



## IMPORTANT REMINDERS FOR YOUR MOHS SURGERY

9/15/11

- ✓ **DO** advise us as soon as possible if you must cancel or change your appointment. If you have a bad cold, the flu, or a fever greater than 100°, the day prior to your surgery, call the office 731-784-4300. It may be necessary to reschedule your appointment.
- ✓ **DO** get a good night's sleep prior to surgery.
- ✓ **DO** take your usual medications on schedule unless instructed otherwise.
- ✓ **DO** eat a good breakfast, and consider bringing snacks or a light lunch.
- ✓ **DO** dress comfortably with a button up shirt or blouse if your surgery is on the chest or back. Avoid wearing an undershirt which must be pulled over the head.
- ✓ **DO** bathe & shampoo your hair the night prior to surgery (the surgery site must be kept absolutely dry for at least 24 hours after surgery).
- ✓ **DO** bring something to occupy your time for the waiting periods, WIFI is available in the clinic.
- ✓ **DO** let us know on the medical history form if you are taking aspirin or products containing aspirin under the direction of a physician.
- ✓ **DO BRING A DRIVER. DRIVING CAN BE HAZARDOUS AND IS STRONGLY DISCOURAGED IF WE ARE WORKING AROUND YOUR EYES.**
- ✓ **DO** have plain Tylenol on hand at home, and bring some with you, to take before your local anesthesia wears off. You should plan to take some 3x a day for the first 3 days.
- ✓ **DO** have ice packs at home (a freezer bag of frozen peas or corn kernels works well).
- ✓ **DO NOT stop your blood thinner such as Plavix, Coumadin, or aspirin if prescribed by a doctor.**
- ✓ **DO NOT** take Ginseng, Gingko, Garlic, or Vitamin E, 14 days prior to surgery.
- ✓ **DO NOT** consume alcohol 48 hours prior to surgery or for 24 hours following surgery.
- ✓ **DO NOT** smoke or use tobacco products the day of surgery and the week following.
- ✓ **WOMEN DO NOT** wear any makeup, including lipstick and eye makeup if your surgery is on the face.
- ✓ **MEN DO NOT** shave if your surgery is in the beard area. Shaving causes tiny nicks in the skin which can result in greater numbers of bacteria on the skin. Also, Dr. Carranza needs to see the location and orientation of your hair follicles to best plan reconstruction, such as skin grafts.



## Mohs Micrographic Surgery FACT SHEET

Mohs Micrographic Surgery, performed by a fellowship-trained member of the American College of Mohs Surgery, is an advanced treatment for skin cancer that offers the highest cure rate—even if the skin cancer has been previously treated by another procedure. Mohs Micrographic Surgery is a state-of-the-art treatment in which the physician serves as surgeon, pathologist and reconstructive surgeon. It relies on the ability of a microscope to trace out and ensure removal of the skin cancer's roots. This procedure allows physicians who have completed a fellowship in Mohs surgery to see beyond the visible disease and to precisely identify and remove the *entire* tumor, leaving healthy tissue intact and unharmed. Mohs surgery is most often used to treat two of the most common forms of skin cancer; basal cell carcinoma and squamous cell carcinoma, however it is also an effective treatment for other types of skin cancer.

Clinical studies have shown that the cure rate for Mohs Micrographic Surgery is the highest of all treatments for previously untreated basal cell carcinoma – 99 percent – and 95 percent for recurrent basal cell carcinomas. As the most exact and precise method of tumor removal, this procedure minimizes the chance of recurrence and decreases the potential for scarring or disfigurement. As such, **Mohs surgery offers the highest potential for complete removal of the cancer, while sparing the surrounding healthy tissue.**

### History

Developed by Frederic E. Mohs, MD, in the 1930s, the Mohs micrographic surgical procedure has been refined and perfected for more than half a century. Initially, Dr. Mohs removed tumors with a chemosurgical technique, which entailed the application of a chemical to the tumor before tissue was removed. The process was time consuming and it was usually necessary to extend the surgery over the course of a number of days during which time, thin layers of tissue were excised, frozen and then pathologically examined. The surgery included a unique technique for color-coding excised specimens and created a mapping process to accurately identify the location of remaining cancerous cells.

As the process evolved, surgeons omitted the chemical treatment and refined the technique so surgery could be completed in one day. However, the color-coded mapping of the excised specimens and the thorough microscopic examination of excised tissue plus the fact that the same physician acts as both surgeon and pathologist remains central to the Mohs Micrographic Surgery to this day and generally permits immediate reconstruction of the wound.

### Treatment Issues

Common treatment procedure such as curettage, and electrodesiccation, cryosurgery, and radiation therapy often prove less effective because they destroy the tissue and leave no

specimen for pathological examination. Standard surgical excision relies on the human eye and examines only a fraction of the actual surgical margins for cancer, whereas Mohs surgery evaluates 100 percent of the surgical margins. In an effort to preserve healthy tissue, too little tissue may be removed, which can cause the cancer to recur. It can also result in the removal of too much healthy tissue, resulting in unnecessary scarring.

Some tumors often do not respond well to common treatments, including those tumors greater than two centimeters in diameter, those in difficult locations and those complicated by prior treatment. Removing a recurrent skin cancer is more complicated because scar tissue may hide cancerous cells. In these cases Mohs surgery is the most appropriate treatment.

### **Procedure**

The Mohs process includes a specific sequence of surgery and pathological investigation. Mohs surgeons examine the removed tissue for evidence of cancer cells. Once the visible tumor is removed, Mohs surgeons trace out the paths of the tumor using two key tools:

- A map of the surgical site;
- A microscope

Once the obvious tumor is removed, Mohs surgeons:

- Remove an additional, thin layer of tissue from the tumor site;
- Create a “map” or drawing of the removed tissue to be used as a guide to the precise location of any remaining cancer cells;
- Microscopically examine the removed tissue thoroughly to check for evidence of remaining cancer cells.

If any of the sections contain cancer cells, Mohs surgeons:

- Return to the specific area of residual tumor as indicated by the map;
- Remove another thin layer of tissue *only* from the specific area where cancer cells were detected;
- Microscopically examine the newly removed tissue for additional cancer cells.

If microscopic analysis still shows evidence of disease, the process continues, layer-by-layer, until the cancer is completely removed.

### **Indications**

Mohs Micrographic Surgery is used primarily to treat basal and squamous cell carcinomas, but can also be used to treat less common tumors.

Mohs surgery is indicated when:

- The cancer is in a difficult area where it is important to preserve healthy tissue for maximum functional and cosmetic result, such as eyelids, nose, ears, lips, fingers, toes and genitals;
- The cancer was treated previously and recurred;
- The cancer is large;
- The edges of the cancer can not be clearly defined;
- The cancer grows rapidly and uncontrollably;
- Scar tissue exists in the area of the cancer.

## **Reconstruction**

The best method of managing the wound resulting from surgery is determined after the cancer is completely removed. Once the final defect is known, management is individualized to achieve the best results and to preserve functional capabilities and maximize aesthetics. The Mohs surgeon is also trained in reconstructive procedures and usually will perform the reconstructive procedure necessary to repair the wound. A small wound may be allowed to heal on its own, or the wound may be closed with sutures, a skin graft or a flap. On some occasions another surgical specialist may complete the reconstruction as part of a team approach.

## **Cost Effectiveness**

In addition to its high cure rate, Mohs Micrographic Surgery also has been shown to be cost effective. In a study of costs of various types of skin cancer removal, the Mohs process was found to be comparable to the cost of other procedures, such as electrodesiccation and curettage, cryosurgery, excision and radiation therapy.

In addition, Mohs Micrographic Surgery has other advantages:

- Because it preserves the maximum amount of normal skin, Mohs surgery often results in smaller scars.
- With its high cure rate, Mohs surgery minimizes the risk of recurrence and eliminates the need for more complicated surgery, which may be necessary if the cancer recurs.
- Because the Mohs procedure is performed in the surgeon's office and pathological examination of the tissue is conducted immediately, the entire process can often be completed in a single day.

## **The Fellowship-Trained Mohs Surgeon**

The American College of Mohs Surgery is the oldest professional organization of physicians who have attained extensive training and experience in Mohs Micrographic Surgery. Dr. Frederic Mohs founded the organization in 1967. One of the major goals of the Mohs College is to ensure the highest quality of training in Mohs surgery, which thereby ensures the highest quality of care for patients undergoing this procedure.

To be accepted as a member of the Mohs College, physicians must complete a three-year residency in dermatology or a related field, plus a one- or two-year fellowship program approved by the Mohs College that includes extensive training in Mohs surgery, pathology, and reconstructive surgery. Currently more than 70 training centers around the United States are recognized by the Mohs College for instruction in Mohs Micrographic Surgery.

Physicians who have completed a Mohs-College-approved fellowship will, by virtue of their rigorous training, possess the skills and expertise necessary to perform Mohs Micrographic Surgery at all levels of complexity.

**“Do I need a Mohs Surgeon?” The question to ask if a skin cancer is detected.**

With the advent of the “sun season,” the public is urged to contact their doctor or dermatologist to schedule a skin cancer screening. By heightening awareness of skin cancer as Americans spend more time outdoors under the summer sun and vacationing at the beach, the American College of Mohs Surgery wants to alert people of the dangers associated with skin cancer.

“Skin cancer is the most common and rapidly increasing form of cancer. More than 3.5 million Americans will be diagnosed with the disease this year alone,” said Dr. Dafnis Carranza, M.D., a fellowship-trained Mohs surgeon and member of the American College of Mohs Surgery. “If skin cancer is detected, patients should know that it is not necessarily life threatening or disfiguring. Effective skin cancer treatments are available, and in complex or advanced cases, Mohs Micrographic Surgery (a precise procedure that provides up to a 99 percent cure rate for certain types of skin cancer) is the treatment of choice.

Mohs Micrographic Surgery is a state-of-the-art skin cancer treatment that relies on the precision and accuracy of a microscope and immediate pathological examination of the tissue sample to trace out and ensure the removal of skin cancer—down to its roots. This technique ensures that all diseased tissue is removed, leaving healthy skin intact so that the Mohs surgeon, who is also trained in reconstructive surgery (repairing the wound), will be able to better repair the incision and minimize scarring.

An additional benefit of Mohs surgery is cost-effectiveness. “In the current health care environment, we need to not only find medically effective treatments, but cost effective ones as well,” said Dr. Carranza, whose practice is located in Humboldt Tennessee. “Mohs surgery fits this bill because the skin cancer recurs so rarely after treatment.”

A study published in the Journal of the American Academy of Dermatology showed that Mohs surgery is one of the most cost-effective skin cancer treatments available because of the low recurrence rate of tumors treated via the Mohs procedure. While most skin cancer treatments have a recurrence rate of 10 percent, certain tumors treated with Mohs surgery return only one percent of the time.

“The highest cure and low recurrence rates equal fewer surgeries for Mohs patients,” said John Zitelli, M.D., co-author of the study and a former president of the Mohs College. “Mohs patients also require fewer follow-up examinations than those treated with other methods.”

Because Mohs surgery minimizes scarring, the procedure is particularly advantageous when the cancer is located in a cosmetically sensitive area of the body, or a location where it is important to preserve healthy tissue for maximum function such as eyelids, nose, ears, lips, scalp, fingers, toes or genitals.

“If a patient is told by a family physician or dermatologist that he or she has skin cancer on the head, face, or neck, the patient’s first question should be “Do I need a Mohs

surgeon?” said Dr. Carranza. “The combination of minimally invasive surgery, highest cure rate, and cost effectiveness make Mohs surgery by a fellowship-trained Mohs surgeon the best option for many patients.”

Mohs micrographic surgery is most commonly used for basal and squamous cell carcinomas. It should be the treatment of choice when:

- The cancer is large;
- The edges of the cancer cannot be clearly defined;
- The cancer is in an area of the body where it is important to preserve healthy tissue for the maximum functional and cosmetic result (eyelid, nose, ears, lips, scalp, fingers, toes or genitals);
- The cancer is likely to recur if treated by other methods;
- Prior treatment has failed.

For more information or a pamphlet on Mohs surgery, contact Dr. Dafnis Carranza  
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731-784-4300 • [www.dermandskincancer.com](http://www.dermandskincancer.com) • [info@dermandskincancer.com](mailto:info@dermandskincancer.com)

### **Protect yourself from the sun**

Sun exposure is the most preventable risk factor for skin cancer, including melanoma. You can have fun in the sun and decrease your risk of skin cancer. Here’s how to be sun smart:

- **Generously apply a broad-spectrum water-resistant sunscreen** with an SPF of at least 30 to all exposed skin. Reapply every two hours, even on cloudy days, and after swimming or sweating.
- **Wear protective clothing**, such as a long-sleeved shirt, pants, and a wide-brimmed hat and sunglasses, where possible.
- **Seek shade** when appropriate. Remembering that the sun’s rays are strongest between 10 a.m. and 4 p.m. If your shadow appears to be shorter than you are, seek shade.
- **Use extra caution near water, snow and sand** because they reflect and intensify the damaging rays of the sun, which can increase your chance of sunburn.
- **Get vitamin D safely** through a healthy diet that may include vitamin supplements. Don’t seek the sun.
- **Avoid tanning beds.** Ultraviolet light from the sun and tanning beds can cause skin cancer and wrinkling. If you want to look tan, consider using a self-tanning product, but continue to use sunscreen with it.
- **Check your birthday suit on your birthday.** If you notice anything changing, growing or bleeding on your skin, see a board certified dermatologist. Skin cancer is very treatable when caught early.

For more information visit: [www.aad.org](http://www.aad.org) • [www.mohscollege.org](http://www.mohscollege.org) • [www.skincancer.org](http://www.skincancer.org)