

Making and Using a Mouse Pad Model of Skin to Practice Suturing Techniques

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The recent article by Olson and colleagues, “Foam Dressing as a Suturing Model,”¹ describes a unique and valuable model to enable dermatologic surgeons to teach or practice suturing techniques. Another recent article by Nicholas and colleagues, “Simulation in Dermatologic Surgery: A New Paradigm in Training,”² that emphasizes the importance of simulation training to enhance procedural skills supports the need for such a model.

Given the myriad suturing techniques available, it is important that even seasoned dermatologic surgeons practice innovative suturing methods before using them on patients. Likewise, it is imperative that medical students, residents, and fellows have the opportunity to practice suturing techniques to learn and perfect their skills, but it is difficult to obtain traditional training tools, such as pigs’ feet, or models of the skin that come close to simulating human skin and are convenient to use.

Using readily available and inexpensive materials, it is easy to construct a durable mouse pad model for skin that imitates the skin’s elasticity, strength, and texture. This mouse pad model can be used over and over again so that surgeons can practice and perfect new suturing techniques for optimal surgical results. For utmost convenience, the mouse pad model of skin can even be turned over and used as a traditional mouse pad when not being used as a training tool.

The materials required to construct a mouse pad model for skin are two fabric-covered mouse pads (available at local office supply stores); a scalpel; hot glue from a hot glue gun; and a cutting board or similar hard, heat-resistant, scratch-resistant surface. Place one mouse pad fabric side up on the hard surface. Using the scalpel, make a centrally located, lengthwise linear incision through the entire thickness of the pad, being sure to start and stop the incision no less than one inch from the edges of the mouse pad. If desired, also make a widthwise linear incision at each end and perpendicular to the lengthwise incision to form an “H” pattern that allows for excellent reflection of the simulated skin and mimics a flap formation. Turn the second mouse pad fabric side down next to the first mouse pad. Using the hot glue gun, place hot glue along the outside edges of the second mouse pad. Place the first mouse pad fabric side up on top of the second mouse pad such that the foam sides of the two mouse pads are in apposition (Figure 1). Firmly press the edges together.

With the superior (incised) mouse pad representing the epidermis (fabric) and dermis (foam) and the inferior mouse pad representing the undermined subcutaneous fat (Figure 2), the mouse pad model mimics an undermined incision line in human skin. When a surgical needle and suture pass through the makeshift tissue, the mouse pad model mimics human skin in consistency as well. For best results,

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Figure 1. Placement of first (incised) mouse pad over second mouse pad.



Figure 2. Demonstration of mouse pad model mimicking human skin. On the superior mouse pad, the blue fabric and foam represent the epidermis and dermis, respectively. The space between the two mouse pads represents the undermined space between dermis and subcutaneous fat.

use P-3 or PC needles because the thin foam of a mouse pad prohibits use of larger needles. The mouse pad model is intended to be used for practicing suturing techniques, not tension-bearing repair techniques such as adjacent tissue transfers.

Although most dermatologic surgeons close their surgical defects using simple interrupted or simple

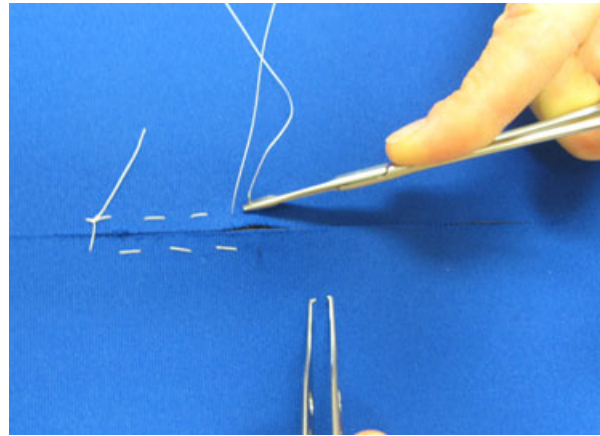


Figure 3. Demonstration of how the mouse pad model of skin can be used to practice stitching techniques.

running sutures,³ a wide variety of suturing techniques can be used in various situations to achieve outstanding surgical results. Using the mouse pad model, dermatologic surgeons, fellows, residents, and medical students are able to practice closing linear defects using a variety of suturing techniques (Figure 3), including traditional subcutaneous and transepidermal sutures, as well as less common and innovative techniques that, with practice, may lead to better surgical outcomes.

References

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