



Peripheral Artery Disease

A coronary risk equivalent that presents in the legs · most patients die of MI and stroke, not limb loss

Statin + antiplatelet
matter more than the stent

⚠️ TREAT THE CARDIOVASCULAR RISK FIRST *this is the part of the visit most often skipped*

EVERY PAD PATIENT, INCLUDING ASYMPTOMATIC

High-intensity statin (reduces cardiovascular events AND improves walking distance and limb outcomes), **single antiplatelet** (aspirin or clopidogrel -**dual therapy is not routine** outside post-revascularization), blood pressure and glycemic control, and **smoking cessation with pharmacotherapy, not just advice** -the single most important modifiable factor, slowing progression and reducing amputation, graft failure and cardiovascular events.

TWO PRESCRIBING CORRECTIONS

Beta-blockers are NOT contraindicated in PAD. This persistent myth costs patients a proven mortality benefit in a population whose leading cause of death is cardiac; they do not meaningfully worsen claudication. **Cilostazol improves walking distance but is contraindicated in heart failure** -check before prescribing. Pentoxifylline is of minimal value. **Low-dose rivaroxaban added to aspirin** reduces MACE and limb events in selected higher-risk patients at the cost of bleeding; a genuine trade-off, not a default.

THE SPECTRUM

Asymptomatic (largest group, still needs medical therapy). **Claudication**: reproducible exertional muscle pain relieved by rest, one level below the diseased segment -buttock/hip with aortoiliac, calf with femoropopliteal. **Atypical leg symptoms** are commoner than classic claudication in older and diabetic patients who limit walking first. **CLTI**: rest pain, non-healing ulcer or gangrene.

THE ABI, AND WHEN IT LIES *a high number is not a good number*

Value	Meaning and action
1.00-1.40	Normal. Exercise ABI if symptoms are typical but the resting value is normal or borderline -a post-exercise drop unmasks disease a resting measurement misses
0.91-0.99	Borderline
≤ 0.90	Diagnoses PAD. Higher ankle systolic (DP or PT) divided by higher brachial, measured with Doppler
≤ 0.40	Severe disease , correlating with rest pain and tissue loss
⚠️ > 1.40	NOT reassurance -the test is uninterpretable. Noncompressible, medially calcified vessels in diabetes and chronic kidney disease : the cuff cannot occlude a calcified artery, so ankle pressure reads falsely high and may mask severe disease. Use the toe-brachial index (digital arteries are usually spared from medial calcification; abnormal below ~0.70) or Doppler waveform analysis
Who to test	Exertional leg symptoms, non-healing wounds, abnormal pulses. Consider screening at age 65+, or 50+ with diabetes or smoking, or known atherosclerosis elsewhere -a positive result changes medical therapy even when asymptomatic. Do not screen the general low-risk population. Anatomic imaging (duplex, CTA, MRA) is to PLAN revascularization, not to diagnose

EXERCISE THERAPY BEATS STENTING FOR CLAUDICATION *and the prescription has to be explained, not just issued*

WHY IT IS FIRST-LINE

Supervised exercise therapy produces walking improvements comparable or superior to revascularization, durably and without procedural risk, restenosis or access complications. **Claudication is generally not limb-threatening** and most patients remain stable or improve, so the revascularization decision is about quality of life rather than salvage. It is underused because it is less immediately gratifying than a stent.

THE ACTUAL PRESCRIPTION

Walk to MODERATE claudication pain, rest until it resolves, repeat -roughly 30-45 minutes per session, at least 3 sessions weekly, for a minimum of 12 weeks. Walking INTO the pain is the therapy, which is exactly why patients need it explained rather than being told generically to exercise. Structured home-based programs help where supervised ones are unavailable, with somewhat smaller effect.

RECOGNIZE LIMB-THREATENING DISEASE *and know the mimic*

Finding	Detail
⚠️ Ischemic rest pain	Classically forefoot pain, worse lying flat, relieved by hanging the leg over the side of the bed -lying flat removes the gravitational assist to an already marginal supply, and dependency restores enough perfusion to relieve it. Urgent vascular referral
⚠️ CLTI	Rest pain, non-healing ulcers or gangrene. Unlike claudication, this is limb-threatening and revascularization is limb-preserving , so delay costs limbs. Pair it with wound care, offloading, infection control and podiatry -revascularization alone will not heal a re-traumatized or infected wound
Vascular vs neurogenic claudication	Vascular is relieved by standing still (a demand problem, so stopping fixes it regardless of position). Neurogenic (spinal stenosis) requires sitting or leaning forward , because flexion opens the canal -hence the shopping-cart sign and cycling further than walking . Uphill walking is worse in PAD (more demand), easier in stenosis (more flexion)
Know the ulcers apart	Arterial : punched-out, painful, over pressure points and toes, pale or necrotic base. Venous : medial malleolus, shallow, exudative, hemosiderin staining, edema. Neuropathic : painless, plantar pressure points, in diabetics
Exam signs	Diminished or absent pulses, bruits, cool skin, hair loss, thickened nails, dependent rubor and elevation pallor , prolonged capillary refill
Other mimics	Venous claudication (bursting pain relieved by elevation, opposite of arterial), chronic exertional compartment syndrome in younger athletes, arthritis, and lumbar radiculopathy. Acute limb ischemia -sudden onset with the six Ps- is a separate emergency, not a progression of this disease
Revascularization choice	Endovascular versus surgical bypass depends on lesion anatomy, conduit availability and patient risk; both remain in use. For claudication the trigger is lifestyle-limiting symptoms despite exercise and medical therapy ; for CLTI it is urgent

PEARLS & PITFALLS

- **Neuropathy plus PAD is the amputation pathway**, because the neuropathy silences the warning pain that would otherwise prompt the patient to seek help. Examine every diabetic foot.
- **Ordering CTA before a revascularization decision is a common low-value step** -the ABI makes the diagnosis; anatomic imaging answers "how would we fix it," not "is it there."
- **An asymptomatic abnormal ABI still earns full medical therapy**, because the cardiovascular risk is the same disease in a different bed.
- **Revascularization for claudication is reserved for lifestyle-limiting symptoms persisting despite exercise and medical therapy** -not for an abnormal number on a report.
- **Atypical leg symptoms are commoner than textbook claudication**, because patients unconsciously limit their walking before reaching the pain -so asking "how far can you walk?" finds disease that "do you get calf pain?" misses.

References: AHA/ACC guideline for the management of patients with lower extremity peripheral artery disease · Global Vascular Guidelines on the management of chronic limb-threatening ischemia · USPSTF statement on screening for peripheral artery disease with the ankle-brachial index · trial evidence on supervised exercise therapy versus revascularization for claudication.

Educational aid; verify against current guidance, local formulary and patient factors.

