help counsel patients who may view potential neuropathy as a barrier to pursuing this procedure.

METHODS: A total of 9 patients undergoing split thickness RFFF phalloplasty were tested preoperatively and 1-week postoperatively for tactile hand sensation. Testing was conducted using a 2-point static (2 PS) test with a Disk-Criminator and PSSD. The testing sites included the cutaneous regions of the dorsal first webspace and the first phalanx of the index finger and pollex of the RFFF donor arm. The 2 PSSD prongs were set at a distance determined by initial testing with the Disk-Criminator. The PSSD measured the threshold of pressure necessary for the patient to discriminate 2 points. Two-sided paired \( t \) tests compared the pre- and postoperative pressure values on each of the 3 hand locations. The numerical differences in pre- and postoperative pressures were then compared between each of the 3 locations to determine whether or not there was a difference in postoperative sensation based on hand region. The PSSD pressure values were standardized based on the prong distance determined by the Disk-Criminator, and percent change in standardized PSSD score differences for each cutaneous region was calculated. All tests were considered significant at \( P < 0.05 \).

RESULTS: There were no significant differences between pre- and postoperative PSSD pressures for all cutaneous regions tested \((P > 0.05)\). However, on average, patients required 8.04% more pressure applied in the dorsal first webspace in order to discriminate 2 points, 8.43% more in the first phalanx of the index finger, and 16.7% more in the first phalanx of the pollex postphalloplasty \((P > 0.05)\). Furthermore, when comparing each of the three cutaneous regions to each other, there was no difference in the change in pressures between each region \((P > 0.05)\). In other words, each of the three regions of the hand was similarly impacted by the operation.

CONCLUSIONS: The results of this study suggest that while past literature reports cases of numbness and/or tingling post-RFFF phalloplasty,\(^1\) immediate postoperative sensation is not significantly different than preoperative sensation. The fear of donor arm neuropathy is a potential barrier for patients seeking this life-changing procedure, yet this study quantifies the degree of neuronal damage and may encourage patients to undergo the procedure. These results will help guide patient-physician conversations regarding RFFF phalloplasty in order to create realistic patient expectations for postoperative outcomes.

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Evaluation of a Teaching Module to Train Medical Students About the Pathogenesis and Presentation of Dupuytren’s Contracture

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BACKGROUND: Dupuytren’s contracture (DC) is an uncommon disorder of the hand that causes significant deformity and disability. The purpose of this study was to assess the knowledge of medical students about this disorder and to compare efficacy of a traditional reading format to a multimedia module in the knowledge acquisition of medical students.

METHODS: This study was prospective, randomized, pretest-posttest designed to assess cognitive improvement in subjects exposed to an online reading module with those assigned to a multimedia presentation about DC. Subjects in the multimedia group watched an online, multimedia presentation. Subjects in the traditional reading group reviewed online material containing the same content and were allowed to study this material over the same maximum duration of time as the multimedia presentation. A pretest and a posttest were performed to assess the incremental knowledge improvement across for the 2 groups. We assessed the baseline knowledge and score improvement within the 2 groups. We also compared the improvement in knowledge between the multimedia presentation and the assigned reading group to determine if either modality was superior.

RESULTS: Thirty students volunteered to participate in this study. Fifteen students were randomly assigned to the reading group, and 15 students were assigned to the multimedia presentation. The mean score across all students increased significantly from the pretest to the posttest \((8.0–16.8; P < 0.0001)\). The traditional reading group score increased significantly \((8.3–16.0; P < 0.0001)\) as did the multimedia presentation group score \((7.7–17.7; P < 0.0001)\). The mean change in score from pretest to posttest was significantly greater for the multimedia group when compared with the traditional reading group \((9.9 versus 7.7; P = 0.028)\).
CONCLUSION: Both the traditional reading module and the multimedia presentation significantly increased medical student knowledge of DC. The students in the multimedia presentation group showed a significantly greater increase in knowledge acquisition. These data support the use of multimedia presentations in medical education.

The Biomechanical Properties of Meshed Versus Perforated Acellular Dermal Matrices: Analysis of Surface Area and Fluid Egress

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BACKGROUND: Acellular dermal matrices (ADMs) are used for soft tissue augmentation across surgical specialties. The increased use of ADMs has been particularly apparent in the setting of implant-based breast reconstruction, where matrices are used to supplement the thickness of the mastectomy skin flaps and ensure adequate soft tissue coverage of implants. However, long-term review of these devices has indicated that there is a strong correlation between seroma formation and the use of ADM. Since allograft integration and neovascularization is dependent having on direct opposition between the ADM and a vascular bed, the presence of seromas can inhibit the area of the graft which is in contact with the native tissue. As a result, most ADM products are available in a variety of meshed or perforated forms. Because of the lack of consistency between manufacture designs, we set out to determine the fluid egress properties and the increase in surface area resulting from common cut patterns.

METHODS: The fluid egress properties were analyzed for three different commonly encountered commercially available ADM cut patterns: 1 meshed design and 2 distinct perforation designs. Mesh Pattern #1 was designed with 1:1 meshed cuts each measuring 1.5 mm in length. Perforation Pattern #1 was designed with 3 mm diameter perforations at a density of 0.128 perforations per cm². Perforated Pattern #2 was designed with 3 mm diameter perforations at a density of 0.25 perforations per cm². The surface area of these modified ADM samples was also calculated, accounting for the mesh length or the perforation diameter and frequency. Fluid egress was calculated by passing fluid through each ADM and measuring the amount of time required for complete passage. An analysis of variance was used to determine if there was a significant difference in egress properties across the three patterns. A P value of <0.05 was used to determine statistical significance.

RESULTS: Meshing in a 1:1 pattern resulted in a 97.50% increase in surface area compared to the uncut product. In comparison, only a 0.30% increase resulted from Perforation Pattern #1 and a 0.59% increase resulted from Perforation Pattern #2. There was a significant difference in egress properties across the 3 cut patterns (P = 0.000). The average egress time of Mesh Pattern #1 was 1.974 seconds. The average egress time of Perforation Pattern #2 was 6.504 seconds and of Perforation Pattern #1 was 10.369 seconds. Neither donor (P = 0.249) nor graft thickness (P = 0.914) had a significant impact on the results.

CONCLUSION: To our knowledge, this study is the first to directly compare clinically applicable properties between different ADM cut patterns. By comparing a variety of common manufacturer designs, ranging from simple punch-shape perforations to a full 1:1 mesh pattern, we were able to demonstrate that meshing ADM tissue significantly improves fluid egress properties and substantially increases the surface area compared to ADM tissue perforated at levels typically available on the market. Therefore, the use of meshed ADM tissue could improve the ability of the product to incorporate with the recipient, resulting in decreased complications and improved patient outcomes.

Effect of Ginsenoside Rg3 on Apoptosis in Human Malignant Melanoma Cells

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Malignant melanoma is the most dangerous among several skin cancers, and melanoma in the case of metastasis is very difficult to treat. Meanwhile, Ginsenoside Rg3 extracted from ginseng has been reported to have an anticancer effect in various kinds of cancer. Studies involving melanoma have shown that Rg3 induces apoptosis and inhibits metastasis of melanoma cells derived from mice. We used human melanoma cell lines (A375.S2 cells, G361 cells, MML-1