How To Use Fascial Suture Technique To Control Percutaneous Large Vessel Access: Technical Tips And When To Use

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Conflict of Interest

None

"No ego, just good science, clinical care and collaboration"

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How you do your EVAR? TEVAR? BEVAR? FEVAR? TAVR?

Cutdowns

Total percutaneous

And Access for rAAA/rTAA/rIAA?

'With good vascular access, (almost) all can be done with percutaneous access'
"Top Stent" 2015, Örebro University hospital, Sweden

Hörer et al 2009-

Rupture access closure?

Complete Replacement of Open Repair for Ruptured Abdominal Aortic Aneurysms by Endovascular Aneurysm Repair

A Two-Center 14-Year Experience

D. Mayer, MD, S. Aeschbacher,* T. Pfammatter, MD,* F.J. Veith, MD,† L. Norgren, MD, PhD,§ A. Magnuson, BSc,|| Z. Rancic, MD, PhD,* M. Lachat, MD,* and T. Larzon, MD†*

ELSEVIER

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A 12-year experience of endovascular repair for ruptured Abdominal Aortic Aneurysms in all patients

David T. McGreevy [1], Artai Pirouzram [2], Khatereh Djavani Gidlund [3], Kristofer F. Nilsson [1], Tal M. Hörer [1, 2, 3], ##

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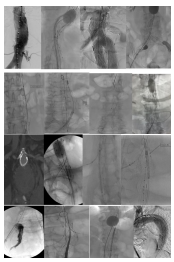
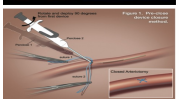


Closure devices



Closure Devices

Femo STOP

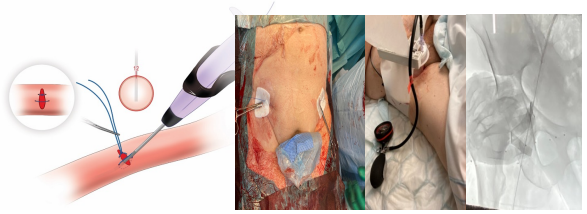
> Vasc Endovascular Surg. 2021 Nov;55(8):798-803. doi: 10.1177/15385744211022654. Epub 2021 Jun 9.

A Single Center Study of ProGlide Used for Closure of Large-Bore Puncture Holes After EVAR for AAA

Sven Ross Mathisen [1], Kristofer F Nilsson [2], Thomas Larzon [2]

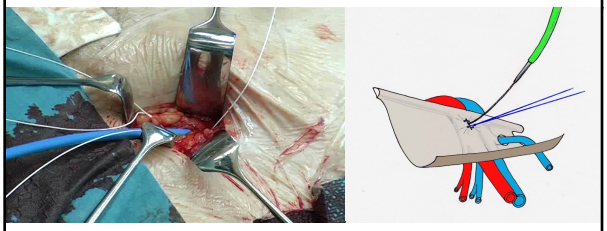
Conclusions: ProGlide by itself has a significant failure rate in the closure of large-bore access holes on an unselected cohort of patients eligible for F-EVAR. However, together with adjunct percutaneous or non-invasive methods a success rate of 97% can be achieved. The access complication rate was lower than 4% at 30-day follow-up.

Closure devices work well, but they dont always work…



McGreevy et all 2022 JEVTM

Fascia sutur



Larzon et al J Endovasc Ther 2006

The technique

Fascia suturing of large access sites after endovascular treatment of aortic aneurysms and dissections

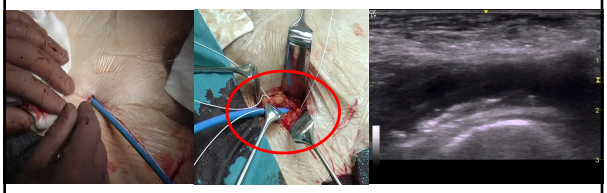
Conclusions SMCDs and FST seem to be effective and simple methods for closing common femoral artery (CFA) punctures after p-EVAR. FST can reduce the access closure time and the procedural costs with a quite short learning curve. Moreover, it can work as a bailout procedure for failed SMCDs suture. The few failures of the SMCDs and FST that may occur due to bleeding or occlusion can easily be managed.

Fascia Suture Technique and Suture-mediated Closure Devices: Systematic Review

Short- and Midterm Results of the Fascia Suture Technique for Closure of Femoral Artery Access Sites After Endovascular Aneurysm Repair

Of the 160 FST closures, 146 (91.3%) were technically successful. The 14 (8.8%) technical failures were converted to open cutdown intraoperatively because of bleeding (11, 6.8%), inadequate limb perfusion (2, 1.2%), and a broken guidewire (1, 0.6%). Two (1.2%) pseudoaneurysms required surgical repair after 2

Technical aspects



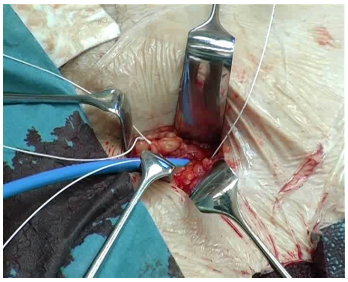
Advantage: No material in the vessel, Fast, minimal surgical insult, no preperation before

Open skin, feel the fascia

- Not working? Introducer back!!!
- New suture
- Hold wire in place!

- Still problem?
- Cutdown
- Distal puncture/Balloon/endograft

- Ultrasound control



The good with Fascia suture

- Effective closure of **large/mega large bore**
- **No** material left INSIDE the artery
- Can be done **AFTER** surgery and no preparation
- Relative easy to learn and do
- Can be done everywhere (ICU)
- Cheap and can be done for other procedures
- Austene/less developed countries
- Can down-size sheaths
- Be done after Proglide

Femoral Arterial Closure After REBOA using the Fascia Suture Technique: First Experiences in a Military Setting

Larzon T et al. J Endovasc Ther. 2006;13:102-107

Harrison GJ et al. Eur J Vasc Endovasc Surg. 2011;41:346-349

Montán C et al. J Endovasc Ther. 2011;18:789-96

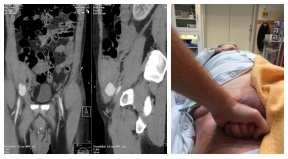
Mathisen et al J Endovasc Ther. 2012; June

The BAD with Fascia Suture

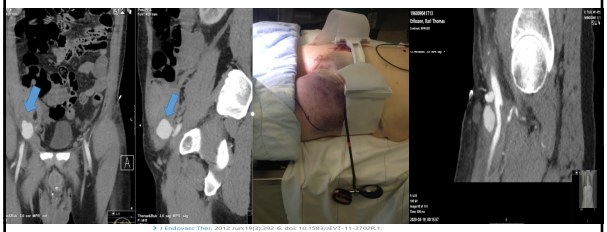
Fascial suture technique versus open femoral access for thoracic endovascular aortic repair

Conclusions: FST for large-hole closure had higher risk for any access complication compared with open access in TEVAR during the 30-day postoperative period. No other complications during 12 months of follow-up were observed in FST patients.

Some failures with bleeding; Pseudoanuersym!!!



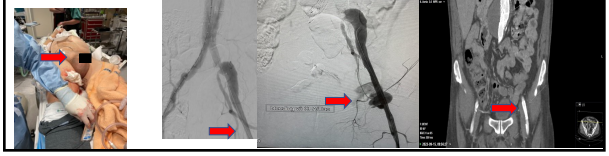
Complications



Complication rate of the fascia closure technique in endovascular aneurysm repair

Failure after EVAR Proglide

- Standard EVAR: Proglidex2 not working (calc).
- Fascia suture on it
- Post op bleeding –SBP38MmHg!
- SFA puncture- Bgraft
- Normal post op



When to use? When not to use?

- Can be used for routine EVAR, TEVAR etc (large bore access)
- **Probabely best now as bailout method!**

Good tool to have:

- **Ruptures: rAAA, rTAA and rIAA; ECMO**
- **Failure of closure device**
- **Better in Re-do femoral artery**
- **In the ICU/austerne/no other solution available**

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When to use? When not to use?

Pro's:

- You dont need to wait to start rAAA EVAR…just use at the end
- Easy to learn (simple surgery…)
- Cost/resources/no need for special device
- Low risk of infection
- Nothing left in the vessel
- Probabely less problem with calcifications

Con's:

- Failure
- Stenosis CFA
- Pseudoaneurysm

When not to use: **HIGH PUNCTURE(!!!)** or no fascia by palpation

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