

# Waterproof Cast Protector Keeps Wound Dressing Intact Following Nail Surgery

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A bulky dressing is applied following nail biopsy, and patients are instructed to keep it dry for 48 hours; however, this can be challenging, as the dressing can restrict bathing, washing dishes, and other daily tasks. We propose a solution using a removable waterproof arm cast protector that allows patients to continue their regular activities while keeping the dressing dry and intact to allow for optimal wound healing.

## Practice Gap

Postoperative care after nail biopsies can be challenging for patients due to the bulky dressing that must remain in place for 48 hours.<sup>1</sup> The dressing can restrict daily activities such as bathing, washing dishes, and other household tasks. A common solution is to cover the hand with a plastic bag secured with tape during water-related activities, but efficacy is variable. In one study, 23 participants tested this method by holding a paper towel with their hand covered by a plastic bag and measuring the weight of the paper towel before and after submersion of the hand in water.<sup>2</sup> Any saturation of the paper towel was defined as failure; the failure rate was 52.2% (12/23) with motion (rotating the arm at the elbow for 30 seconds clockwise, counterclockwise, and left to right) and 60.9% (14/23) without motion. There was an average of 5.50 g of moisture accumulation without motion and 4.51 g with motion, with failure occurring most often immediately following submersion of the hand. Furthermore, the plastic bag with tape method was rated poorly by all 23 participants based on efficacy and comfort.<sup>2</sup>

In the same study, participants also reported that removal of the adhesive tape was unpleasant and irritating,<sup>2</sup> which suggests these same complaints may apply to use of a waterproof bandage, another potential option for coverage of the wound dressing. As an

alternative, we propose the use of a removable waterproof arm cast protector following nail surgery that allows patients to continue their regular activities while keeping the dressing dry and intact to allow for optimal wound healing.

## The Technique

Our technique involves the use of a removable waterproof arm cast protector that is sealed with a thick rubber cuff, allowing patients to perform regular daily activities such as bathing, washing dishes, cleaning, and doing laundry without the wound dressing underneath becoming wet (Figure). Cast protectors made of flexible latex-free plastic are readily available and can slide on and off the arm as needed. We recommend that patients purchase the cast protector prior to undergoing surgery. There are options to fit most adults, with the opening generally accommodating arm diameters of 2 to 7 inches. These reusable cast protectors are available via popular online retailers and typically cost patients \$10 to \$15.

## Practice Implications

In our experience, using a reusable waterproof cast protector following nail surgery is effective at keeping wound dressings dry and provides a practical solution for bathing and other activities involving water exposure. It is durable and easy to use, especially when compared to a plastic bag and waterproof tape. However, some patients find the waterproof seal uncomfortable, especially when worn for extended periods of time. According to online product feedback, limitations of the cast protector include potential leakage with prolonged immersion in water, swimming, or high-pressure water exposure. The cast protector should not be worn for more than 30 minutes,

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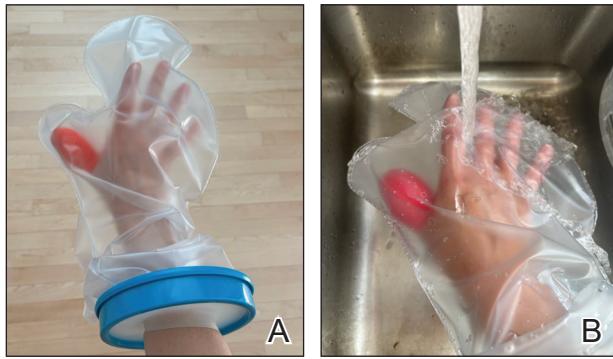
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**FIGURE.** A, Waterproof arm cast protector worn to cover a wound dressing on the hand following a nail biopsy. B, The cast protector keeps the wound dressing dry under running water.

as it can restrict blood flow, and condensation from prolonged use may dampen the dressing. While we have not encountered allergic contact dermatitis associated with the use of cast protectors for this purpose in our practice,

patients should be cautioned of this potential risk. While these cast protectors generally can accommodate a range of arm diameters, they may not fit all hand sizes or shapes and may reduce dexterity for motor tasks. Additionally, the patient must purchase the protector ahead of surgery.

Our technique involving the use of a waterproof arm cast protector is an affordable solution that allows patients to keep their wound dressing dry while continuing to perform regular daily activities. The cast protector also can be used following other dermatologic procedures (eg, biopsy, Mohs micrographic surgery) that involve the hand and lower arm when waterproof protection may be necessary.

### REFERENCES

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