

**Endovascular Therapy For
Claudicants:
Who, When and With What?**

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Treatment of Claudication

- Traditional therapy for claudicants was medical therapy because the risk of surgery were not considered worth the pain relief.
- Surgery for “limb salvage”

Classification of PAD (Rutherford Categories)

GRADE	CATEGORY	CLINICAL DESCRIPTION
0	0	Asymptomatic
I	1	Mild claudication
I	2	Moderate claudication
I	3	Severe claudication
II	4	Ischemic rest pain
II	5	Minor tissue loss
III	6	Major tissue loss

AJC 2001; 87(12A): 3D - 13D.

Fontaine Stage

STAGE	CLINICAL FINDINGS
I	Asymptomatic, decreased pulses, ankle-brachial index (ABI) < 0.9
II	Intermittent claudication
III	Daily rest pain
IV	Focal tissue necrosis

Am Fam Phy 2001;61: 1027-1032, 1034.

Endovascular Therapy Considerations

- Technical and procedural success
- Periprocedural morbidity and mortality
- Short-term success
- Long-term success

Endovascular Treatment

- Assessment of claudication on life-style
- Pain reduction
- Low risk
- Low cost
- Durability

Endovascular Treatment

- Endovascular treatment of long total occlusions has good short-term success and low risk
- Immediate relief of pain
- Success or failure does not change surgical intervention

Endovascular Treatment

Minimization of periprocedural morbidity
and improve quality of life.

Iliac Artery Intervention

INDICATIONS

- Life-style limiting or progressive claudication
- Ischemic pain at rest
- Non-healing ischemic ulcerations
- Gangrene

RELATIVE CONTRAINDICATIONS

- Occlusion
- Long lesion(≥ 5 cm)
- Aortoiliac aneurysm
- Atheroembolic disease
- Extensive bilateral aortoiliac disease

Aortoiliac Intervention

Iliac Artery PTA

- Clinical benefit (sx. relief, ↑walking distance, and patency of affected artery)
- Primary success rate for selected stenoses is >90%, with 5-yr. patency rates of 80%-85%
- Occlusions have a ↓ procedural success rate (33%-85%)

Aortoiliac Intervention

Endovascular Approach

Advantages

- Avoid general anesthesia
- No laparotomy
- Shorter hospital stay
- Lower morbidity & mortality
- Faster recovery
- Lower cost

Stenting

- Good immediate results*

* Risks:

- Dissection
- Perforation
- Distal embolization

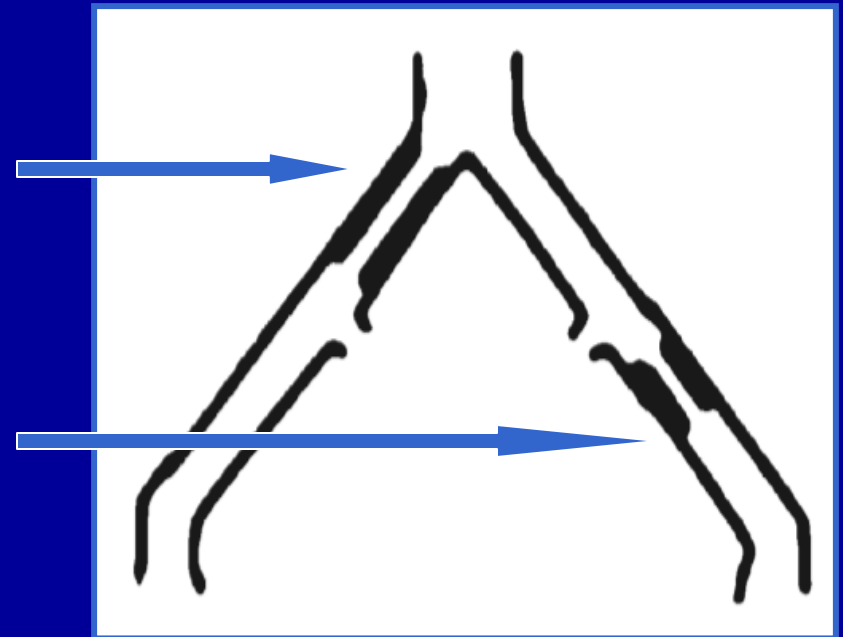
TASC Morphologic Stratification

TransAtlantic Inter-Society Consensus

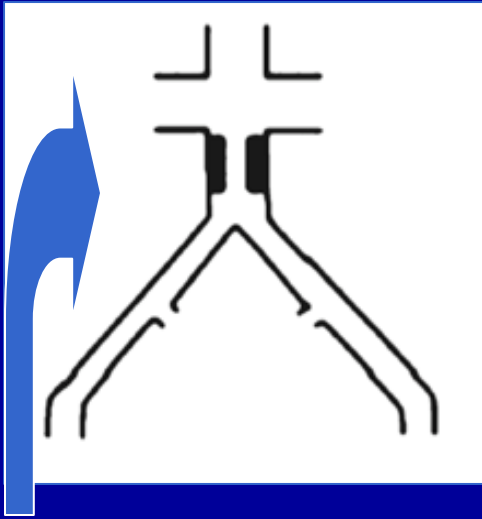
Type A lesions

Unilateral or bilateral stenoses of CIA

Unilateral or bilateral single short ($\leq 3\text{cm}$) stenosis of EIA



Type B Lesions

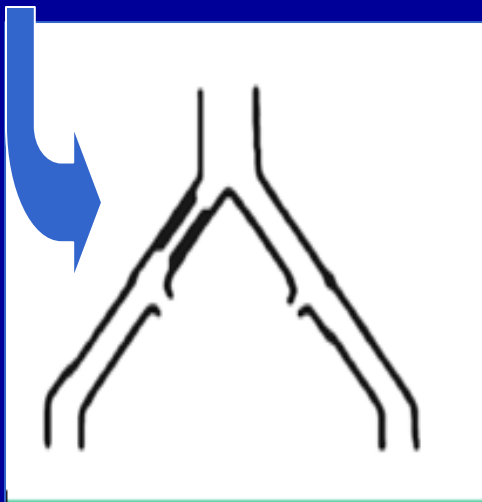


Short ($\leq 3\text{cm}$) stenosis of infrarenal aorta



Unilateral CIA occlusion

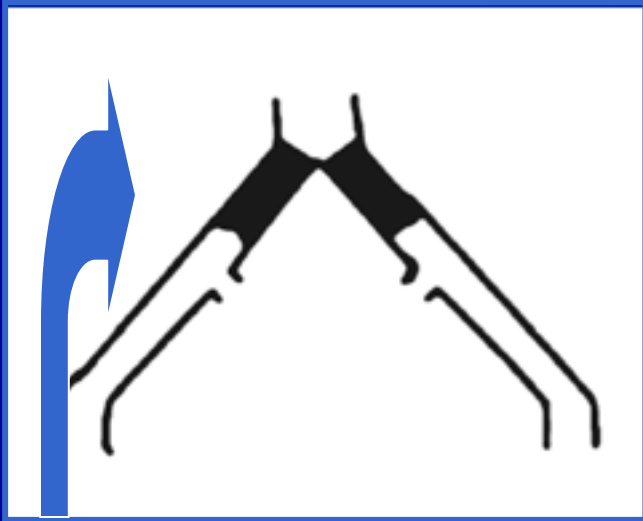
Single or multiple stenoses (3-10cm) involving the CFA but not EIA



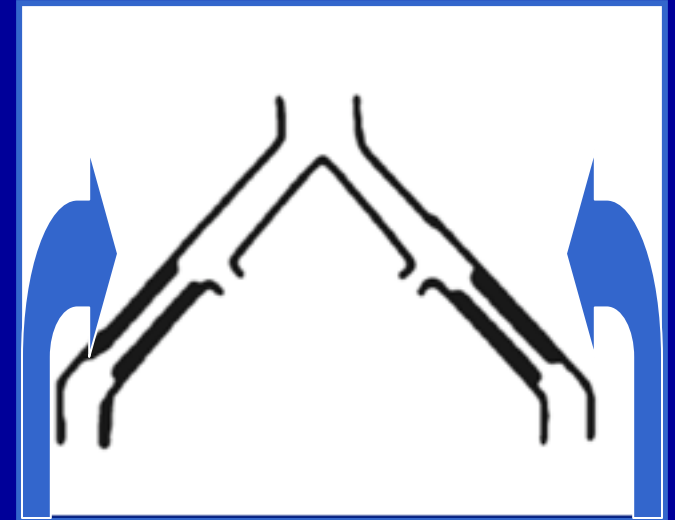
Unilateral EIA occlusion not involving origins of IIA of CFA



Type C Lesions

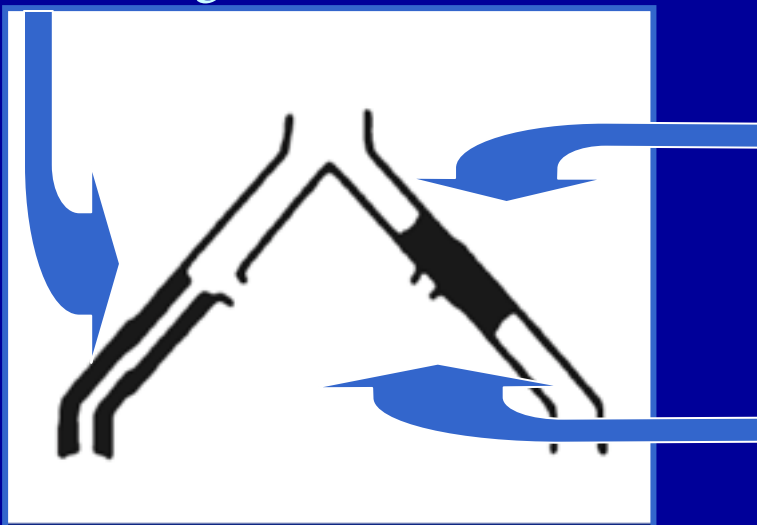


Bilateral CIA occlusions



Bilateral EIA stenoses 3-10cm long, not extending into CFA

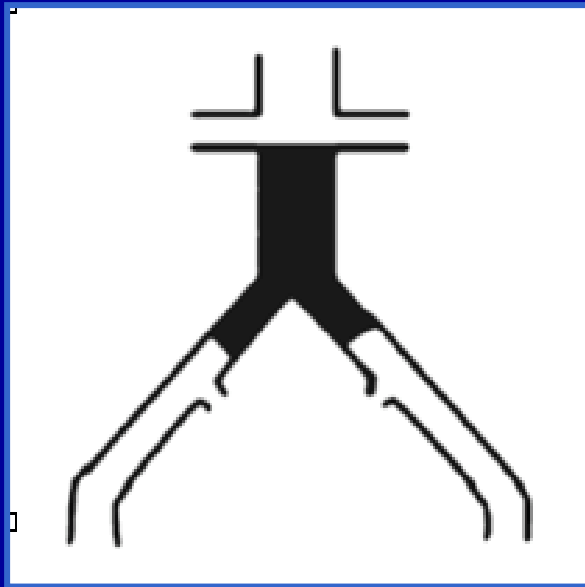
Unilateral EIA stenosis extending into CFA



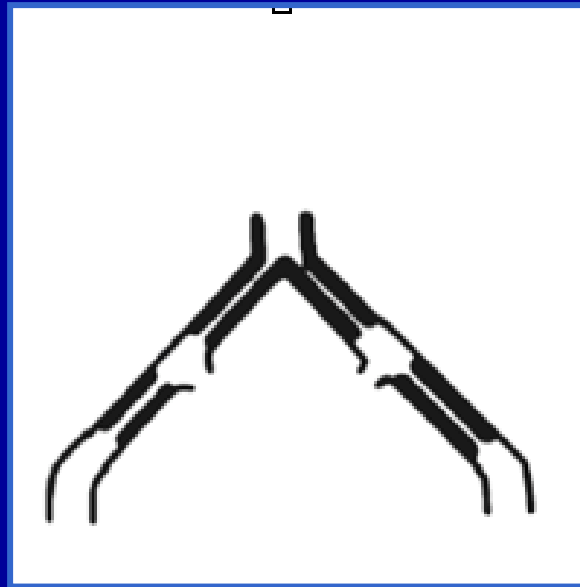
Unilateral EIA occlusion that involves the origins of Internal Iliac and/or CFA

Heavily calcified unilateral EIA occlusion with or without involvement of origins of Internal Iliac and/or CFA

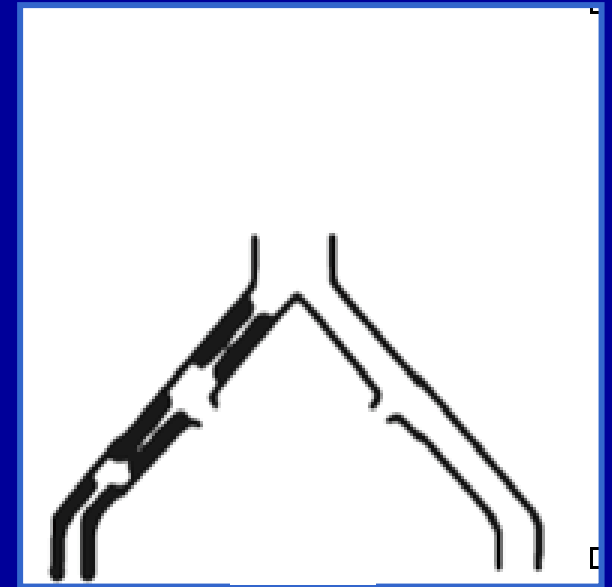
Type D Lesions



Infra-renal aortoiliac occlusion

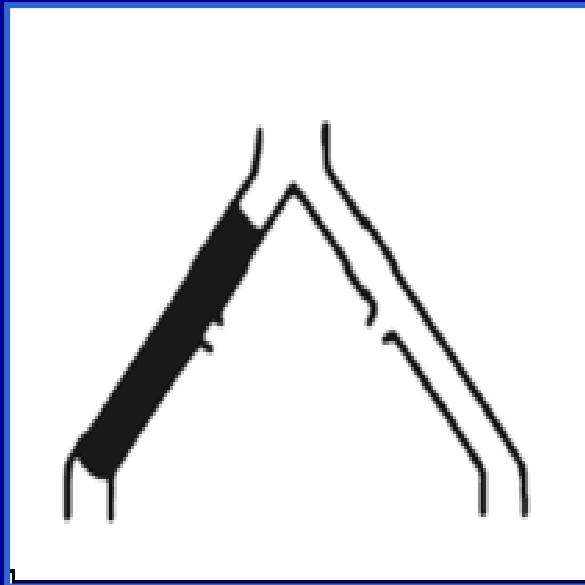


Diffuse disease of the aorta and both iliac arteries requiring treatment

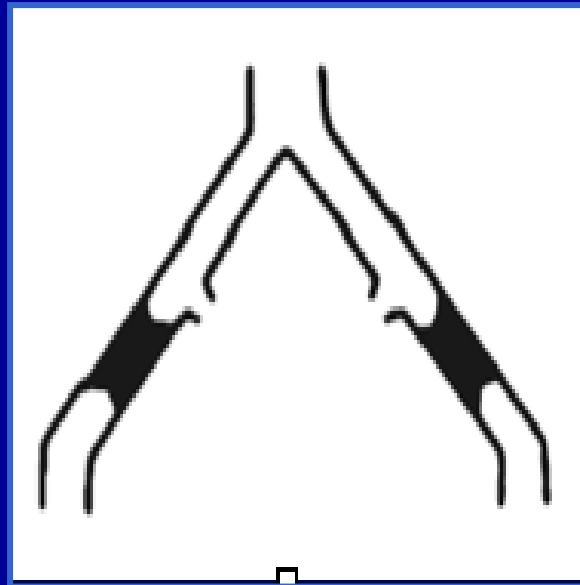


Diffuse multiple stenoses involving the unilateral CIA, EIA and CFA

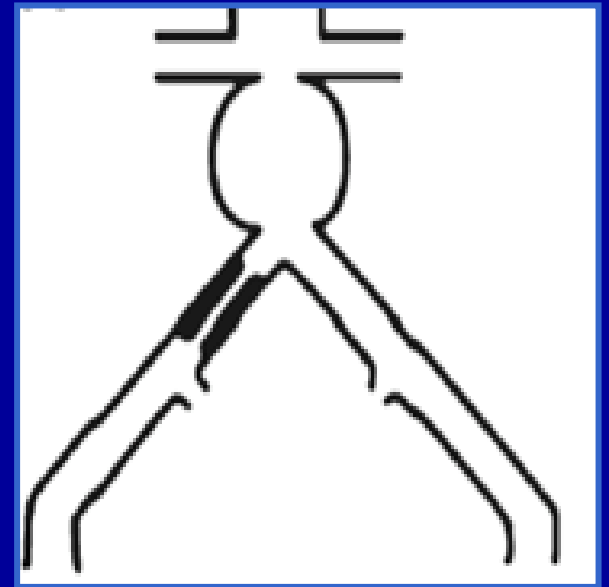
Type D Lesions



Unilateral occlusions of both CIA and EIA



Bilateral occlusions of EIA



Iliac stenoses with AAA requiring treatment and not amenable to endograft placement

Other lesions requiring open aortic or iliac surgery

Superficial Femoral Artery Disease

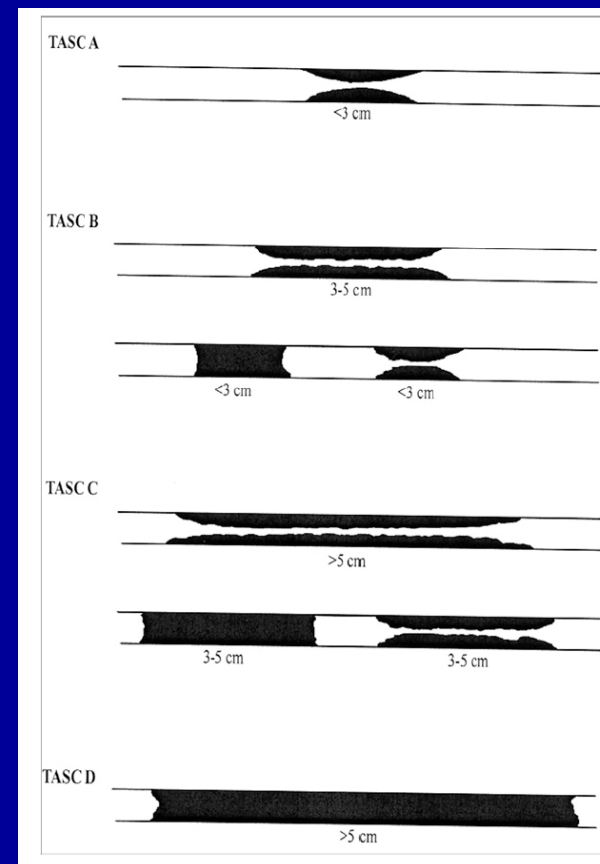
Claudicans with TASC B or TASC C Lesions

Conclusions

- PTA/S preferred over GSVB for TASC B claudicans
- TASC C bypass > PTAS for operative candidates
- Elderly or high risk TASC C, PTA/S > GSVB

J Vasc Surg 2007;45:1179-84.

Femoro-popliteal occlusive disease



Infrapopliteal Intervention

- Occlusive disease of the tibial vessels
- Thought to be exclusive domain of surgery

“Percutaneous therapy is an attractive and appropriate therapeutic alternative for claudicants with focal lesions limited to the tibioperoneal trunk or proximal tibial arteries.”

Semin Vasc Surg 2007; 20: 42 - 53.

Conclusions

RECOMMENDATIONS

Class I

1. Endovascular procedures are indicated for individuals with a vocational or lifestyle-limiting disability due to intermittent claudication when clinical features suggest a reasonable likelihood of symptomatic improvement with endovascular intervention and (a) there has been an inadequate response to exercise or pharmacological therapy and/or (b) there is a very favorable risk-benefit ratio (e.g., focal aortoiliac occlusive disease). (*Level of Evidence: A*)

Conclusions

- Claudication is a acceptable indication for endovascular therapy
- Technology allows for more successes and safer procedures
- Operator experience and equipment parallel outcomes

Thank You