



SKINCARE  
PHYSICIANS & SURGEONS

A Patient's Guide to  
Mohs Micrographic Surgery



The Mohs Surgery Unit consists of a team of specially trained physicians, nurses and technicians. Dr. Tse is specialty fellowship-trained in this technique and is a member of the American College of Mohs Surgery.

The nurse, an important part of the team, will help answer your questions, respond to your concerns, assist in surgery and instruct you in dressing and wound care after surgery is performed.

Finally, the office staff round out the team and are available to answer any questions.



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Board Certified Dermatologist and a Cosmetic Surgeon.  
Board Certified by the American Board of Dermatology  
Fellow, American College of Mohs Surgery  
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## A Check List Before Surgery

- This patient guide should answer many of your questions. If you have further questions, please call our office.
- Do eat a light breakfast, take all of your morning medications, and bring any medications which you will need for one day.
- To prevent excessive bleeding, stop taking the following medications at least 10 days before surgery:

Aspirin	Ibuprofen – Motrin, Advil, Nuprin
Naprosyn – Aleve	Vitamin E
Non-steroidal anti-inflammatory agents – i.e. Voltaren, Relafen	
- If you are taking other blood thinning medications such as Coumadin or Plavix, please check with your prescribing physician before stopping these medications.
- Do not drink alcoholic beverages (including wine and beer) for three days before surgery and one week after surgery. Alcohol can cause excessive bleeding.
- Please let our staff know before the day of surgery if you routinely take antibiotics before dental procedures or have any of the following medical conditions:

Heart Murmur	Artificial Heart Valves or Joints
Mitral Valve Prolapse	History of Rheumatic Fever
- To improve wound healing, stop smoking before and after surgery.
- Prepare to stay all day. Please do not bring any small children. Please do not make other plans or appointments for the day.



## What is Mohs Surgery?

In the early 1940's, Dr. Frederic Mohs, Professor of Surgery at the University of Wisconsin, developed a treatment for skin cancer which he called chemosurgery. The procedure has since been refined and improved upon, and today the technique has come to be known as Mohs Surgery in honor of Dr. Mohs.



Mohs Surgery is a highly specialized treatment for the complete removal of skin cancers in which the microscope is used to determine the extent of the tumor and its location.

The Mohs procedure is performed as follows:

1. The skin suspicious for cancer cells is treated with a local anesthetic so that there is no feeling of pain in the area.
2. The visible skin cancer is scraped with a sharp instrument to determine the initial tumor borders.
3. A thin piece of tissue around the scraped skin is removed surgically.
4. The physician examines the tissue under the microscope and draws a careful map of where skin cancer cells remain.

If cancer is still present, another layer of tissue is then surgically removed and the procedure is repeated until the physician is satisfied that the entire base and sides of the wound have no cancer cells remaining. In this way, a careful, accurate, and complete removal of the skin cancer is achieved with minimal removal of normal surrounding skin.

## **Duration of Surgery**

The removal of each layer of tissue takes approximately one or two hours. Only 20 to 30 minutes of that time is spent in the actual surgical procedure. The remaining time is required for slide preparation and interpretation. Removal of two or three layers of tissue (called 'stages') is usually required to complete the surgery. Therefore, by beginning early in the morning, Mohs Surgery is generally completed in one day. Sometimes, however, a tumor may be extensive enough to necessitate continuing surgery a second day.

## **What are the advantages of Mohs Surgery?**

By microscopically pinpointing areas involved with cancer and selectively removing only these areas, normal tissue is preserved to the greatest extent possible. This procedure results in the smallest possible skin tissue defect and therefore the smallest possible scar. In addition, the cure rates for skin cancers treated with Mohs technique are very high, often 97-99%, even if other forms of treatment have failed. While the Mohs technique gives the best possible chance of a cure, it is not a 100% cure guarantee.

## **How Do I Prepare for the Day of Surgery?**

We prefer that wounds be kept dry after the completion of surgery. Therefore, we recommend a thorough bath or shower (including washing your hair) on the eve of surgery.

The best preparation for Mohs Surgery is a good night's rest followed by a light breakfast. If you are taking any medications, take them as usual unless we direct otherwise. Also, please bring with you, on the day of surgery, a complete list of your medications.

Because you can expect to be with us for most of the day, it is wise to bring a book or magazine to read. Please do not make other plans or appointments for the day.

We request that you stop taking any aspirin, or aspirin-containing medications (like Advil, Motrin or Aleve) at least 10 days before your surgery since they may interfere with the normal blood-clotting mechanism and cause excessive bleeding. If you are taking any over-the-counter medications, please check with your pharmacist to see if they contain any aspirin-derivatives.

## **What Happens on the Day of Surgery?**

Appointments for surgery are usually scheduled early in the day to allow us to continue throughout the entire day if necessary. One of our staff will prepare you for surgery by checking your medications and medical history, and obtaining your signed informed consent for the surgery.

The area around your skin cancer will be anesthetized (numbed) with a local anesthetic. This step may be uncomfortable for a few seconds, but usually this is the only pain you will experience during the procedure. Once the area is numbed, a layer of tissue will be removed and the bleeding controlled. The layer of

removed tissue will be carefully handled by your surgeon, mapped and color-coded, and sent to the technician to be processed onto microscope slides.

A pressure dressing will be placed over your surgical wound, and you will then be escorted back to the waiting room while the tissue is processed for microscopic examination by the surgeon. On the average, it takes an hour for the slides to be prepared and studied. During this time you may wait in the waiting room, read your book or magazine, or visit with friends.

Most Mohs Surgery cases are completed in two or three stages. Each stage involves the removal and microscopic examination of your skin for cancer. Once we are sure that we have totally removed your skin cancer, we will discuss with you our recommendations for dealing with your surgical wound.

## **What Can I Expect After the Surgery?**

In the days after surgery you may experience the following:

### **Pain**

You will experience remarkably little discomfort after your surgery. Again, we request that you do not take aspirin, but use Tylenol instead. Rarely will it be necessary for the physician to prescribe a stronger pain medicine.

### **Bleeding**

Rarely does bleeding occur following surgery. If this should happen, bleeding can usually be controlled by the use of pressure. You should take a gauze pad, lie down, and apply constant

pressure over the bleeding point for 20 minutes; do not lift up or relieve the pressure at all during that period of time. If bleeding persists after continued pressure for 20 minutes (timed), call our office at (760) 633-1000 or go to the nearest emergency room.

### **Swelling and Bruising**

Swelling and bruising are very common following Mohs Surgery, especially when it is performed around the eyes. These conditions usually subside within four to five days after surgery and may be decreased by sleeping with the head slightly elevated and by using an ice pack for short periods of time during the first 24 hours.

### **Redness**

A small red area may develop surrounding your wound. This is normal and does not necessarily indicate infection. However, if this redness does not subside in two days or if the wound begins to drain pus, you should notify our office immediately. Itching and redness around the wound, especially in areas where adhesive tape has been applied, are not uncommon. If this occurs, ask your pharmacist for a non-allergenic tape and tell us on your return.

### **Scarring**

Scars always result from surgery of the skin. The scar that occurs after surgery is minimized if the defect after cancer removal is small. This is one of the major advantages of Mohs Surgery — the cancer is removed leaving the smallest defect possible. A second procedure to reconstruct the wound often improves the cosmetic outcome by placing the scar lines in natural grooves in the skin.

## Restrictions

Depending on the size of the wound and the location of the lesion, we may recommend restricted physical activity for a day or more. Details will be discussed with you after the surgery.

## Numbness

At times, the area surrounding your surgical site will be numb to the touch. This area of anesthesia (numbness) will persist for several months until tiny nerve fibers grow back into the area. The skin sensation then gradually returns to normal.

## What Happens After the Tumor Has Been Removed?

After Mohs Surgery, you will be left with a surgical wound. This wound will be reconstructed in one of several ways.

To achieve an optimal functional and cosmetic outcome, and to speed wound healing, a skin flap or graft may be required to reconstruct the wound. This may be performed on the day of surgery or may be delayed by a day or so. Delayed reconstruction does not significantly increase the risk of infection or poor healing. Your options for reconstruction will be discussed after your skin cancer has been removed.

## What Happens After the Skin Has Healed?

Initially, the wound will feel tight, but should relax within several months. Occasional itching or twinges of pain may occur. A scar may remain raised and pink for many months, but should finally become flat and pale in a year or so. Occasionally, scars become thick, raised red scars known as hypertrophic scars or keloids.

Persistently red and raised scars should be treated immediately. Please contact our office if this type of scarring persists for over two months. Patients frequently experience itching after their wounds have healed because the new skin that covers the wounds does not have as many oil glands as previously existed. Plain petroleum jelly will help relieve itching.

## Once the Wound Has Healed, How Often Do I Return for a Follow-Up?

If the wound has been reconstructed, you will be asked to return for suture removal and usually once more to judge wound healing. After the wound has healed, we recommend that you have a complete skin examination every 6 to 12 months by a dermatologist.

If there is a recurrence of the skin cancer after Mohs Surgery, it can be detected at once and treated promptly. Experience has shown that if there is a recurrence, it will usually be within a year following surgery. Also, should you notice any other suspicious areas on your skin, it is best to check with your dermatologist to see if a biopsy is indicated.

## Will I Develop More Skin Cancer?

Studies have shown that once you develop a skin cancer, there is a possibility that you will develop others in the years ahead. The damage which your skin has already received from the sun cannot be reversed. Therefore, those who have had one skin cancer should be examined at least once a year by a dermatologist.



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