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MOHS MICROGRAPHIC SURGERY

Mohs micrographic surgery is a specialized technique combining surgery and pathology, which is used for the precise removal of certain forms of skin cancer. Frederic E. Mohs at the University of Wisconsin developed the process in the 1930's. Theodore Tromovitch, of the University of California, San Francisco, later modified and popularized the procedure in the 1970's. The technique provides a tremendous advantage in the removal of aggressive, recurrent, and incompletely removed basal cell carcinomas and squamous cell carcinomas. It provides the highest cure rate, while at the same time conserving the maximum amount of normal tissue. This is especially important when operating on the face, lips, eyelids, nose, and ears. This is where 80% of the skin cancers occur.

How is Mohs surgery performed?

The procedure is performed in the office under a local anesthesia. No sedatives or general anesthesia are required. A surgical incision is made around the apparent tumor and all of the outer skin layers are removed. This piece of skin is carefully marked and stained so orientation with the removal site is maintained. Bleeding is controlled, and the patient returns to a waiting area while the tissue is prepared. The removed skin is frozen in a specialized machine called a cryostat. It is then cut into extremely thin sections using a fine cutting tool called a microtome. The sections of skin, only 6 microns thick, are removed horizontally from the bottom of the specimen to the top. The sections are fixed to a microscopic slide and then stained in the lab at the office. The Mohs surgeon, to determine if all the skin cancer has been removed, examines the slides.

What happens after the first part (stage)?

A normal layer of tissue must be present below and on all edges around the tumor. This can be seen under the microscope. If the entire tumor is removed, preparations are made to repair the wound made by the initial specimen removal. If skin cancer cells are noted at the bottom or edge of the specimen, the process is repeated. Tissue is removed only from areas where skin cancer cells remained. The procedure is repeated until all skin cancer is removed. The entire tumor is removed occasionally after the first stage. Most often, it will take 2-4 stages.

What happens after all the tumor is removed?

Preparations are made for repair of the surgical wound. Many wounds can be sewn together directly, usual with a combination of internal sutures (stitches), which the body will absorb, and outside sutures which are removed 5-14 days after the surgery. Some wounds require more complicated methods of repair. These include tissue flaps from adjacent skin or skin grafts to give the best functional and cosmetic result. Options are discussed prior to the repair. Occasionally, some wounds are best allowed to heal naturally without sutures, and some wounds require more extensive surgery, which may best be provided in a hospital setting under general anesthesia and done by a plastic or general surgeon.

How long does the Mohs procedure take?

Cutting and preparing each stage of tissue can take between 30-90 minutes depending on the type and amount of tissue. No prediction of exact total time can be given, because the extent of the tumor cannot be determined with the naked eye. Nearly all cases are finished the same day, some requiring only 2-3 hours. Patients are asked to block out their schedule for the day, even though many cases started early in the morning are completed by lunch time.

Does the process leave a scar?

Yes. Any skin surgery leaves a scar. Great care is taken to achieve the best cosmetic result. Some skin cancers may cause a deformity due to their extensive involvement or damage to a nerve or muscle. These possibilities, if applicable, are discussed in detail at the pre-operative appointment and at the time of surgery.

Is Mohs used for all skin cancers?

No. Many skin cancers can be removed with a predetermined margin of normal tissue around them and then examined later microscopically. Mohs is reserved for skin cancers which grow with finger-like projections wide and deep in the skin, skin cancers which return after previous excision and skin cancers in locations such as the eyelid, where preservation of normal skin is of utmost importance. Melanoma skin cancer is generally not treated with Mohs, but a few of the more rare forms of skin cancer may be.

How do I know if I need Mohs?

This is a decision best made by your dermatologist or primary care physician after a biopsy is taken of the suspected tumor.

Is Mohs covered by insurance?

Yes. Both the removal of the tumor using the Mohs technique and the resultant repair are covered by nearly every insurance plan, including Medicare. It is always best to check with your carrier prior to the appointment to assure coverage and determine if any preauthorization is necessary.