



Skin Cancer Prevention and Early Detection

Skin cancer is the most common of all cancer types. More than 2 million skin cancers are diagnosed each year in the United States. That's more than cancers of the prostate, breast, lung, colon, uterus, ovaries, and pancreas combined. The number of skin cancer cases has been going up over the past few decades.

The good news is that you can do a lot to protect yourself and your family from skin cancer, or to catch it early enough so that it can be treated effectively. Most skin cancers are caused by too much exposure to ultraviolet (UV) rays. Much of this exposure comes from the sun, but some may come from man-made sources, such as indoor tanning lamps.

Finding possible skin cancers doesn't require any x-rays or blood tests -- just your eyes and a mirror. If skin cancer does develop, finding it early is the best way to ensure it can be treated effectively.

What is skin cancer?

There are 2 main types of skin cancers: keratinocyte cancers (basal and squamous cell skin cancers) and melanomas.

Basal and squamous cell skin cancers are the most common cancers of the skin. They develop from cells called keratinocytes, the most common cells in the skin.

Melanomas are cancers that develop from melanocytes, the cells that make the brown pigment that gives skin its color. Melanocytes can also form benign (non-cancerous) growths called moles.

There are several other types of skin cancers as well, but these are much less common.

It is important for doctors to tell these types of skin cancer apart, because they are treated differently. It is also important for you to know what melanomas and basal and squamous cell skin cancers look like. That way, you can find them at the earliest possible stage, when they are cured most easily.

Basal and squamous cell cancers (keratinocyte cancers)

Basal cell cancers and squamous cell cancers are the most common cancers of the skin. They develop from skin cells called keratinocytes. Both basal cell and squamous cell cancers are found mainly on parts of the body exposed to the sun, such as the head and neck, and their occurrence is related to the amount of sun exposure a person has had.

These cancers (especially basal cell cancers) rarely spread elsewhere in the body and are much less likely than melanomas to be fatal. Still, it is important to recognize them. If left untreated, they can grow quite large and invade into nearby tissues, causing scarring, disfigurement, or even loss of function in some parts of the body.

Keratinocyte cancers are discussed in more detail in our document, *Skin Cancer: Basal and Squamous Cell*.

Melanomas

Melanomas can occur anywhere on the body, but are more likely to develop in certain locations. The trunk (chest and back) is the most common site in men. In women, the legs are the most common site. The neck and face are other common sites.

Melanoma occurs much less often than basal cell and squamous cell skin cancers, but it can be far more serious. Like basal cell and squamous cell cancers, melanoma is almost always curable in its early stages. But if left alone, melanoma is much more likely than basal or squamous cell cancer to spread to other parts of the body, where it can be very hard to treat.

Melanomas are discussed in more detail in a separate American Cancer Society document, *Melanoma Skin Cancer*.

What is ultraviolet (UV) radiation?

Ultraviolet (UV) radiation is thought to be the major risk factor for most skin cancers. Sunlight is the main source of UV radiation, which can damage the genes in your skin cells. Tanning lamps and booths are also sources of UV radiation. People with excessive exposure to UV radiation from these sources are at greater risk for skin cancer.

Ultraviolet radiation has 3 wave length ranges:

- *UVA rays* cause cells to age and can cause some damage to cells' DNA. They are linked to long-term skin damage such as wrinkles, but are also thought to play a role in some skin cancers.
- *UVB rays* can cause direct damage to the DNA, and are the rays that primarily cause sunburns. They are also thought to cause most skin cancers.
- *UVC rays* don't penetrate our atmosphere and therefore are not present in sunlight. They are not normally a cause of skin cancer.

UVA and UVB rays make up only a very small portion of the sun's wavelengths, but they are the main cause of the damaging effects of the sun on the skin. UV radiation damages the DNA of skin cells. Skin cancers begin when this damage affects the DNA of genes that control skin cell growth. Both UVA and UVB rays damage skin and cause skin cancer. UVB rays are a more potent cause of at least some skin cancers, but based on current knowledge, there are *no* safe UV rays.

The amount of UV exposure depends on the intensity of the radiation, the length of time the skin was exposed, and whether the skin was protected with clothing or sunscreen.

Skin cancers are one result of getting too much sun, but there are other effects as well. The short-term results of unprotected exposure to UV rays are sunburn and tanning, which are signs of skin damage. Long-term exposure can cause prematurely aged skin, wrinkles, loss of skin elasticity, dark patches (lentigos, sometimes called age spots or liver spots), and pre-cancerous skin changes (such as dry, scaly, rough patches called actinic keratoses).

The sun's UV rays also increase a person's risk of cataracts and certain other eye problems and can suppress the skin's immune system. Although dark-skinned people are generally less likely to get skin cancer than light-skinned people, they can still get cataracts and suppression of the skin's immune system.

The UV Index

The amount of UV light reaching the ground in any given place depends on a number of factors, including the time of day, time of year, elevation, and cloud cover. To help people better understand the intensity of UV light in their area on a given day, the Environmental Protection Agency (EPA) and the National Weather Service have developed the UV Index. The UV Index number, on a scale from 1 to 11+, is a measure of the amount of UV radiation reaching the earth's surface during an hour around noon. The higher the number, the greater the exposure to UV radiation.

The UV Index is given daily for regions throughout the country. Many newspaper and television weather forecasts now include the projected UV Index for the following day. Further information about the UV Index, as well as your local UV Index forecast, is available on the EPA's web site at www.epa.gov/sunwise/uvindex.html. As with any forecast, local changes in cloud cover and other factors may change the actual UV levels experienced, but the UV Index reminds the public to take precautions against too much exposure.

Are some people more prone to sun damage?

Everyone's skin and eyes can be affected by the sun and other forms of UV rays. People with light skin are much more likely to have sun damage, but darker-skinned people, including African Americans and Hispanic Americans, also can be affected.

The skin tans when UV radiation is absorbed by the skin, causing an increase in the activity and number of melanocytes, the cells that make the pigment melanin. Melanin helps to block out damaging rays up to a point, which is why the skin of darker-skinned people burns less easily.

People with lighter skin are more likely to burn. Sunburns are thought to increase your risk of skin cancer, including melanoma. But UV exposure can raise skin cancer risk even without causing sunburn.

Aside from skin tone, other factors can also affect your risk of damage from UV light. You need to be especially careful in the sun if you:

- Were previously treated for skin cancer
- Have a family history of skin cancer, especially melanoma
- Have lots of moles, irregular moles, or large moles
- Have freckles and burn before tanning
- Have fair skin or blond, red, or light brown hair
- Live or vacation at high altitudes (UV radiation increases 4% to 5% for every 1,000 feet above sea level)
- Live or vacation in tropical or subtropical climates
- Work indoors all week and then get intense sun exposure on weekends
- Spend a lot of time outdoors
- Have certain autoimmune diseases, such as systemic lupus erythematosus (SLE, or "lupus")
- Have had an organ transplant
- Take medicines that lower your immunity
- Take oral contraceptives (birth control pills)
- Take tetracycline, sulfa drugs, or certain other antibiotics
- Take naproxen sodium or certain other non-steroidal anti-inflammatory drugs (NSAIDs)
- Take phenothiazines (major tranquilizers and anti-nausea drugs)
- Take tricyclic antidepressants
- Take thiazide diuretics (medicines used for high blood pressure and some heart conditions)
- Take sulfonylureas (a form of oral anti-diabetic medication)

Ask your doctor, nurse, or pharmacist about the risk of any medicines you may be taking that could increase your sensitivity to sunlight.

How do I protect myself from UV rays?

It isn't possible or practical to avoid sunlight completely, and it would be unwise to reduce your level of activity to avoid the outdoors because physical activity is important for good health. But too much sunlight can be harmful. There are some steps you can take to limit your amount of exposure to UV rays.

Some people think about sun protection only when they spend a day at the lake, beach, or pool. But sun exposure adds up day after day, and it happens every time you are in the sun. "Slip! Slop! Slap!... and Wrap" is a catch phrase that can help you remember the 4 key methods you can use to protect yourself from UV radiation:

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

Following these practical steps can help protect you from the effects of the sun. These steps complement each other, and they provide the best protection when used together.

Cover up

When you are out in the sun, wear clothing to protect as much skin as possible. Clothes provide different levels of UV protection, depending on many factors. Long-sleeved shirts, long pants, or long skirts cover the most skin and are the most protective. Dark colors generally provide more protection than light colors. A tightly woven fabric protects better than loosely woven clothing. Dry fabric is generally more protective than wet fabric.

If you can see light through a fabric, UV rays can get through too. Be aware that covering up doesn't block out all UV rays.

Some companies now make clothing that is lightweight, comfortable, and protects against UV exposure even when wet. It tends to be more tightly woven, and some have special coatings to help absorb UV rays. These sun-protective clothes may have a label listing the ultraviolet protection factor (UPF) value -- the level of protection the garment provides from the sun's UV rays (on a scale from 15 to 50+). The higher the UPF, the higher the protection from UV rays.

Children's swimsuits made from sun-protective fabric and designed to cover the child from the neck to the knees are popular in Australia. They are now available in the United States.

Newer products, which are used in the washing machine like laundry detergents, can increase the UPF value of clothes you already own. They add a layer of UV protection to your clothes without changing the color or texture.

Use sunscreen

A sunscreen is a product that you apply to your skin for some but not total protection against the sun's UV rays. Sunscreens are available in many forms -- lotions, creams, ointments, gels, wipes, and lip balms, to name a few.

Some cosmetics, such as lipsticks and foundations, also are considered sunscreen products if they contain sunscreen. Some makeup contains sunscreen, but only the label can tell you. Makeup, including lipstick, without sunscreen does not provide sun protection. Check the labels to find out.

Read the labels: When selecting a sunscreen product, be sure to read the label before you buy. Many groups, including the American Academy of Dermatology, recommend products with a sun protection factor (SPF) of at least 30. The SPF number represents the level of protection against UVB rays provided by the sunscreen -- a higher number means more protection.

It is important to remember that sunscreen does not give you total protection. When using an SPF 30 sunscreen and applying it thickly, you get the equivalent of 1 minute of UVB rays for each 30 minutes you spend in the sun. So, 1 hour in the sun wearing SPF 30 sunscreen is the same as spending 2 minutes totally unprotected. People often do not apply a layer of sunscreen thickly, so the actual protection they get is less.

Sunscreens labeled with SPFs as high as 100+ are now available. Higher numbers do mean more protection, but many people mistakenly think that a sunscreen with an SPF 45 rating would give 3 times as much protection as one with an SPF of 15. This is not true. SPF 15 sunscreens filter out about 93% of UVB rays, while SPF 30 sunscreens filter out about 97%, SPF 50 sunscreens about 98%, and SPF 100 about 99%. The higher you go, the smaller the difference becomes. No sunscreen protects you completely. Regardless of the SPF, sunscreen should be reapplied often for maximal protection.

The SPF number indicates protection against UVB rays only. Sunscreen products labeled "broad-spectrum" provide some protection against both UVA and UVB radiation, but at this time there is no standard system for measuring protection from UVA rays. Products that contain avobenzone (Parsol 1789), ecamsule, zinc oxide, or titanium dioxide can provide some protection from UVB and most UVA rays.

Check the expiration date on the sunscreen container to be sure it is still effective. Most sunscreen products are effective for at least 2 to 3 years, although after a long time in storage you may need to shake the bottle to remix the sunscreen ingredients.

Some sunscreen products can irritate skin. Many products claim to be hypoallergenic or dermatologist tested, but the only way to know for sure if a product will irritate your skin is to use it. One common recommendation is to apply a small amount to the soft skin on

the inside of your elbow every day for 3 days. If your skin does not turn red or become itchy, the product is probably OK for you.

Be sure to apply the sunscreen properly. Always follow the label directions. Most recommend applying sunscreen generously. When putting it on, pay close attention to your face, ears, hands, and arms, and any areas not covered by clothing. If you're going to wear insect repellent or makeup, put on the sunscreen first.

Be generous. Ideally, about 1 ounce of sunscreen (about a palmful) should be used to cover the arms, legs, neck, and face of the average adult. For best results, most sunscreens must be reapplied at least every 2 hours and even more often if you are swimming or sweating. Products labeled "waterproof" may provide protection for at least 80 minutes even when you are swimming or sweating. Products that are "water resistant" may protect for only 40 minutes.

Remember that sunscreen usually rubs off when you towel yourself dry, so you will need to put more on.

Sunless tanning products, such as bronzers and extenders (described in "What about tanning pills and other tanning products?"), give skin a golden color. But unlike sunscreens, these products provide very little protection from UV damage.

Wear a hat

A hat with at least a 2- to 3-inch brim all around is ideal because it protects areas such as the ears, eyes, forehead, nose, and scalp that are often exposed to intense sun. A shade cap (which looks like a baseball cap with about 7 inches of fabric draping down the sides and back) also is good, and will provide more protection for the neck. These are often sold in sports and outdoor supply stores.

A baseball cap can protect the front and top of the head but not the back of the neck or the ears, where skin cancers commonly develop. Straw hats are not as protective as hats made of tightly woven fabric.

Wear sunglasses that block UV rays

Research has shown that long hours in the sun without protecting your eyes increase your chances of developing eye disease. UV-blocking sunglasses can help protect your eyes from sun damage.

The ideal sunglasses do not have to be expensive, but they should block 99% to 100% of UVA and UVB radiation. Check the label to make sure they do. Labels that say "UV absorption up to 400 nm" or "Meets ANSI UV Requirements" mean the glasses block at least 99% of UV rays. Those labeled "cosmetic" block about 70% of the UV rays. If there is no label, don't assume the sunglasses provide any protection.

Darker glasses are not necessarily better because UV protection comes from an invisible chemical applied to the lenses, not from the color or darkness of the lenses. Look for an ANSI label.

Large-framed and wraparound sunglasses are more likely to protect your eyes from light coming in from different angles. Children need smaller versions of real, protective adult sunglasses -- not toy sunglasses.

Ideally, all types of eyewear, including prescription glasses and contact lenses, should absorb the entire UV spectrum. Some contact lenses are now made to block most UV rays. But because they don't cover the whole eye and surrounding areas, they are sufficient eye protection when used alone.

Limit direct sun exposure during midday

Another way to limit exposure to UV light is to avoid being outdoors in sunlight too long. UV rays are strongest when the sun is high in the sky, usually between the hours of 10 am and 4 pm. If you are unsure about the sun's intensity, use the shadow test: if your shadow is shorter than you, the sun's rays are the strongest, and protection from the sun is most important.

UV rays reach the ground throughout the year, even on hazy days. The UV becomes intense in the spring before the warm temperatures. People in some areas may get sunburned when the weather is still cool because they don't think about using sunscreen even though the UV is strong. Be especially careful on the beach and in the snow because sand and snow reflect sunlight, increasing the amount of UV radiation you receive.

Some UV rays can also pass through windows. Typical car, home, and office windows block most of the UVB rays but a smaller portion of UVA rays, so even if you don't feel you're getting burned your skin may still get some damage. Tinted windows help block more UVA rays, although this depends on the type of tinting. UV radiation that comes through windows probably doesn't pose a great risk to most people unless they spend long periods of time close to a window that receives direct sunlight.

If you plan to be outdoors, you may want to check the UV Index for your area first. The UV Index usually can be found in the local newspaper or on TV and radio news broadcasts. It is also available on the EPA's Web site at www.epa.gov/sunwise/uvindex.html.

Avoid tanning beds and sunlamps

Many people believe the UV rays of tanning beds are harmless. This is not true. Tanning lamps give out UVA and usually UVB rays as well. Both UVA and UVB rays can cause long-term skin damage, and can contribute to skin cancer. Most skin doctors and health organizations recommend not using tanning beds and sun lamps.

Protect children from the sun

Children need special attention, since they tend to spend more time outdoors and can burn more easily. Parents and other caregivers should protect children from excess sun exposure by using the measures described above. Older children need to be cautioned about sun exposure as they become more independent. It is important, particularly in

parts of the world where it is sunnier, to cover your children as fully as is reasonable. You should develop the habit of using sunscreen on exposed skin for yourself and your children whenever you go outdoors and may be exposed to large amounts of sunlight. If you or your child burns easily, be extra careful to cover up, limit exposure, and apply sunscreen.

Babies younger than 6 months should be kept out of direct sunlight and protected from the sun using hats and protective clothing.

What about tanning pills and other tanning products?

Several products claim to give a tan without UV radiation.

Tanning pills and accelerators

Tanning pills contain color additives similar to beta-carotene, the substance that gives carrots their orange color. The additives are distributed throughout the body, especially the skin, turning it an orange-like color. Although the Food and Drug Administration (FDA) has approved some of these additives for coloring food, they are not approved for use in tanning agents. They may be harmful at the high levels that are consumed in tanning pills. The main ingredient in sunless tanning pills, canthaxanthin, can show up in your eyes as yellow crystals, which may cause injury and impair vision. There have also been reports of liver and skin problems.

Tanning accelerators, such as lotions or pills that contain the amino acid tyrosine or its derivatives, are not effective and may be dangerous. Marketers promote these products as substances that stimulate the body's own tanning process, although most evidence suggests they don't work. The FDA considers them unapproved new drugs that have not been shown to be safe and effective.

No tanning pills have been approved by the FDA.

Bronzers and extenders

Two other sunless tanning products, bronzers and extenders, are considered cosmetics for external use and are not thought to be harmful when used properly.

Bronzers, made from color additives approved by the FDA for cosmetic use, stain the skin for a short time when applied and can be washed off with soap and water.

Extenders (also known as *sunless tanners* or *self-tanners*) are applied to the skin as lotions or creams, where they interact with protein on the surface of the skin to produce a darker color. Like a tan, the color tends to wear off after a few days. The only FDA-approved color additive for extenders is dihydroxyacetone (DHA).

Because application of these products can sometimes lead to uneven coloring, some tanning salons have begun to offer whole body sprays in tanning booths. A concern here is that DHA is approved for external use only and should not be inhaled or sprayed in or on the mouth, eyes, or nose. People who choose to get a DHA spray should make sure to protect these areas.

Although they can give skin a darker color, these products do not protect you from the damaging effects of UV radiation, unless they contain sunscreen. Be sure to read the label carefully to determine whether or not a product provides protection.

Skin exams

Get your skin checked by your doctor

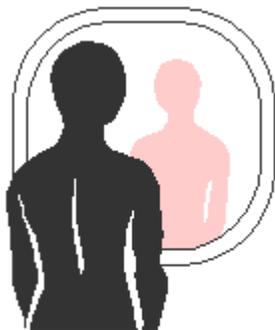
As part of a routine cancer-related checkup, your doctor should check your skin carefully. They should be willing to discuss any concerns you might have about this exam.

How to check your own skin

It's important to check your own skin, preferably once a month. A self-exam is best done in a well-lit room in front of a full-length mirror. You can use a hand-held mirror to look at areas that are hard to see. A spouse or close friend or family member may be able to help you with these exams, especially for those hard-to-see areas like your back or the back of your neck.

The first time you inspect your skin, spend time carefully going over the entire surface of your skin. Learn the pattern of moles, blemishes, freckles, and other marks on your skin so that you'll notice any changes next time. Any trouble spots should be seen by a doctor. Follow these step-by-step instructions to examine your skin:

Face the mirror:



Check your face, ears, neck, chest, and belly. Women will need to lift their breasts to check the skin underneath.

Check the underarm areas, both sides of your arms, the tops and bottoms of your hands, in between your fingers, and fingernail beds.



Sit down:



Check the front of your thighs, shins, tops of your feet, in between your toes, and your toenail beds.

You will need a hand mirror for the back of your thighs and legs, and your back and scalp.

Now look at the bottoms of your feet, your calves, and the backs of your thighs, first checking one leg and then the other.





Use the hand mirror to check the buttocks, genital area, lower back, upper back, and the back of the neck. Or it may be easier to look at your back in the wall mirror using a hand mirror.

Use a comb or hair dryer to part your hair so that you can check your scalp.



What should I look for?

Basal and squamous cell cancers

Basal cell cancers and squamous cell cancers are most often found in areas that get exposed to a lot of sun, such as the head, neck, and arms, but they can occur elsewhere. Look for new growths, spots, bumps, patches, or sores that don't heal after 2 to 3 months.

Basal cell carcinomas often look like flat, firm, pale areas or small, raised, pink or red, translucent, shiny, waxy areas that may bleed after a minor injury. They may have one or more abnormal blood vessels, a lower area in their center, and/or blue, brown, or black areas. Large basal cell carcinomas may have oozing or crusted areas.

Squamous cell carcinomas may look like growing lumps, often with a rough, scaly, or crusted surface. They may also look like flat reddish patches in the skin that grow slowly.

Both of these types of skin cancer may develop as a flat area showing only slight changes from normal skin.

Actinic keratosis, also known as *solar keratosis*, is a skin condition that is sometimes pre-cancerous and is caused by too much sun exposure. Actinic keratoses are usually small (less than ¼ inch), rough spots that may be pink-red or flesh-colored. Usually they develop on the face, ears, back of the hands, and arms of middle-aged or older people with fair skin, although they can occur in younger people or on other sun-exposed areas of the skin. People with one actinic keratosis usually develop many more. Some can grow

into squamous cell cancers, but others may stay the same or even go away on their own. Because they can turn cancerous, such areas should be looked at by a doctor. Your doctor can then decide whether they should be treated.

Melanomas

The most important warning sign for melanoma is a new spot on the skin or a spot that is changing in size, shape, or color. Another important sign is a spot that looks different from all of the other spots on your skin (known as the *ugly duckling sign*). If you have any of these warning signs, have your skin checked by a doctor.

The **ABCD rule** is another guide to the usual signs of melanoma. Be on the lookout and tell your doctor about any spots that match the following description:

- **A is for Asymmetry:** One half of a mole or birthmark does not match the other.
- **B is for Border:** The edges are irregular, ragged, notched, or blurred.
- **C is for Color:** The color is not the same all over and may include shades of brown or black, or sometimes with patches of pink, red, white, or blue.
- **D is for Diameter:** The spot is larger than 6 millimeters across (about $\frac{1}{4}$ inch -- the size of a pencil eraser), although melanomas can sometimes be smaller than this.

Some melanomas do not fit the rules described above, so it is important to tell your doctor about any changes in skin lesions, new skin lesions, or growths that look different from the rest of your moles.

Other warning signs are:

- A sore that does not heal
- Spread of pigment from the border of a spot to surrounding skin
- Redness or a new swelling beyond the border
- Change in sensation -- itchiness, tenderness, or pain
- Change in the surface of a mole -- scaliness, oozing, bleeding, or the appearance of a bump or nodule

What if I find something suspicious?

It's important to know the difference between a harmless mole and a spot that might be a melanoma. A normal mole is most often an evenly colored brown, tan, or black spot on the skin. It can be either flat or raised. It can be round or oval. Moles are usually less than $\frac{1}{4}$ inch across, or about the width of a pencil eraser. Moles can be present at birth or they can appear later. Several moles can appear at the same time.

Once a mole has developed, it will usually stay the same size, shape, and color for many years. Moles may fade away in older people.

Most people have moles, and almost all moles are harmless. But it is important to recognize changes in a mole -- such as its size, shape, or color -- that suggest a melanoma may be developing.

Be sure to show your doctor any area that concerns you. A qualified doctor should be able to identify any suspicious areas you may have. If your doctor suspects you might have skin cancer, he or she will use one or more of the following methods to find out.

Medical history and physical exam

Usually the doctor's first step is to take your medical history (ask questions about symptoms and risk factors). The doctor probably will ask your age, when the mark on the skin first appeared, and if it has changed in size or appearance. You may also be asked about past exposures to known causes of skin cancer (including sunburns) and if you or anyone in your family has had skin cancer.

During your physical exam, your doctor will note the size, shape, color, and texture of the area in question, and if there is bleeding or scaling. The rest of your body may be checked for spots and moles that may be related to skin cancer.

The doctor may also feel the lymph nodes (bean-sized collections of immune system cells) under the skin near the suspicious area. Some skin cancers may spread to lymph nodes. Affected lymph nodes may become larger and firmer than usual.

If you are being seen by your primary doctor and skin cancer is suspected, you may be referred to a dermatologist (a doctor who specializes in skin diseases), who will look at the area more closely.

Along with a standard physical exam, many dermatologists use *dermoscopy* (also known as *epiluminescence microscopy [ELM]*, *surface microscopy*, or *dermatoscopy*) to help determine if a spot might be a melanoma or other type of skin cancer. The doctor uses a dermatoscope, which is a special magnifying lens and light source held near the skin. Sometimes the doctor will use a thin layer of oil with this instrument. A digital or photographic image of the spot may be taken. The use of these tests by experienced dermatologists can improve accuracy in finding skin cancers early. It can also often help reassure you that a lesion is benign (non-cancerous) without the need for a biopsy.

Skin biopsy

If the doctor thinks that a suspicious area might be skin cancer, they will take a sample of skin from that area to be looked at under a microscope. This is called a *skin biopsy*. Different methods can be used for a skin biopsy. The choice of method depends on the possible type of skin cancer, where it is on the body, and the size of the affected area. For more detailed information on biopsies, see our documents, *Melanoma Skin Cancer* and *Skin Cancer: Basal and Squamous Cell*.

If a spot is found to be cancerous or pre-cancerous, your doctor may recommend further tests or treatment. If the spot is small and localized, a more extensive biopsy or some type of surgery may be needed. For cancers that might be more extensive (especially melanomas), imaging tests might be done to see if the cancer has spread, and further treatment might include chemotherapy or radiation. Again, for more detailed information, see our skin cancer documents.

Additional resources

More information from your American Cancer Society

The following information may also be helpful to you. These materials may be ordered through our toll-free number, 1-800-227-2345.

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

Melanoma Skin Cancer (also available in Spanish)

Skin Cancer: Basal and Squamous Cell (also available in Spanish)

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

Why You Should Know About Melanoma (also available in Spanish)

National organizations and Web sites*

In addition to the American Cancer Society, other sources of information and support include:

American Academy of Dermatology

Toll-free number: 1-888-462-3376 (1-888-462-DERM)

Web site: www.aad.org

Environmental Protection Agency

Web site: www.epa.gov/eftpages/humasunprotection.html

National Cancer Institute

Toll-free number: 1-800-422-6237 (1-800-4-CANCER); TYY: 1-800-332-8615

Web site: www.cancer.gov

Skin Cancer Foundation

Toll-free number: 1-800-754-6490 (1-800-SKIN-490)

Web site: www.skincancer.org

**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.

References

American Cancer Society. *Cancer Facts & Figures 2010*. Atlanta, Ga: American Cancer Society; 2010.

El Ghissassi, Baan R, Straif K, et al. A review of human carcinogens--part D: radiation. *Lancet Oncol*. 2009;10:751-752.

Food and Drug Administration. Sunless Tanners and Bronzers. 2006. Accessed at www.fda.gov/Cosmetics/ProductandIngredientSafety/ProductInformation/ucm134064.htm on August 11, 2009.

Food and Drug Administration. Tanning Products. 2009. Accessed at www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/Tanning/ucm116434.htm on August 11, 2009.

Levy SB. Sunscreens and Photoprotection. eMedicine. 2009. Accessed at <http://emedicine.medscape.com/article/1119992-overview> on August 11, 2009.

Naylor MF, Rigel DS. Current concepts in sunscreens and usage. In: Rigel DS, Friedman RJ, Dzubow LM, Reintgen DS, Bystryn JC, Marks R, eds. *Cancer of the Skin*. Philadelphia, Pa: Elsevier Saunders; 2005:71-83.

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