Researchers at the University of South Florida have created a synthetic skin model for suturing and other practicum procedures. The suturing model closely mimics human skin via silicone rubber or foam or a combination of the two layered with mesh in order to simulate organ walls, muscle, and other tissues with appropriate fascia, thickness, and consistency.

This invention is directly applicable to the growing medical supplies market, specifically for wholesalers that target medical institutions. Suture models, such as suture pads, allow students and professionals the opportunity to practice their craft. Suture pads provide a method for surgical training, along with practice of different suturing techniques as well as practice with removal of sutures. Proper removal of sutures is important to prevent infection and allow proper healing of the sutured wound. Current models, used for practicing surgical techniques, also known as suture pads, are typically made from silicone or silicone and foam rubber. Suturing the material can be challenging as the silicone and foam tears easily upon pulling the sutures tight and through multiple uses. Current models tear during suture due to improper weight and consistency. The inventors have created a mesh embedded model to solve these problems. The resulting model of skin has the representation of fascia at both the outer and inner surfaces of the slab due to the mesh layers located 1-2mm below both surfaces. This novel suture pad combines several layers that mimic closely what one would find in real skin. The layers are reinforced to tolerate tension and pulling while suturing and practicing other procedures.

USF inventors have created synthetic skin that may be used as a surgical model for wound suturing. The synthetic skin model can also be utilized as a practicum for suturing the vaginal cuff. The vaginal cuff is created by surgeons after a hysterectomy. This technology will further enhance a surgeon’s ability to suture wounds properly which will result in proper healing of their patients as well as increase a patient’s quality of life.

**ADVANTAGES:**
- Reinforced layers
- Tolerate surgical tension and pulling
- Appropriate fascia, thickness, and consistency

**Surgical Techniques Enhanced via Synthetic Skin Model**

Demonstration of suturing the synthetic skin model. Suture pad may contain silicone or foam and is embedded with mesh.