

DISCLOSURE

The author has no financial interest to declare in relation to the content of this article.

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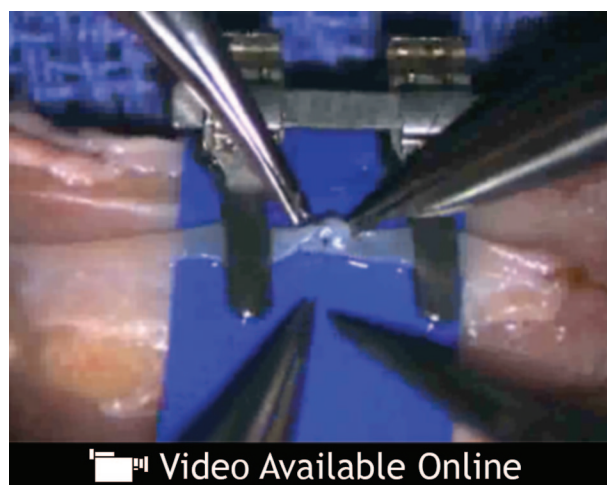
The Chicken Foot Dorsal Vessel as a High-Fidelity Microsurgery Practice Model

Sir:

Manual dexterity, accuracy, hand-eye coordination, and good clinical judgment are the desirable traits of a microsurgeon. Mastery of microsurgery cannot be acquired by observation alone. Training requires consistent, efficient practice. Many microsurgery training models exist: living models include porcine coronary artery,¹ chicken wing,² chicken leg, and rat; and nonliving models include virtual reality simulation,³ polytetrafluoroethylene graft material,⁴ and latex.⁵ The rat femoral vessel model is a high-fidelity method that has been the criterion standard. However, ethical and monetary considerations may be called into question. We describe a simple and effective microsurgery model that is cost-effective and readily available, and requires minimal preparation and supervision—the chicken foot.

Chicken feet were purchased at a local grocery store for approximately \$2.50 for 10 units. The dorsal vessel is prepared as described below. (See Video, Supplemental Digital Content 1, which describes dissection

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Video 1. Supplemental Digital Content 1 describes dissection and use of the vessel under the microscope, <http://links.lww.com/PRS/A662>.



Fig. 1. After excising the overlying skin and reflecting the extensor tendons, the chicken foot dorsal vessel can be visualized, measuring 2 mm in diameter.

and use of the vessel under the microscope, <http://links.lww.com/PRS/A662>.)

Skin is sharply excised off the dorsal aspect of the foot, exposing the underlying extensor tendons. Reflecting the extensor tendons reveals the dorsal neurovascular bundle beneath, in which a vessel 2 mm in size can be visualized (Fig. 1). The foot is placed under the microscope. A background is placed for easier visualization. A double-approximating clamp is used to secure the vessel. The vessel is cut midway between the clamps, and any surrounding adventitia is removed from the vessel ends. Standard microsurgical suturing techniques can then be used. (See Video, Supplemental Digital Content 1, <http://links.lww.com/PRS/A662>.)

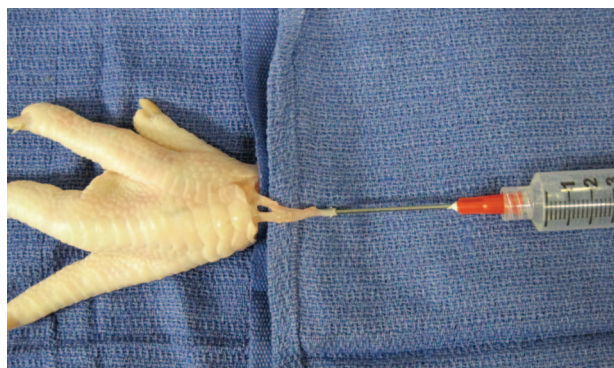


Fig. 2. Patency testing of the repair by gently infusing normal saline through a blunt-tip needle inserted into the proximal vessel.

The patency of the anastomosis is assessed by inserting a blunt-tip filling needle attached to a syringe into the proximal end of the blood vessel and securing it circumferentially with a 5-0 Vicryl suture. Normal saline is gently infused and the patency of the anastomosis is assessed under the microscope (Fig. 2).

With limited resources and time during residency, a model that is cost-effective, efficient, valid, and reliable is needed. The standard rat femoral vessel model requires extensive institutional review board approval, coordination of multiple attending physicians and residents, ethical considerations, and the need for anesthesia, possibly rendering a less than favorable cost-to-benefit ratio. Advantages of chicken feet include minimal cost, ready availability, and easy disposal without concern for biohazard or institutional review board compliance. An obvious disadvantage of the chicken foot model is the inability to assess the anastomosis in the circulatory state; however, the injection of saline into the vessel with a blunt-tip syringe does offer some evaluation of the repair (Fig. 2).

To further supplement the educational value of our model, feedback should be implemented from expert surgeons to novice surgeons. At our institution, we will conduct observed graded sessions using the Global Rating Scale we are currently validating. Because the chicken foot is readily accessible, residents and trainees can work on their own, maximizing the number of times they practice to hone their microsurgical skills. DOI: 10.1097/PRS.0b013e318278d760

Thomas Satterwhite, M.D.

Ji Son, M.S.

Anthony Echo, M.D.

Gordon Lee, M.D.

Division of Plastic and Reconstructive Surgery
Department of General Surgery
Stanford University Medical Center
Stanford, Calif.

Correspondence to Dr. Lee
770 Welch Road, Suite 400
Palo Alto, Calif. 94304-5715
glee@stanford.edu

The first two authors contributed equally.

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Comprehensive Cleft Center: A Paradigm Shift in Cleft Care

Sir:

Much of the global surgical burden of disease can be addressed from operations under the domain of plastic and reconstructive surgery.^{1,2} Specifically, the high incidence of cleft lip and palate continues to permit plastic surgeons the opportunity to help patients and reduce this burden. In resource-constrained countries, assistance tends to arrive in the form of missions, with an overseas team performing repairs during a fixed timeframe before returning to their country. However, the mission model foment debate among cleft surgeons, with those against it raising issues with optimization of patients for surgery, entirety of cleft care, and adequacy of follow-up.^{3,4} Although two of the authors (A.P. and J.A.P.) have previously discussed the value of missions, particularly with academic university involvement,^{5–7} we share our experience with a comprehensive care center model that may address purported shortcomings, decrease the surgical burden, and potentially revolutionize the management of clefts worldwide.

Recently, Operation Smile has launched comprehensive cleft centers in various countries. These centers function as permanent hospitals and comprise local and international staff, and offer a broad range of services, from parental counseling to postoperative care year round. This enables the treatment of each cleft comprehensively and longitudinally, from nutrition to orthodontics to speech therapy. The continuity of care in conjunction with the sufficient postoperative follow-up period optimizes cleft repair on par with academic university cleft centers.

Moreover, various disciplines come together to achieve this aforementioned goal. This starts with the recruitment team, who visit areas in need surrounding the hospital to identify patients with clefts largely without the means of obtaining care. Admittedly, these recruitment workers do