Management of Distal Emboli Complications:
An Update on New Aspiration Technology

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Disclosure

**Consultant:**

- *Abbott Vascular*
- *CSI*
Incidence of Distal Embolization

- Depends on how hard you look
- Symptomatic vs Asymptomatic
- Modality of treatment
- Zero to 100 %
Risk factors of Embolization

- Lesion Length
- Occlusion vs Stenotic
- Thrombus
- Calcification
- In-Stent Restenosis
- Atherectomy
Consequences of Distal Embolization

- Increase in Procedure, Fluoroscopy time, Contrast Use
- Higher incidence of Amputation, Re-intervention and Surgery
Barriers to use of EPD

- Anatomical
- Cost
- Additional step
- Filters for the most part not designed to be used in the LE
Treatment of Distal Embolization

- Manual Aspiration catheters: Export, Quick cat,....
- Thrombolysis
- Use of Covered stents
- Mechanical Aspiration
- Surgical Embolectomy
Penumbra INDIGO System

INDICATED FOR THE PERIPHERAL VASCULATURE
In 2008 the Penumbra system was approved in the US for treatment of acute ischemic stroke for revascularization of intracranial vessels.

The Penumbra system uses vacuum aspiration as its primary mechanism of action.

A flexible large bore catheter is delivered to the occlusion site.

To maintain patency of the catheter that can get clogged a Separator is used to break up the clot allowing for continuous thrombectomy from constant aspiration from the external vacuum pump.
CAT 5, CAT 3 with Separator
Set up
Case 1

- 58/M
- Smoker, DM, HTN, CAD s/p CABG.
- Worsening claudication, ischemic rest pain, superficial interdigital ulcers
- Lt ABI 0.36, DBI 0.11
- Duplex: Proximal CFA/Distal EIA occlusion with tandem Lt distal SFA occlusion
Left CIA, EIA occlusion with distal SFA occlusion
Successful Antegrade crossing after unsuccessful retrograde crossing
Options

- Checked an ACT
- 270
- Pull the sheath an hope for the best?
- Call your Vascular Surgeon for a CFA thrombo-endarterectomy?
Using the Penumbra INDIGO: CAT 5
Case 2

- 89/F, NH resident, DM, Chronic AF, HTN, Severe Ischemic Cardiomyopathy EF 20%, Recent GI Bleed, PAD
- s/p Left distal SFA, popliteal and proximal AT stenting in the setting of subacute limb ischemia 9 months prior to her current presentation.
- Lost to follow up
- Admitted with acute limb ischemia. ABI: 0. Absent doppler and digital waveforms
Post Jetstream atherectomy
of the CFA, PFA, distal SFA
Post Mechanical aspiration thrombectomy with CAT 3
Distal embolization during percutaneous revascularization in Critical limb ischemia can significantly affect the outcome of the case.

While use of embolic protection can help, it’s not always feasible and there are limitations to currently available EPDs.

The Penumbra INDIGO is a safe, reliable and effective thrombectomy device.
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