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Presentation Abstract

Session: Innovations Exhibits

Abstract
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Title: An Innovative Approach to Simulating the Repair of an Injured Nailbed

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Abstract: **BACKGROUND:** Nailbed injuries have both functional and cosmetic deformities if not treated effectively. Clinical exposure during residency is often insufficient for adequate practice, and simulation may help trainees master techniques that minimize patient discomfort and achieve good cosmetic outcomes. We describe an inexpensive nailbed laceration model that is used in our residency program to teach nailbed laceration care.

MATERIALS AND METHODS: A hand model is created from a discarded IV arm model skin (Nasco, Fort Atkinson, WI). The visible nail is excised from the fingertip. A makeup sponge simulates the nailbed, and a nailbed laceration is cut with a scalpel. Cosmetic nails are inserted under the nail fold and glued to the sponge edges. The sponge is saturated with simulated blood until a subungual hematoma is visible. The model costs approximately \$15 per 5 residents trained and requires 1 hour advanced preparation time.

Materials needed for the repair include a syringe with simulated anesthetic and needle for digital block, iris scissors, tourniquet, hemostat, 7-0 absorbable suture, suture kits, gauze, gloves, and absorbent pads. Twenty seven residents participated in an exercise to remove the nail and repair the nailbed, with faculty supervision. Participants were subsequently asked to provide feedback on the realism of the simulator and efficacy of the training session.

RESULTS: 70% of resident participants reported that the simulator was 'realistic or very realistic' for visual appearance and for nail removal, 63% for suturing the nailbed, and 69% for replacing the nail into the fold. 96% of residents felt that the simulation session provided a step-by-step guide, answered their questions about the procedure, and taught them about potential pitfalls.

CONCLUSION: Our model provides an inexpensive and realistic approach to teaching nailbed injury repair.



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