

A Patient Guide to
MOHS SURGERY
for Skin Cancer

This guide is designed to help increase your knowledge about skin cancer, its causes and treatments. Upon completion, I hope you will have a better understanding of the therapy proposed for your particular problem.

1. WHAT IS SKIN CANCER?

Skin cancer is the most common cancer in humans. More than 1,000,000 Americans will be treated for skin cancer this year. Skin cancer is skin tissue which grows at an uncontrollable rate. There are three main forms of skin cancer; basal cell carcinoma, squamous cell carcinoma, and melanoma. The names refer to the cells of the skin that give rise to the cancer.

2. WHAT CAUSES SKIN CANCER?

The causes of skin cancer, like many other forms of cancer, are not completely known. Excessive exposure to sunlight is the single most important factor associated with the development of skin cancers. They appear most often on the face and arms, the most exposed parts of the body. Fair skinned people develop skin cancer more frequently than darker skinned people. Skin cancers are more common in the southern United States.

A tendency towards developing skin cancer is also inherited. Skin cancers occur very frequently in certain ethnic groups, especially those with fair complexions such as Northern Europeans. Those individuals who spend more time in the sun will have more severe and earlier signs of sun damage. (See item #30).

3. IS SKIN CANCER DANGEROUS?

The most common types of skin cancers are basal cell and squamous cell. Both types enlarge locally from their point of origin and usually do not spread (metastasize) to distant parts of the body. If not completely removed, both types will frequently invade and destroy structures in their paths of growth. Compared to other forms of cancer, these types of skin cancer are generally recognized in their early stages and are therefore more easily cured.

Melanoma, on the other hand, may be life threatening if not treated early. It usually appears as a brownish black spot or bump on the skin which enlarges and sometimes itches or bleeds. Occasionally, melanomas originate in moles which have been

present for many years. Any mole that changes in size, shape, color, consistency, or sensation should be examined by your dermatologist.

4. WHERE DOES SKIN CANCER START? HOW DOES IT GROW?

Skin cancer begins in the uppermost layer of the skin and grows downward, forming roots and spreads horizontally along the surface of the skin. Unfortunately, these extensions cannot be directly visualized. Therefore, what is apparent to the naked eye on the surface of the skin actually may be only the "tip of the iceberg".

5. WHAT DOES SKIN CANCER LOOK LIKE?

Basal cell carcinomas often start as a small, pearly, wax like, or pale bump on the skin. Fine blood vessels may be seen on the surface. Other forms may look like a red, scaly, flat patch. Left untreated, such skin cancers may enlarge, ulcerate or bleed easily. Any blemish, discoloration, or scaling should be viewed with suspicion.

Melanoma can arise from pre-existing moles or may develop on its own. Any "new mole" or pre-existing mole that changes, or begins to itch or burn should be examined. These are the early signs of melanoma. Ulceration and bleeding are seen in more advanced lesions. When detected and treated early, melanoma cure rates approach 100%. Persons with family members having melanoma are more likely to develop melanoma themselves. Prompt evaluation of any suspicious moles or spots is vitally important. It is recommended that all first degree blood relatives of any patient with melanoma have a total body skin exam by a dermatologist.

6. HOW IS SKIN CANCER DIAGNOSED?

Often, just by careful inspection of a suspicious mole or worrisome lesion, you can be assured that the lesion is benign. When necessary, a biopsy is performed. Using local anesthetic, a small piece of the lesion is removed for analysis. We can often give you the answer within 20 minutes by making a frozen section in our office laboratory if your insurer allows. Some insurers require all specimens be sent to a particular lab or it will be considered a non covered service.

7. HOW MAY SKIN CANCER BE TREATED?

There are several methods of treating skin cancer, all highly successful in the majority of patients. These methods include excision (surgical removal) and suturing (stitching); curettage and dessication (scraping and burning with an electric needle or laser); radiation therapy (x-ray); cryosurgery (freezing); topical chemotherapy (chemical destruction); and MOHS Surgery (microscopically controlled excision). The method chosen depends on several factors, such as the location of the cancer, its size, and previous therapies.

8. HOW EFFECTIVE IS MOHS SURGERY IN THE TREATMENT OF SKIN CANCER?

Using the MOHS Surgery technique, the percentage of success is very high, often 97% to 99%, even if other forms of treatment have failed. Therefore, with this technique, an excellent chance of cure is achieved; however, no one can guarantee a 100% chance of cure.

9. WHAT ARE THE ADVANTAGES OF MOHS SURGERY?

Using microscopic examination, the MOHS surgeon can pinpoint areas involving cancer and selectively remove tissue from those areas. In this way, the skin cancer is traced out to its roots. This results in the removal of as little normal tissue as possible and the highest chance of cure. Other forms of therapy frequently have only a 50% to 70% chance of curing skin cancers that have been unsuccessfully treated previously. No other procedure is as effective and preserves so much normal tissue as the MOHS technique.

10. HOW IS MOHS MICROSCOPIC CONTROLLED SURGERY PERFORMED?

Originally, the procedure involved the application of a chemical on the skin. Subsequently, the procedure was revised and refined, eliminating the need for the chemical fixative and maintaining the microscopically controlled excision. Today there are three separate steps to the fresh tissue technique: (1) excision of the visible part of the skin cancer; (2) surgical removal (or excision) to a certain depth of that tissue, and (3) examination of this excised tissue under the microscope. Before this tissue is examined, it is oriented in a special way to distinguish top from bottom and right from left. By doing this, we are able to pinpoint the location of any remaining tumor during the microscopic examination. If more cancer is found, the procedure is repeated, but only in the area of the remaining cancer. This is how the cancer roots are traced out. Each time tissue is removed it is called a "stage."

11. HOW LONG DOES IT TAKE?

Total removal of a skin cancer can require one surgical stage or may involve many surgical stages. Each stage takes approximately 1 hour for all slides to be prepared and read. The actual time removing the tissue itself is usually only 5 or 10 minutes. Plan to be with us most of the day. After the surgery, a decision is made as to the best way to manage the wound created by the surgery. This will be discussed with you (see items 21, 22, 23). We are vitally concerned with our patient's appearance and can work closely with our reconstructive and plastic surgery colleagues. We want you to look as good after surgery as before.

12. WILL THE SURGERY LEAVE A SCAR?

Yes. Any form of surgical therapy will leave a scar. The MOHS Surgery procedure tends to minimize this as much as possible by removing the least amount of normal skin.

13. WHO DOES MOHS SURGERY?

Dermatologists who finish their residency may take a special fellowship at an institution approved by the American College of MOHS Surgery. Dr. Marley was the first such trained physician in the N.E. Philadelphia and Bucks County areas. He is one of fewer than 100 physicians nationwide certified by the American Board of MOHS Surgery & Cutaneous Oncology. Some doctors learn the Mohs method by taking courses throughout the country.

14. WILL I NEED TO BE HOSPITALIZED?

Probably not. The surgery is performed as an out patient procedure in our office. In twenty five years, only two patients have needed hospitalization.

15. WHAT HAPPENS AT THE PREOPERATIVE (CONSULTATION) VISIT?

The preoperative visit gives the physician an opportunity to examine your skin cancer or lesion, take a pertinent history and determine the most suitable way of treating your particular problem. Also, it gives you the opportunity to ask questions and learn about the procedure. Since all skin cancers are not alike, we need to know exactly what type you have before we can decide how best to proceed. For this reason, we usually perform a biopsy at the initial visit. As mentioned, this takes approximately 20 minutes. When a patient has been referred to us by another doctor, usually the biopsy (removal of a piece of skin tissue) has been performed, and we have the pathology information. Most patients are photographed before treatment, and immediately after surgery. These photographs become part of your medical record. The nursing assistant will review the preoperative instructions sheet with you.

Every skin cancer is different, and because of the high demand for MOHS surgical treatment, careful scheduling is necessary. A suitable date for surgery that is mutually acceptable will be arranged. We call to confirm surgery appointments 2 working days in advance. Your courtesy in canceling appointments permits us to care for other patients.

16. WHAT IF MY SKIN CANCER HAS BEEN TREATED SEVERAL TIMES ?

A frequent reason for being sent to Dr. Marley for MOHS Surgery is that other forms of treatment have failed. This does not mean that you are cancer prone or have a hopeless case. It merely means that the methods used to treat you in the past were not effective enough to destroy all of your skin cancer cells. Because MOHS surgery uses complete systematic microscopic control to search out the roots of the cancer, it can cure almost all patients -- even those in whom skin cancer has persisted in spite of several other treatments. No one, however, can guarantee a 100% chance of cure.

17. WILL MY INSURANCE COVER MOHS SURGERY?

As with other types of skin cancer surgery, most health insurance policies cover MOHS Surgery. Please check with the office staff if you have any questions regarding costs or insurance issues.

18. HOW SHOULD I PREPARE MYSELF FOR MOHS SURGERY ?

Try to get a good night's rest and eat a light breakfast. If you are taking any medication, take it as usual unless we direct otherwise. It is a good idea to bring a book or magazine with you on the day of surgery. The procedure may take a full day, much of which you will spend in the waiting room. Wear dark comfortable clothing. If your wound is on the head, face, or trunk, wear a dark button-down shirt. Please remove all jewelry in the area that is to be treated (ear rings, necklaces, watches, bracelets) and especially rings if your site is on your finger, wrist or hand.

19. SHOULD SOMEONE COME WITH ME ON THE DAY OF SURGERY?

Yes - it may be pleasant to have company while sitting in the waiting room, and we recommend that you have someone to drive you home. This is essential if your skin cancer is located on your face or hand.

20. WHAT HAPPENS ON THE DAY OF SURGERY?

Appointments for surgery are scheduled early in the day. The nursing assistant will use a local anesthetic, usually Xylocaine, to numb the skin around the skin cancer. Tell us if you experience anything more than a slight discomfort. The next step is for Dr. Marley to surgically remove a layer of skin involved with the cancer. After this tissue has been carefully removed, bleeding is stopped with a cauterizing machine which generates heat. Before you leave the surgical suite, the assistant will bandage and dress your wound. The removed tissue is processed in our office laboratory for microscopic examination. It usually takes about an hour to prepare and examine the slides. Sometimes it may be slightly shorter or longer. While you are waiting, you may go out for some refreshments. The Bensalem office is located between McDonald's and International House of Pancakes.

If examination of the slides reveals that your tissue still contains cancer cells, the procedure will be repeated. Several surgical excisions and microscopic examinations may have to be done in one day. The average number of surgical sessions is 1.82, so most patients are finished by noon. If you must stay longer, have a light lunch. Please -- no alcoholic beverages. Alcohol dilates blood vessels which may then cause bleeding problems. Rarely does anyone stay beyond 2PM.

21. WHAT IS THE NEXT STEP AFTER MOHS SURGERY HAS BEEN COMPLETED?

When Dr. Marley has determined that the skin cancer has been completely removed, a decision is made on what to do about the wound created by the surgery. Usually there are three choices: (1) close the wound with stitches; (2) let the wound heal by itself; (3) cover the wound with a skin graft or flap. Dr. Marley will discuss which of these choices will be best for your individual case.

22. WHAT HAPPENS IF THE WOUND CAN BE CLOSED IMMEDIATELY WITH SUTURES OR IF A SKIN GRAFT IS USED?

If we close the wound with sutures or place a graft, the post operative wound care instruction sheet will be reviewed with you.

23. IF THE WOUND IS ALLOWED TO HEAL BY ITSELF, WHAT IS THE PROCEDURE?

If the wound is allowed to heal by itself (granulate), you will be given an instruction sheet. The dressing must be changed two times a day until healing is complete. All wounds normally drain, and dressings are changed twice daily to rid the wound of such drainage.

24. WILL I HAVE PAIN AFTER THE SURGERY?

Most patients do not complain of pain. If you are uncomfortable, we recommend taking 2 tablets of Tylenol every four to six hours. Avoid aspirin containing compounds, as indicated in the pre op sheet, as these may promote bleeding. If you think you may need stronger pain medicines, we will write you a prescription for Tylenol with codeine unless you prefer a different medication.

25. WHAT ABOUT BLEEDING AFTER SURGERY?

Rarely, does bleeding occur following surgery. If this should happen, lie down and place steady, firm pressure over the bandage as close as possible to the area that is oozing blood.

Mild oozing of blood: No need to remove the dressing. Direct pressure with the aid of clean gauze for 15 minutes will stop it.

Moderate bleeding: Remove the dressing. Apply direct pressure with clean gauze for 15 minutes. Apply a new dressing when the bleeding stops.

Severe bleeding: Remove the dressing. Apply direct pressure with clean gauze until you reach the office or the nearest emergency room. Have someone call the office (215) 639-7546, or Dr. Marley at home. If there is no answer, call Dr. Marley's service at 215-750-4795 to reach him.

26. WHAT ARE THE OTHER POSSIBLE COMPLICATIONS?

All wounds develop a small, surrounding halo of redness which disappears gradually. Severe itching with extensive redness may indicate a reaction to adhesive tape. You should call our office if this develops. An appropriate medication or cream will be prescribed.

Swelling is common following surgery, particularly when it is performed around the eyes. All wounds show a moderate amount of swelling. Usually this is not a problem. Occasionally, black and blue bruising occurs. We insist on frequent dressing changes because all wounds normally drain. We will instruct you on how to change the dressing and give you a sheet outlining the wound care.

27. WHAT HAPPENS AFTER THE WOUND HAS HEALED?

You may experience a sensation of tightness (or drawing) as the wound heals. This is normal. After several months, you will feel this less and less. Frequently, tumors involve nerves, and it may take up to a year or more before feeling returns to or near normal. Sometimes the area stays numb permanently. Only time will tell.

The new skin that grows over the wound contains many more blood vessels than the skin that was removed. This results in a red scar. The area may be sensitive to temperature changes. This sensitivity improves with time, and the redness gradually fades.

Patients frequently experience itching after their wounds have healed because the new skin that covers the wound does not contain as many oil glands as previously existed. Plain petroleum jelly will help relieve the itching.

28. ONCE THE WOUND HAS HEALED, WHEN MUST I RETURN FOR FOLLOW-UP?

A follow-up period of observation for at least five years is essential. After the wound has healed, our practice is to have patients return to their referring physicians for semi-annual visits. Experience has shown that if there is a recurrence, it usually will be within the first year or two after surgery.

Studies have shown that once you develop a skin cancer, there is a possibility that you will develop others in the years ahead. We recommend that you be seen at least once a year for the rest of your life by your dermatologist so that your skin can be examined to determine whether you have developed any new skin cancers. Also, should you yourself notice any suspicious areas on your skin, it is best to check with your referring physician to see if a biopsy is indicated. Of course, we are happy to see you if you have concerns about a particular area.

29. LATER ON, MUST I AVOID THE SUN?

No. We do not think that sunshine will be harmful to you as long as you provide yourself with adequate protection, avoid burning, and use discretion. Remember, it has taken many years for your skin cancer to develop. Complete avoidance of sunshine will not prevent new skin cancers and can be bad for your bones.

As mentioned earlier, sunlight probably is the main contributing factor in the development of skin cancer. Patients who develop one skin cancer often will develop more at a later time. Therefore, in the future, when you go into the sun, we recommend that you liberally apply sunscreen that protects you against UVA and UVB rays and has a sun protection factor (SPF) of 25 or greater to all exposed areas, including the tops of your ears. It is best to apply the sunscreen about 20 minutes before going outdoors. Be sure to reapply it liberally after swimming or exercising since most sunscreens wash off with water or perspiration. In addition to a sunscreen, you may wish to wear a broad brimmed hat and utilize clothing to further protect yourself from the sun. Avoid going out when the sun's rays are strongest (between 11 AM and 3 PM).

Yes, you can lead a normal life style and enjoy the outdoors -- if you take precautions. Try to minimize further sun damage to your skin. Teach good sun exposure precautions to your children (and grandchildren). Daily use of sunscreens by children during the first two decades of life can reduce their incidence of skin cancer and other signs of sun damaged skin by as much as 75%!

30. WHAT CAN BE DONE FOR THE OTHER SIGNS OF SUN DAMAGED SKIN?

Skin that has been exposed to the sun after many years has several hallmarks - fine wrinkles, a rough texture (much like leather), prominent veins or capillaries (spider veins on the face or legs), and the development of precancerous keratoses. We feel that your appearance is very important. Thus, we would like you to know of a variety of cosmetic skin surgery services that are available to enhance your skin's appearance.

FILLERS - Juvaderm and Radiesse are the most commonly used non-surgical fillers to improve skin surface contours, elevate depressed scars and help facial creases and wrinkles.

BOTOX - A non surgical, FDA approved chemical that is used to improve forehead creases and "crow's feet" lines around and between the eyes. Treatment times are brief and there is minimal if any bruising.

LASERBRASION - This is a surgical method of removing surface skin. It smoothes or removes fine irregularities on the skin. The appearance of many surgical, traumatic or acne scars can be improved by laserabrasion. Fine wrinkles around the lips can also be treated in this manner.

CHEMICAL PEELS - Chemical solutions are carefully placed on the skin to remove the outer and middle skin layers. This improves skin texture, color, and fine wrinkles around the eyes, cheeks and upper lip. The particular solutions used are based upon the areas treated and the needs of the patient.

SPIDER VEIN TREATMENTS - Many superficial veins or capillaries are often seen on the cheeks, nose and legs. A mild sclerosing solution can be used to eliminate 80% or more of the leg lesions. No local anesthesia is even necessary. The Photoderm and VascuLight laser can also be used for facial blood vessels and leg veins.

LASER HAIR REMOVAL - The Cutera Cool Glide hair removal system is a very effective FDA approved method for removing unwanted dark hair in any area in most skin types.

LASERGENESIS - This light based procedure helps improve fine wrinkles, surface skin blood vessels, sunspots (lentigos), and facial redness from rosacea . Using IPL (intense pulsed light) and a Nd:YAG laser in unique low energy settings gives us the opportunity to treat facial redness and many of the undesirable manifestations of sun damage without removing the outer skin layer (epidermis). This “non ablative photorejuvenation” process uses gentle light pulses to heat the pigment cells and blood vessels causing them to lighten. It is felt that the sun damaged elastic tissue shrinks, thereby tightening the skin. New collagen also forms from the treatments improving skin texture. Since the epidermis is not removed as in deep chemical peels and CO2 laser resurfacing, there is no down time necessary for recovery, a valuable lifestyle feature. You can return to your normal activities immediately after the procedure. If you have facial redness or sun damaged skin that has not responded to topical medication, our Laser Genesis Facial may help.

31. WHAT IF I HAVE MOLES I WANT REMOVED?

People have moles (nevi) removed for many reasons. When raised moles are located on the neck, waist or arms, they may become irritated by rubbing on clothing or jewelry. Some moles have hairs that are unsightly. Others have objectionable pigmentation. Raised moles can be excised flat to the surrounding skin. The resulting flat scar is smaller and often imperceptible. Hairy moles can be excised and sutured or can be excised flat and use EpiLight to remove the hair. Mole pigment can often be lightened by various skin bleaches or laser treatment.

FOR FURTHER QUESTIONS CALL DR. MARLEY: (215) 639-7546

Bensalem office: The Constitution Building, 1950 Street Road, Suite 100, Bensalem, PA 19020.
(at Street & Hulmeville Rds., between IHOP and McDonalds)

Newtown office: 509 E. Washington Avenue, Newtown, PA
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