Optimizing Iliac Vein Stent Patency With an Imperfect Femoral Vein

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Iliac Vein Stenting for Acute/Chronic DVT







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Stent Patency

Meta-analysis 37 studies

- 2869 patients underwent stenting
  - Nonthrombotic = 1122
  - Acute thrombotic = 629
  - Chronic post thrombotic = 1118
- At 1 year, primary & secondary patency rates
  - Nonthrombotic = 96% and 99%
  - Acute thrombotic = 87% and 89%
  - Chronic post thrombotic = 79% and 94%

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Razavi MK, Jaff MR, Miller LE. Safety and effectiveness of stent placement for iliofemoral venous outflow obstruction: systematic review and meta-analysis. Circ Cardiovasc Interv 2015; 8(10)

What single question can you ask a patient to determine if inflow was properly evaluated during iliac vein stent placement?

Where was the skin puncture?

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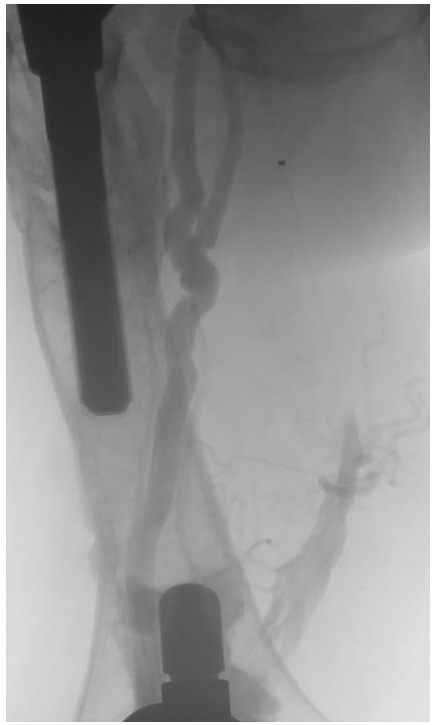
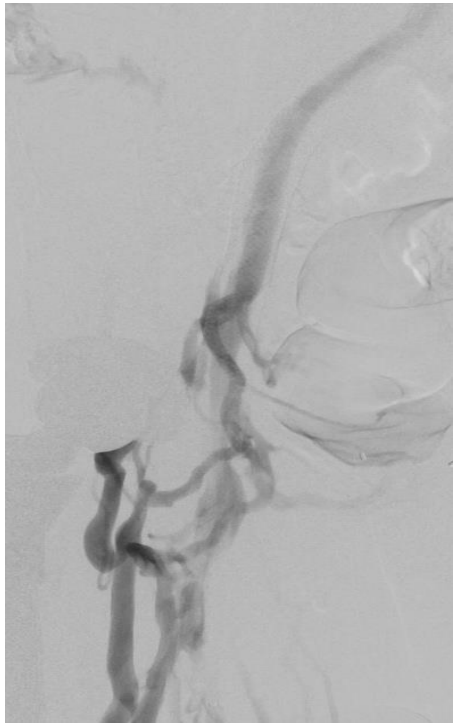
Improving inflow to optimize stent patency

- Aggressive PTA in CFV/FV
- Recanalization of popliteal vein occlusion
- Stenting into CFV & profunda femoral vein
- PTA of GSV and SFJ
- Endovenectomy

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Poor Femoral Vein Inflow

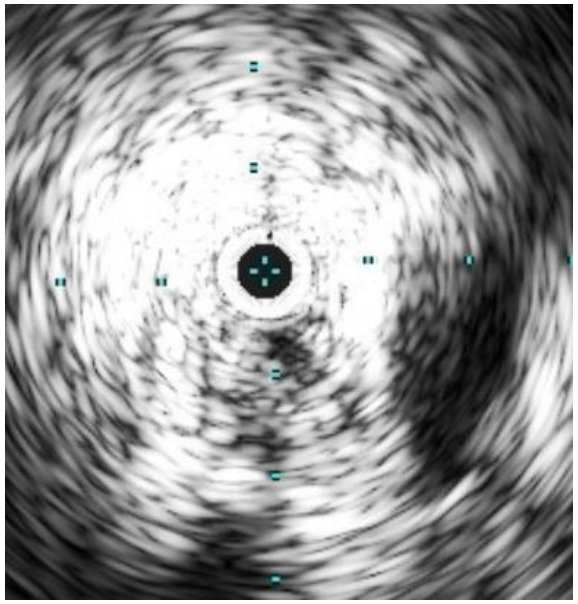




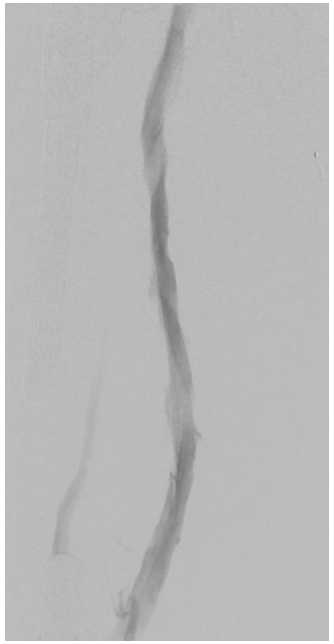

64yo M with congenitally short leg s/p multiple limb lengthening surgeries with iliofemoral DVT & PTS with occluded iliac stent.

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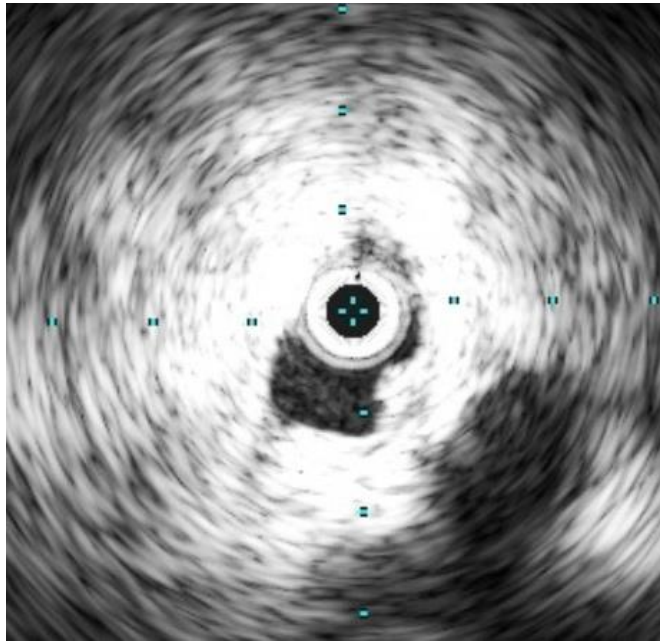
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Aggressive PTA of Femoral Vein

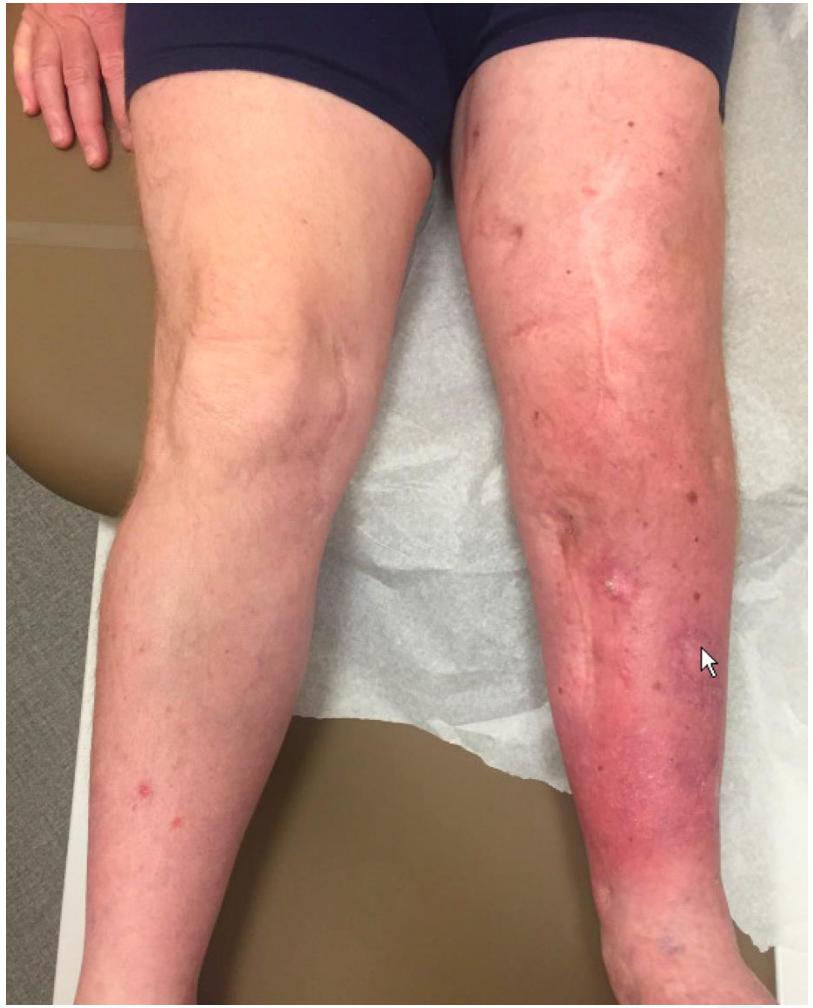
- IVUS to evaluate areas of extensive synechiae/thrombus
- Prolonged venoplasty 3-5 min
- 12-16 mm high pressure balloons

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Before & After Improving Femoral Vein Inflow





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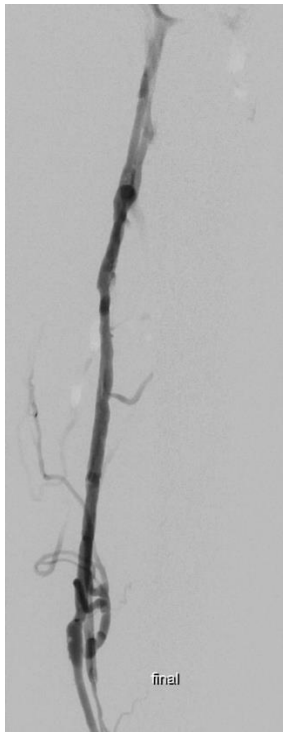
Poor Popliteal Vein Inflow

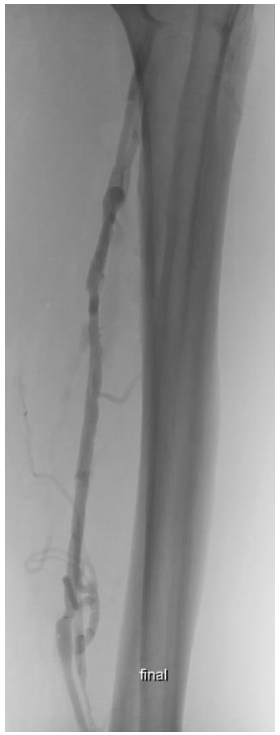


57yo M with occluded left iliac vein stent supplied by inflow from profunda. Plan is to extend stent into left CFV and into profunda.

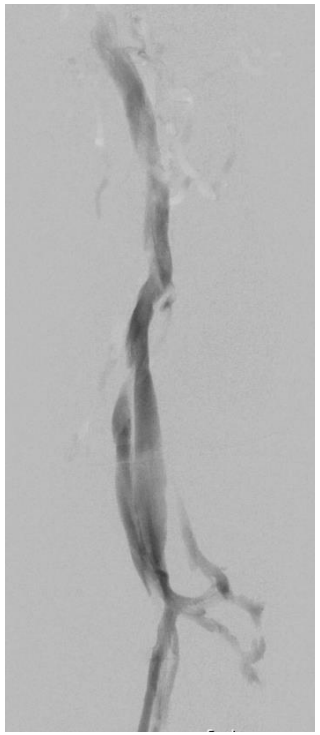
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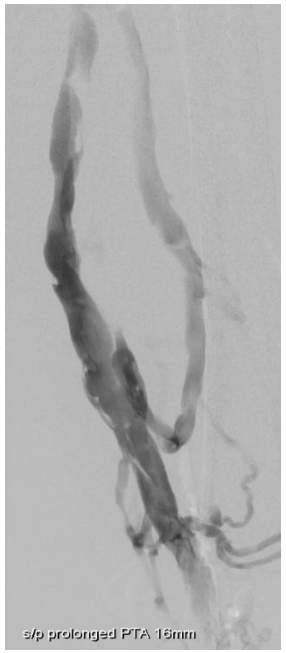
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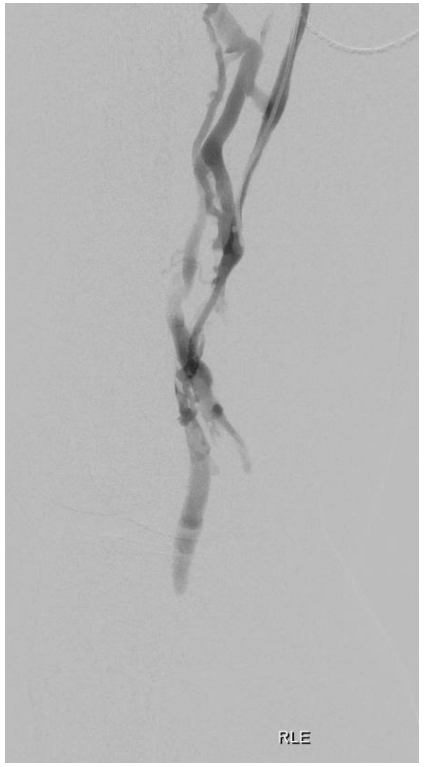
Aggressive PTA of Fem-Pop

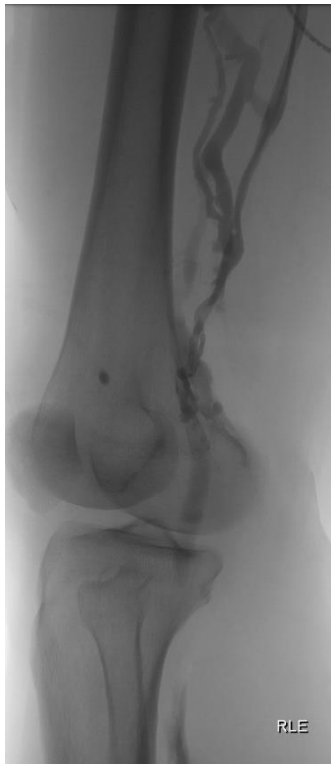
- IVUS to evaluate areas of extensive synechiae/thrombus
- Prolonged venoplasty 3-5 min
- 12-16 mm PTA in femoral vein
- 8-10 mm PTA in popliteal vein
- 6 mm PTA in posterior tibial vein

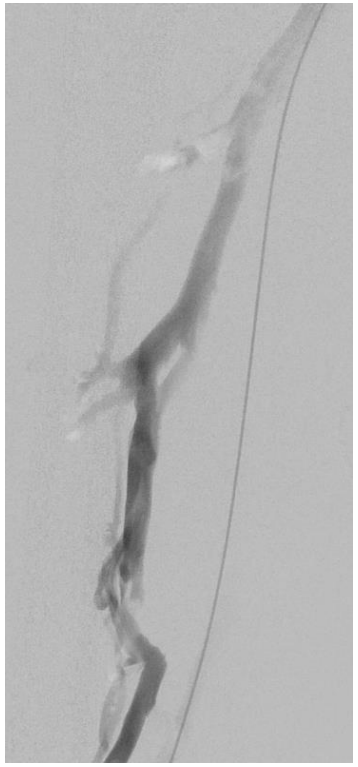
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PTA/Stenting of Profunda Femoral Vein







- Profunda femoral vein is main backup inflow to CFV
- If FV occluded, ok to stent across CFV into proximal PFV
- 7-8 mm gentle PTA to avoid rupture and muscle hematoma

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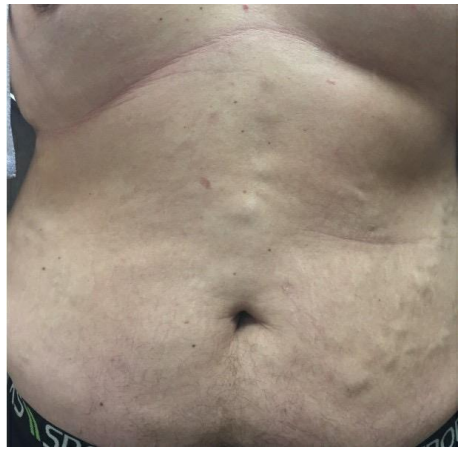
Saphenofemoral junction stenosis













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Endovenectomy

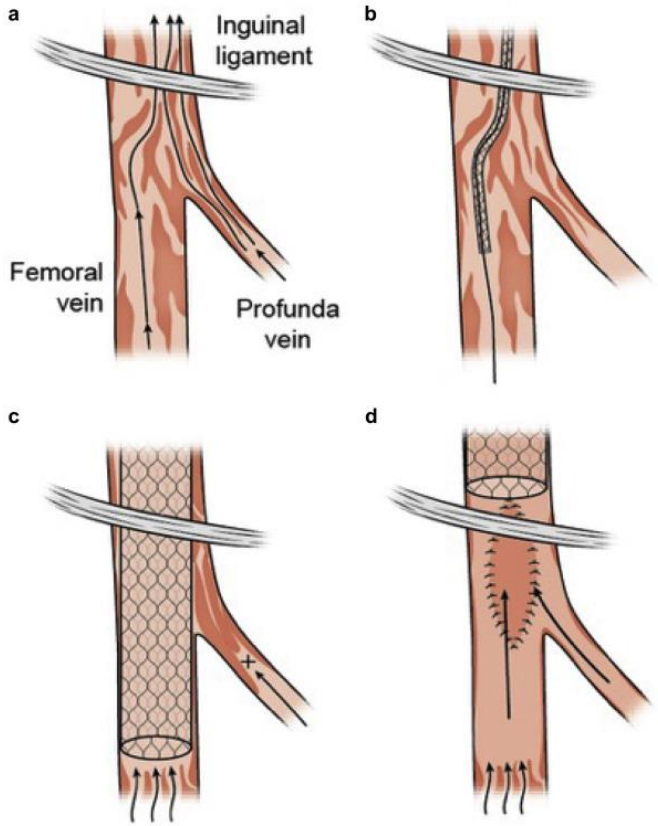
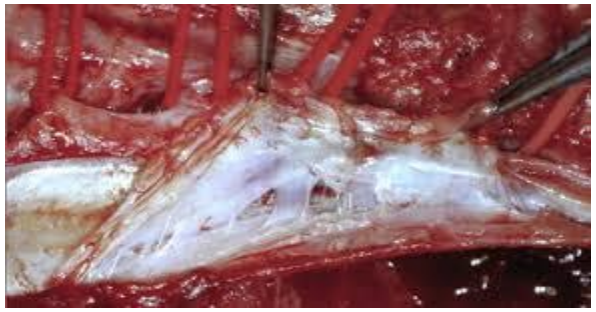
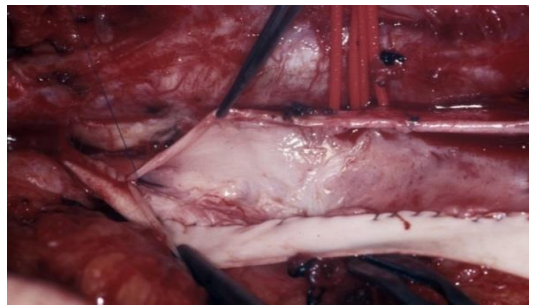


Image courtesy of Dr. Ramesh Tripathi

- Improves inflow into stent
- Can be combined with iliofemoral stent as hybrid procedure
- Potential complications include:
  - Hematoma
  - Lymphocele
  - CFV Thrombosis



Before Endovenectomy



After Endovenectomy

Image courtesy of Dr. Anthony Comerota

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Take Home Points

- Inflow, Inflow, Inflow!!!
- Venous disease is NOT different than PAD when it comes to importance of inflow
- Staged procedures are an opportunity for iliac stent thrombosis. Avoid if possible!!!

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