

Remote Endarterectomy

Peripheral artery disease (PAD) may be common but that doesn't mean every patient benefits from the same cookie-cutter treatments. The vascular team at Emory Healthcare reviews each patient's case individually and tailors solutions for maximum impact. Open bypass and modern endovascular wire techniques are options, but so too are non-surgical programs and unique, hybrid (combining open AND endovascular) approaches that provide better long-term outcomes for some patients. One special example is remote endarterectomy.

What is remote endarterectomy (RE)?

Remote endarterectomy combines the advantages of minimally invasive surgery with endovascular techniques in cases where there is a very long segment of the arteries that is clogged off, and placing multiple stents is ill-advised, or not possible. The arterial plaque in the leg is completely removed through a small incision and then a short distal stent is placed to make sure there is no flap. The beauty of the procedure is that it actually recovers the entire lumen of the vessel and its collateral branches (unlike in stenting or bypasses). This also means it can be stented in the future, if necessary.

Continued inside



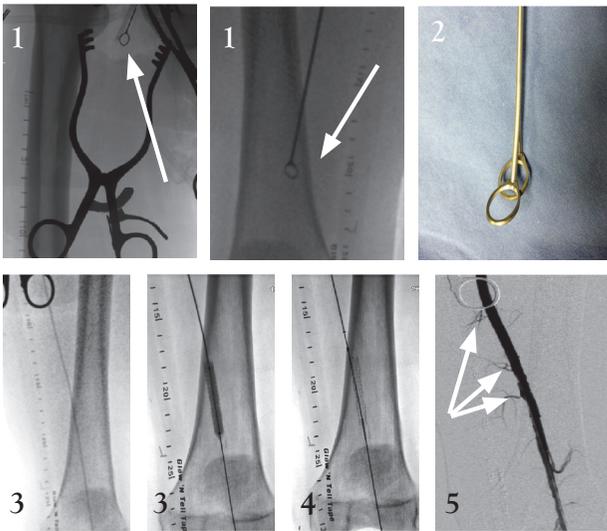
Remote Endarterectomy continued

A lost art? Not at Emory!

Remote endarterectomy was originally introduced in 1995 as an ideal fix for specific PAD populations. The approach was almost forgotten over time as experts in the field shifted focus to stents and angioplasty. That didn't mean RE wasn't a better choice for some cases of long-segment occlusions, but fewer and fewer surgeons continued to use the method, or teach it to the next generation.

Emory Healthcare is proud to employ vascular experts who have been trained properly in RE, while also being adept at both open bypass, all endovascular techniques (retrograde and antegrade approaches, balloon angioplasty, stents and artherectomy). Very few centers in the country can make this claim!

The RE Technique



1. Advance a Vollmar ring +/- Martin dissector through the occluded vessel until you reach the patent superficial femoral artery
2. Cut the lowest portion of the plaque with a Mollring cutter and remove the entire (often >20cm) cylinder of plaque
3. Cross the end point with a wire
4. Use a short stent and angioplasty the distal flap to avoid stenosis or dissection
5. Restore flow

Who is an ideal patient for RE?

Remote endarterectomy is a superb option for patients with long, “flush occlusions” of the superficial femoral artery (SFA) that begins at the origin of the vessel, and ideally reconstitutes above the knee. The longer the occlusion, the better the outcome over a stent or a bypass (especially when a saphenous vein is not available), because you remove all or most of the plaque from artery. This also allows you to start a bypass lower in the leg when you have only a short vein. Should you need a stent or bypass later on (after a failed RE), it is generally easy to do either because the artery's anatomy is preserved with minimal stenting!*

*Source: Guillermo Escobar, MD Emory Healthcare, Associate Professor of Surgery, Division of Vascular Surgery and Endovascular Therapy, Department of Surgery, Emory University School of Medicine

How does RE compare for long femoral artery (TASC C/D) occlusions?

The chart below compares three surgical treatments available at Emory Healthcare. Remote endarterectomy has excellent long-term patency without invasive surgery.

	Remote Endarterectomy	Stent/Angioplasty	Vein Bypass
In-House Recovery Time	~2 days	4 hours	4-6 days
Patency	50-63% at 3 years	25% at 3 years (covered or bare metal stent)	~70% 5-7 years
Pros	<ul style="list-style-type: none"> • Less invasive than a bypass • The vessel is fully recovered • Better outcomes than a bypass with artificial grafts • If there is a problem in the future, endovascular procedures can be used • If it occludes, most (80%) patients remain asymptomatic or have mild symptoms 	<ul style="list-style-type: none"> • Minimally invasive • Quick and easy recovery 	<ul style="list-style-type: none"> • Extremely effective • Best longevity
Cons	<ul style="list-style-type: none"> • Not all patients are good candidates for the procedure • Requires an incision • Not available in most centers (lacking expertise and the special equipment) 	<ul style="list-style-type: none"> • Patency decreases as the length and number of the stents used increases • Branches are often covered and lost by stenting • Re-intervention on occluded stents can be impossible • Flush SFA occlusions can be impossible to cross • Patency is measured in months 	<ul style="list-style-type: none"> • The most invasive • Recovery is hardest and longest • A good vein is needed for the procedure to work well

More Options

A one-size-fits-all solution for patients with peripheral arterial disease does not exist. The vascular specialists at Emory Healthcare individualize care by aligning test results with symptoms, heart/lung limitations and patient goals to determine the best course of treatment. They have a wide variety of traditional, modern, experimental and hybrid approaches to choose from – and not all of them require surgery.

- **Walking Programs:** Patients with low-grade claudication can avoid all surgery altogether and walk farther with tailored exercise programs. New support from Medicare is making supervised walking programs more accessible.
- **Drug Therapy:** Certain medications, in combination with exercise, may improve the distance patients can walk without pain and cramping.
- **Balloon Angioplasty With or Without Stent Placement:** This is a great solution to improve blood supply and boost mobility, especially in cases where walking programs are not enough.
- **Remote Endarterectomy:** This hybrid method may be a better alternative as the occluded femoral artery segment size lengthens, or cases where traditional endovascular techniques failed.
- **Surgical Bypass:** Sometimes open surgery is the best way to restore blood flow and save the leg. Emory surgeons will use all resources and creative techniques possible to save limbs and improve lives beyond “just doing a bypass.”
- **Clinical Trials:** Clinical researchers from Emory are able to offer patients access to some of the most advanced clinical trials anywhere in the world, and we are currently enrolling in trails to determine who benefits most from starting with endovascular procedures or open procedures.
- **Follow-up:** Emory physicians follow their patients for life; allowing them to anticipate and fix future problems before they start and avoid complications and difficulties.

Emory's PAD Experts

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To schedule an appointment with one of Emory's PAD physician experts, call the Emory Physician Consult Line at **404-778-5050**.

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