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Warning Spots of Cancer and Moles

The bad news about skin cancer is that it is on the rise. The good news is that in many cases, people who are prone to skin cancer get advanced warning. In this chapter I describe several growths that are considered precancerous. They are important to know about and to recognize because they are easy to treat and may help in the prevention of melanoma or other skin cancer. When it comes to melanoma, certain moles may be a precursor to the cancer, but the vast majority of moles are not. Because many other precancerous spots may appear similar to totally harmless growths, some of the more common benign skin growths are discussed in this chapter as well.

Since nature raises red flags for cancer on our skin, it is prudent to take advantage of them and become familiar with those common growths that might herald the development of the malignant growths.

▪ ACTINIC KERATOSES

An actinic keratosis (pronounced actinic ker-ah-TOE-sis, also known as AK) is a precancerous growth. AKs are very common in fair-skinned individuals, especially those of northern European descent who have had a lifetime of

ACTINIC KERATOSIS

These precancerous “sun spots” can sometimes be felt before they are seen. There is a wide variety of them—most are visible to the naked eye and can appear in any of these forms:

- Rough spots on the surface of the skin noticeable only by touch
- Small reddened area, narrower than a pencil eraser
- Visible rough spot or patch, up to the size of a dime
- Faint, flat pink spot
- Occasionally bleed, with small scabs forming

sun exposure. The cause of actinic keratosis is sun exposure. Several years ago, our skin cancer research group at Yale was able to identify how ultraviolet radiation likely begins the process in the skin that leads first to these precancerous growths and later to squamous cell cancer itself. Although AKs are precancerous, we don’t really know the rates at which they may convert into invasive squamous cell cancer.

While it is true that only a small percentage of AKs turn into invasive cancer, combining data about ultraviolet radiation mutations with the appearance of the abnormal cells under the microscope, makes clear that AKs are the earliest stage of a skin cancer. AKs have atypical cells—large, dark nuclei, for example, and a disordered appearance under the microscope, indicating their tendency to divide more rapidly and more chaotically than the normal epidermis around them.

Practically speaking, if you have AKs they should be controlled. Some tiny ones may bear watching, but from a medical point of view any lesion that is big enough to be seen easily and felt doesn’t belong on your skin, represents an abnormal process, and should be removed (see box).

Because people who have one AK usually have many more, at least over a lifetime, they should be treated. I’ve observed that patients with AKs on their face and scalp (these are the most common locations) usually come in at the end of the summer with many more lesions than they had at the end of May. Similarly, after a sunless winter or good sun protection, the number of AKs seems to decrease to some degree. This highlights, again, the value of good sun protection.

▪ HOW TO TREAT AN AK

If an individual does not have many AKs, the simplest treatment is to gently apply liquid nitrogen with a cotton tip applicator or Q-tip. A versatile chemical used by plumbers and metalworkers as well as dermatologists, liquid nitrogen can selectively destroy precancerous cells. The normal cells surrounding the keratosis are relatively resistant to the freezing and survive. The treatment stings briefly, the skin then looks red for a day or two (like a bug bite) and occasionally a small scab may form (this is the dying tumor).

As with any surgical procedure, the skill of the physician determines the final results. It is important that lesions not be overtreated, because that may result in small permanent white scars. Any actinic keratosis begins in the epidermis, the top layer of skin, so it is rarely necessary to destroy below that level. Nevertheless, because it is impossible to always predict the AK's depth, the risk of scarring must be viewed as an acceptable risk—a little white spot may be preferable to what you would have if a skin cancer developed at the site.

Depending on the size of the AK, which can range from the size of a couple of grains of salt to that of a dime or quarter, other techniques may be used. If the growth is large, more aggressive treatment such as scraping and burning may be warranted. A larger AK may be closer in its actual behavior and appearance under the microscope to squamous cell cancer. The scraping method should be done cautiously.

Freezing or scraping and burning AKs are good techniques for people who have just a few keratoses, but may not be suitable for those with multiple lesions of all sizes on sun-damaged skin. This skin usually already bears the mutations that foretell the growth of new AKs. More extreme measures may be called for here.

One of these options is to apply an anticancer drug called 5-fluorouracil (5-FU) in cream form to the skin. Known best by the brand name Efudex, 5-fluorouracil is a mainstay of colon cancer therapy as well. Normally the cream is applied twice a day for four weeks. During that period, the skin becomes red and irritated, especially where AKs are present or even unknown AKs are brought to the surface with this treatment. The use of a topical steroid cream such as hydrocortisone 1% helps with the irritation as do open wet dressings (see page 274).

The irritation caused by Efudex can be a problem. Sometimes, if I really feel my patient would benefit from this medicine, I treat small sec-

tions at a time or control the irritation by using it only three or four days a week. Some dermatologists also add Retin-A to the four-day-a-week regimen or variations of it. The most important precaution when undergoing this treatment is to be prepared for the side effects. If you need it, you need it, but your dermatologist can probably customize a regimen for you that is acceptable.

Another treatment for AKs, when they are extensive, is the medium-depth chemical peel (see page 66). In this approach, the skin is first cleansed with an agent that removes oils and scale. No anesthetic is required. Next a pharmaceutical-grade acid such as trichloroacetic acid is gently applied with a Q-tip. The brief stinging or burning that occurs as a result is easily controlled with ice packs. At completion of the peel your skin may look a bit frosted. This indicates that the acid has been effective, destroying cells in the top layer of the skin. Over the ensuing 3–4 days, the skin appears red as though you had a sunburn; during that period, moisturizing assists in healing. By the seventh day after the procedure the skin is almost completely finished peeling off, just as skin peels after a sunburn (not that you would ever get one!). The dermatologist may do several peels, every eight to twelve weeks. After the process, a smoother, fresher appearance to the skin is often noted. In my experience, over time there is a decrease in keratoses, especially if the person follows sun precautions.

▪ MOLES

There probably isn't a human being alive who doesn't have at least one mole. It is, in fact, a small tumor and the average Caucasian adult may have twenty to forty of them. As we learned in chapter 2, dermatologists refer to moles as *nevi*. The word *nevus* (pronounced NEE-vus) comes from the Latin word for blemish. *Nevi* are small tumors of pigment-producing cells of the skin; in very fair-skinned people, they may appear flesh-colored or pink, rather than brown or tan. Moles are different from other pigmented spots such as freckles or seborrheic keratoses. Moles reside on the surface of the skin and in many cases extend into the dermis. Moles, which have a wide range of appearances, can be especially important warning signs if they become abnormal. Such atypical moles may be melanoma precursors.

One of the most common reasons for patients to see a dermatologist is concern about a particular mole. While the vast majority of moles are non-cancerous and never turn into cancer, it is important that every patient with many moles be evaluated at least once a year so that any mole that

has changed or appears irregular can be evaluated for the possibility of melanoma.

That some moles can turn into melanoma is a well-established scientific fact. The problem for doctors and patients is knowing *which* moles turn into cancer (and which ones don't). Based on training, a dermatologist can, within reasonable limits, decide which moles should be removed because they present a risk for melanoma. Such atypical moles usually have irregular or very dark pigmentation or have recently undergone a change in size. The advantage of diagnosing such moles is that if they represent melanoma in its precancerous state, complete removal in the doctor's office is a simple, relatively pain-free way of eliminating the chance that melanoma will develop in that mole. It is important to note that not all melanomas start in a mole and that this form of skin cancer can develop spontaneously.

After a full-body skin exam is performed, your dermatologist will identify which moles are of concern and will likely perform a small biopsy to remove them. A biopsy is usually just a partial sampling of the growth in order to determine what the best treatment, if any, is. Often, the "biopsy" may remove the mole completely. If the mole that was biopsied was not completely removed but did show signs of abnormality, total removal is now called for.

SHOULD YOU HAVE A FULL-BODY SKIN EXAM?

Monitoring your moles is an effective way of screening for melanoma. Use the following guidelines to determine if you would benefit:

- You are over forty.
- You have a family history of melanoma.
- You have fair skin, light-colored hair, blue, gray, or green eyes.
- You freckle easily.
- You have had blistering sunburns or chronic sun damage.
- You have many moles.
- You've had previous atypical moles diagnosed.
- You are concerned about any mole.

If any of these apply to you, see your dermatologist and request a full-body skin exam.

If the biopsy indicates that complete removal of the mole is necessary, the margin, or the area removed around the mole, should be no more than a quarter of an inch. The actual size of the mole and the margin around it determine the length of the scar you will have. Make sure your doctor is familiar with the proper margins and does not overdo it. Remember, atypical moles are not cancerous so conservative removal is sufficient.

About 2 to 8 percent of the population has at least one atypical mole. If it is determined that you have atypical moles, you should go to your dermatologist for regular skin exams. Many university dermatology departments have *pigmented lesion clinics* where dermatologists who are experts in moles can monitor you on an ongoing basis or provide second opinions. Despite media announcements about computers that can diagnose melanoma, it remains the case that the only way to be sure whether a mole is precancerous or not is to use the best medical computer we know: the dermatologist's skilled eyes and brain. If a mole is questionable he or she will perform a biopsy and the mole will be evaluated under a microscope. Under high magnification atypical moles have cells that are very large, sometimes forming little nests, and also have very large nuclei. Large nuclei are an indication that the DNA is very active and that the cell has the potential for dividing rapidly. (Cancer, as we learned earlier, is a condition in which cells divide rapidly and out of control.)

In most pigmented lesion clinics or in your dermatologist's office, patients who are at risk for developing melanoma—because they have a large number of moles, atypical moles, or a family history of melanoma—may be photographed so that the moles can be monitored on a regular basis.

A new examination technique that is gaining interest is called *epiluminescence microscopy*. In this case, a small amount of oil is placed over the mole and a magnifying scope similar to an otoscope or an ophthalmoscope is placed over the mole so that it can be viewed in a magnified fashion. This method can even be enhanced by digitizing the image of the mole, and in the future it may be possible to correlate this pattern with the risk of the mole turning into melanoma. This may prove to be a means of minimizing the number of biopsies that are required to evaluate an abnormal appearing mole.

Until this method is refined, the general rule I recommend is: *When in doubt, check it out*. If after the biopsy is done, there is still some question about whether it is abnormal, and some of the mole remains, follow the dictum: *When still in doubt, cut it out*.

■ PATTERN RECOGNITION: ■ IS IT A MONET OR A REMBRANDT?

If you have many moles it's wise to learn how to perform a self-exam. Examining your own skin involves knowledge of your moles and a sense of which ones appear to be changing.

Two factors make it possible to learn to do this. First, identifying errant moles is really an issue of pattern recognition. You don't have to be a doctor to look at your moles and identify the one that stands out. I believe that if you can look at a painting and can distinguish a Rembrandt from a Monet, you will be able to identify a mole that is different from all the others.

The second factor is that you know your body the best. I believe that we all have an amazing intrinsic or innate ability to identify those things that are just not right about our own body. In fact, one of the most important tips I give residents is that "the customer is always right." By this I mean that even if a mole does not appear abnormal to me but the patient communicates that he or she thinks it is a problem—it should be biopsied

SO YOU HAVE A MOLE ON YOUR FACE AND YOU'RE NOT A SUPERMODEL . . .

The majority of moles are benign. You might have a raised flesh-colored, tan, or brown mole on your face that you would like removed for cosmetic reasons. There are two options in this case. Laser is not one of them, in my opinion.

- **First choice:** Have a doctor shave off the raised mole flush with the surrounding skin. It will heal up in about a week. This does not result in complete removal of the benign growth, since cells will remain below the surface of the skin. The risk of this method is that you may get a small indentation, though this is likely to improve over several months. If the site does not heal as you would like, you can always proceed to:
- **Second choice:** Plastic surgery excision, but even with this approach, you will have a permanent fine line scar.

With the shave method (first choice), the mole may heal beautifully but pigment may come back or the mole itself could regrow since the procedure did not remove the area beneath the surface of the skin.

and studied. Too often I have heard of cases where a patient has brought a mole to the doctor's attention and even though the doctor was legitimately not concerned about it based on its appearance, subsequent biopsy demonstrated that it was atypical—or even melanoma.

I tell all my patients that if they have any concern about a mole they should bring it to my attention immediately so that it can be biopsied. The risks of biopsy are minimal. The site is injected with lidocaine solution so that it is anesthetized, and then a small shave of the mole is performed. Occasionally, a punch biopsy may be done (see Appendix 1 on dermatologic procedures). Your dermatologist will help you decide how closely your moles should be monitored. Perform a skin self-exam as described in the box on this page.

It is important to put things in perspective. You may have many lesions that are pigmented, but most often they are not melanoma and in many cases are not even moles.

Some people with atypical moles believe that covering the mole with adhesive bandages or sunscreen while they're out in the sun will minimize the risk of melanoma. Although it is generally a good idea to minimize sun exposure, there is no way to guarantee that this approach will prevent melanoma overall. Again, I must emphasize that the best way to

HOW TO EXAMINE YOURSELF FOR SKIN CANCER AND MOLES

1. Find a private, well-lighted room with a full-length mirror.
2. With the help of a hand-held mirror examine your neck, back, shoulders, and back of your legs.
3. Next examine under your arms.
4. Examine your neck, chest, front of your legs, and genital area.
5. Carefully study your face, including ears and hairline area.
6. Next, sit down comfortably and look at your soles, palms, and inspect between your toes and fingers.
7. As you examine your skin become familiar with any moles you have had for a long time so that you will be able to tell if any have changed.
8. To examine your scalp, one area that will be hard for you to see, enlist the help of a friend. Use a hair dryer set on low to blow away hair and permit better examination of the skin.
9. If you notice any new moles, moles that have changed, or spots that are bleeding see your dermatologist.

HOW TO USE SUNSCREEN OR SUNBLOCK

- Test the product first on a small area of skin on your forearm to make sure you are not sensitive to it.
- In children use sunscreen that does not contain alcohol and is creamy enough to better see where it has been applied.
- Apply liberally and massage into skin smoothly to avoid skipping areas, which will show up as streaks of sunburn after being outdoors.
- Be careful applying sunscreen around the eyes, especially in younger children who might rub the area. If the eyes get irritated, wash with tap water.
- Apply sunscreen about 30 minutes before going outdoors.
- Select a water-resistant or waterproof product and apply after swimming or outdoor activity.
- Use lip balm with sunscreen or sunblock in it.

deal with melanoma is to identify it early, when it is at a fully treatable stage.

▪ CONGENITAL MOLES

Aside from atypical moles there is another type of mole that some doctors believe has some potential to turn cancerous over a lifetime. These moles, called *congenital nevi*, are usually present at birth or shortly thereafter. They tend to grow over time and tend to be very dark in color. These moles often have hair in them, an almost universal sign that the mole is benign. However, in those congenital moles greater than 1.5 centimeters (there are about 2.5 centimeters to the inch), it is believed there is a small but measurable risk of turning into melanoma. As a result, many dermatologists believe that these large congenital moles should be removed on a preventative basis. How to take care of congenital moles is still controversial, so you should be guided by your dermatologist.

Another type of mole, the giant congenital mole, whose size is greater than about three inches in diameter, has a 4 to 6 percent chance of developing melanoma. Unfortunately, because of its size, removing these moles can be a problem. The question about whether to remove these growths often arises in childhood. Because of the large size, skin

NORMAL MOLES

- Symmetrical, round, or oval
- Border is sharp and well-defined
- Color is usually uniform tan, brown, or skin color
- Usually less than a quarter of an inch in diameter
- Develop throughout childhood and into early adulthood
- Normal, benign moles usually look very similar to each other.

grafting is sometimes the best approach, but careful consultation with your dermatologist, pediatrician, and plastic surgeon should be pursued to develop a plan that will be best for your child. In general, it is believed that if a congenital mole should be removed because of concern about melanoma, it should be completed before puberty.

When the decision is made to remove a congenital mole, one option for removal is the staged approach. In this technique, under local anesthesia, half the mole is removed in an office procedure. Three to six months later, the doctor goes back and removes the residual mole, thus limiting the total length of the scar and often providing the best cosmetic result. Be sure to discuss with your doctor the various options for removing moles that are large or are located in difficult areas. Not all large moles are amenable to the staged approach.

All moles that are removed should be evaluated by a competent dermatopathologist, a pathologist who is specially trained to study skin specimens. If you belong to a managed-care plan that requires that pathology specimens be sent to a general pathologist, you should insist that they be reviewed by a qualified dermatopathologist. Although you would not normally think to ask where your specimen is being analyzed, in this case it is appropriate and your dermatologist will likely welcome your interest in your care. Often, the dermatopathologist must consult with the dermatologist in order to get additional information about the mole, which is best accomplished when the dermatopathologist and the dermatologist have an ongoing professional relationship.

▪ FRECKLES

Freckles are harmless, and on many people they are cute. Unfortunately, some of those who have them don't feel the same way and seek to have them removed.

Freckles are superficial spots on the skin where the regular skin cells of the epidermis (not melanocytes) have increased pigmentation. Sun generally makes freckles darker, so if you don't like your freckles, your best strategy to minimize them is to use good sun protection. If you have some freckles that are of special cosmetic concern, they may be treated by laser.