

Results: Twelve residents (7 PGY1 and 5 PGY3/4/5) completed the training. Objective measurement of vascular surgery knowledge increased from 35.4% (39.8% pretest/75.2% post-test). PGY1 scores improved slightly more (42%, 24% pretest/66% post-test). Self-assessment of vascular surgery knowledge and skills ranked on a 0-5 Likert scale (5 = most confident) improved significantly for endovascular skills, suturing, and vascular exposures (Fig). Residents on average rated the training curriculum as very good at improving their overall knowledge and skill level in vascular surgery.

Conclusions: A formalized comprehensive simulation program has a profound effect on general surgery residents' interest, skill level and breadth of knowledge in vascular surgery. The maximum benefit appeared to favor PGY1 residents. Further studies will incorporate larger numbers of residents and seek to determine if this benefit persists as interns advance to become senior residents. Incorporating comprehensive vascular simulation into general surgery residency may increase the value of the condensed vascular surgery rotation experience and allow for more effective participation in the operating room as well as independent functioning upon graduation for both military and civilian general surgery residents.

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PC120.

Femoral Artery Access on YouTube: Are the Best Practices Being Shown and Who Is Delivering the Message?



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Objectives: Novice learners are increasingly using YouTube as a learning resource for surgical procedures. One example of such a procedure is common femoral artery puncture and sheath placement. Practitioners in several specialties perform this procedure to access the arterial system for angiography and intervention. We set forth to compare the techniques demonstrated on YouTube by the various specialists as well as to compare each specialty's prevalence on this website.

Methods: YouTube (www.youtube.com) was accessed in December 2015 at multiple time points with a cleared-cache Web browser for the keyword search categories: "femoral artery access," "femoral access," and "angiography

access." The top 500 videos from each of these three keyword searches were analyzed. Videos were categorized by practitioner specialty, technique, duration of video, age of video, and total views. Videos with clear demonstration of femoral artery access were included in the analysis. All industry videos were excluded from the analysis. Categorical variables were compared using the Fisher exact test, and continuous variables compared with the Student *t*-test.

Results: A total of 2460, 4680, and 1800 videos were found for each keyword search, respectively. Of these, 33 videos clearly demonstrated femoral artery access technique. Vascular specialists, compared to interventional cardiology and radiology, had fewer videos (4 vs 14) and older videos (3.5 ± 2.1 years vs 2.25 ± 0.5 years; *P* < .05). The vascular specialist demonstrated ultrasound-guided access, while interventional cardiology predominantly demonstrated landmark-guided access (*P* = .0001).

Conclusions: Although YouTube and other online resources are being used by novice learners, vascular specialists are under-represented for femoral artery access, a foundational vascular procedure. Other practitioners demonstrate videos with landmark-guided access and rarely demonstrate ultrasound use. As the vascular experts, vascular surgeons should improve their visibility in online learning resources.

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PC122.

Cryopreserved Venous Allograft Is an Acceptable Conduit in Patients With Current or Prior Angioaccess Graft Infection



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Objectives: Cryopreserved arterial and venous allografts have been advocated for in-line vascular reconstruction in patients with arterial graft infection. The objective

Table.

	Vascular surgery and medicine (n = 4)	Interventional cardiology and radiology (n=14)	Neurosurgery (n = 2)	Other (n=13)
Ultrasound guided, %	100	7	0	62
Landmark guided, %	0	93	100	38
Duration, mean ± SD, min	6:33 ± 3:41	15:06 ± 35:95	3:94 ± 4:82	4:50 ± 5:02
Age, mean ± SD, years	3.5 ± 2.1	2.25 ± 0.5	4.5 ± 0.7	3.5 ± 1.1
Total views, mean ± SD	1077 ± 913.5	50,370 ± 159,476	23,298 ± 31,554	14,392 ± 35,693

SD, Standard deviation.

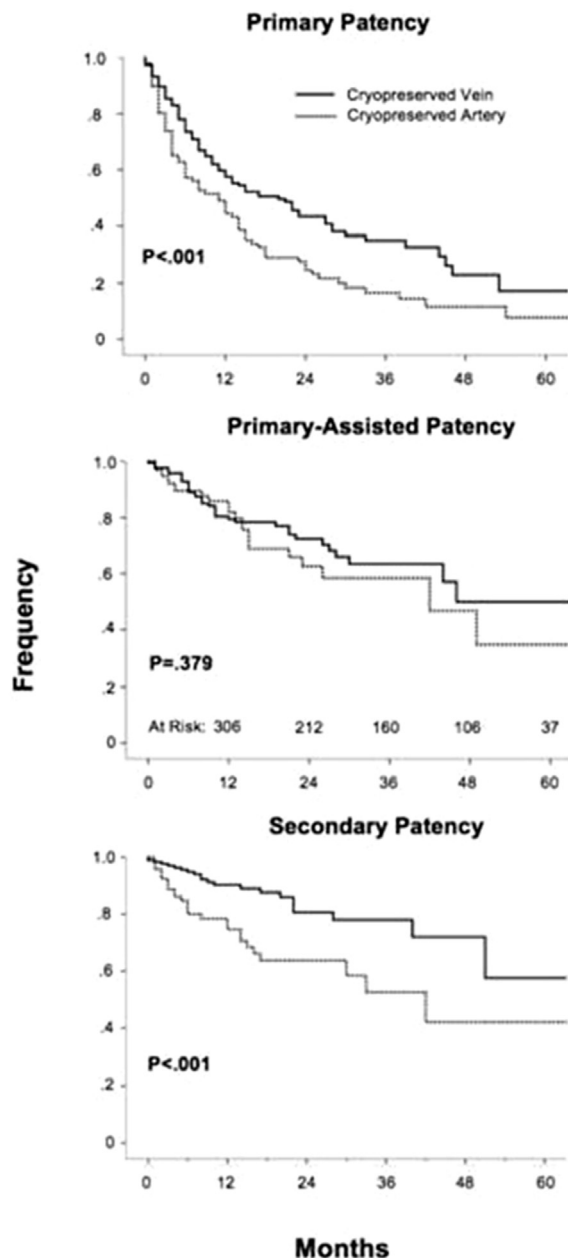


Fig.

of this study was to examine the role of cryopreserved femoral vein and artery for in-line reconstruction of infected hemodialysis access conduits when no autogenous vein was available.

Methods: Patients implanted with cryopreserved femoral allograft for hemodialysis access between January 2004 and January 2014 were reviewed using a standardized, multi-institutional database that evaluated demographic, comorbidity, procedural, and outcomes data.

Results: A total of 457 patients underwent placement of cryopreserved femoral vein ($n = 348$) or artery ($n =$

109) for hemodialysis access at 7 institutions. Primary indications for allograft use included high risk of infection in 191 patients (42%), history of infected prosthetic graft in 169 patients (37%), and current infection in 97 patients (21%). The allografts were placed more frequently in the arm (78%) than groin, with no difference in allograft conduit used. Mean time from placement to first hemodialysis use was 46 days (median, 34 days); duration of functional allograft use was 40 ± 7 months for cryopreserved vein and 21 ± 8 months for cryopreserved artery ($P < .05$). The mean number of procedures required to maintain patency at follow-up of 58 ± 11 months was 1.3. Local access complications occurred in 32% of patients and included late thrombosis (14%), graft stenosis (9%), late infection (8%), AV-access malfunction (7%), early thrombosis (3%), and early infection (3%). Both early and late infections occurred more frequently in the groin ($P = .03$ and $P = .017$, respectively); late thrombosis occurred more frequently with cryopreserved femoral artery ($P < .001$). In 18%, the cryopreserved allograft was placed in the same location as the excised infected prosthetic graft, with no significant increase in reinfection rate ($P = .312$). Reduced primary and secondary patency rates were associated with use of cryopreserved artery vs vein (Fig). Mean cost of graft patency per day for cryopreserved vein was \$4.78, and \$6.97 for artery, excluding interventional costs to maintain patency.

Conclusions: Cryopreserved femoral venous allograft is an acceptable alternative conduit for angioaccess when autogenous vein is not available in patients with current or past conduit infection. It allows immediate reconstruction through areas of infection, reduces the need for staged procedures, and allows early use for dialysis.

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PCI124.

Early Access of Bovine Carotid Artery Graft Can Eliminate the Use of Tunneled Hemodialysis Catheters



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Objectives: The advantage of the arteriovenous graft (AVG) in reducing infectious complication over the tunneled hemodialysis catheter for patients without native fistula options has been established. Standard AVG access requires 2 weeks before cannulation to avoid complications from early access, including pain and access site hematoma. Multiple new generation grafts with reinforced polytetrafluoroethylene (PTFE) have shown satisfactory results, with early cannulation with similar patency and complications. However, limited studies are available to evaluate the efficacy of bovine carotid artery graft (BCAG; Artegraft) for early access in < 7 days.