

Second Intent Healing Following Mohs Micrographic Surgery: A Guide for Patients and Caregivers

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Following Mohs micrographic surgery (MMS) for the treatment of skin cancers, there are several ways that your Mohs surgeon can repair your wound. These options include either surgical methods to close the wound or leaving the wound open to heal, a process referred to as secondary intention healing. Secondary intention healing was a commonly used method when MMS was first developed to treat skin cancers, but has recently been underused despite its unique benefits because of continuous advancements in surgical techniques.

It has been well demonstrated that second intent healing can produce equal or superior functional and cosmetic results following MMS compared to surgical techniques. The strongest predictor of favorable aesthetic outcomes following healing by secondary intention is the location of the wound. Those locations demonstrated to heal favorably include the concave surfaces of the nose, eye, ear, and temple, while those demonstrated to heal unfavorably include the convex surfaces of the nose, oral lips, cheek, chin, and helix of the ear. Variable results are more likely to arise on the flat areas of the forehead, antihelix of the ear, eyelids, lips, cheeks, and remainder of the nose.

Beyond the face, additional areas of the body may be particularly well-suited for second intent healing. Wounds on the scalp can be hidden by hair, and healing by secondary intention can significantly reduce the area of hair loss. Wounds on the trunk and extremities also heal with acceptable cosmetic results. In areas of the body where a large surgical repair would result in a noticeable scar, secondary intention healing can result in a smaller and less noticeable scar than a sutured wound.

Additionally, the size and depth of the wound are important considerations. Small wounds heal with better results than large wounds in the same area, and they result in a smaller scar. Superficial wounds are more likely to heal with favorable aesthetic outcomes compared to deeper wounds.

If you have a skin cancer that has a high risk of recurrence, secondary intention healing may be a favorable option. Healing by secondary intention enables your Mohs surgeon to more quickly detect any cancer cells that would otherwise have been buried by surgical repair methods. If any remaining skin cancer is detected or your skin cancer has come back, you can undergo further excision without the need to involve areas of the skin that may have cancer involvement.

Your Mohs surgeon will also take your skin texture and color into account to determine the optimal repair method. Aged skin is often ideal for healing by secondary intention, as looser skin is more likely to facilitate the healing process. Additionally, patients with darker skin colors may have lighter colored scars, so healing by secondary intention can be less aesthetically acceptable.

Healing by second intent offers additional advantages, including reduced time and costs associated with surgical procedures. Second intent healing prevents you from needing to undergo additional procedures. Moreover, this may be a beneficial option for older patients or those who

are immunocompromised, as fewer clinic visits are required and follow-up can be conducted using a telehealth platform if necessary. In patients who are not good candidates for surgical procedures, healing by secondary intention may be the optimal choice because of the decreased risk of hospitalizations and complications. Bleeding and infection are extremely rare, and occur at lower rates than surgical procedures.

Despite extensive benefits, there are cases when healing by secondary intention may not be the most optimal method. Patients with oily skin may not be the best candidates, as wounds in this skin type typically result in more scarring. Additionally, second intent healing may not be appropriate for wounds over joints or cosmetic areas. Moreover, deep wounds around the mouth or around the eye should be repaired surgically, as well as wounds that tear through the cheeks, lip, or upper eyelid.

Delays in wound healing are typically seen in wounds on the head and scalp that are larger than 10 centimeters, and the resulting scars are usually not stable. Therefore, these wounds should also be repaired surgically. Patients with a history of radiation therapy are not ideal candidates for second intent healing because they are likely to have delayed wound healing.

Wound care requires daily dressing changes, which can be done at home. Moist wound healing decreases or eliminates pain, increases the rate of healing, and results in fewer infections. However, there are more demands surrounding wound care if a wound is left to heal by secondary intention than if a wound is repaired surgically. Second intent healing may therefore not be the best option in patients unwilling or unable to perform the wound care necessary to optimize aesthetic results.

Studies assessing patients' experiences with second intent healing demonstrate that this is a well-tolerated method with satisfactory outcomes. It has been shown that the majority of patients would consider secondary intention healing again, and patients are typically satisfied with the required wound dressings, duration of wound healing, and appearance of resultant scarring.

References

1. Morris HC, Simmons-O'Brien EF, Miller SJ, Orlinsky DJ. Secondary Intention Healing After Mohs Surgery During COVID-19. *Dermatol Surg.* 2022;48(12):1357-1358. doi:10.1097/DSS.0000000000003623
2. Liu KY, Silvestri B, Marquez J, Huston TL. Secondary Intention Healing After Mohs Surgical Excision as an Alternative to Surgical Repair: Evaluation of Wound Characteristics and Esthetic Outcomes. *Ann Plast Surg.* 2020;85(S1 Suppl 1):S28-S32. doi:10.1097/SAP.0000000000002330
3. DS19: Let nature heal: a survey on patient experiences of secondary intention healing following Mohs micrographic surgery. *British journal of dermatology/British journal of dermatology, Supplement.* 2022;187(S1):167-167. doi:https://doi.org/10.1111/bjd.21462
4. Zitelli JA. Secondary intention healing: an alternative to surgical repair. *Clin Dermatol.* 1984;2(3):92-106. doi:10.1016/0738-081x(84)90031-2