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# The safety of Mohs surgery: A prospective multicenter cohort study

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**Background:** Complications associated with Mohs surgery have been evaluated by single-surgeon studies. While these studies provide evidence for the safety of the procedure, prospective, multicenter studies afford a higher level of clinical evidence and establish further the safety profile of Mohs surgery in the ambulatory setting.

**Objective:** This study was designed to prospectively evaluate major and minor complications as well as postoperative pain associated with Mohs surgery.

**Methods:** A multicenter prospective cohort study was conducted evaluating the rate of major and minor complications as well as postoperative pain associated with the treatment of skin cancer using Mohs surgery in 1550 patients with 1792 tumors. Follow-up was obtained in 1709 of the 1792 tumors treated (95.3%).

**Results:** No major complications occurred during Mohs surgery or reconstruction. A total of 44 (2.6%) minor primary postoperative complications occurred during the study. On a scale from 0 to 10, the average peak postoperative pain level was 1.99.

**Limitations:** Limitations of the study include the variability of practice patterns across practice sites as well as the 4.7% of patients lost to follow-up.

**Conclusion:** Mohs surgery is performed with a high degree of safety and is well tolerated by patients. (J Am Acad Dermatol 2012;67:1302-9.)

## INTRODUCTION

Outpatient procedures should be effective and safe. Mohs surgery has proven effective in the treatment of skin cancer.<sup>1</sup> The cost-effectiveness of Mohs surgery has also been established.<sup>2-5</sup> Complications associated with Mohs surgery have been evaluated by prospective single-surgeon studies, as well as by retrospective multiple-surgeon studies.<sup>6-9</sup> Multicenter, prospective studies afford a higher level of clinical evidence and help to establish the safety profile of Mohs surgery in the ambulatory setting.

We report the results of a 13-site, 13-surgeon, prospective cohort study evaluating the rate of

complications and postoperative pain associated with the treatment of skin cancer using Mohs surgery with and without reconstruction in 1550 patients with 1792 tumors.

## METHODS

Thirteen American College of Mohs Surgery (ACMS) member Mohs surgeons with similar training participated in a multicenter, prospective, 4-week study tracking major complications (defined in Table I), minor complications, and peak postoperative pain levels in patients undergoing Mohs surgery with and without reconstruction.

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Institutional review board (IRB) approval was obtained for all practice sites. The protocol was as follows: English-speaking patients at least 18 years old who were undergoing Mohs surgery were asked to participate. Patient accrual occurred for 20 consecutive work days. Informed consent for study participation was obtained for all patients. Treatment was unaffected by the study, and approaches varied among offices, including the use of intra-incisional/peri-incisional antibiotics, preoperative antibiotics, postoperative antibiotics, and postoperative analgesics, all documented. Varying approaches not documented include preoperative topical antibacterial preparation, local anesthetic, and electrocoagulation settings.

Demographic information, including medications and smoking status, tumor characteristics, number of stages, use of antibiotics (intra-incisional/peri-incisional, preoperative, and postoperative), number of stages, wound management, and use of postoperative analgesics were all recorded. Complications occurring during Mohs surgery were documented.

The second phase of the study involved documenting complications occurring within 2 weeks of surgery, as well as peak postoperative pain levels. For patients following up in person, all information was collected between 1 and 2 weeks of the procedure. Patients not returning to the office were given a survey to return by mail. Patients who did not return the survey were contacted by phone. Follow-up information for these patients was collected within 4 weeks of surgery.

Mean values, standard deviations, and percentiles were used to describe patient and tumor characteristics. Bivariable association between the outcomes bleeding, hematoma, infection, necrosis, and any complication, as well as the variables gender, number of lesions treated on the day of surgery (all reconstructions performed by Mohs surgeons were performed the same day), anticoagulant use, intra-incisional antibiotic use, medical history, type of repair, location of repair, type of follow-up, and physician were calculated by means of the Pearson chi-square test. Patient satisfaction with pain management was evaluated with Pearson's chi-square test. A two-sample *t* test was used to compare mean differences for the outcome of complications and

age, number of stages, tumor size, and defect size. A two-sample *t* test was also used to evaluate for any association of reported pain levels and gender, age, numbers of stages performed, number of lesions removed, anticoagulant use, intra-incisional/peri-incisional antibiotics, tumor size, defect size, type of follow-up, past medical history, repair type, tumor

location, and type of complication. All reported *P* values were two sided and statistical significance was set at values of  $P < .05$ . Stata 11.0 was used to conduct all analysis.

## RESULTS

A cohort totaling 1550 patients enrolled in the study with 1792 tumors treated (Table II). Follow-up was obtained in 95.3% of patients (1709 of 1792 tumors).

### Patient and tumor characteristics

The mean age of patients was 69 years (Table III). A variety of neoplasms were treated; the majority were basal cell carcinoma (BCC) (61%) or squamous cell carcinoma (31%) (see Table III). Tumors were predominantly located on the head and neck (Table III). The mean preoperative tumor size was 1.14 cm, whereas the mean defect size was 1.89 cm. The mean number of stages was 1.6, ranging from 1 to 8.

Mohs surgeons directly managed 93.5% of the wounds, whereas 6.5% were managed by other surgeons. Eighty-two percent (82%) of the defects were reconstructed (Table IV and V), whereas 18% were managed by using second-intention healing.

### Major complications

No deaths occurred during treatment or in the postoperative period. No major complications occurred during Mohs surgery or reconstruction. Two events occurred with an unclear relationship to surgery and without serious sequelae. One patient with hypertension taking warfarin at the time of surgery underwent treatment of a BCC on the alar crease with three stages of Mohs surgery, resulting in a 2.6-cm defect reconstructed with a nasolabial transposition flap. He was briefly hospitalized on postoperative day 2 for weakness and disorientation but was discharged in his usual health. He previously experienced bleeding on postoperative day 1 that required the Mohs surgeon to incise a portion of the flap, perform electrodesiccation, and suture for

## CAPSULE SUMMARY

- The safety of Mohs surgery has been demonstrated by single-center studies.
- This prospective, 13-surgeon, multicenter study further establishes the safety and postoperative pain profile of Mohs surgery with and without reconstruction.
- With the incidence of skin cancer increasing at an alarming rate, Mohs surgery provides a highly effective, well-tolerated, and very safe treatment option.

**Table I.** Major and minor complications

Major	Minor
Death	Active bleeding requiring health care provider intervention
Shortness of breath	Infection
Asthma exacerbation	Flap/graft/skin edge necrosis (at least 10%)
Hypertensive crisis	Hematoma
Arrhythmia	Dehiscence (at least 2 mm by 2 mm)
Cardiac arrest	
Angina	
Transient ischemic attack	
Cerebrovascular accident	
Pacemaker/defibrillator malfunction	
Emergency medical intervention for any reason	
Transfer to ED	
Hospitalization	
Adverse reaction to anesthetic	

ED, Emergency department.

hemostasis. The patient had no further bleeding and no long-term complications.

Another patient, on hemodialysis, was treated for two BCCs on the nose, resulting in defects of 1.1 and 2.4 cm that were repaired with full-thickness skin grafts. He experienced syncope the morning after surgery but had an unremarkable evaluation in the emergency department. He had also experienced postoperative bleeding the day of surgery that required returning to the Mohs surgeon's office.

### Minor complications

A total of 44 primary minor complications (rate of 2.6%) occurred in the 1709 tumors with follow-up (Table VI and VII). There were also 8 secondary complications, in which patients with one complication experienced another. Infection was considered the primary complication in patients who developed dehiscence or necrosis. Active bleeding following surgery was considered the primary complication in patients developing a second.

Several variables were significant in patients with minor complications (Table VIII and IX). They were older and had larger preoperative tumor and postoperative defect sizes. Patients who underwent linear repair were less likely to have a complication, whereas those who underwent repair with a graft, flap, or combined repair were more likely to have a complication. Patients with a complication reported

**Table II.** Study cohort information

Patient characteristics	Mean (SD) or no. of cases (n* = 1792)
Mean age (years)	69 (13)
Tumors treated, by gender	
Male	1094 (61)
Female	698 (39)
Past medical history	
Current smoker	124 (6.9)
Immunosuppressed	80 (4.5)
Diabetes	122 (6.8)
Prior skin cancer treatment	1158 (64.6)
Anticoagulant use	885 (51)
NSAIDs	25 (1.43)
Mean tumor size (cm)	1.14 (0.76)
Mean defect size (cm)	1.89 (1.20)
Mean No. of layers removed	1.6 (0.86)
No. of lesions treated per day	
1 lesion	1340 (74.7)
>1 lesion	453 (25.3)
Intralesional antibiotic	1110 (62)
Follow-up type	
In office	1172 (65.4)
Phone call	79 (4.4)
Mailed in	458 (25.6)
Lost to follow-up	83 (4.6)

a higher mean pain score than those without, mostly attributable to patients with postoperative infection.

### Active bleeding requiring physician intervention

Active bleeding was the most common complication, occurring in 21 patients (1.2%). These patients were older, with larger preoperative tumor and postoperative defect measurements (see Table VIII and IX). Active bleeding occurred at a lower rate in linear closures compared with second-intention healing. When compared with all other repair types, however, second-intention healing was not associated with a higher rate of bleeding.

Thirteen of the 21 patients who experienced active bleeding were taking an anticoagulant. Postoperative bleeding occurred at a higher rate in these patients, but this did not reach statistical significance ( $P = .08$ ). Three of the 21 also developed a minor secondary complication, including focal dehiscence, focal 10% necrosis, and hematoma.

### Infection

Evaluation for infection included documenting purulence, erythema, and pain. To minimize underreporting of infections, however, any site treated for infection was included. A total of 16 patients were

**Table III.** Tumor location and type

	No. (% of total)
Location	
Nose	333 (19)
Lip	75 (5)
Eyelid	67 (4)
Face*	230 (13)
Forehead/brow/temple	273 (15)
Scalp	116 (7)
Ear	218 (12)
Neck	77 (4)
Trunk <sup>†</sup>	138 (8)
Arm	69 (4)
Leg	110 (6)
Hand/foot/digit	50 (3)
Genitalia	3 (0.2)
Type	
Basal cell carcinoma	1060 (61)
Squamous cell carcinoma	540 (31)
Melanoma/atypical melanocytic proliferation	102 (6)
Basosquamous carcinoma	21 (1)
Adnexal tumors	7 (<1)
Atypical fibroxanthoma	6 (<1)
Chondroid syringoma	1 (<1)
Sebaceous carcinoma/adenoma	3 (<1)
Dermatofibrosarcoma protuberans	3 (<1)
Merkel cell carcinoma	1 (<1)

\*Cheek, chin, mandible, submandible.

<sup>†</sup>Chest, abdomen, shoulder, back.

**Table IV.** Overall wound management

Management	No. of cases (%) (N = 1725)
Second intention	304 (17.6)
Primary linear closure	939 (54)
Flap*	160 (9.3)
Graft <sup>†</sup>	198 (11.4)
Xenograft	12 (0.7)
Referral <sup>‡</sup>	112 (6.5)

\*Single stage and interpolation flaps.

<sup>†</sup>FTSG/STSG, composite graft, combined repair.

<sup>‡</sup>Method of repair unknown; may consist of primary repair, flap, or graft.

treated for infection (rate of 0.9%, or 16 patients of 1709). Cultures were performed in 9 of 16 and all were positive (Table X).

The incidence of infection was higher in patients who healed by second intention or who underwent an interpolation flap. The incidence of infections was lower in linear repairs compared with all other wound management (0.55% vs 1.49%,  $P = .053$ ). There was no association between anatomic location and infection, although there was a significant

**Table V.** Reconstructions by Mohs surgeons

Reconstructions	No. of cases (%) (N = 1309)
Primary linear closure	939 (72)
Single-stage flap*	149 (11)
Interpolation/staged flap <sup>†</sup>	4 (0.3)
Cartilage graft + flap	7 (0.5)
FTSG/STSG alone	186 (14)
Composite graft	4 (0.3)
Combined repair	8 (0.6)
Xenograft	12 (0.9)

FTSG, Full-thickness skin graft; STSG, split-thickness skin graft.

\*Transposition flap, V-Y advancement flap, Burow's advancement flap, mucosal advancement flap, rotation flap.

<sup>†</sup>Paramedian forehead flap (2), melolabial interpolation flap (1), post-auricular interpolation flap (1).

**Table VI.** Primary complications

Complications	No. (%) of cases*
Active bleeding	21 (1.23)
Hematoma	2 (0.12)
Infection	16 (0.94)
Necrosis	5 (0.29)
Total	44 (2.57)

\*Denominator is the total number of tumors with follow-up (N = 1709).

**Table VII.** Secondary complications

Complications	No. (%) of patients with this secondary complication*
Hematoma	1 (2)
Wound dehiscence	6 (14)
Necrosis	1 (2)
Total	8 (18)

\*Denominator is the total number of patients with a primary complication (44).

variation in prophylactic antibiotic use by anatomic location (see below).

### Infection and secondary complications

Four of the 16 patients treated for infection also developed wound dehiscence. All 4 patients had culture-confirmed *Staphylococcus aureus*; 3 of the 4 had a methicillin-resistant strain. Patients with a wound infection reported a higher mean pain score (4.9) compared with those without infection (1.96) ( $P < .0001$ ).

### Use of intraincisional/peri-incisional and postoperative antibiotics

Intraincisional/peri-incisional and postoperative prophylactic antibiotic use varied by surgeon and

**Table VIII.** Summary of variables associated with minor complications

Complications/variables	Degree of association
Patients who developed any complication compared with those w/no complication	
Older	73.5 ± 13 vs 69 ± 13 years old; <i>P</i> = .024
Larger preoperative tumor size	1.6 ± 1.11 vs 1.12 ± 0.75 cm; <i>P</i> .0001
Larger defect size	2.41 ± 1.52 vs 1.88 ± 1.2 cm; <i>P</i> = .0032
More likely to undergo repair other than linear repair	
Rate of complications for reconstructions other than linear repair compared with linear repair	4.20% vs 1.32%; <i>P</i> < .0001
Higher pain level than patients without complications	3.1 vs 2.0; <i>P</i> = .0014
Patients who developed active bleeding compared with those who did not	
Older	78 ± 11 years old vs 69 ± 13 years old; <i>P</i> = .0019
Larger preoperative tumor size (cm)	1.69 ± 1.2 vs 1.14 ± 0.76; <i>P</i> = .0008
Larger defect size (cm)	2.61 ± 1.44 vs 1.89 ± 1.2; <i>P</i> = .0058
Second-intention healing	1.75% bleeding rate in second-intention healing versus 0.55% in primary repair; <i>P</i> = .052
Anticoagulant use*	Active bleeding in 1.67% of patients on anticoagulants vs 0.73% of patients not; <i>P</i> = .08
Patients who developed an infection compared with those who did not	
More likely to heal by second intention or undergo repair w/an interpolation flap	2.11% infection rate in second-intention healing vs 0.73% for non—second-intention healing 50% infection rate for interpolation flaps (2/4) vs 0.85% for all others; <i>P</i> < .0001

\*Not statistically significant.

repair type (Table XI). Patients with tumors treated on the extremities, neck, lips, and eyelid were less likely to be given prophylactic antibiotics, and patients with tumors treated on the nose, ears, and scalp were more likely to receive prophylactic antibiotics. None of the patients undergoing reconstruction with interpolation flaps were given postoperative oral antibiotics. Of note, none of the 126 patients given a postoperative prophylactic antibiotic developed an infection.

### Wound dehiscence

**Primary dehiscence.** Primary dehiscence was considered the separation of sutured skin greater than 2 mm by 2 mm in the absence of other complications. There were no cases of primary dehiscence.

**Secondary dehiscence.** Secondary dehiscence was considered dehiscence following another complication. There were 6 total cases, 4 in patients with a wound infection. Of patients with an infection following reconstruction, secondary dehiscence developed in 33% (4/12).

### Hematoma

Hematoma was defined as the accumulation of blood beneath a sutured site leading to a palpable

mass, categorized as either expansile, requiring evacuation with active hemostasis, or stable with evacuation at the discretion of the physician. There were two primary hematomas—one an expansile hematoma requiring aspiration and one a nonexpansile hematoma in a patient who subsequently developed wound dehiscence.

### Necrosis

Necrosis was defined as devitalized tissue greater than 10% of a flap, graft, or sutured skin edge. There were 5 repairs developing primary necrosis, all full-thickness skin grafts, though the overall rate of graft necrosis was low, 2.6% (5/196). None of the patients with graft necrosis reported active smoking or diabetes. One patient with active bleeding, a smoker, developed 10% to 30% secondary necrosis of a linear repair.

### Postoperative pain

Peak postoperative pain was recorded using a 0-10 scale and was documented for 1640 of 1792 tumors (92%). The mean peak pain score was 1.99. The pain score for patients without a complication was lower, 1.99 versus 3.1 (*P* = .0014) (see Table VIII and IX), mostly attributable to increased pain

**Table IX.** Pain levels after Mohs surgery

Variables	Pain level (0-10)
Mean peak pain level by wound management	
Second intention	1.3
Linear repair	2.1
Random pattern flap	2.5
Skin graft	2.4
Interpolation flap	6.5
Mean peak pain level by location	
Extremities	1.2
Neck	1.3
Trunk	1.5
Lip	2.5
Nose	2.6
Genitalia	6
Patients reporting higher pain levels	
Younger patients	
Women	
More stages required to clear tumor	
Patients receiving intraincisional antibiotics	
Current smoker	
Interpolation flap repair	
Tumors on the genitalia	
Tumors on the nose or lip	
Patients with wound infection	
Patients reporting lower pain levels	
65 years of age and older	
Men	
Fewer stages required to clear tumor	
Diabetes	
Patients w/multiple tumors treated at one visit	
Patients taking anticoagulants	
History of prior skin cancer treatment	
Second-intention healing	
Facial locations other than nose or lips	
Tumors treated on the neck, trunk, or extremities	

reported by patients with an infection, who had a significantly higher mean pain score of 4.9.

Postoperative pain varied by wound management as well as by anatomic location (see Table VIII and IX). Wounds managed by second intention led to the least pain, those repaired with an interpolation flap the highest. Tumors treated on the genitalia led to the highest average pain by location. Women, younger patients, patients who reported active smoking, and patients requiring more stages reported higher pain, reaching statistical significance (see Table VIII and IX).

A 'yes' or 'no' question was used to assess patient satisfaction with pain control. A total of 1617 responses were recorded and 91% reported satisfaction with pain management.

**Table X.** Culture-positive infections

Infection	No.
Methicillin-resistant <i>Staphylococcus aureus</i>	4
Oxacillin-sensitive <i>S aureus</i>	2
<i>Enterobacter aerogenes</i>	1
<i>Klebsiella pneumoniae</i>	1
<i>Serratia marcescens</i>	1
Total	9

**Table XI.** Management of complications

Location of management of complications	Percentage managed in this location
Mohs surgeon's office*	68
Another provider's office	22
Emergency department	14

\*Two patients initially managed in the Mohs surgeon's office went to the emergency department 1 to 2 days after Mohs surgery.

## DISCUSSION

It is important to have solid evidence supporting the effectiveness and safety of procedures. This 13-surgeon prospective study tracking the treatment of patients across a wide geographic range in the United States confirms the low rate of complications associated with Mohs surgery with and without reconstruction.

Of the tumors treated in this study with follow-up, 97.4% were treated without complication. There were no major complications, including no cases of pacemaker or defibrillator malfunction with electrocoagulation. Although two patients in this study developed events requiring visits to the emergency department within the week following surgery, their relationship to treatment is not clear. Neither patient suffered significant short- or long-term morbidity.

Minor complications were rare and occurred at a rate of 2.6%. Active bleeding was the most frequent, followed by infection, necrosis, and hematoma. Primary dehiscence did not occur, but 33% of patients (4/12) with infection after reconstruction developed secondary dehiscence, especially those with methicillin-resistant *S aureus*. Patients experiencing one complication are at higher risk for another, with secondary complications occurring at a rate of 18%. Overall, patients expressed low levels of postoperative pain (1.99 on a scale of 0-10), and 91% of patients reported satisfaction with their postoperative pain control.

Data from this study confirm that active bleeding is more likely to occur in larger defects managed by an approach other than linear repair. Patients taking anticoagulants may be at higher risk for active bleeding following surgery,<sup>9</sup> though statistical significance

( $P = .08$ ) was not reached. Uncontrolled hypertension is potentially related to postoperative bleeding, but was not evaluated, partly because of the difficulty in assessing blood pressure at the time of onset of bleeding after surgery. Thus no conclusion can be made regarding the effect of hypertension.

Wound infection occurred in less than 1% of tumors treated and was associated with increased pain, confirming that pain is a useful marker for wound infection. Measures to reduce wound infection vary and, though intraincisional/peri-incisional antibiotics are not used widely in Mohs surgery, randomized trials have shown they reduce the incidence of infection without reaching a significant systemic level.<sup>10</sup> Interestingly, the present study showed no difference in the rate of infection between patients given intraincisional/peri-incisional antibiotics and those not.

Postoperative antibiotics are also used to reduce infections; none of the 126 patients in this study given a prophylactic postoperative oral antibiotic developed an infection. Although second-intention healing was found to have a higher incidence of infection, this may be attributable to the reduced use of postoperative oral antibiotics (2% for second-intention healing vs 22%-23% for graft or flap repair). There was no difference in the rate of infection between anatomic locations, though antibiotic use was more common on the nose, ears, and scalp, likely related to flap and graft repairs in these locations. Follow-up may have been too brief to capture delayed infections.

Given the less than 1% incidence of infection and the concern for increasing antibiotic resistance, postoperative prophylactic antibiotics, which lead to a higher systemic level when compared with intraincisional/peri-incisional antibiotics, should be used selectively.<sup>11,12</sup> Patients who undergo more-complex reconstruction, especially with an interpolation flap, might benefit from postoperative antibiotics, but a randomized trial is needed.

Flap, graft, or skin-edge necrosis are rare complications after Mohs surgery and reconstruction, most commonly occurring with grafts. Less than 0.3% of reconstructions were affected by necrosis, and even partial necrosis occurred in only 2.6% of skin grafts. Hematoma and wound dehiscence also occur rarely after Mohs surgery and reconstruction.

The majority of complications following Mohs surgery and reconstruction in this study were managed by the Mohs surgeon in the office (see [Table XI](#)). Of patients developing a complication, 31% used another health care provider. Only 6 treatment events (0.3%) resulted in patients going to the emergency department.

To our knowledge, this study documents pain following Mohs surgery in the largest group of patients reported in the literature to date.<sup>13,14</sup> Pain after Mohs surgery and reconstruction is typically minor and patients express a high degree of satisfaction with pain control. Interpolation flaps are associated with higher postoperative pain. Second-intention healing leads to the least postoperative pain. Locations associated with higher postoperative pain include the nose, lips, and genitalia, suggesting that pain management may be more important for tumors treated in these locations. Additionally, women, younger patients, patients who actively smoke, and patients requiring more stages report higher postoperative pain and may require more aggressive pain management.

Strengths of this study include its multiple-site nature with participation of 13 Mohs surgeons, as well as a high rate of follow-up (95.3%). Mean preoperative and postoperative size was found to be highly consistent between sites (1.14 cm and 1.89 cm, respectively) and was very similar to that reported in a survey of 50 ACMS fellowship training programs (1.15 cm and 1.96 cm, respectively),<sup>15</sup> supporting the conclusion that the tumors treated in this study are representative of those encountered by Mohs surgeons across many practice types in the United States. The multicenter nature of this study incorporates various degrees of experience, skill set, and training. There was no statistical difference in the rate of complications between the 13 Mohs surgeons participating in the study.

Potential weaknesses of this study include absence of data from the 4.7% of patients without follow-up. Two points bear consideration here. First, patients developing a complication are likely to contact their Mohs surgeon, so it is unlikely that patients lost to follow-up had a higher rate of complications. Second, patients without follow-up were younger, had less stages performed, tended to have smaller postoperative defects, were more likely to have tumors treated on the trunk, and were less likely to have wounds managed by skin grafts.

Another potential weakness of the study involves the absence of inclusion of hypertension as a factor for patients experiencing postoperative bleeding. Several patients who developed bleeding after surgery had a history of hypertension. Blood pressure is routinely measured before Mohs surgery, but the correlation of delayed postoperative bleeding to blood pressure measured at the time of surgery has not been well-established. Further study may clarify the association of uncontrolled postoperative hypertension with postoperative bleeding.

## CONCLUSION

This prospective multicenter cohort study helps establish the safety of Mohs surgery with and without reconstruction with the patient under local anesthesia. More than 97% of tumors are treated without complication, and major complications are extremely rare. Most tumors are removed in two stages or less and are repaired with a linear closure, which is associated with fewer complications and less postoperative pain compared with other repairs. Patients in general have low peak pain levels following Mohs surgery and reconstruction and are highly satisfied with their pain control. Patients with active bleeding after surgery and those developing a postoperative infection are at risk for additional complications. Most complications following Mohs surgery are managed by Mohs surgeons in their offices, minimizing the need for utilization of additional health care resources.

In conclusion, Mohs surgery is proven as a highly effective, cost-effective, well-tolerated, and extremely safe procedure for the treatment of skin cancer. This prospective, multicenter study helps confirm the high degree of safety with which fellowship-trained, ACMS member Mohs surgeons perform the procedure across a wide geographic range within the United States.

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