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# Mohs Micrographic Surgery: Indications, Advantages, and Role in Modern Dermatologic Surgery

*Mini Review*

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## Abstract

Mohs micrographic surgery (MMS) represents a highly effective surgical technique for the treatment of selected skin cancers. By allowing complete histological examination of surgical margins, MMS ensures maximal tumor clearance while preserving healthy tissue. This technique is particularly indicated for high-risk non-melanoma skin cancers and lesions located in anatomically and functionally critical areas. The present mini-review summarizes the principles of Mohs surgery, its main clinical indications, advantages over conventional excision, and current limitations, highlighting its pivotal role in modern dermatologic surgery.

**Keywords:** Mohs surgery; skin cancer; basal cell carcinoma; squamous cell carcinoma; dermatologic surgery.

## Introduction

Skin cancer is the most common malignancy worldwide, with a continuously rising incidence. Basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) account for the majority of non-melanoma skin cancers. While standard surgical excision remains effective for many lesions, tumors located in cosmetically sensitive areas or characterized by aggressive behavior require more precise surgical management.

Mohs micrographic surgery (MMS), first described by Frederic E. Mohs, offers complete microscopic evaluation of surgical margins and has become the gold standard for the treatment of selected high-risk cutaneous tumors. This review aims to summarize the principles, indications, advantages, and limitations of MMS in contemporary dermatologic surgery.

## Principles of Mohs Micrographic Surgery

Mohs micrographic surgery is based on the staged excision of skin tumors with immediate histological examination of the entire peripheral and deep margins. Unlike conventional surgery, which evaluates only a small percentage of excised margins, MMS allows 100% margin control.

After tumor removal, the specimen is carefully mapped, processed, and examined using horizontal frozen sections. If residual tumor is identified, further excision is performed only in the affected area. This process is repeated until complete tumor clearance is achieved, ensuring maximal tissue preservation and optimal oncologic control.

## Clinical Indications

MMS is particularly indicated in tumors with a high risk of recurrence or those located in anatomically sensitive regions. The main indications include:

A.High-risk basal cell carcinoma (infiltrative, morpheaform, or recurrent).

B.Squamous cell carcinoma with aggressive histological features.

C.Tumors with poorly defined clinical margins.

D.Lesions located on the face, nose, eyelids, lips, ears, and periorbital region.

E.Recurrent or previously treated tumors.

The technique is especially valuable when functional and aesthetic preservation is essential.

## Advantages of Mohs Micrographic Surgery

Mohs surgery provides several well-documented advantages over conventional excision:

a.Cure rates exceeding 95–99% for primary BCC.

b.Lower recurrence rates in recurrent tumors.

c.Maximum preservation of healthy tissue.

d.Superior cosmetic and functional outcomes.

e.Immediate reconstruction after tumor clearance.

These benefits make MMS the preferred approach for complex and high-risk skin cancers.

## Limitations and Considerations

Despite its effectiveness, MMS has some limitations. The procedure requires specialized training, appropriate infrastructure, and close collaboration between surgeon and pathologist. Operative time may be longer compared to standard excision, and initial costs may be higher. Nevertheless, these limitations are offset by reduced recurrence rates, fewer reinterventions, and improved long-term outcomes, making MMS a cost-effective strategy in appropriately selected cases.

## Conclusion

Mohs micrographic surgery represents the gold standard for the management of high-risk and anatomically complex skin cancers. Its ability to ensure complete tumor removal while preserving healthy tissue results in excellent oncologic, functional, and aesthetic outcomes. With increasing incidence of skin cancer, MMS continues to play a central role in modern dermatologic and surgical practice.

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