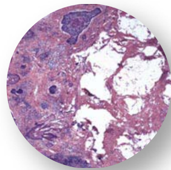
Removing Skin Cancers Without a Trace



Basal cell and squamous cell carcinomas, the most common types of skin cancer, affect over one million Americans each year. Although melanoma is the most life-threatening form of skin cancer, basal and squamous cell carcinomas are serious health concerns that, if not addressed early and appropriately, can lead to severe disfigurement and possibly death.

Certain skin cancers, primarily basal and squamous cell carcinomas, can be optimally treated with Mohs micrographic surgery, a highly specialized outpatient procedure offered at the University of Virginia Health System. The procedure boasts a high cure rate – approaching 97-99 percent for certain primary skin cancers. UVa dermatologists Mark A. Russell, M.D., and Julia K. Padgett, M.D., two of only a handful of fellowship-trained Mohs surgeons in Virginia, perform more than 1,000 Mohs surgeries yearly. In addition to receiving treatment from experienced dermatologists, Mohs patients at UVa also have access to surgeons who are highly skilled at repairing complex functional and cosmetic defects that result from removing skin cancer.

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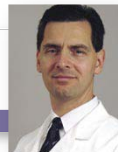
Julia K. Padgett, M.D.

The cosmetic indication for Mohs surgery is becoming ever more relevant given the significant increase in prevalence of basal and squamous cell carcinomas in younger people, note the doctors, who have performed Mohs surgery on patients as young as 14. Russell and Padgett estimate that 90 to 95 percent of the tumors they treat with Mohs surgeries occur on the scalp, face, neck or ear.

In addition to excision of the tumors, Mohs surgeons are also trained to repair resultant wounds with side-to-side closures, skin grafts, flaps and other reconstructive techniques. Yet in complex cases, or for larger defects, Russell and Padgett turn to a team of plastic and reconstructive surgeons that includes Thomas J. Gampper, M.D., vice chair of the Department of Plastic Surgery, and Stephen S. Park, M.D., FACS, vice chair and director of facial plastic surgery in the Department of Otolaryngology-Head & Neck Surgery.

SEAMLESS CANCER/COSMETIC CARE

Having on-site specialists who are experienced at repairing functional and cosmetic defects resultant from Mohs surgery – as well as the surgical facilities to accommodate complex cases – offers a significant advantage to Mohs patients seen at UVa. Explains Padgett, "We never predict the size of the surgical defect prior to beginning Mohs because it's impossible to know how much of the tumor is below the surface. Still, our experience allows us to identify those cases we suspect will require a specialist to repair the defect."



"Mohs surgery is a precise and meticulous process in which the dermatologist serves as both surgeon and pathologist to minimize the removal of healthy tissue."

Mark A. Russell, M.D.

Russell and Padgett commonly request a presurgical consult from Park or Gampper for such patients prior to Mohs surgery. (Learn more about nasal reconstruction, page A4)

"We can often excise the cancer and manage the resultant defect in a single day," says Russell. "It's extremely convenient, and a huge relief to a patient with a large or potentially disfiguring wound," he says.

Gampper adds that because complex Mohs defects often occur in areas that are functionally and/or cosmetically important, streamlined care between Mohs surgeon and experienced reconstructive specialists can offer a more superior result. "Taking a textbook approach to deal with a Mohs reconstruction is often less than ideal. Achieving the best results comes down to imagination – and that's where experience really matters," says Gampper, who performs about 50 Mohs reconstructions each year. "For facial reconstructions, we take into consideration the skin type, contour, and the thickness and texture of tissue. Sometimes we do a very large procedure to deal with a very small defect in order to get the best result possible."

For more information about surgical treatment of skin cancer, contact UVa's Department of Dermatology at 800-552-3723.

REMOVING CANCER AT ITS ROOT

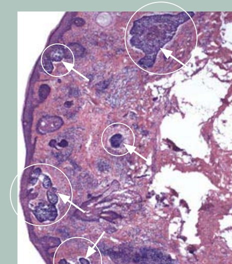


Figure 1

Figure 2

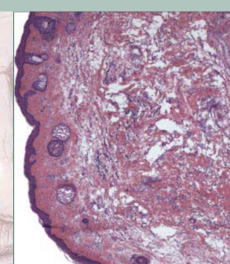


Figure 3

During a Mohs procedure, residual cancer is identified under the microscope (Figure 1) by the Mohs surgeon, and the location carefully mapped (Figure 2). This information is then used to precisely excise any remaining cancer to achieve a negative result (Figure 3).

"Mohs surgery is a precise and meticulous process in which the dermatologist serves as both surgeon and pathologist to minimize the removal of healthy tissue," says Mark A. Russell, director of UVa's Division of Dermatologic Surgery. The Mohs surgeon begins by anesthetizing the region, then removing the visible portion of the tumor with a scalpel or curette. Next, a thin layer of tissue is removed from the tumor site, which is cut and stained in a specific way by a Mohs-trained histology technician. A map of the surgical site is made. The Mohs surgeon then studies the resected tissue samples under a microscope and, if more cancer cells are revealed microscopically, the surgeon uses the map to return to the exact point of residual tumor to remove an additional layer of tissue. This process is repeated until a cancer-free layer of tissue is revealed. Finally, the resultant wound is repaired. This process can take two to six hours.

"What is remarkable about Mohs surgery is that we are able to sample 100 percent of the true surgical margin, which results in the lowest recurrence rates available for select skin cancers," Russell says. Still, Mohs is not indicated for all skin cancers, particularly when a simpler procedure will yield an acceptable cosmetic outcome and cure rate.

RUSSELL RECOMMENDS USING MOHS SURGERY TO TREAT:

- recurrent tumors
- tumors with poorly defined margins
- aggressive or infiltrating tumors
- tumors existing in functionally and/or cosmetically important areas, such as the nose, lips, ears, eyelids, hands, digits, or genitalia
- incompletely excised tumors
- large tumors