

Lower Extremity Endovascular Procedures

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[U Instructions for Use](#)

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Related Community Plan Policies
<ul style="list-style-type: none"> Pneumatic Compression Devices Surgical and Ablative Procedures for Venous Insufficiency and Varicose Veins
Commercial Policy
<ul style="list-style-type: none"> Lower Extremity Endovascular Procedures
Medicare Advantage Coverage Summary
<ul style="list-style-type: none"> Cardiovascular Diagnostic and Therapeutic Procedures

Application

This Medical Policy does not apply to the states listed below; refer to the state-specific policy/guideline, if noted:

State	Policy/Guideline
Indiana	None
Kentucky	Lower Extremity Endovascular Procedures (for Kentucky Only)
Louisiana	None
New Jersey	Lower Extremity Endovascular Procedures (for New Jersey Only)
Ohio	Lower Extremity Endovascular Procedures (for Ohio Only)
Pennsylvania	Lower Extremity Endovascular Procedures (for Pennsylvania Only)
Tennessee	Lower Extremity Endovascular Procedures (for Tennessee Only)

Coverage Rationale

Note: This policy does not apply to upper extremities.

Endovascular revascularization procedures (e.g., stents, angioplasty and/or atherectomy) are proven and medically necessary for treating non-limb-threatening lower extremity ischemia in individuals with [Claudication](#) due to atherosclerotic disease of the aortoiliac and/or femoropopliteal arteries when all the following criteria are met:

- Impaired ability to work and/or perform activities of daily living (ADL); and
- **All** the following conservative therapies have been tried and failed:
 - At least twelve (12) weeks of a [Supervised](#) or [Structured](#) Exercise Program and
 - Pharmacologic therapy; and
 - Smoking cessation, if applicable and
- Ischemic peripheral artery disease with [Ankle-Brachial Index \(ABI\)](#) ≤ 0.90; and

- Imaging results show anatomic location and severity of occlusion (stenosis \geq 50%) (e.g., duplex ultrasound, computed tomography angiography (CTA), magnetic resonance angiography (MRA) or invasive angiography). If duplex ultrasound does not demonstrate a stenosis \geq 50%, another imaging modality will be necessary to demonstrate the extent of stenosis

Endovascular revascularization procedures (e.g., stents, angioplasty and/or atherectomy) are proven and medically necessary for treating [Chronic Limb-Threatening Ischemia \(CLTI\)](#) with the diagnoses listed under [Applicable Codes](#).

Due to insufficient evidence of efficacy, endovascular revascularization procedures (e.g., stents, angioplasty and/or atherectomy) for treating lower extremity ischemia are unproven and not medically necessary in the following circumstances:

- Interventions performed for non-limb-threatening infrapopliteal (e.g., anterior tibial, posterior tibial or peroneal) artery disease
- Individual is asymptomatic
- To prevent the progression of Claudication to CLTI
- Transluminal peripheral atherectomy of the iliac artery
- Treatment of a nonviable limb

Due to insufficient evidence of efficacy, endovenous femoropopliteal bypass using a stent graft is unproven and not medically necessary for treating peripheral artery disease.

Definitions

Ankle-Brachial Index (ABI): The ABI compares the systolic blood pressure in the ankle to the systolic blood pressure in the arm and indicates how well blood is flowing in the limbs An ABI less than 0.90 indicates peripheral artery disease (PAD) (Gerhard-Herman et al., 2017).

Chronic Limb-Threatening Ischemia (CLTI): A condition characterized by chronic (\geq 2 weeks) ischemic rest pain, nonhealing wound/ulcers or gangrene in one or both legs attributable to arterial occlusive disease (Gerhard-Herman et al., 2017). Also referred to as critical limb ischemia (CLI).

Claudication: Fatigue, discomfort, cramping or pain of vascular origin in the muscles of the lower extremities that is consistently induced by exercise and consistently relieved by rest (within 10 min) (Gerhard-Herman et al., 2017).

Structured Exercise Program: Components of a Structured Exercise Program include **all** the following (Gerhard-Herman, et al., 2017):

- Program takes place in the personal setting of the individual rather than in a clinical setting
- Program is self-directed with guidance of healthcare provider(s)
- Healthcare providers prescribe an exercise regimen like that of a [Supervised](#) Program
- Individual counseling ensures understanding of how to begin and maintain the program and how to progress the difficulty of the walking (by increasing distance or speed)
- Program may incorporate behavioral change techniques, such as health coaching or use of activity monitors

Supervised Exercise Program: Components of a Supervised Exercise Program include **all** of the following (Gerhard-Herman, et al., 2017):

- Program takes place in a hospital or outpatient facility
- Program uses intermittent walking exercise as the treatment modality
- Program can be standalone or within a cardiac rehabilitation program
- Program is directly supervised by (qualified) healthcare provider(s)
- Training is performed for a minimum of 30-45 minutes per session and sessions are performed at least 3 times per week for a minimum of 12 weeks
- Training involves intermittent bouts of walking to moderate-to-maximum Claudication, alternating with periods of rest
- Warm-up and cool-down periods precede and follow each session of walking

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by federal, state, or contractual requirements and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

CPT Code	Description
0238T	Transluminal peripheral atherectomy, open or percutaneous, including radiological supervision and interpretation; iliac artery, each vessel
0505T	Endovenous femoral-popliteal arterial revascularization, with transcatheter placement of intravascular stent graft(s) and closure by any method, including percutaneous or open vascular access, ultrasound guidance for vascular access when performed, all catheterization(s) and intraprocedural roadmapping and imaging guidance necessary to complete the intervention, all associated radiological supervision and interpretation, when performed, with crossing of the occlusive lesion in an extraluminal fashion
37220	Revascularization, endovascular, open or percutaneous, iliac artery, unilateral, initial vessel; with transluminal angioplasty
37221	Revascularization, endovascular, open or percutaneous, iliac artery, unilateral, initial vessel; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed
37222	Revascularization, endovascular, open or percutaneous, iliac artery, each additional ipsilateral iliac vessel; with transluminal angioplasty (List separately in addition to code for primary procedure)
37223	Revascularization, endovascular, open or percutaneous, iliac artery, each additional ipsilateral iliac vessel; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)
37224	Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with transluminal angioplasty
37225	Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with atherectomy, includes angioplasty within the same vessel, when performed
37226	Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed
37227	Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(s), unilateral; with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed
37228	Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with transluminal angioplasty
37229	Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with atherectomy, includes angioplasty within the same vessel, when performed
37230	Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed
37231	Revascularization, endovascular, open or percutaneous, tibial, peroneal artery, unilateral, initial vessel; with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed
37232	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with transluminal angioplasty (List separately in addition to code for primary procedure)
37233	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with atherectomy, includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)

CPT Code	Description
37234	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with transluminal stent placement(s), includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)
37235	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery, unilateral, each additional vessel; with transluminal stent placement(s) and atherectomy, includes angioplasty within the same vessel, when performed (List separately in addition to code for primary procedure)

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Diagnosis Code	Description
E08.52	Diabetes mellitus due to underlying condition with diabetic peripheral angiopathy with gangrene
E09.52	Drug or chemical induced diabetes mellitus with diabetic peripheral angiopathy with gangrene
E10.52	Type 1 diabetes mellitus with diabetic peripheral angiopathy with gangrene
E11.52	Type 2 diabetes mellitus with diabetic peripheral angiopathy with gangrene
E13.52	Other specified diabetes mellitus with diabetic peripheral angiopathy with gangrene
I70.221	Atherosclerosis of native arteries of extremities with rest pain, right leg
I70.222	Atherosclerosis of native arteries of extremities with rest pain, left leg
I70.223	Atherosclerosis of native arteries of extremities with rest pain, bilateral legs
I70.228	Atherosclerosis of native arteries of extremities with rest pain, other extremity
I70.229	Atherosclerosis of native arteries of extremities with rest pain, unspecified extremity
I70.231	Atherosclerosis of native arteries of right leg with ulceration of thigh
I70.232	Atherosclerosis of native arteries of right leg with ulceration of calf
I70.233	Atherosclerosis of native arteries of right leg with ulceration of ankle
I70.234	Atherosclerosis of native arteries of right leg with ulceration of heel and midfoot
I70.235	Atherosclerosis of native arteries of right leg with ulceration of other part of foot
I70.238	Atherosclerosis of native arteries of right leg with ulceration of other part of lower leg
I70.239	Atherosclerosis of native arteries of right leg with ulceration of unspecified site
I70.241	Atherosclerosis of native arteries of left leg with ulceration of thigh
I70.242	Atherosclerosis of native arteries of left leg with ulceration of calf
I70.243	Atherosclerosis of native arteries of left leg with ulceration of ankle
I70.244	Atherosclerosis of native arteries of left leg with ulceration of heel and midfoot
I70.245	Atherosclerosis of native arteries of left leg with ulceration of other part of foot
I70.248	Atherosclerosis of native arteries of left leg with ulceration of other part of lower leg
I70.249	Atherosclerosis of native arteries of left leg with ulceration of unspecified site
I70.25	Atherosclerosis of native arteries of other extremities with ulceration
I70.261	Atherosclerosis of native arteries of extremities with gangrene, right leg
I70.262	Atherosclerosis of native arteries of extremities with gangrene, left leg
I70.263	Atherosclerosis of native arteries of extremities with gangrene, bilateral legs
I70.268	Atherosclerosis of native arteries of extremities with gangrene, other extremity
I70.269	Atherosclerosis of native arteries of extremities with gangrene, unspecified extremity
I70.321	Atherosclerosis of unspecified type of bypass graft(s) of the extremities with rest pain, right leg
I70.322	Atherosclerosis of unspecified type of bypass graft(s) of the extremities with rest pain, left leg
I70.323	Atherosclerosis of unspecified type of bypass graft(s) of the extremities with rest pain, bilateral legs
I70.329	Atherosclerosis of unspecified type of bypass graft(s) of the extremities with rest pain, unspecified extremity

Diagnosis Code	Description
I70.331	Atherosclerosis of unspecified type of bypass graft(s) of the right leg with ulceration of thigh
I70.332	Atherosclerosis of unspecified type of bypass graft(s) of the right leg with ulceration of calf
I70.333	Atherosclerosis of unspecified type of bypass graft(s) of the right leg with ulceration of ankle
I70.334	Atherosclerosis of unspecified type of bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.335	Atherosclerosis of unspecified type of bypass graft(s) of the right leg with ulceration of other part of foot
I70.338	Atherosclerosis of unspecified type of bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.339	Atherosclerosis of unspecified type of bypass graft(s) of the right leg with ulceration of unspecified site
I70.341	Atherosclerosis of unspecified type of bypass graft(s) of the left leg with ulceration of thigh
I70.342	Atherosclerosis of unspecified type of bypass graft(s) of the left leg with ulceration of calf
I70.343	Atherosclerosis of unspecified type of bypass graft(s) of the left leg with ulceration of ankle
I70.344	Atherosclerosis of unspecified type of bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.345	Atherosclerosis of unspecified type of bypass graft(s) of the left leg with ulceration of other part of foot
I70.348	Atherosclerosis of unspecified type of bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.349	Atherosclerosis of unspecified type of bypass graft(s) of the left leg with ulceration of unspecified site
I70.35	Atherosclerosis of unspecified type of bypass graft(s) of other extremity with ulceration
I70.361	Atherosclerosis of unspecified type of bypass graft(s) of the extremities with gangrene, right leg
I70.362	Atherosclerosis of unspecified type of bypass graft(s) of the extremities with gangrene, left leg
I70.363	Atherosclerosis of unspecified type of bypass graft(s) of the extremities with gangrene, bilateral legs
I70.369	Atherosclerosis of unspecified type of bypass graft(s) of the extremities with gangrene, unspecified extremity
I70.421	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, right leg
I70.422	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, left leg
I70.423	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, bilateral legs
I70.428	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, other extremity
I70.429	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, unspecified extremity
I70.431	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of thigh
I70.432	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of calf
I70.433	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of ankle
I70.434	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.435	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of foot
I70.438	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.439	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of unspecified site
I70.441	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of thigh
I70.442	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of calf
I70.443	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of ankle
I70.444	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.445	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of foot
I70.448	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.449	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of unspecified site
I70.461	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, right leg

Diagnosis Code	Description
I70.462	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, left leg
I70.463	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, bilateral legs
I70.468	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, other extremity
I70.469	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, unspecified extremity
I70.521	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, right leg
I70.522	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, left leg
I70.523	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.528	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, other extremity
I70.529	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, unspecified extremity
I70.531	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of thigh
I70.532	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of calf
I70.533	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of ankle
I70.534	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.535	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of foot
I70.538	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.539	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of unspecified site
I70.541	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of thigh
I70.542	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of calf
I70.543	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of ankle
I70.544	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.545	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of foot
I70.548	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.549	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of unspecified site
I70.561	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, right leg
I70.562	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, left leg
I70.563	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.568	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, other extremity
I70.569	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, unspecified extremity
I70.621	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, right leg
I70.622	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, left leg

Diagnosis Code	Description
I70.623	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.628	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, other extremity
I70.629	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, unspecified extremity
I70.631	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of thigh
I70.632	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of calf
I70.633	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of ankle
I70.634	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.635	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of foot
I70.638	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.639	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of unspecified site
I70.641	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of thigh
I70.642	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of calf
I70.643	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of ankle
I70.644	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.645	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of foot
I70.648	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.649	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of unspecified site
I70.661	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, right leg
I70.662	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, left leg
I70.663	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.668	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, other extremity
I70.669	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, unspecified extremity
I70.721	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, right leg
I70.722	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, left leg
I70.723	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, bilateral legs
I70.728	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, other extremity
I70.729	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, unspecified extremity
I70.731	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of thigh
I70.732	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of calf
I70.733	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of ankle
I70.734	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.735	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of foot
I70.738	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.739	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of unspecified site
I70.741	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of thigh
I70.742	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of calf
I70.743	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of ankle
I70.744	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.745	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of foot
I70.748	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.749	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of unspecified site
I70.761	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, right leg

Diagnosis Code	Description
I70.762	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, left leg
I70.763	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, bilateral legs
I70.768	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, other extremity
I70.769	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, unspecified extremity
I72.3	Aneurysm of iliac artery
I72.4	Aneurysm of artery of lower extremity
I72.8	Aneurysm of other specified arteries
I72.9	Aneurysm of unspecified site
I73.00	Raynaud's syndrome without gangrene
I73.01	Raynaud's syndrome with gangrene
I73.1	Thromboangiitis obliterans [Buerger's disease]
I73.81	Erythromelalgia
I74.3	Embolism and thrombosis of arteries of the lower extremities
I74.4	Embolism and thrombosis of arteries of extremities, unspecified
I74.5	Embolism and thrombosis of iliac artery
I74.8	Embolism and thrombosis of other arteries
I74.9	Embolism and thrombosis of unspecified artery
I75.021	Atheroembolism of right lower extremity
I75.022	Atheroembolism of left lower extremity
I75.023	Atheroembolism of bilateral lower extremities
I75.029	Atheroembolism of unspecified lower extremity
I75.89	Atheroembolism of other site
I77.2	Rupture of artery
I77.70	Dissection of unspecified artery
I77.72	Dissection of iliac artery
I77.77	Dissection of artery of lower extremity
I77.79	Dissection of other specified artery
I96	Gangrene, not elsewhere classified
L03.115	Cellulitis of right lower limb
L03.116	Cellulitis of left lower limb
M86.051	Acute hematogenous osteomyelitis, right femur
M86.052	Acute hematogenous osteomyelitis, left femur
M86.059	Acute hematogenous osteomyelitis, unspecified femur
M86.061	Acute hematogenous osteomyelitis, right tibia and fibula
M86.062	Acute hematogenous osteomyelitis, left tibia and fibula
M86.069	Acute hematogenous osteomyelitis, unspecified tibia and fibula
M86.071	Acute hematogenous osteomyelitis, right ankle and foot
M86.072	Acute hematogenous osteomyelitis, left ankle and foot
M86.079	Acute hematogenous osteomyelitis, unspecified ankle and foot
M86.08	Acute hematogenous osteomyelitis, other sites
M86.09	Acute hematogenous osteomyelitis, multiple sites
M86.10	Other acute osteomyelitis, unspecified site

Diagnosis Code	Description
M86.151	Other acute osteomyelitis, right femur
M86.152	Other acute osteomyelitis, left femur
M86.159	Other acute osteomyelitis, unspecified femur
M86.161	Other acute osteomyelitis, right tibia and fibula
M86.162	Other acute osteomyelitis, left tibia and fibula
M86.169	Other acute osteomyelitis, unspecified tibia and fibula
M86.171	Other acute osteomyelitis, right ankle and foot
M86.172	Other acute osteomyelitis, left ankle and foot
M86.179	Other acute osteomyelitis, unspecified ankle and foot
M86.18	Other acute osteomyelitis, other site
M86.19	Other acute osteomyelitis, multiple sites
M86.20	Subacute osteomyelitis, unspecified site
M86.251	Subacute osteomyelitis, right femur
M86.252	Subacute osteomyelitis, left femur
M86.259	Subacute osteomyelitis, unspecified femur
M86.261	Subacute osteomyelitis, right tibia and fibula
M86.262	Subacute osteomyelitis, left tibia and fibula
M86.269	Subacute osteomyelitis, unspecified tibia and fibula
M86.271	Subacute osteomyelitis, right ankle and foot
M86.272	Subacute osteomyelitis, left ankle and foot
M86.279	Subacute osteomyelitis, unspecified ankle and foot
M86.28	Subacute osteomyelitis, other site
M86.29	Subacute osteomyelitis, multiple sites
M86.30	Chronic multifocal osteomyelitis, unspecified site
M86.351	Chronic multifocal osteomyelitis, right femur
M86.352	Chronic multifocal osteomyelitis, left femur
M86.359	Chronic multifocal osteomyelitis, unspecified femur
M86.361	Chronic multifocal osteomyelitis, right tibia and fibula
M86.362	Chronic multifocal osteomyelitis, left tibia and fibula
M86.369	Chronic multifocal osteomyelitis, unspecified tibia and fibula
M86.371	Chronic multifocal osteomyelitis, right ankle and foot
M86.372	Chronic multifocal osteomyelitis, left ankle and foot
M86.379	Chronic multifocal osteomyelitis, unspecified ankle and foot
M86.38	Chronic multifocal osteomyelitis, other site
M86.39	Chronic multifocal osteomyelitis, multiple sites
M86.40	Chronic osteomyelitis with draining sinus, unspecified site
M86.451	Chronic osteomyelitis with draining sinus, right femur
M86.452	Chronic osteomyelitis with draining sinus, left femur
M86.459	Chronic osteomyelitis with draining sinus, unspecified femur
M86.461	Chronic osteomyelitis with draining sinus, right tibia and fibula
M86.462	Chronic osteomyelitis with draining sinus, left tibia and fibula
M86.469	Chronic osteomyelitis with draining sinus, unspecified tibia and fibula

Diagnosis Code	Description
M86.471	Chronic osteomyelitis with draining sinus, right ankle and foot
M86.472	Chronic osteomyelitis with draining sinus, left ankle and foot
M86.479	Chronic osteomyelitis with draining sinus, unspecified ankle and foot
M86.48	Chronic osteomyelitis with draining sinus, other site
M86.49	Chronic osteomyelitis with draining sinus, multiple sites
M86.50	Other chronic hematogenous osteomyelitis, unspecified site
M86.551	Other chronic hematogenous osteomyelitis, right femur
M86.552	Other chronic hematogenous osteomyelitis, left femur
M86.559	Other chronic hematogenous osteomyelitis, unspecified femur
M86.561	Other chronic hematogenous osteomyelitis, right tibia and fibula
M86.562	Other chronic hematogenous osteomyelitis, left tibia and fibula
M86.571	Other chronic hematogenous osteomyelitis, right ankle and foot
M86.572	Other chronic hematogenous osteomyelitis, left ankle and foot
M86.579	Other chronic hematogenous osteomyelitis, unspecified ankle and foot
M86.58	Other chronic hematogenous osteomyelitis, other site
M86.59	Other chronic hematogenous osteomyelitis, multiple sites
M86.60	Other chronic osteomyelitis, unspecified site
M86.651	Other chronic osteomyelitis, right thigh
M86.652	Other chronic osteomyelitis, left thigh
M86.659	Other chronic osteomyelitis, unspecified thigh
M86.661	Other chronic osteomyelitis, right tibia and fibula
M86.662	Other chronic osteomyelitis, left tibia and fibula
M86.669	Other chronic osteomyelitis, unspecified tibia and fibula
M86.671	Other chronic osteomyelitis, right ankle and foot
M86.672	Other chronic osteomyelitis, left ankle and foot
M86.679	Other chronic osteomyelitis, unspecified ankle and foot
M86.68	Other chronic osteomyelitis, other site
M86.69	Other chronic osteomyelitis, multiple sites
M86.8X0	Other osteomyelitis, multiple sites
M86.8X5	Other osteomyelitis, thigh
M86.8X6	Other osteomyelitis, lower leg
M86.8X7	Other osteomyelitis, ankle and foot
M86.8X8	Other osteomyelitis, other site
M86.8X9	Other osteomyelitis, unspecified sites
M86.9	Osteomyelitis, unspecified
Q27.30	Arteriovenous malformation, site unspecified
Q27.32	Arteriovenous malformation of vessel of lower limb
Q27.39	Arteriovenous malformation, other site
Q27.8	Other specified congenital malformations of peripheral vascular system
Q27.9	Congenital malformation of peripheral vascular system, unspecified
Q87.2	Congenital malformation syndromes predominantly involving limbs
S35.511A	Injury of right iliac artery, initial encounter

Diagnosis Code	Description
S35.512A	Injury of left iliac artery, initial encounter
S81.801A	Unspecified open wound, right lower leg, initial encounter
S81.802A	Unspecified open wound, left lower leg, initial encounter
S81.809A	Unspecified open wound, unspecified lower leg, initial encounter
S91.301A	Unspecified open wound, right foot, initial encounter
S91.302A	Unspecified open wound, left foot, initial encounter
S91.309A	Unspecified open wound, unspecified foot, initial encounter
T82.312A	Breakdown (mechanical) of femoral arterial graft (bypass), initial encounter
T82.318A	Breakdown (mechanical) of other vascular grafts, initial encounter
T82.319A	Breakdown (mechanical) of unspecified vascular grafts, initial encounter
T82.338A	Leakage of other vascular grafts, initial encounter
T82.392A	Other mechanical complication of femoral arterial graft (bypass), initial encounter
T82.398A	Other mechanical complication of other vascular grafts, initial encounter
T82.399A	Other mechanical complication of unspecified vascular grafts, initial encounter
T82.818A	Embolism due to vascular prosthetic devices, implants and grafts, initial encounter
T82.868A	Thrombosis due to vascular prosthetic devices, implants and grafts, initial encounter
T82.898A	Other specified complication of vascular prosthetic devices, implants and grafts, initial encounter

Description of Services

Peripheral artery disease (PAD) is a narrowing of vessels due to atherosclerosis that limits blood flow to the limbs. PAD most commonly affects arteries in the legs. While many people with PAD do not have any symptoms, some will have leg pain, numbness or cramping during exercise that is relieved by rest (Claudication). Risk factors include age, smoking, diabetes, obesity, high blood pressure and high cholesterol.

PAD is associated with an increased risk of heart attack, stroke and, when left untreated, can lead to CLTI. Treatment options include lifestyle changes, medications, endovascular techniques, and surgery. Endovascular techniques to treat Claudication and CLTI include balloon dilation (angioplasty), stents, endovenous stent grafts and atherectomy. The technique chosen for endovascular treatment depends on many factors including lesion characteristics such as anatomic location, lesion length and degree of calcification (Gerhard-Herman et al., 2017; National Heart, Lung, and Blood Institute website).

Clinical Evidence

The Best Endovascular Versus Best Surgical Therapy for Patients With Critical Limb Ischemia (BEST-CLI) Trial was a prospective, open label, multicenter, randomized controlled, multidisciplinary, superiority trial comparing treatment efficacy, functional outcomes and quality of life in patients undergoing endovascular or open surgical revascularization. Clinical sites in the United States and internationally enrolled 1830 patients with chronic limb-threatening ischemia (CLTI) and infrainguinal PAD who were candidates for both treatment options. Patients were enrolled into one of two parallel trial cohorts. Patients with suitable single segment of great saphenous vein available for potential bypass were randomized within Cohort 1 (n = 1620), while patients without were randomized within Cohort 2 (n = 480). The primary outcome was a composite of a major adverse limb event (amputation above the ankle or a major limb reintervention) or death from any cause. In Cohort 1, after a median follow-up of 2.7 years, the incidence of a major adverse limb event or death was significantly lower in the surgical group than in the endovascular group. In Cohort 2, after a median follow-up of 1.6 years, the outcomes in the two groups were similar. The incidence of adverse events was similar in the two groups. Because investigators were allowed to use their preferred techniques, there was a potential for selection and operator bias. Also, due to funding issues, the follow-up was longer in Cohort 1 than Cohort 2 (Farber et al., 2022). The study was funded by the National Heart, Lung and Blood Institute.

A Cochrane systematic review by Fakhry et al. (2018) assessed the effectiveness of endovascular revascularization compared with no specific therapy for intermittent claudication or compared with a conservative therapy option such as supervised exercise or drug therapy. The review included ten studies with a total of 1,087 participants. The results showed that endovascular revascularization and supervised exercise are comparable treatment options in improving walking distances and quality of life in individuals with intermittent claudication. Combination therapy (endovascular revascularization with either supervised exercise or drug therapy) seemed to result in greater improvements than those seen with supervised exercise or drug therapy alone. (The ERASE trial by Fakhry et al., 2015 and the CLEVER trial by Murphy et al., 2015, which were previously cited in this policy, are included in this systematic review).

Malgor et al. (2015) conducted a systematic review to evaluate the efficacy of three treatment strategies for individuals with claudication. Primary outcome measures included mortality, amputation, walking distance, quality of life, patency and measures of blood flow (ABI). The review included eight systematic reviews and 12 trials enrolling 1,548 patients. Compared with medical management, each of the three treatments (surgery, endovascular therapy and exercise therapy) was associated with improved walking distance, claudication symptoms and quality of life. Evidence supporting superiority of one of the three approaches was limited. However, blood flow parameters improved faster and better with both forms of revascularization compared with exercise or medical management. Compared with endovascular therapy, open surgery may be associated with longer length of hospital stay and higher complication rates but resulted in more durable patency (moderate-quality evidence). (The CLEVER trial by Murphy et al., 2012, which was previously cited in this policy, is included in this systematic review).

Vemulapalli et al. (2015) conducted a systematic review and a network meta-analysis to evaluate the comparative effectiveness of medical therapy, supervised exercise training, endovascular intervention and surgical revascularization in patients with claudication. Outcomes assessed included walking distance, claudication distance, all-cause mortality and quality of life. Thirty-five studies (n = 7,475) were included in the analysis. A meta-analysis of 16 studies suggested that, compared with usual care, maximal walking measures were improved to a greater extent with supervised exercise than with medical therapy or endovascular intervention. A meta-analysis of 12 studies demonstrated that exercise training and endovascular intervention, but not cilostazol, improved initial claudication measures compared with usual care. A meta-analysis of 13 studies suggested that although all treatment modalities were superior to usual care, there was no significant difference between modalities in respect to quality of life. The authors noted that heterogeneity in functional endpoints, single-arm observational study design and poor subgroup reporting significantly limit comparative effectiveness analysis in PAD. Further studies with attention to study design, standardized efficacy and safety endpoints, and appropriate subgroup reporting are needed. (The multicenter CLEVER trial by Murphy et al., 2012, which was previously cited in this policy, is included in this systematic review).

Iliac Artery Atherectomy

Insufficient quality evidence exists to support the efficacy and safety of iliac artery atherectomy.

Atherectomy of the iliac artery is uncommon due to the risk of life-threatening perforation. Lee et al. (2018) assessed the feasibility and safety of orbital atherectomy for the treatment of iliac artery disease using retrospective data from the CONFIRM registries. Patients with at least one iliac artery lesion treated with orbital atherectomy (n = 62 patients; n = 68 lesions) were compared to patients with at least one superficial femoral artery lesion treated with orbital atherectomy (n = 1570 patients; n = 1809 lesions). Both groups had similar baseline demographics; however, the iliac artery group had a lower prevalence of diabetes. For lesion characteristics, the iliac artery group had shorter lesions and a higher percentage of severely calcified lesions. Procedural complication rate was defined as the composite of flow limiting dissection, perforation, slow flow, vessel closure, spasm, embolism, or thrombosis. The iliac group had one reported perforation and one reported vessel closure. The procedural complication rate was low in both groups; however, it was significantly lower in the iliac artery group. The authors note that a randomized trial with long-term follow-up is needed to determine the ideal revascularization strategy for patients with calcified iliac artery disease. The study is limited by the possible bias associated with the observational design.

Endovenous Femoropopliteal Bypass

The DETOUR system utilizes a novel endovenous femoropopliteal bypass procedure for treating patients with moderate to severe PAD who have long occlusive lesions of the superficial femoral artery. Clinical trials are ongoing. Larger high-quality studies evaluating the safety and efficacy of the procedure and comparing the DETOUR system with open surgical bypass are needed.

In an Emerging Technology Report, Hayes found that published evidence supporting the DETOUR system is limited to the results of the DETOUR I study, which has up to 3-year follow-up data for a subset of trial participants. Technical and procedural success was reported to be high. The DETOUR system appears to be a promising alternative to surgical bypass in patients with long occlusions in the superficial femoral artery. However, published results from the pivotal trial and additional studies comparing the DETOUR system with open surgical bypass are needed to better characterize the effectiveness and safety of the system and procedure (Hayes, 2022).

DETOUR 2 is an ongoing prospective, single-arm, multicenter non-randomized study to evaluate the safety and effectiveness of the DETOUR system for percutaneous femoropopliteal bypass. A total of 202 participants in the United States and Europe with severe femoropopliteal artery disease are included.

DETOUR I was a prospective, single-arm, multicenter non-randomized study with 78 participants. Technical and procedural success during the index procedure were both 96%. Primary stent graft patency rates were 81% at year one and 79% at year two. The authors concluded the DETOUR system was a safe and effective percutaneous alternative to open surgical bypass (Krievins et al., 2020; Halena et al, 2022). Due to the novel transvenous approach of the DETOUR system and risk of thromboembolic complications, venous outcomes were also evaluated in the DETOUR I study. At one year, Schneider et al. (2021) reported a low rate of deep venous thrombotic and obstructive complications. Cross-sectional femoral vein luminal area was preserved, and in some participants, the compensatory vein diameter increased over time. After evaluating a subset of patients enrolled at one study site, Rumba et al. (2022) reported three-year results. The femoral and popliteal vein remained patent with no compensatory enlargement, and there were no significant changes in venous symptom scores or physiologic function. The study is limited by the single-arm study design.

Clinical Practice Guidelines

American College of Cardiology (ACC)/American Heart Association (AHA)/Society for Cardiovascular Angiography and Interventions (SCAI)/Society of Interventional Radiology (SIR)/Society for Vascular Medicine (SVM)

In a multi-society report, Bailey et al. (2019) published appropriate use criteria for peripheral artery interventions. The panel recommends that patients with PAD and intermittent claudication should first be treated with guideline-directed medical therapy and structured exercise. Revascularization should be considered only in patients who continue to have lifestyle-limiting claudication despite these noninvasive approaches. In situations where medical therapy is insufficient, the selection of surgical or endovascular revascularization depends on several factors including patient risk level and lesion characteristics, such as anatomic location, length and presence of stenosis or occlusion. The criteria indicate that atherectomy of the iliac artery is rarely appropriate in all clinical scenarios. This rating is due to an absence of data supporting the use of this technology compared with balloon angioplasty and stenting. For patients with CLTI, both endovascular or surgical revascularization procedures are considered appropriate and critical for the reduction of high morbidity and mortality rates associated with limb loss and cardiovascular events.

American Heart Association (AHA)/American College of Cardiology (ACC)

AHA/ACC guidelines for the diagnosis and management of patients with lower extremity PAD make the following recommendations for surgical and endovascular revascularization procedures (Gerhard-Herman et al., 2017).

Claudication

- Revascularization is a reasonable treatment option for the patient with lifestyle-limiting claudication with an inadequate response to guideline-directed management and therapy
- Endovascular procedures are effective as a revascularization option for patients with lifestyle-limiting claudication and hemodynamically significant aortoiliac occlusive disease
- Endovascular procedures are reasonable as a revascularization option for patients with lifestyle-limiting claudication and hemodynamically significant femoropopliteal disease
- The usefulness of endovascular procedures as a revascularization option for patients with claudication due to isolated infrapopliteal artery disease is unknown
- Endovascular procedures should not be performed in patients with PAD solely to prevent progression to CLTI

CLTI

- In patients with CLTI, revascularization should be performed, when possible to minimize tissue loss
- An evaluation for revascularization options should be performed by an interdisciplinary care team before amputation in the patient with CLTI
- Endovascular procedures are recommended to establish in-line blood flow to the foot in patients with nonhealing wounds or gangrene
- A staged approach to endovascular procedures is reasonable in patients with ischemic rest pain
- Evaluation of lesion characteristics can be useful in selecting the endovascular approach for CLTI

International Working Group on the Diabetic Foot (IWGDF)

IWGDF guidelines on the prevention and management of diabetic foot disease state that in patients with either an ankle pressure < 50mm Hg or an ABI < 0.5, consider urgent vascular imaging and, when findings suggest it is appropriate, revascularization. Also consider revascularization if the toe pressure is < 30 mmHg or TcPO₂ is < 25 mmHg. Clinicians might consider revascularization at higher pressure levels in patients with extensive tissue loss or infection (Schaper et al., 2020).

National Institute for Health and Care Excellence (NICE)

A National Institute for Health and Care Excellence (NICE) clinical guideline offers recommendations on the management of PAD (NICE, 2012; updated 2020).

Society for Vascular Surgery (SVS)

SVS guidelines provide a comprehensive set of recommendations for the evaluation and management of CLTI. Vein bypass may be preferred for average-risk patients with advanced limb threat and high complexity disease, while those with less complex anatomy, intermediate severity limb threat or high patient risk may be favored for endovascular intervention. All patients with CLTI should be afforded best medical therapy including the use of antithrombotic, lipid-lowering, antihypertensive and glycemic control agents, as well as counseling on smoking cessation, diet, exercise and preventive foot care (Conte et al., 2019).

Separate SVS guidelines provide a comprehensive set of recommendations for the evaluation and management of asymptomatic disease and intermittent claudication. Emphasis is placed on risk factor modification, medical therapies and broader use of exercise programs to improve cardiovascular health and functional performance. Revascularization for intermittent claudication is an appropriate therapy for selected patients with disabling symptoms, after a careful risk-benefit analysis. Treatment should be individualized based on comorbid conditions, degree of functional impairment and anatomic factors. Invasive treatments for intermittent claudication should provide predictable functional improvements with reasonable durability. A minimum threshold of a > 50% likelihood of sustained efficacy for at least 2 years is suggested as a benchmark. Endovascular approaches are favored for most candidates with aortoiliac disease and for selected patients with femoropopliteal disease in whom anatomic durability is expected to meet this minimum threshold. Conversely, caution is warranted in the use of interventions for intermittent claudication in anatomic settings where durability is limited (extensive calcification, small-caliber arteries, diffuse infrainguinal disease, poor runoff). Surgical bypass may be a preferred strategy in good-risk patients with these disease patterns or in those with prior endovascular failures. Common femoral artery disease should be treated surgically, and the saphenous vein is the preferred conduit for infrainguinal bypass grafting. Patients who undergo invasive treatments for intermittent claudication should be monitored regularly in a surveillance program to record subjective improvements, assess risk factors, optimize compliance with cardioprotective medications and monitor hemodynamic and patency status (Conte et al., 2015).

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

The FDA has approved several stents and stent systems for the treatment of PAD of the lower extremities. Refer to the following website (use product codes NIO and NIP) for more information:

<https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMA/pma.cfm>. (Accessed January 27, 2023)

The FDA has approved several catheter systems used for the treatment of PAD of the lower extremities. Refer to the following website (use product code DQY) for more information: <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm>. (Accessed January 27, 2023)

In June 2020, the DETOUR system (Endologix) received FDA designation as a [Breakthrough Device](#) and is currently undergoing clinical trials to support a Premarket Approval (PMA) application. The system consists of the TORUS stent graft and the PQ Crossing Device.

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Policy History/Revision Information

Date	Summary of Changes
12/01/2023	<p>Coverage Rationale</p> <ul style="list-style-type: none">Revised list of unproven and not medically necessary circumstances for treating lower extremity ischemia; added “transluminal peripheral atherectomy of the iliac artery”Added language to indicate endovenous femoropopliteal bypass using a stent graft is unproven and not medically necessary for treating peripheral artery disease due to insufficient evidence of efficacy <p>Applicable Codes</p> <ul style="list-style-type: none">Added CPT codes 0238T and 0505T <p>Supporting Information</p> <ul style="list-style-type: none">Updated <i>Description of Services</i>, <i>Clinical Evidence</i>, <i>FDA</i>, and <i>References</i> sections to reflect the most current informationArchived previous policy version CS166.L

Instructions for Use

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