



MOHS MICROGRAPHIC SURGERY

ARIZONA SKIN CANCER SURGERY CENTER, P.C.

Michael J. Huether, M.D.
(pronounced "hēēter")



A native of Sioux Falls, South Dakota, graduated with the honors of Phi Beta Kappa from the University

of South Dakota. He received his M.D. from the University of Iowa College of Medicine, then completed internship at Mayo Clinic Scottsdale. In addition, he completed a dermatology residency at Yale University, where he was chief resident in dermatology. Dr. Huether is board-certified in dermatology. He has also completed an extra year of fellowship training in Mohs Micrographic Surgery and Cutaneous Oncology at the University of Pittsburgh Medical Center.

WELCOME

We are grateful that you have chosen our office for your surgical care. Our goal is to provide you with the quality and expertise that you expect and deserve. We are state accredited and Medicare certified. Our ambulatory surgery center (ASC) is fully equipped to provide the best medical care.

This brochure will acquaint you with our practice and give you a better understanding of how our facility works. We take great pride in the training and professional capabilities of our staff. Please feel free to ask any questions you may have regarding your medical care, fees, insurance, or other office policies.

AN IMPORTANT REMINDER

This pamphlet is not intended to replace our personal communication, but to complement it. Please take the time to read this information, and consider any questions you may have so that they can be addressed prior to your surgery. It is very important that you read this entire brochure today.

We are always eager to listen to any suggestions you may have regarding our office policies and procedures. It is essential that our patients are well informed, relaxed, and above all, confident that they are receiving the best care available. If there is anything we can do to make your experience better in any way, please let us know.

If you have any special concerns such as: allergies to local anesthetics; bleeding disorders; oxygen use; special physical limitations or any other concern, please contact us in advance of your appointment to address these issues. Also, please inform our office if your cancer is growing rapidly or very painful.

DIRECTIONS TO OUR OFFICE

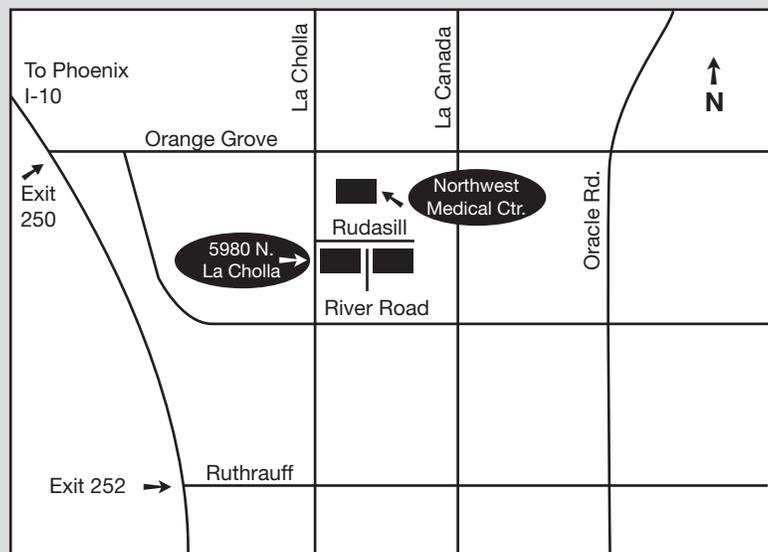
Our address is 5980 N. La Cholla Boulevard. Our office is on the east side of La Cholla Blvd., north of River Road and south of Orange Grove Road. We are located two blocks south of Northwest Medical Center at the corner of Rudasill and La Cholla. This is approximately 0.5 miles south of the Foothills Mall.

Interstate 10 (I-10) from the south: Take Ruthrauff Exit 252 and turn east (right). Proceed approximately 1 mile to La Cholla Blvd. Turn north (left) on to La Cholla and proceed past River Road to the stoplight at Rudasill and La Cholla. Turn right at the light, then immediately right again into our parking lot which is on the left.

Interstate 10 (I-10) from the north: Take the Orange Grove Road Exit 250. Turn east (left) and proceed approximately 1.5 miles on Orange Grove Road to La Cholla Blvd. Turn south (right) and proceed 0.5 miles to Rudasill Road. Turn left at the stop light, then right into our parking lot which is on the left.

Public Transportation

Sun Tran Route 61 stops just north of the corner of Rudasill and La Cholla. Please contact Sun Tran at (520) 792-9222 for exact times and fares.



SKIN CANCER INFORMATION

What should I know about skin cancer?

Skin cancer is the most common form of cancer in human beings. The two most common types, basal cell carcinoma and squamous cell carcinoma, both start as a single point in the upper layers of skin and slowly enlarge, spreading along the surface and down through the skin. These extensions are not always directly visible to the naked eye. The tumor often extends far beyond what can be seen on the surface of the skin. If not removed completely, both types can invade and destroy structures in their path. Although these skin cancers are locally destructive, they do not tend to metastasize (spread) to other parts of the body. Metastasis of basal cell carcinoma is extremely rare, and usually occurs only in the setting of large, long-standing tumors in which the patient's immune system is compromised. Squamous cell carcinoma is somewhat more dangerous with a greater chance of the tumor spreading internally. Such spread is still infrequent. Melanoma is a very different and more serious type of skin cancer which has a higher potential for spreading internally.

What does skin cancer look like?

Basal cell carcinoma and squamous cell carcinoma often appear as a small, flesh-colored or pink bump. They may also appear as a scaly, pink patch or have a very rough surface. A common description offered by patients is that of a "pimple that doesn't totally go away." Melanoma skin cancer is most often pigmented (brown), but may have areas that are pink, white and/or black. It may be asymmetric (one side not a mirror image of the other side) or have irregular borders. Other warning signs for melanoma include: surface changes in a mole, scaliness, oozing, bleeding, a new bump, a change in pigmentation or a change in sensation (pain, itching, tenderness). The safest thing to do is to consult your physician if you are concerned about any area on your skin.

What causes skin cancer?

Excessive exposure to sunlight is the single most important factor associated with the development of skin cancer. In addition, the tendency to develop these cancers appears to be hereditary in certain groups of people, especially those with fair complexions and poor tanning ability. Fair-skinned people develop skin cancers more frequently than people with darker skin, and the more sun exposure they receive, the more likely they are to develop skin cancer. Other factors include exposure to radiation, exposure to arsenic, and chronic scars. In certain instances, skin cancers can be more aggressive. Patients with abnormal immune systems (lymphoma, leukemia, organ transplant patients, etc.) tend to have aggressive tumors. Tumors in certain locations tend to be more aggressive as well, such as those located on the ears, lower nose, lips and those around the eyes.

If my biopsy site has healed, does the skin cancer still need treatment?

Yes. Just because the surface has healed after the biopsy, that does not mean the skin cancer is gone. A biopsy is a partial sampling to establish whether or not a growth is cancerous. From the surface, one cannot tell how deep or wide the cancer may extend since cancer cells are microscopic. Cancelling or postponing treatment can be dangerous and ultimately result in the need for more extensive surgery.

How is skin cancer treated?

There are several common methods for treating skin cancer. The nonsurgical methods are cryotherapy (deep-freezing), radiation therapy, photodynamic therapy (light with topical medication) and immunotherapy (chemotherapy). The surgical methods include curettage and electrodesiccation (scrape and burn), simple excision (cut out an ellipse and stitch immediately), and Mohs micrographic surgery.

What is Mohs micrographic surgery?

Mohs (Möz) surgery is a highly specialized treatment for the total removal of skin cancer. Mohs surgery is named in honor of Dr. Frederic Mohs, the physician who developed the technique in the 1930's. This form of treatment differs from all other methods of treating skin cancer by the use of a unique method for complete microscopic examination of all of the surgically removed tissues, as well as detailed mapping techniques. The combination gives the surgeon the highest chance of removing every cancer cell.

What are the advantages of Mohs surgery?

By using these detailed mapping techniques and complete, immediate microscopic control, the Mohs surgeon can pinpoint areas containing cancer that are otherwise invisible to the naked eye. Therefore, even the smallest microscopic roots of cancer can be precisely removed. The result is the greatest chance for complete removal of the skin cancer while sparing as much normal tissue as possible. Treating all skin cancers with Mohs surgery is not necessary. This method is most useful for large tumors, tumors with indistinct borders, tumors near vital functional or cosmetic structures, and tumors for which other forms of therapy have failed.

What are my chances for cure?

Using Mohs surgery, the chance for cure is 97-99% for most never-before-treated skin cancers. For previously treated cancers, the cure rate with Mohs surgery is approximately 95%, while the cure rate for other methods of treatment drops even lower. Though Mohs surgery offers the highest cure rates, no surgeon or technique can guarantee 100% chance of cure.

PREPARING FOR SURGERY

Shampoo your hair the night before or the morning of surgery if possible, because your wound and the initial dressing may have to remain dry following surgery. Do not shave the surgical site. The staff will shave the area on the day of surgery if necessary. Wear loose-fitting clothing and avoid pullover clothes. You may want to bring a sweater or jacket for your comfort in the waiting area since the office is often cool. If the site to be treated is on the face or neck, please do not wear make-up or jewelry in these areas. Please do not wear perfume or cologne.

Breakfast: On the day of surgery, we suggest that you eat a full breakfast because it is possible that you may be in our office for most of the day. Avoid caffeine on the morning of surgery, however decaf coffee is not a problem. If you are diabetic and monitor your glucose during the day, bring your monitor since you may be here all day. Be sure to bring appropriate food/snacks to last the day. If you are being reconstructed or stitched by an outside surgeon, follow their recommendations regarding food and diabetes management.

Transportation: Generally, you may drive yourself to our office on the day of surgery. However, if you are having surgery on or around the eye, nose or upper cheek, or if you feel you need oral sedation, arrange a ride to and from our office or have one companion accompany you. You may not be able to drive following surgery due to bandages which may impair your mobility or vision. However, due to space limitations in our waiting room, we request that you bring only one companion on the day of surgery.

Alcohol: Do not drink any alcoholic beverages for 48 hours before surgery and for 48 hours after surgery since this can thin your blood.

Pain: To minimize pain during surgery, we suggest taking Tylenol (acetaminophen) as prescribed on the bottle 30-60 minutes prior to your appointment.

Medical History: If not completed in advance, upon arrival at our office, you will be asked to complete a medical history form. Please bring a list of medications with their dosages, a list of your allergies and your reactions to the medications, past medical history with type of treatment, in addition to information regarding medical problems that run in your family.

Medications: On the day of surgery, you should take the normal medications prescribed by your doctors, including blood thinners, unless instructed otherwise by an outside repairing surgeon.

Vitamins/Dietary Supplements: Since several of these products can lead to bleeding problems, we strongly recommend that you stop taking all vitamins and supplements that were not prescribed by a physician 7 days prior to surgery and 7 days after surgery. It is okay to take a single multivitamin on the days preceding surgery and after.

Caregivers: If you require assistance at home for eating, using the restroom, or transferring, it is necessary for your caregiver to accompany you during your visit.

THE DAY OF SURGERY

What happens the day of surgery?

After completing the necessary paperwork, our staff will escort you into a surgical room, and we will obtain written consent for the procedure. The area will be marked, and photographs will be taken. You are encouraged to ask any questions that you may have prior to starting. Once all of your questions are answered, we will anesthetize (numb) the area around the skin cancer with a local anesthetic injection. Some patients inquire about using a topical anesthetic prior to injection. Unfortunately, these very slow acting agents make the borders of the cancer very difficult to see. For this reason, use of these topical agents in this setting are likely to compromise the final outcome and are not used. Once anesthetized, the visible skin cancer and a surrounding layer of normal tissue will be removed down to the level of the fat. This tissue is carefully mapped and color-coded by the surgeon and taken to the adjacent laboratory in our office where a technician will process the tissue to make microscope slides. This is done in a way to allow careful examination of the entire surgical margin. You will have a temporary dressing placed over the wound, and you will return to the reception area to wait as the tissue is processed.

The initial surgical procedure to remove the first layer of tissue takes only 30-45 minutes. However, it takes a minimum of 2 - 4 hours (longer if treating melanoma) to prepare and microscopically examine the tissues, depending on the size, type of tissue and type of cancer being treated. If you have a large area or multiple areas, your stay will be significantly longer. You may be sent home to wait for your tissue to process. If treating melanoma, you will be sent home for the day due to the longer processing time. Melanoma repairs will be done the following day, if clear. If any tumor is detected during the microscopic examination, its location is established using the map, and a layer of additional tissue is excised only from the involved area. Several layers of tissue and subsequent microscopic examinations may be required, and you will need to wait in the patient reception area between stages. The more layers required to clear your tumor, the longer you will be in our office. Each of these additional layers of tissue will take an additional 90 - 120 minutes to prepare and carefully examine. Although there is no way to tell how many layers will be necessary, most cancers are removed in three or fewer layers.

We want to be sure that the time you spend with us is as pleasant and as

comfortable as possible. You are encouraged to bring reading material to occupy your time while waiting for your microscope slides to be processed and examined. In addition, we offer WiFi access if you bring your own laptop or tablet. Depending on the number of layers required, your surgery may extend through the lunch hour. In that case, your companion may visit a nearby restaurant to bring you food since you are generally asked not to leave the reception area/parking lot of our office. You may also choose to bring a sack lunch or a snack from home on the day of surgery.

Often, the most difficult part of the procedure for the patient is waiting for the results of surgery. Starting at 10:00 AM, patients are reconstructed (stitched) in the order of their skin cancer clearing. Most surgeries are finished by 2:00 PM. There is no way to know in advance how much time is necessary to remove the cancer and reconstruct (stitch) the wound. Therefore, we ask that you plan to be in the office the entire day and that you make no other commitments.



An injection numbs the area. The visible portion of the tumor is removed. A thin layer of tissue is excised from the surrounding skin and base. The removed tissue is mapped and sectioned.



The deep and peripheral margins of each section are thinly sliced with a microtome and mounted on microscope slides for examination. If additional tumor is found, it is located on the map, marked and removed. The examination/removal process continues until no tumor is found.

Will I be hospitalized?

It is very unlikely that you will be hospitalized. Mohs surgery is performed within our facility, and you will return home the same day, barring any unforeseen circumstances. Hospital facilities are available for those very rare instances in which a patient requires further medical attention.

RISKS OF SURGERY

Because each patient is unique, it is impossible to discuss all of the possible complications and risks in this brochure. There will be a scar at the site of removal. We will make every effort to obtain optimal cosmetic results, but our primary goal is to remove the entire tumor. Mohs surgery will leave you with the smallest possible wound, thus creating the best opportunity for optimal cosmetic results. Typical risks for Mohs surgery are discussed below, but it is important to note that these are the same risks involved in any routine skin surgery. Dr. Huether will discuss any additional potential problems associated with your particular case on the day of your surgery.

The surgical wound created by removal of the skin cancer is often larger than the patient anticipates. Also, the elastic properties of the skin cause wound gaping so that the size of the hole in the skin is always larger than the size of the piece of skin which was removed. There is no way to predict prior to surgery the exact size of the final surgical wound. Also, the reconstructive surgery may be larger or more extensive than anticipated to avoid puckering or pulling on vital structures. Typically, a linear scar must be 3 times longer than the width of the surgical wound to avoid lumpiness of the scar.

Although all surgery leaves a scar, sometimes this scar can spread or become thickened, depressed or painful. This can improve over time on its own or attempts may be made to correct the problem. However, in some cases, very little can be done without the risk of the same problem reoccurring.

Please understand that the following complications are the exceptions, not the rule:

- Poor wound healing may occur, despite our best efforts. Many things influence how well you will heal (location of the tumor, bleeding, medications, poor physical condition, smoking, diabetes or other medical problems). Scars are typically thin fine lines, however, occasionally they may be thickened, lumpy or they may spread or widen. Healing may be slow (particularly on the legs or scalp) or the wound may reopen. Flaps or skin grafts utilized to repair a defect may at times fail. Under these uncommon circumstances, the wound will usually be left to heal on its own.
- There may be loss of motor (muscle) or sensory (feeling) nerve function. Numbness is often temporary but may be permanent. The lips and the scalp are areas where numbness is more common. Uncommonly, there is persistent pain following surgery. In other circumstances, the tumor spreads close to or invades nerve fibers. When this occurs, the nerves must be removed along with the tumor. Prior to surgery, the doctor will discuss with you any major nerves which may be near your tumor.
- The tumor may involve an important structure. Many skin cancers are near or on vital structures such as the eyelids, nose or lips. If these structures are involved, portions of the structure may need to be removed with resulting cosmetic or functional deficits. In some cases, suturing a wound may involve movement or further removal of skin which makes up these vital structures.
- Although temporary swelling and bruising are very common after surgery, long-lasting or permanent swelling is uncommon. In some cases this swelling is extreme. Some swelling resolves in days, while other swelling may take weeks or months to improve. In rare cases, some tissue swelling may not go away. If working on the face, swelling can be so significant that your eyes can swell shut.
- Rarely, wounds become infected and require antibiotic treatment. If you are at particular risk for infection, you may be given antibiotics prior to surgery or after completing surgery.
- Bleeding from the wound may be excessive during surgery. There may also be significant bleeding after surgery, but this is uncommon. If bleeding occurs under a sutured wound, skin flap or skin graft, it may impair healing.
- There may be adverse reactions to medications used before, during or after surgery. We will carefully screen you for any history of problems with medications, but new reactions may occur without warning.
- There is a small chance that your tumor may regrow after surgery. Previously treated tumors and large, long-standing tumors have a greater chance of recurrence than smaller tumors which have never before been treated.
- Smoking before or after surgery can lead to complications. Minimize smoking one week prior to and one week after surgery, but it is best not to smoke at all during this time.
- Feelings of sadness after surgery are not common, but may happen to you. There may be asymmetry or change in your appearance. If the patient has a positive attitude, this promotes relaxation and better healing. Stress and anxiety during the healing period only make matters worse. Any dissatisfaction should be addressed with Dr. Huether, but it may take weeks or months before judgment of final results can be made and possible solutions offered. Please understand that no face or body is perfectly symmetrical.
- As a final thought, although the surgeon may perform your surgery in a standard fashion, and although you may follow directions for wound care perfectly, still in some cases, the body may not heal as both the doctor or the patient would hope. These uncommon cases cannot be predicted in advance. Although it is impossible to guarantee the results of surgery, Dr. Huether will do everything possible to attempt to achieve satisfaction with your final appearance.

IMPORTANT FINAL REMINDERS

- **DO** take several photographs (close up and farther back) of each area we are to treat with your cell phone or other camera now while the wounds are pink or still healing. Bring these photos in on the day of surgery or email them to frontdesk@azskincancer.com.
- **DO** get a good night's sleep prior to surgery.
- **DO** take your usual medicines on schedule unless instructed otherwise.
- **DO** eat a big breakfast unless instructed otherwise.
- **DO** ask all questions you may have.
- **DO** plan to spend the entire day in our office.
- **DO** inform us if you may be pregnant.
- **DO** inform us in advance if you are allergic to any local anesthetics.
- **DO NOT** consume any alcoholic beverages for 48 hours before surgery or 48 hours after surgery.
- **DO NOT** bring more than one companion with you on the day of surgery.
- **DO NOT** wear make-up if your surgery is on your face.
- **DO NOT** plan on any physical exercise for one week after surgery.

AFTER SURGERY

Will I have pain and swelling after surgery?

Most patients do not have severe pain following surgery. There will be mild to moderate discomfort over the first 24 to 48 hours, occasionally longer. Take 2 extra strength acetaminophen (Tylenol) and 2 ibuprofen (Motrin/Advil), all at the same time. Repeat every 6 hours as needed for pain. This combination offers pain control equal to that of narcotics. If you are unable to take ibuprofen (Motrin/Advil), please let our office know at the time of surgery. Expect significant swelling and bruising which may be extensive. Ice packs (or a bag of frozen peas or frozen corn) are very helpful for reducing pain and swelling. They should be used for 15 minutes of every hour (15 minutes on / 45 minutes off). Expect swelling and bruising after surgery especially if treatment is near the eye and nose. If treatment is on the nose, you may experience nasal congestion and drainage. Nasal decongestants may be used.

Will the surgery leave a visible scar?

Yes. Every surgery will leave a scar. However, because Mohs surgery removes as little normal tissue as possible, scarring is minimized. After the cancer is removed, we will discuss the following options: (1) allowing the wound to heal by itself; (2) reconstructing the wound immediately with stitches; or (3) reconstructing the wound after a 2-3 week delay to let the wound shrink and fill in. This decision is made on an individual basis only after the final size of the surgical wound is known. The length of the final scar may be greater than you think since most surgical scars must be 3 times longer than the width of the wound to avoid puckering of the skin. Almost all wound closures are performed here in our facility. However, other surgical specialists may be utilized for their unique skills if a tumor is much larger than initially anticipated. We individualize your treatment to achieve the best cosmetic result through the safest methods available.

When the repair is completed by other surgical specialists, that reconstruction may take place on the same day or on subsequent days. There is no harm in delaying this reconstruction, which, if very extensive, may require hospitalization. This is the exception rather than the rule since most all wounds are repaired immediately in our facility while the skin is still anesthetized.

What will I need to do after surgery?

To help achieve the best possible outcome, please follow our directions carefully. It is best to stay within driving distance of our office for a full 7 days after your surgery. Your wound will require care during the days and weeks following surgery. Verbal and detailed written instructions will be provided depending on the type of reconstruction required, and you are always welcome to contact our office should you have any additional questions or problems. You should plan to wear a bandage for a minimum of two weeks, and you should plan to avoid physical activity such as bending, straining, lifting and exercise for 7 days. Please arrange your schedule in advance to avoid these activities. We will further clarify your specific instructions/restrictions on the day of surgery. If we are working on mouth/cheek/lip/chin areas, you will be asked to minimize mouth movement/stretching of these areas for 3 weeks.

What do I do if I have problems?

Inform the doctor immediately if you think you may be having a problem after surgery. Do not wait for potential problems to worsen. Do not go to the ER or call other doctors unless you're having a serious problem; contact Dr. Huether first. His after-hours numbers will be given to you at discharge.

Will I need to come back?

It varies with the type of reconstruction (stitching) required for your wound, but follow-up in our office may not be needed. However, we are always available for any concerns that arise, no matter how long it has been since surgery. If needed, you will be scheduled for follow-up prior to leaving our office. Please realize that this visit is important and results can be compromised if scheduled appointments are not kept. You will return to your referring physician for routine skin check-ups. After having one skin cancer, statistics show that you have a higher chance of developing a second skin cancer. You should have your skin checked by your referring physician at least once each year, in some cases more often, not only to examine the treated skin cancer, but also to check for new skin cancers. Often the patient is the one who best knows his or her own skin. If you notice a new suspicious area, bring it to the attention of your physician as soon as possible.

How can I protect myself from developing additional problems?

The best protection from skin cancer is to avoid the harmful ultraviolet rays of the sun. Even if you tan easily, the sun can contribute to skin cancer in two ways. First, the sunlight damages the genes that control skin cell growth, and second, sunlight damages the body's immune system so that early cancers grow unchecked by the normal immune defense system. Please see the list of suggestions on the right side of the page for more information regarding sun protection. Once you have had a skin cancer, you are at greater risk for developing additional skin cancers. It is very important that you follow up with your referring doctor on at least an annual basis to look for additional skin cancers. Also, you must monitor your own skin on a monthly basis and immediately report any changing or suspicious lesions to your doctor since they could represent skin cancer.

Tips to help reduce your risk of developing more skin cancers:

1. Use sunscreen daily with a sun protection factor (SPF) of at least 30 with both UVA/UVB protection. Several of these products are combined with a moisturizer and do not have a greasy feeling.
2. In addition, when you know you are going to be outside for more than just a few minutes, apply a sunscreen with the highest SPF that you can find (up to 100 SPF). Do not forget to reapply the sunscreen every 2 hours while outside; even products labeled "waterproof" must be reapplied. Remember to apply it to often-missed areas: ears, neck, backs of hands, etc.
3. Avoid sun exposure during mid-day hours (9 am to 4 pm) when the ultraviolet rays are most powerful.
4. Remember to apply sunscreen even on cloudy days since the ultraviolet light penetrates easily through the clouds.
5. Wear sun-protective gear such as a broad-brimmed hat, sunglasses and long-sleeve shirts or pants.
6. Do not forget to protect your lips with a lip balm containing sunscreen.
7. Seek shade wherever and whenever possible.

INFORMATION FOR PATIENTS

Mohs Micrographic Surgery
for Skin Cancer

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~Appointment Information~

Name: _____

Date: _____

Arrival: _____

*Please read this entire brochure
immediately upon receiving it.
It contains important information
pertaining to your surgery!*

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