

Customized Dermal Curette: An Alternative and Effective Shaving Tool in Nail Surgery

Wei Zhang, MD; Hui Fan, MD; Lingxi Gu, MS; Hongguang Lu, MD, PhD

Surgical excision of the pigmented nail matrix followed by histopathologic examination is a common procedure aimed at managing longitudinal melanonychia (LM). In some cases, use of a standard scalpel can pose challenges, particularly if the width of the pigmented matrix lesion is narrow. We explore an alternative and effective tool—the customized dermal curette.

Practice Gap

Longitudinal melanonychia (LM) is characterized by the presence of a dark brown, longitudinal, pigmented band on the nail unit, often caused by melanocytic activation or melanocytic hyperplasia in the nail matrix. Distinguishing between benign and early malignant LM is crucial due to their similar clinical presentations.¹ Hence, surgical excision of the pigmented nail matrix followed by histopathologic examination is a common procedure aimed at managing LM and reducing the risk for delayed diagnosis of subungual melanoma.

Tangential matrix excision combined with the nail window technique has emerged as a common and favored surgical strategy for managing LM.² This method is highly valued for its ability to minimize the risk for severe permanent nail dystrophy and effectively reduce postsurgical pigmentation recurrence.

The procedure begins with the creation of a matrix window along the lateral edge of the pigmented band followed by 1 lateral incision carefully made on each side of the nail fold. This meticulous approach allows for the complete exposure of the pigmented lesion. Subsequently, the nail fold is separated from the dorsal surface of the nail plate to facilitate access to the pigmented nail matrix. Finally, the target pigmented area is excised using a scalpel.

Despite the recognized efficacy of this procedure, challenges do arise, particularly when the width of the pigmented matrix lesion is narrow. Holding the scalpel horizontally to ensure precise excision can prove to

be demanding, leading to difficulty achieving complete lesion removal and obtaining the desired cosmetic outcomes. As such, there is a clear need to explore alternative tools that can effectively address these challenges while ensuring optimal surgical outcomes for patients with LM. We propose the use of the customized dermal curette.

The Technique

An improved curette tool is a practical solution for complete removal of the pigmented nail matrix. This enhanced instrument is crafted from a sterile disposable dermal curette with its top flattened using a needle holder (Figure 1). Termed the *customized dermal curette*, this device is a simple yet accurate tool for the precise excision of pigmented lesions within the nail matrix. Importantly, it offers versatility by accommodating different widths of pigmented lesions through the availability of various sizes of dermal curettes (Figure 2).



FIGURE 1. The customized dermal curette is crafted from a sterile disposable dermal curette with its top flattened using a needle holder and can be used to manage longitudinal melanonychia.

From the Department of Dermatology, The Affiliated Hospital of Guizhou Medical University, Guiyang, China.

The authors report no conflict of interest.

Correspondence: Hongguang Lu, MD, PhD, Department of Dermatology, The Affiliated Hospital of Guizhou Medical University, No.28 Guiyi St, Guiyang, Guizhou 550001, China (luhongguang@gmc.edu.cn).

Cutis. 2024 August;114(2):65-66. doi:10.12788/cutis.1068

FIGURE 2. A, A sterile disposable dermal curette (2.0 mm) is used for excision of a pigmented lesion on the nail matrix. B, The improved curette tool achieves more precise tissue excision, leading to uniform tissue thickness and integrity.

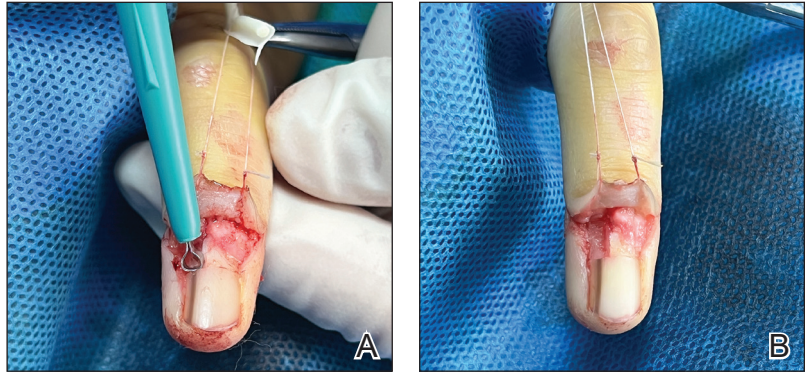
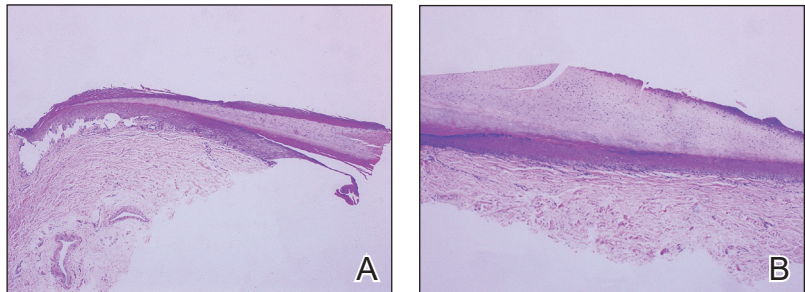


FIGURE 3. A, Histopathologically, excision of a pigmented lesion on the nail matrix with a scalpel may yield variable tissue removal, resulting in differences in tissue thickness, fragility, and completeness (H&E, original magnification $\times 5$). B, Excision with the customized dermal curette provides more accurate tissue excision, resulting in uniform tissue thickness and integrity (H&E, original magnification $\times 5$).



Histopathologically, we have found that the scalpel technique may lead to variable tissue removal, resulting in differences in tissue thickness, fragility, and completeness (Figure 3A). Conversely, the customized dermal curette consistently provides more accurate tissue excision, resulting in uniform tissue thickness and integrity (Figure 3B).

Practice Implications

Compared to the traditional scalpel, this modified tool offers distinct advantages. Specifically, the customized dermal curette provides enhanced maneuverability and control during the procedure, thereby improving the overall efficacy of the excision process. It also offers a more accurate approach to completely remove pigmented bands, which

reduces the risk for postoperative recurrence. The simplicity, affordability, and ease of operation associated with customized dermal curettes holds promise as an effective alternative for tissue shaving, especially in cases involving narrow pigmented matrix lesions, thereby addressing a notable practice gap and enhancing patient care.

REFERENCES

1. Tan WC, Wang DY, Seghers AC, et al. Should we biopsy melanonychia striata in Asian children? a retrospective observational study. *Pediatr Dermatol.* 2019;36:864-868. doi:10.1111/pde.13934
2. Zhou Y, Chen W, Liu ZR, et al. Modified shave surgery combined with nail window technique for the treatment of longitudinal melanonychia: evaluation of the method on a series of 67 cases. *J Am Acad Dermatol.* 2019;81:717-722. doi:10.1016/j.jaad.2019.03.065