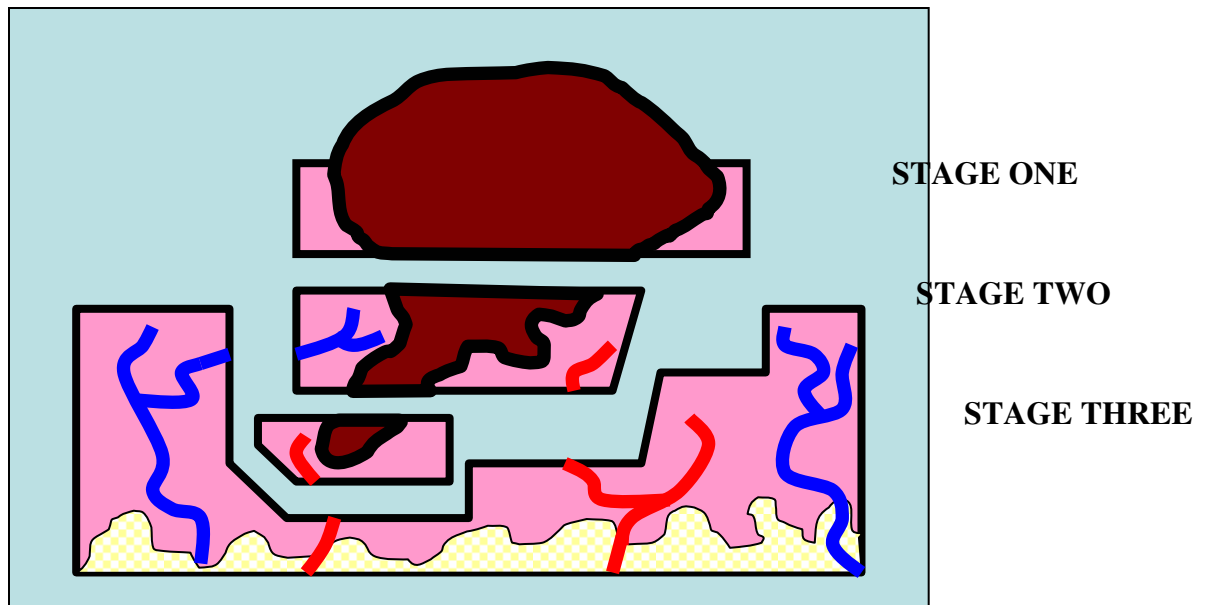


# KAISER PERMANENTE SAN RAFAEL

## EYELID CANCER: MOHS' SURGERY & EYELID RECONSTRUCTION



DEPARTMENT OF OPHTHALMOLOGY  
OCULOFACIAL PLASTIC & RECONSTRUCTIVE SURGERY

GREGG S. GAYRE, MD  
BOARD CERTIFIED: AMERICAN BOARD OF OPHTHALMOLOGY  
AMERICAN SOCIETY OF OPHTHALMIC PLASTIC & RECONSTRUCTIVE SURGERY

Skin cancer represents the most common form of cancer in the United States and can occur on any part of the body exposed to the sun, including the eyelids. In most cases of eyelid cancer, it occurs on the lower lid or inner corner of the eye, but can occasionally occur in the outer corner or on the upper eyelid or eyebrow. Skin cancer begins in the uppermost layer of the skin and grows inward, forming roots which spread horizontally along the surface of the skin. Unfortunately, these extensions cannot always be directly visualized, therefore, what is apparent to the naked eye on the surface of the skin may actually be only the “tip of the iceberg.”

### **Common Types of Skin Cancer Affecting the Eyelids**

- **Basal Cell Carcinoma:** The most common skin cancer, accounting for 90% of skin cancers around the eye. These cancers usually develop as small, firm, painless nodules with a smooth, pearly appearance. Basal cell carcinomas grow very slowly. Metastasis is extremely rare; however, if left untreated, the cancer can spread to and destroy surrounding tissue, including the eye.
  
- **Squamous Cell Carcinoma:** The next most common eyelid cancer, accounting for 5%. This cancer usually appears as a raised, scaly patch of reddened skin, often resembling a scab that does not heal. Metastasis is rare, but can invade local tissues and spread to regional lymph nodes.
  
- **Sebaceous Gland Carcinoma:** A rare cancer that primarily affects the specialized oil glands near the lashes of the eyelids. These tumors most commonly occur on the upper eyelid and are usually firm and painless, often with a yellow tinge. Sebaceous gland carcinomas are highly aggressive and frequently metastasize.
  
- **Malignant Melanoma:** Melanomas arise from pigment producing cells. They represent only about 1% of eyelid skin cancers, but have a much greater risk of metastasis than other types of skin cancer. There are several different types of melanoma which vary in appearance from deeply pigmented, to non-pigmented and from flat to nodular.

### **Treatment of Eyelid Cancer**

Moh's Micrographic Surgery, named after its developer, Dr. Frederic E. Mohs, MD represents an advanced technique for the treatment of skin cancer and offers the highest potential for cure. The Mohs' technique relies on the accuracy of a microscope ensure the removal of a skin cancer down to its roots-- allowing the surgeon to see beyond the visible disease, and to precisely identify and remove the entire tumor, leaving healthy tissue unharmed.

The Mohs' technique involves removing a thin, saucer-like layer of tissue that is excised just a few millimeters around and underneath the visible skin lesion. This layer is then divided into pieces and inked. A map is then drawn that shows each piece of tissue in relation to the patient. These pieces of tissue are then frozen, mounted in a waxy substance and then sectioned horizontally starting from the underside of the specimen by the Mohs' histo-technician. The slides are processed within an hour and then examined by the Mohs' surgeon and pathologist. If tumor roots are seen on the slide extending beyond the section of tissue that was removed then more tumor remains in the patient. Using the map, the “positive margin” on the slide is matched to the precise location on the patient. The process is then repeated and another layer of tissue is removed, but only from the area that showed residual tumor. In this way, surrounding normal tissue is conserved.

This selective removal of only diseased tissue allows preservation of much of the surrounding normal tissue, lessening the potential for scarring and disfigurement. Because this systematic microscopic search reveals the roots of the skin cancer, Mohs surgery offers the highest chance of complete

removal of the cancer while sparing the normal tissue. Cure rates exceed 99 percent for new cancers and 95 percent for recurrent cancers.

In some instances Mohs' surgery may not be appropriate. Some skin cancers such as Malignant melanoma are not typically treated by Mohs' surgery because these cancerous cells are difficult to visualize on frozen sections utilized in the Mohs' process. Such cancers require traditional processing of the tissue and as a result, when these tumors are excised, further excision may be necessary in the days or weeks following surgery should the pathologist determine that incomplete excision of the tumor has occurred. In some cases the wound may be left open until complete excision has been confirmed. We refer to this process as "slow Mohs'".

In certain instances, pre-surgical treatment with a topical chemotherapy agent may be indicated in order to minimize the extent of surgery or eliminate the need for Mohs' surgery at all. Aldara has been recognized as an affective topical cream that can shrink or cure certain types of skin cancer,

In some instances surgery may not be possible at all. Because most skin cancers are fairly slow growing and tend not to cause serious harm, surgery may not be appropriate for all patients. Often surgery may be potentially more harmful to the patient than simple observation. In such cases alternative therapies such as chemotherapy, cryotherapy (freezing) and radiation may be recommended.

### **Eyelid Reconstruction**

The goal of eyelid reconstructive surgery is to provide a functioning eyelid that protects the eye and has as near-normal appearance as possible. The majority of eyelid reconstructive techniques provide outstanding cosmetic results. The most common long-term abnormality after eyelid reconstruction is absence of eyelashes. In such instances eyeliners or permanent make-up can be used to mask the absence of lashes. In rare instances satisfactory cosmetic results may not be achieved by initial reconstruction and may require further surgical correction.

Most of the time, reconstruction takes place immediately following Mohs' surgery during the same operation. However, if the surgical wound is larger than initially anticipated, or if a second opinion regarding pathology is indicated, reconstructive surgery may be delayed. Fortunately, an open wound can be patched for several days without problem.

The best method of managing the wound resulting from surgery can only be determined after the cancer is completely removed. A small wound may be allowed to heal on its own, but is more commonly treated by simple stitching. Larger wounds may require a skin graft or a skin flap from adjacent healthy skin. Donor tissue used for skin grafts is taken from other areas of the body, including the opposite eyelid, the ear, the mouth, the shoulder, and occasionally from the arms and legs. In addition, donor tissue such as amniotic membrane and donor sclera may be utilized if a shortage of your own body's tissue exists.

For most eyelid reconstruction techniques eye patching is not necessary. However if grafts or flaps are utilized, patching of a single eye for up to seven days may be necessary. On rare occasions it may be necessary to temporarily join the upper lower eyelids so that the patient will be unable to see from one eye for up to 6 weeks before the eyelids are separated in a second surgical procedure. Patching or stitching of the eyelids is only performed if absolutely necessary. Your surgeon will take in to account if you have vision in only one eye.

## Surgical Risks

Mohs' surgery is relatively safe, but as with any invasive procedure, **COMPLICATIONS ARE POSSIBLE!**

Discomfort.....  
Bruising and Swelling.....  
Temporary Blurring of Vision.....  
Numbness.....  
Incomplete Eyelid Closure.....  
Dry Eye.....  
Eyelid Asymmetry.....  
Need for further surgery.....  
Tearing/damage to tear ducts.....  
Prominent scar.....  
Permanent visual change.....  
Infection.....  
Need to terminate surgery before completion.....  
Failure to completely excise tumor.....  
Facial paralysis.....  
Permanent vision loss (blindness).....  
Death, coma etc.....  
And other rare risks not mentioned

COMMON

RARE

*Further, no guarantees regarding surgical outcomes can be made, especially regarding cosmetic results of surgery.*

## Pre Operative Instructions:

Mohs' surgery is extremely delicate. There are several restrictions in place to ensure your safety and a good outcome. Failure to comply with any of the following will result in the cancellation of surgery (for your sake)....no exceptions.

**Surgery Scheduling:** Most patients are assigned a date of surgery on their initial examination. If you have not yet been assigned a date of surgery, contact our office to schedule a date as soon as possible. To reach Mohs' surgical scheduling call: **415- 482-6767**. Typically patients may wait up to 3 months for surgery. Because skin cancer grows slowly, this will not affect your health or outcome and we will do everything to expedite your surgery. Occasionally we are forced to change a scheduled date for surgery, even at the last minute incases of emergency. We recognize that such last minute cancellations are stressful and extremely inconvenient and we will expedite rescheduling your surgery as soon as possible. The time of surgery is typically not available until 24 hours before surgery. The number is call for arrival time is **415-444-2487 (main OR) or 415-482-6767 (Mohs' Clinic)**.

**Physical Examination:** State law requires a complete physical examination prior to surgery. If your surgery is being performed with local anesthesia in the Mohs' clinic, then it must be completed within three months prior to your surgery. If your surgery is scheduled for the **operating room** then it must be performed within in **SEVEN DAYS** of your procedure. Patients are responsible for scheduling this appointment and ensuring that a paper copy of the examination has been delivered to our office no less than one business day prior to your scheduled surgery. For your convenience we are able to schedule a physical examination with our nurse practitioner in our downtown San Rafael or Petaluma clinics only. If your surgery is rescheduled, then this examination must be repeated. The physical examination can be faxed to (415) 482-6726. If possible it is wise to obtain a copy of this examination from your examining physician and bring it with you on the day of your procedure.

The purpose of the physical examination is to determine if you are in good health and whether it is safe to proceed with surgery. Generally, you must have well controlled blood pressure, no problems

with wound healing or bleeding and must be able to lie flat for up to two hours at a time. Blood pressure, diabetes, or other chronic illnesses as well as coughs and colds must not only be treated, but be well-controlled prior to surgery.

**Labs and EKG:** No labs or EKG are necessary if your surgery has been scheduled in the Mohs' clinic. If surgery is scheduled for the operating room then specific lab tests determined by your age and medical history are required prior to surgery. A lab request form will be forwarded to you. Once you have this form, you may take it to any Kaiser facility, and no appointment is necessary during normal business hours. All lab testing must be complete prior to your physical examination. An EKG is required in certain patients undergoing surgery in the operating room. An EKG request form will be provided to those individuals. You may contact your local Kaiser facility to schedule this test. If you prefer, you may have this test performed in San Rafael at the Terra Linda Facility. You may have this test performed during normal business hours at the cardiology clinic, 3<sup>rd</sup> floor, Medical Office building one.

**Anesthesia:** Surgery performed in the Mohs' clinic is performed with local anesthetic (numbing injection only). An oral sedative may be prescribed to help you to relax. Oral sedatives are usually provided in advance of surgery and should be taken as directed one hour before the scheduled procedure. Any patient receiving oral sedatives will not be allowed to drive home. If surgery is scheduled in the operating room, then IV sedation (partially sleeping or in a "twilight state") or general anesthesia is utilized. If your surgery is scheduled in the operating room, **DO NOT EAT OR DRINK** anything after midnight the evening before surgery. This includes chewing gum, mints, and smoking. The only exception is a sip of water with our prescription medications before surgery. Failure to comply will result in cancellation of surgery, without exception.

**Tobacco and Alcohol Use:** Avoid smoking for 2 weeks before and after surgery (longer if skin grafting is used). Avoid alcohol for 2 days prior to surgery and one week afterwards.

**Surgery Location:** Mohs' surgery is scheduled either in the Mohs' clinic or in the main operating room. Both the clinic and operating room are located at the Kaiser San Rafael campus, also known as Terra Linda. The address for Kaiser is 99 Monticello Road, for directions call 415-444-2000.

**Prescription Medications:** Unless specifically instructed, take all your routine medications up to and on the morning of your surgery. The most common exception is insulin and other diabetic medications. All diabetic patients should clarify with their primary care doctor exactly which medications to take on the morning of surgery. For patients undergoing surgery in the Mohs' clinic, typically you will be sent 4 medications by mail. Bring these medications with you on the day of surgery. These medications include an oral antibiotic that you should begin to take one day prior to surgery as instructed on the bottle. An oral sedative is also included. You may take one pill one hour prior to your scheduled procedure. Remember: you may not drive within eight hours of taking an oral sedative. Make sure transportation has been arranged. The other two medications sent via mail include a topical antibiotic ointment and a post-operative pain control medication. Please contact our office if you have not received these medications within 24 hours prior to your scheduled procedure.

All prescription or over-the-counter medications that increase the risk of bleeding must be avoided without exception prior to surgery. If ONE TABLET is taken within 2 weeks before surgery or 5 days after surgery, severe bleeding resulting in permanent vision loss can occur. Avoid using any of these medications unless you are specifically instructed to continue using them by your doctor. If you are taking **COUMADIN** (also known as Warfarin) or **HEPARIN** (also known as Lovenox), it is very important to discuss this with your doctor before surgery. Typically Coumadin must be discontinued for 5 days prior to surgery. Heparin must be discontinued 24 hours prior to surgery. Contact your local warfarin clinic for guidance. For pain control, Tylenol is a safe alternative that can be taken at any time before surgery.

## COMMON MEDICATIONS TO AVOID:

ADVIL	FIORINAL	PIROXICAM
ALEVE	GARLIC TABLETS	PLAVIX
ALKA SELZTER	GENSAN	RELAFEN
ANACIN	GINKO BILOPBA	REXOLATE
ANAPROX	GINSENG	ROBAXISAL
ASPERCREME	GOODY'S POWDER	ROFECIXIB
ASPERGUM	HEPARIN	SALGEN
ASPIRIN	IBUPROFEN	SALATIN
BAYER	INDOCIN	SINE-AID
BC POWDER	INDOMETHANCIN	SALGEN
BEN GAY	KETOPROFEN	SALATIN
BUFFERIN	LODINE	SINE-AID
CLELBREX	LOVENOX	SOMA COMPOUND
CLINORIL	MEPROBAMATE	ST. JOHN'S WART
COUMADIN	MIDOL	STANBACK POWDER
DOAN'S PILLS	MOTRIN	SULINDAC
DOLOBID	NAMBUMETONE	TALWIN
DRISTAN	NAPROSIN	TOMETIN
DURAGESIC	NORGESIC	TRENTAL
ECHINACEA	NUPRIN	TRIAMINICIN
ECOTRIN	ORUDIS	VIOXX
EXCEDRIN	OXAPROZIN	VOLTAREN
FELDENE	PEPTO BISMOL	VITAMIN E (> 400 MeQ)
FENOPROFEN	PIROXICAM	

**Accompanying Adult:** You must have a responsible adult available to take you home after surgery. Traveling alone or on a bus or in a cab is not accepted. Your driver may be available for you by phone if they cannot wait for you during the procedure. Most patients who require assistance after surgery usually rely on a family member or friend on the afternoon and evening of surgery only. Extended assistance is usually unnecessary.

**Clothing and Make-up:** Avoid make-up on the day of surgery. Avoid any nail polish on finger or toenails. Do not wear your contact lenses on the day of surgery. Preferably, wear a loose button-down shirt with easy access to your arms. Please remove all jewelry before surgery. Also remove hearing aids and dentures prior to surgery in the operating room.

**Recovery:** Post-operative healing time varies from patient to patient. Most patients require one to two weeks out of work. You should refrain from strenuous activities for a minimum of one week. Most scarring will resolve, but may take between 6 months and one year. Vision changes and eye irritation including redness, foreign body sensation and tearing are common and may take several months to resolve. Over the counter artificial tear drops used every one to two hours are helpful to alleviate most instances of blurry vision or ocular discomfort. You should not purchase or change your glasses prescription for 90 days after surgery. Scheduling travel plans or important events within 4 weeks of surgery is not recommended.

Most patients undergoing Mohs' surgery require a minimum of 3 post-operative visits in San Rafael. Occasionally more visits are necessary. The area treated should be followed for recurrence every six months for one year then annually by your local dermatologist or ophthalmologist to survey for recurrence or the occurrence of new skin cancers.

