- Easy bruising or bleeding (from having too few blood platelets)
- Feeling very tired all the time (from having too few red blood cells)

Most side effects usually go away once treatment is finished. Some drugs may have side effects that are not listed above. Be sure to ask someone on your cancer care team what you might expect.

Talk with your doctor or nurse about any side effects you have because there are often ways to help. For instance, drugs can be given to help prevent or reduce nausea and vomiting. To learn more about chemo, see the Chemotherapy section of our website, or our document *A Guide to Chemotherapy*.

Targeted therapy for basal and squamous cell skin cancers

Doctors have found some of the gene changes inside skin cancer cells that make them different from normal cells, and they have begun to create drugs that attack these changes. These targeted drugs work differently from standard chemotherapy (chemo) drugs. They may work sometimes when chemo drugs don't. And they have different side effects.

Examples of targeted drugs include vismodegib (Erivedge) and sonidegib (Odomzo), which can be used to treat some advanced or recurrent basal cell skin cancers. It's very rare for basal cell cancers to reach an advanced stage, but when they do, these cancers can be hard to treat. These drugs have been shown to help shrink some tumors, although it's not yet clear if they help people live longer.

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. Women who are pregnant or could become pregnant should not take these drugs.

Clinical trials for basal and squamous cell skin cancers

You may have heard about clinical trials being done for your type of skin cancer. Or maybe someone on your cancer care team has mentioned a clinical trial to you.

Clinical trials are carefully controlled research studies that are done with patients who volunteer for them. They are done to learn more about promising new treatments or procedures.

Clinical trials are one way to get state-of-the art cancer treatment. Sometimes they may be the only way to get some newer treatments. They are also the best way for doctors to learn better ways 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. You can also call our clinical trials matching service for a list of studies that meet your medical needs. You can reach this service at 1-800-303-5691 or on our website at www.cancer.org/clinicaltrials. You can also get a list of current clinical trials by calling the National Cancer Institute (NCI) at 1-800-4-CANCER (1-800-422-6237) or by visiting the NCI clinical trials website at www.cancer.gov/clinicaltrials.

You must meet certain requirements to take part in any clinical trial. But if you do qualify for a clinical trial, it's up to you whether or not to enter (enroll in) it.

To learn more about clinical trials, see *Clinical Trials: What You Need to Know*.

Complementary and alternative therapies for basal and squamous cell skin cancers

You might hear about ways to treat your cancer or relieve symptoms that your doctor hasn't mentioned. Everyone from friends and family to social media groups and websites may offer ideas for what might help you. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

What are complementary and alternative therapies?

It can be confusing because not everyone uses these terms the same way, and they are used to refer to many different methods. We use *complementary* to refer to treatments that are used *along with* your regular medical care. *Alternative* treatments are used *instead of* a doctor's medical treatment.

Complementary methods: Most complementary treatment methods are not offered as cures for cancer. Mainly, they are used to help a person feel better. Some examples of methods that are used along with regular treatment are meditation to reduce stress, acupuncture to help relieve pain, or peppermint tea to relieve nausea. Some complementary methods are known to help, while others have not been tested. Some have been proven not to be helpful, and a few might even be harmful.

Alternative treatments: Alternative treatments may be offered as cancer cures. These treatments have not been proven safe and effective in clinical trials. Some of these methods may be harmful, or have life-threatening side effects. But the biggest danger in most cases is that you may lose the chance to be helped by standard medical treatment. Delaying or interrupting your medical treatments might give the cancer more time to grow and make it less likely that treatment will help.

Finding out more

It's easy to see why people with cancer think about alternative methods. You want to do all you can to fight the cancer, and the idea of a treatment with few or no side effects sounds great. Sometimes medical treatments like chemotherapy can be hard to take, or they may no longer be working. But the truth is that most alternative methods have not been tested and proven to work in treating cancer.

As you think about your options, look for "red flags" that might suggest fraud. Does the method promise to cure all or most cancers? Are you told not to have regular medical treatments? Is the treatment a "secret" that requires you to visit certain providers or travel to another country? Also be sure to talk to your cancer care team about any method you are thinking about using.

You can find more tips on what to look for and how to make these decisions in the Complementary and Alternative Medicine section of our website.

The choice is yours

Decisions about how to treat or manage your cancer are always yours to make. If you want to use a non-standard treatment, learn all you can about the method and talk to a member of your cancer care team about it. With good information and the support of your team, you may be able to safely use the methods that can help you while avoiding those that could be harmful.

What are some questions I can ask my doctor about basal and squamous cell skin cancer?

It's important to have honest, open talks with your doctor. Ask any question, no matter how small it might seem. Here are some questions you might want to ask.

- Would you please write down the exact kind of cancer I have?
- Can you explain the different types of skin cancer?
- Has the cancer grown deep into the skin? Has it spread to lymph nodes or to other organs?
- Will I need any other tests before we can decide on treatment?
- Do I need to see any other doctors?
- How much experience do you have treating this type of cancer?

- What are my treatment options? What do you recommend? Why?
- What will treatment be like? Where will it be done? How long will it take?
- Will I be OK if the cancer is just removed with no other treatment?
- What risks or side effects should I expect with my treatment?
- Will I have a scar after treatment?
- What are the chances that the skin cancer will come back? What would we do if that happens?
- How quickly do we need to decide on treatment?
- What should I do to be ready for treatment?
- What are my chances of developing another skin cancer?
- Should I take special care to avoid sun exposure? How should I do that?
- What type of follow-up will I need after treatment?
- Are my family members at risk for skin cancer? What should I tell them to do?

Along with these sample questions, be sure to write down some of your own. For instance, you might want to know more about recovery times so you can plan your work or activity schedule. Or you may want to ask about second opinions or about clinical trials.

Keep in mind that doctors aren't the only ones who can give you information. Other health care professionals, such as nurses and social workers, may have the answers to some of your questions. For more about speaking with your cancer care team, see our document *Talking With Your Doctor*.

Moving on after treatment for basal or squamous skin cell cancer

For most people with basal or squamous cell skin cancers, treatment will remove or destroy the cancer. Completing treatment can be both stressful and exciting. You may be relieved to finish treatment, but find it hard not to worry about cancer growing or coming back. (When cancer comes back after treatment, it is called a *recurrence*.) This is a very common concern in people who have had cancer.

It may take a while before your fears lessen. But it may help to know that many cancer survivors have learned to accept this uncertainty and are living full lives. Our document *Living With Uncertainty: The Fear of Cancer Recurrence* has more on this.

For a small number of people with more advanced skin cancers, the cancer may never go away completely. These people may get regular treatment with radiation, chemo, or other treatments to try to help keep the cancer in check. Learning to live with cancer that doesn't go away can be hard and very stressful. It has its own type of uncertainty. *When Cancer Doesn't Go Away* covers more about this.

Follow-up care

If you have finished treatment, your doctors will still want to watch you closely

If skin cancer does come back, it will most likely happen in the first 5 years after treatment. A person who has had skin cancer is at higher risk for getting another one in a different place, so close follow-up is important.

Your doctor will likely suggest that you check your skin at least once a month. This includes looking for any changes where the cancer was treated, as well as looking for any new areas of concern in other places.

It's also very important to protect yourself from getting too much sun, which can raise your risk of new skin cancers.

Your plan for follow-up doctor visits will depend on the type of skin cancer you had and on other factors.

During your visits, your doctor will ask about symptoms and check you for signs of the cancer coming back or a new skin cancer. For higher risk cancers, such as those that had reached the lymph nodes, the doctor may also do tests like CT scans.

Follow-up is also needed to check for possible side effects of certain treatments. This is the time for you to ask your cancer care team questions and to discuss any concerns you might have.

Seeing a new doctor

At some point after your treatment, you may be seeing a new doctor. It's important to be able to give your new doctor the details of your diagnosis and treatment. Gathering these details during and soon after treatment may be easier than trying to get them at some point in the future. Make sure you have this information handy, and always keep copies for yourself:

- A copy of your pathology report from any biopsy or surgery
- If you had surgery, a copy of your operative report
- If you stayed in the hospital, a copy of the discharge summary that the doctor wrote when you were sent home

- If you had radiation treatment, a summary of the type and dose of radiation and when and where it was given
- If you had chemo or other drug treatments, a list of your drugs, drug doses, and when you took them
- The names and contact information of the doctors who treated your cancer

It's also very important to keep your health insurance. Tests and doctor visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

Lifestyle changes after basal and squamous cell skin cancer

You can't change the fact that you have had cancer. What you can change is how you live the rest of your life – making choices to help you stay healthy and feel as well as you can. This can be a time to look at your life in new ways. Maybe you are thinking about how to improve your health over the long term. Some people even start during cancer treatment.

Make healthier choices

For many people, finding out they have cancer helps them focus on their health in ways they may not have thought much about in the past. Are there things you could do that might make you healthier? Maybe you could spend less time in the sun, try to eat better, or get more exercise. Maybe you could cut down on alcohol, or give up tobacco. Even things like keeping your stress level under control might help. Now is a good time to think about making changes that can have positive effects for the rest of your life. You will feel better and you will also be healthier.

You can start by working on the things that worry you most. Get help with those that are harder for you. For instance, if you are thinking about quitting smoking and need help, call the American Cancer Society at 1-800-227-2345.

Can I lower my risk of cancer coming back or getting new skin cancers?

Most people want to know if there are lifestyle changes they can make to reduce their risk of cancer coming back.

People who have had skin cancer are at higher risk for getting another one. Because of this, it's important to avoid too much sun (see "Can basal and squamous cell skin cancers be prevented?") and to examine your skin every month for signs of possible new skin cancers. Seeing your doctor regularly for skin exams is also important. Skin cancers that are found early are often much easier to treat than those found at a later stage.

Healthy behaviors such as not smoking, eating well, being active, and keeping a healthy weight may also help, but no one knows for sure. But we do know that these types of changes can have good effects on your health.

What's new in basal and squamous skin cancer research?

Research about basal and squamous cell skin cancers is going on in many medical centers throughout the world.

Basic skin cancer research

Scientists have made a lot of progress in recent years in learning how UV light harms normal skin cells and causes them to become cancer. Researchers are working to use this new knowledge to find ways to prevent and treat skin cancers.

Public education

Most skin cancers can be prevented. People need to know about how to protect themselves and how to make sure any skin cancer is found early. The American Academy of Dermatology (AAD) sponsors free skin cancer screenings around the country every year. Many local ACS offices work with the AAD to help with these screenings. Watch for information in your area, or call the AAD. Their phone number and web address are listed in "How can I learn more about basal and squamous cell cancer?".

Preventing genital skin cancers

Squamous cell cancers that start around the genitals account for almost half of the deaths from this type of skin cancer. Many of these cancers are linked to infection with certain types of human papilloma virus (HPV), which can be spread through sexual contact. Having fewer sex partners and using safer sex methods (such as using condoms) might help lower the risk of some of these cancers.

Vaccines can help protect against infection from some types of HPV. The main purpose of these vaccines is to reduce the risk of cervical cancer, but they may also lower a person's risk of other cancers linked to HPV.

Prevention using medicines

This is an area of active research. Using drugs to prevent cancers from forming is called *chemoprevention*. This is likely to be more useful for people at high risk of skin cancers

than for people at average risk. High risk includes people with certain genetic syndromes, those who have had a skin cancer before, or those who have had organ transplants.

Treatment

Local treatments

Local treatments are aimed just at the skin cancer cells and a small amount of normal tissue around them. Local treatments work well for most basal and squamous cell skin cancers. Still, even small cancers can be hard to treat if they're in certain areas. Newer forms of non-surgical treatment (like creams, light therapy, and laser surgery) may help reduce scarring and other possible side effects of treatment. Studies are now being done to find the best way to use these treatments and to try to make them work better.

Treating advanced disease

Most basal and squamous cell skin cancers are found and treated at an early stage, when they are likely to be cured, but some can spread to other parts of the body. These cancers can often be hard to treat with current treatments such as radiation and chemo.

Studies are testing newer targeted drugs for advanced squamous cell cancers. Cells from these cancers often have too much of a protein called EGFR on their surfaces, which may help them grow. Drugs such as erlotinib (Tarceva), gefitinib (Iressa), and cetuximab (Erbitux) that target this protein are now being tested in clinical trials. A drug known as dasatinib (Sprycel), which targets different cell proteins, is also being studied for advanced skin cancers.

It's very rare for basal cell cancers to reach an advanced stage, but these cancers can be hard to treat. Vismodegib (Erivedge) and sonidegib (Odomzo) are drugs that may help some people (see "Targeted therapy for basal and squamous cell skin cancers"). Other targeted drugs are now being studied for basal cell cancers as well.

How can I learn more about basal and squamous cell skin cancer?

From your American Cancer Society

The following information may also be helpful to you. These materials can be read on our website or ordered from our toll-free number, 1-800-227-2345.

Skin cancer causes, prevention, and detection

A Parent's Guide to Skin Protection (also in Spanish)

Skin Cancer: Prevention and Early Detection

Skin Cancer Image Gallery

Sun Basics: Skin Protection Made Simple (information for children aged 8 to 14)

Ultraviolet (UV) Radiation

Living with cancer

After Diagnosis: A Guide for Patients and Families (also in Spanish)

Talking With Friends and Relatives About Your Cancer (also in Spanish)

Coping With Cancer in Everyday Life (also in Spanish)

Caring for the Patient With Cancer at Home: A Guide for Patients and Families (also in Spanish)

Distress in People With Cancer

Anxiety, Fear, and Depression

Living With Uncertainty: The Fear of Cancer Recurrence

When Your Cancer Comes Back: Cancer Recurrence

Understanding cancer treatments

Understanding Cancer Surgery: A Guide for Patients and Families (also in Spanish)

A Guide to Chemotherapy (also in Spanish)

Understanding Radiation Therapy: A Guide for Patients and Families (also in Spanish)

Photodynamic Therapy

Clinical Trials: What You Need to Know

Cancer treatment side effects

Nausea and Vomiting

Anemia in People With Cancer

Fatigue in People With Cancer

Understanding Lymphedema (for Cancers Other Than Breast Cancer)

Work, insurance, and finances

In Treatment: Financial Guidance for Cancer Survivors and Their Families (also in Spanish)

Health Insurance and Financial Assistance for the Cancer Patient (also in Spanish)

Working During Cancer Treatment

Returning to Work After Cancer Treatment

Your American Cancer Society also has books that you might find helpful. Call us at 1-800-227-2345 or visit our bookstore online at cancer.org/bookstore to find out about costs or to place an order.

National organizations and websites*

Along with the American Cancer Society, other sources of information and support include:

American Academy of Dermatology (AAD)
Toll-free number: 1-888-462-3376 (1-888-462-DERM)
Website: www.aad.org
Spot Skin Cancer website: www.aad.org/spot-skin-cancer

> For information on skin cancer, a skin cancer risk assessment, a locator for free skin cancer screenings, and a dermatologist locator

Environmental Protection Agency (EPA)
Website: www.epa.gov/sunwise/

> Has free sun safety information

National Cancer Institute
Toll-free number: 1-800-422-6237 (1-800-4-CANCER)
TYY: 1-800-332-8615
Website: www.cancer.gov

> Offers accurate, up-to-date information about cancer to patients, their families, and the general public

Skin Cancer Foundation
Toll-free number: 1-800-754-6490 (1-800-SKIN-490)
Website: www.skincancer.org

Has pictures and descriptions of skin cancers, information and educational materials, and newsletters

American Society of Dermatologic Surgery (ASDS)
Website: www.asds.net

Has a Skin Cancer Self-Exam Kit and Journal, which can be printed from the website, "Skin Cancer Takes Friends" – a state-by-state guide to free skin cancer screenings (usually conducted May thru July), and a Dermatologic Surgeon Locator you can search by zip code

** Inclusion on this list does not imply endorsement by the American Cancer Society.*

No matter who you are, we can help. Contact us anytime, day or night, for information and support. Call us at **1-800-227-2345** or visit www.cancer.org.

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For additional assistance please contact your American Cancer Society
1-800-227-2345 or www.cancer.org