

Best Way to Perform a Punch Biopsy




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KEYWORDS

- Nails • Nail punch biopsy • Punch biopsy • Nail surgery • Matrix • Nail bed • Nail plate
- Periungueal folds

KEY POINTS

- Punch biopsy is useful for the diagnosis and treatment of nail diseases.
- The goal of a punch biopsy is to obtain a 2- to 3-mm tissue sample for successful interpretation of nail diseases.
- All anatomic sites of the nail apparatus may be sampled with a punch biopsy.
- It is helpful to soften the nail before the procedure by soaking it in water for 5 minutes.
- Punch biopsy is a simple procedure with rapid healing time and few complications.

 A video of nail punch biopsy accompanies this article at <http://www.derm.theclinics.com/>

INTRODUCTION

Nail biopsy is used for the diagnosis and treatment of nail diseases. Punch biopsy is among the many techniques that may be used and, like all nail procedures, best results are possible when the surgeon is familiar with the anatomy and the physiology of the nail apparatus.

TREATMENT GOALS AND PLANNED OUTCOMES

The goal of a punch biopsy is to obtain a 2- to 3-mm tissue sample for the diagnosis of nail diseases, to improve a medical condition, or to completely remove a nail tumor.

PREOPERATIVE PLANNING AND PREPARATION

Before performing the procedure, the surgeon must plan the objective of the surgery. If the biopsy

is for diagnostic purposes, enough specimen for histologic analysis must be obtained. It must also be handled with care. Often, the tissue obtained from a punch biopsy is difficult to interpret because it is too small and fragile, and becomes damaged during handling.¹

A second issue to consider is that an experienced surgeon who is familiar with the anatomy and the physiology of the nail apparatus is required to ensure the desired anatomic site is excised and to avoid damage of the area that will lead to postoperative complications. If the goal is to completely remove a lesion that is larger than 3 mm, it is better to consider using another method instead.

It is always helpful to soak the nail in warm water for 5 to 10 minutes before the procedure to soften the nail especially in the case of thick toenails. The entire finger or toe should be cleaned with chlorhexidine or other surgical soap.²

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PATIENT POSITIONING

The patient has to be in a comfortable sitting position. To achieve stability, it is best to use an armrest for fingernail procedures. In the case of toenails, a more stable position is attained with a bended knee.

THE BEST WAY TO PERFORM A PUNCH BIOPSY

The following materials are necessary for a punch biopsy:

1. A disposable punch no. 2 or 3;
2. Iris scissors;
3. Suture scissors when necessary;
4. Nail holder; and
5. Cyanoacrylate when necessary.

Fine instruments, like Castroviejo scissors, a nail holder, and forceps are recommended.

THE PROCEDURE

This procedure needs to be done under local anesthesia (Video 1). The proximal nerve block is preferred. In the absence of nail plate, this is the best way to perform a punch biopsy.

1. The disposable punch is positioned vertically, at a 90° angle, or perpendicular to the finger.
2. The punch is rotated in 1 direction with continuous and mild pressure.
3. The tissue is then carefully extracted with the help of iris scissors, trying not to use forceps, to avoid crushing the specimen.
4. No suture is necessary.

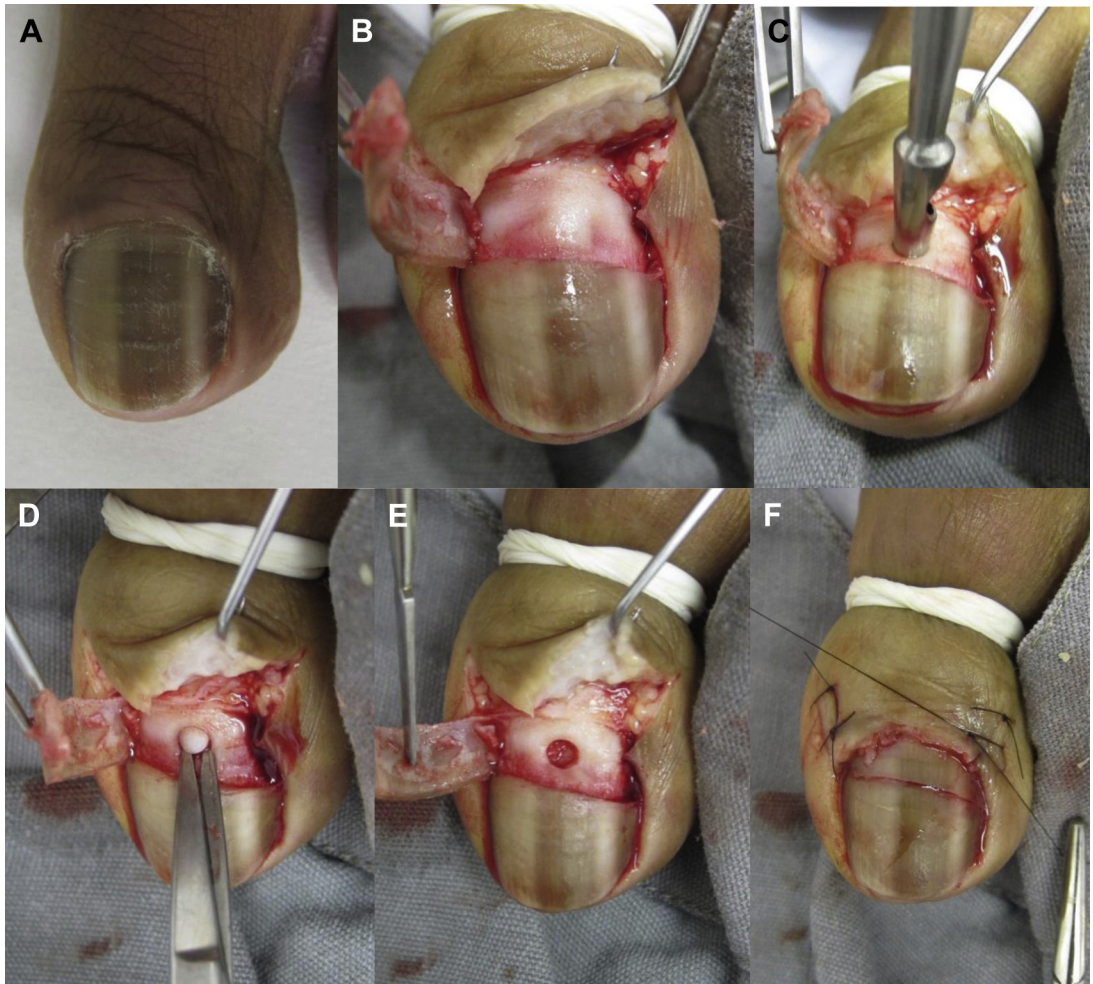


Fig. 1. Technique for medial melanonychia (A). Cutting and elevating proximal nail plate (B). Performing a 3-mm punch biopsy (C). Removal of tissue (D). Circular defect (E). Reattachment and suture of nail plate and fold (F).

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