QUESTIONS & ANSWERS REGARDING YOUR PROCEDURE
WHO LEADS THE MOHS SURGICAL TEAM?

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is Director of Mohs Micrographic Surgery and an Assistant Professor at the University of Chicago, Section of Dermatology. She obtained both an M.D. and a Ph.D. from the University of Chicago, Pritzker School of Medicine, followed by a residency in Dermatology at the University of Chicago where she was Chief Resident. She subsequently completed a Mohs Micrographic Surgery and Procedural Dermatology fellowship at Northwestern University and is a member of the American College of Mohs Surgery and American Society for Dermatologic Surgery.

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is Associate Director of Dermatologic Surgery at the University of Chicago, Section of Dermatology. He obtained his M.D. at the University of Miami School of Medicine where he was a member of Alpha Omega Alpha Honor Society. At Baylor College of Medicine in Houston, Texas, Dr. Iyengar was Chief Resident in the Department of Dermatology. He completed a Mohs Micrographic Surgery, Laser and Cosmetic Surgery Fellowship in Chestnut Hill, Massachusetts and is a member of the American College of Mohs Surgery and American Society for Dermatologic Surgery.
MOHS SURGERY

INTRODUCTION

The Mohs micrographic surgery technique combines surgery with microscopic examination of tissue to remove certain types of skin cancer. With advanced equipment and expertise, the dermatologic surgeons and staff in the University of Chicago Medicine (UCM) Section of Dermatology have been a referral center for this service for several decades.

This guide is intended to answer the questions most frequently asked by skin cancer patients preparing to undergo Mohs surgery at UCM. This information supplements a consultation between you and your physician. Any concerns should be fully addressed and discussed prior to your date of surgery.
**Q:** Why do people get skin cancer and can it be prevented?

Many factors can contribute to the development of skin cancer. Sun exposure plays a large role in the development of skin cancer. Typically, damage from ultraviolet light exposure accumulates over many years and results in mutations in normal skin cells that subsequently lead to development of skin cancer. This is why skin cancer is more often present in the areas of the body exposed constantly to the sun (e.g. face, hands). Nevertheless, sun exposure is not the entire answer. Genetic predisposition and environmental exposures likely play a role as well. Skin cancer is more frequent in individuals with fair complexions (blue eyes, blond hair), persons of Celtic descent, and those who have received extensive exposure to sun over their lifetime. Proper use of broad-spectrum (UVA and UVB protection) sunscreens with sun protection factor (SPF) of 30 or greater is the most important measure of skin cancer prevention. You can also wear protective clothes or broad-rimmed hats. You do not need to change your lifestyle – only use caution and sun protection.

**Q:** What is Mohs surgery and why was it chosen as my treatment?

The Mohs technique is a specialized staged excision that is named after Frederic E. Mohs, MD, who developed it. Skin cancer can be treated by various methods, but unlike other methods, Mohs surgery permits the immediate and complete microscopic examination of the removed tissue so that all “roots,” or extensions, of the cancer under the skin can be eliminated. Many skin cancers appear deceptively small on the surface but are actually far bigger under the skin. Non-melanoma skin cancers, especially, have “roots” in the skin that run along the blood vessels, cartilage, or nerves. Mohs surgery is designed specifically to track and remove these extensions, which accounts
for the higher cure rate seen with Mohs surgery. However, not all skin cancers require treatment with this technique. Mohs surgery is reserved for tumors that are located in the high risk areas of the head and neck, cosmetically sensitive areas where preservation of a maximal amount of normal skin is important (face, ears, scalp, hands, feet, genitalia), and for those types of skin cancers that grow back after previous treatment(s). It is also considered in situations where the margin or extent of the tumor cannot easily be defined by visual inspection, particularly large skin cancers, or in special circumstances such as lowered immune defenses (e.g. transplant patients) and areas subjected to radiation therapy.

**Q:** How long does the Mohs surgery take?

**A:** Most cases can be completed in three or fewer stages, requiring less than four hours. However, no one can predict how extensive cancer will be because the size of a skin cancer’s “roots” cannot be estimated in advance. We therefore ask that you allow the entire day for surgery, in case more than three stages are required. We encourage you to bring reading materials and/or a companion on the day of your surgery.
How is Mohs surgery done?

The skin surrounding the area to be treated is made completely numb using a local anesthetic. The visible cancer is removed along with a thin layer of surrounding tissue. This takes only several minutes, and the patient may then return to the dedicated Mohs waiting room with a temporary dressing. A diagram (a Mohs map) of the removed specimen is drawn.

Procedure Room ~15 Minutes

a) The specimen is coded to distinguish the top from the bottom and left from right and processed using a rapid frozen technique by a specialized technician. The tissue is then cut and placed on a microscope slide in a way that allows examination of peripheral and deep margins under the microscope. This is the most time consuming part of the procedure, often requiring an hour or more to complete.

b) Your surgeon carefully examines the slides under the microscope. Any and all remaining microscopic roots of the cancer can thus be precisely identified and pinpointed on the Mohs map. This completes a Mohs “stage.”

Mohs Waiting Room ~60 Minutes

If more cancer is found on the slides, your surgeon will mark it on the Mohs map. You will be brought back to the procedure room and additional tissue will be removed, only where cancer is present. This allows the smallest possible surgical defect because no guesswork is involved in deciding where to remove additional tissue. Only tissue around the “roots” and extensions of the cancer is removed.

Q: What is the process of Mohs surgery?

A: The process of Mohs surgery involves:

1. numbing the area with a local anesthetic
2. removing the visible cancer and a thin layer of surrounding tissue
3. processing the specimen using a rapid frozen technique
4. examining the slides under a microscope
5. marking the location of remaining cancer on the Mohs map
6. removing additional tissue where cancer is found
7. repairing the surgical defect

Q: How is the specimens processed?

A: The specimen is coded to distinguish the top from the bottom and left from right, then processed using a rapid frozen technique by a specialized technician. The tissue is cut and placed on a microscope slide for examination of peripheral and deep margins.

Q: What happens if more cancer is found?

A: If more cancer is found, the surgeon will mark it on the Mohs map, bring you back to the procedure room, and remove additional tissue only where cancer is present.

Q: How is the surgical defect repaired?

A: The surgical defect is repaired to ensure the smallest possible defect size, as no guesswork is involved in deciding where to remove additional tissue.
What happens after Mohs surgery is completed?

When the cancer is removed the surgeon will discuss your options with you. These may include: 1) allowing the wound to heal naturally, without additional surgery or stitches, 2) repairing the wound with stitches by simple closure, flap or graft the same day as the surgery, or 3) when needed, making arrangements for wound repair by the referring physician or another surgeon.

Will it leave a scar?

Yes. Any form of surgery leaves a scar. Mohs surgery, however, will leave one of the smallest possible surgical defects and consequently a smaller final scar.

Will I have pain, bruising or swelling after surgery?

Most patients do not complain of significant pain. If there is discomfort, acetaminophen is usually all that is necessary for relief. However, stronger pain medications will be prescribed if and when needed. You may have some bruising and swelling around the wound, especially if surgery is being done on the forehead, nose or close to the eyes.
**Q:** Will I be able to drive home?

**A:** We recommend that you arrange for a ride home from a companion. Swelling or bulky pressure dressings at the wound site may make it difficult and dangerous for you to drive. Driving is absolutely prohibited if you take a sedative or prescription pain medication during or after the procedure.

**Q:** Will my insurance cover the cost?

**A:** Generally Mohs surgery, when used as indicated, is covered by most insurance carriers. However, insurance carriers and plans are different for everyone. Please check with your insurance carrier for exact information relating to your surgery.

**Q:** How do I prepare for surgery?

- Get a good night’s sleep. Eat normally the day of the surgery (unless you are having general anesthesia in the hospital).

- Wear comfortable clothing that is easy to take on and off. The procedure rooms are kept colder so it is recommended to have a sweatshirt or sweater available.

- Tell the doctor if you have any allergies to medicines, have a bleeding problem, or are currently taking any prescription blood thinners or anticoagulants.
Some patients require antibiotics prior to the procedure. Tell your physician if you are required to take an antibiotic prior to dental cleanings or if you have had a joint replacement within the past two years, have an artificial heart device or valve, have had a history of infected heart valves (endocarditis) or have severe dysfunction of a heart valve, as these conditions may require antibiotic prophylaxis.

If you are taking prescription medications, continue to take them unless otherwise directed. You should stop taking any other over the counter medications or supplements which were not ordered by a doctor. Stop the following supplements 7-10 days prior to the procedure (unless explicitly told to take them for an unrelated condition by a physician): aspirin, ibuprofen (Advil, Motrin), supplemental vitamin E, fish oil, gingko biloba or other nutritional or health-food supplements. Please check with us if you are not sure whether a medication should be stopped.

Tell the doctor if you have a cold or do not feel well.

Do not have alcohol (wine, beer, whiskey) from one week before until one week after surgery.

Smoking has a dramatic negative effect on wound healing. It is best not to smoke at all, as smoking complicates and slows wound healing, leading to higher rate of complications, and frequently limits the type of reconstruction that will be considered. If you do smoke, it is highly recommended that you attempt to cut down the frequency of smoking prior to your surgery. Do not smoke within 2 hours of surgery.

Please contact us if you have any questions before, during, and after surgery. Expect a call from a nurse in the week prior to your appointment to finalize the preparation for your procedure and answer any questions you may have. We want to work with you to make your surgery successful.
THE MOHS TEAM

JENNIFER TANG, RN
Jennifer received her Bachelor of Science in Nursing from the University of Illinois at Chicago in 2002. Her experience as a Registered Nurse (RN) has ranged from work in a surgical intensive care unit at Rush University Medical Center to outpatient nursing in plastic surgery and Mohs surgery at Northwestern Medical Faculty Foundation. At The University of Chicago Medicine, Section of Dermatology, she works very closely with patients to ensure pre- and post-operative continuity of care and a positive patient experience as the lead Mohs Surgery Nurse Coordinator.

GINNY COOPER, LPN
Ginny completed a Bachelor of Science from Indiana University and subsequently received her license practical nurse (LPN) certificate from Ivy Tech Community College. She joined The University of Chicago Medicine, Section of Dermatology in 2011 and has been an integral part of procedural dermatology.

KATHLEEN FISCHELLI, HTL (ASCP)
Kathy has been a board certified histotechnologist since 1992. She has worked in numerous hospitals as both a technician and lab supervisor. Kathy has opened three Mohs labs herself, which included training of staff specifically in Mohs procedures. She currently does Mohs histology exclusively at The University of Chicago Medicine, Section of Dermatology, while also performing duties as a full time lab supervisor at a local hospital.

L to R: Kathy Fiscelli, HTL (ASCP), Vivek Iyengar, MD, Diana Bolotin, MD, PhD, Ginny Cooper, LPN and Jennifer Tang, RN.