Medical Coverage Policy | Percutaneous Revascularization Procedures for Lower Extremity Peripheral Arterial Disease

EFFECTIVE DATE: 12|01|2025
POLICY LAST REVIEWED: 01|21|2026

OVERVIEW

Revascularization (either surgical or percutaneous) is a treatment option for certain individuals with lower extremity peripheral arterial disease. Percutaneous revascularization procedures include balloon angioplasty, stent procedures, and atherectomy. Lithotripsy is proposed as a vessel preparation option to facilitate definitive endovascular treatment in heavily calcified lesions.

MEDICAL CRITERIA

Medicare Advantage Plans and Commercial Products

CPT Codes 0238T, 0505T, C7531, C7534, C7535

Percutaneous revascularization using balloon angioplasty, stent procedures, or atherectomy in individuals with chronic symptomatic lower extremity peripheral arterial disease may be considered medically necessary when the following criteria are met:

- Functionally limiting claudication; AND
- Inadequate response to guideline-directed management and therapy (GDMT), including structured exercise; AND
- Potential benefits of revascularization on quality of life, walking performance, and functional status outweigh the risks and durability of the intervention and possible need for repeated procedures.

Percutaneous revascularization using balloon angioplasty, stent procedures, or atherectomy for treatment of chronic limb-threatening ischemia may be considered medically necessary.

Percutaneous revascularization using balloon angioplasty, stent procedures, or atherectomy for treatment of acute limb ischemia may be considered medically necessary.

Percutaneous revascularization using balloon angioplasty, stent procedures, or atherectomy in individuals with asymptomatic lower extremity peripheral arterial disease may be considered medically necessary if needed for the safety, feasibility, or effectiveness of other invasive, clinically necessary, life-saving procedures (e.g., transfemoral aortic valve replacement, mechanical circulatory support, endovascular aortic aneurysm repair).

PRIOR AUTHORIZATION

Medicare Advantage Plans and Commercial Products

CPT Codes 0238T, 0505T, C7531, C7534, C7535

Prior authorization is required for Medicare Advantage Plans and is recommended for Commercial Products.

POLICY STATEMENT

Medicare Advantage Plans and Commercial Products

CPT Codes 0238T, 0505T, C7531, C7534, C7535

Percutaneous revascularization using balloon angioplasty, stent procedures, or atherectomy is considered medically necessary when the medical criteria above is met.

Percutaneous revascularization using balloon angioplasty, stent procedures, or atherectomy is considered not covered for Medicare Advantage Plans and not medically necessary for Commercial Products when the medical criteria above is not met as the evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

CPT/HCPCS Codes 37262, 37279, C9764, C9765, C9766, C9767, C9772, C9773, C9774, C9775:
Percutaneous revascularization using lithotripsy in individuals with lower extremity peripheral arterial disease is considered not covered for Medicare Advantage Plans and not medically necessary for Commercial Products in all situations as the evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

COVERAGE

Benefits may vary between groups/contracts. Please refer to the Evidence of Coverage or Subscriber Agreement for applicable surgery benefits/coverage.

BACKGROUND

Peripheral Arterial Disease

Guidelines recognize 4 clinical subsets of peripheral arterial disease (PAD).

- Asymptomatic PAD is characterized by reporting of no leg symptoms. Patients with asymptomatic PAD may adapt their activity to avoid leg pain. Those who report no exertional leg symptoms may develop symptoms during an objective walking test. These patients have functional impairment that is comparable to those with claudication.
- Chronic symptomatic PAD (claudication) is characterized by exertional leg symptoms that can limit walking and resolve with rest. Typical claudication symptoms may be described as a pain, aching, cramping, or tired/fatigued feeling located in the buttocks, thigh, calf, or foot that occurs consistently during walking, does not start at rest, does not improve during walking, and is usually relieved within approximately 10 minutes of rest. Leg symptom descriptors also include tingling, numbness, burning, throbbing, or shooting. Chronic symptomatic PAD is associated with significant functional (walking)impairment. It is estimated that only one-third of patients with PAD present with symptoms of typical claudication, while most patients with PAD present with other exertional leg symptoms not typical of claudication. All patients with chronic symptomatic PAD, including those with atypical symptoms, have walking impairment.
- Chronic limb-threatening ischemia (CLTI) is a severe clinical subset of PAD, associated with ischemic rest pain, nonhealing wounds or ulcers, or gangrene with symptoms present longer than 2 weeks.
- Acute limb ischemia is the most severe clinical subset of PAD. It is characterized by a sudden decrease in arterial perfusion of the leg that threatens the viability of the limb. Causes of ALI include embolism, thrombosis within the native artery or at site of previous revascularization (graft or stent), trauma, peripheral aneurysm with distal embolization, or thrombosis. Severity is further classified using the Rutherford classification system (viable, salvageable/marginally threatened, salvageable/immediately threaten, irreversible.

Prevalence and Risk Factors

Patients at risk for PAD are identified based on demographic features, cardiovascular risk factors, or the presence of atherosclerotic vascular disease in other vascular beds. Black race is associated with increased risk for PAD, even after adjustment for conventional risk factors, and is also associated with major adverse cardiovascular events (MACE) and major adverse limb events.

Screening and Diagnosis

Clinical assessment, including risk factor assessment, history, physical examination, and consideration of differential diagnoses, is performed before diagnostic testing.

For individuals at increased risk of PAD, vascular examination with a focus on the lower extremities is recommended. After the history and physical examination identify patients at risk for PAD and with history of physical examination symptoms or signs of PAD, diagnostic testing to establish the diagnosis of PAD is

performed. Diagnostic testing for suspected PAD incorporates history and physical examination, ankle-brachial index (ABI), and additional physiological testing, as well as noninvasive and potentially invasive (angiography)imaging.

Measurement of the ankle-brachial index (ABI) is the primary method for establishing the diagnosis of PAD. Inpatients with history or physical examination findings suggestive of PAD, the resting ABI, with or without ankle pulse volume recordings (PVR) and/or Doppler waveforms, is recommended to establish the diagnosis. The resting ABI is reported as abnormal (<0.90), borderline (0.91-0.99), normal (1.00-1.40), or noncompressible (>1.40). In individuals with suspected chronic symptomatic PAD and normal or borderline resting ABI, exercise ABI can be performed.

Chronic Symptomatic Peripheral Arterial Disease
Diagnostic testing for suspected peripheral arterial disease (PAD) requires a multi-faceted approach that incorporates history and physical examination, ankle-brachial index (ABI), and additional physiological testing, as well as noninvasive and potentially invasive (angiography) imaging. Individuals with chronic symptomatic PAD report claudication or other non-joint-related exertional leg symptoms that limit walking performance.

Functional Status
Functional status is defined as an individual's ability to meet basic needs, fulfill usual roles, and maintain health and well-being (activities of daily living). Walking ability and performance, and mobility are components of functional status. Treadmill exercise ABI testing can be used to objectively assess functional status and walking performance. Among individuals with chronic symptomatic PAD, this exercise assessment can be used as a baseline measure of functional status and for evaluation of response to therapy.

Treatment
Standard treatment for claudication includes medical therapy, foot care, and structured exercise therapy. Percutaneous revascularization includes catheter-based revascularization procedures using modalities such as percutaneous transluminal (balloon) angioplasty, drug-coated balloon angioplasty, stenting (bare-metal, drug-coated, or covered), and atherectomy.

Revascularization, either percutaneous or surgical, is the standard treatment for CLTI.

Structured Exercise Programs for Peripheral Arterial Disease
A structured exercise program is an exercise program planned by a qualified health care professional that provides recommendations for exercise training with a goal of improving functional status over time. The program provides individualized recommendations for frequency, intensity, time, and type of exercise. Structured exercise programs are classified as supervised exercise therapy or structured community-based exercise programs. In supervised exercise therapy, training is performed for a minimum of 30 to 45 minutes per 60-minutes session. Supervised sessions are performed at least 3 times per week for a minimum of 12 weeks.

Shared Decision Making
Clinical practice guidelines state, "Patient-centered discussions are critical in making appropriate decisions regarding revascularization and for building a trusting longitudinal relationship. More than 70% of patients prefer to have an active role in determining their treatment plan for claudication. Such discussions should be undertaken when considering whether to undergo a revascularization procedure, its timing, and approach for revascularization (ie, endovascular or surgical), and should take into account the patient’s goals, treatment preferences, and perception of risk. Patient engagement is also essential to facilitate smoking cessation, medication adherence, and participation in structured exercise."

Regulatory Status
In 2016, the Shockwave Medical Peripheral Lithotripsy (IVL) System received 510(k) clearance for lithotripsy-enhanced balloon dilatation of lesions, including calcified lesions, in the peripheral vasculature, including the

iliac, femoral, ilio-femoral, popliteal, intrapopliteal, and renal arteries and is not for use in the coronary or cerebral vasculature. Initial clearance was based on a determination that the device was substantially equivalent to legally marketed predicate devices. The primary predicate for the Shockwave Medical Lithoplasty System is the Spectranetics, Inc. AngioSculpt PTA Scoring Balloon Catheter. Additional predicates were the Bard Peripheral Vascular VascuTrak PTA Dilatation Catheter and the EKOS Corporation EKOS Lysus Micro-Infusion System.

For individuals who are adults with symptomatic lower extremity peripheral arterial disease who receive percutaneous revascularization with balloon angioplasty, stent procedures, or atherectomy, the evidence includes RCTs, observational studies, and systematic reviews. Relevant outcomes are overall survival, morbid events, functional outcomes, and treatment-related mortality and morbidity. Multiple studies have demonstrated that percutaneous and surgical revascularization for chronic symptomatic PAD can improve symptoms and quality of life in individuals who have not responded to guideline directed medical treatment, including structured exercise. Guidelines recommend that the choice to proceed to revascularization and selection of procedure should be a shared decision-making process, based on clinical presentation, including severity of symptoms and anticipated natural history; degree of functional limitation and QOL impairment; response to medical therapy, including structured exercise; and the likelihood of a beneficial short- and longer-term outcome, balanced against potential short-term (eg, bleeding, infection, major adverse cardiac events),and longer-term procedural risk. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who are adults with chronic limb-threatening ischemia (CLTI) who receive percutaneous revascularization with balloon angioplasty, stent procedures, or atherectomy, the evidence includes RCTs, observational studies, and systematic reviews. Relevant outcomes are overall survival, morbid events, functional outcomes, and treatment-related mortality and morbidity. Revascularization is considered the standard treatment for patients with CLTI to minimize tissue loss and preserve a functional limb and ambulatory status. Both endovascular and surgical revascularization have been demonstrated to be effective treatments for preventing amputation in CLTI. In a systematic review of 13 studies of patients with CLTI enrolled in medical and angiogenic therapy trials who did not receive revascularization, a 22% all-cause mortality rate and a 22% rate of major amputation at a median follow-up of 12 months were observed. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who are adults with acute limb ischemia who receive percutaneous revascularization with balloon angioplasty, stent procedures, or atherectomy, the evidence includes RCTs, observational studies, and systematic reviews. Relevant outcomes are overall survival, morbid events, functional outcomes, and treatment-related mortality and morbidity. A systematic review consisting of randomized controlled trials and observational studies demonstrated surgical revascularization is an effective treatment in patients with acute limb ischemia. Thrombolysis was associated with a higher incidence of major vascular events compared to surgical treatment (6.5% vs 4.4%). Both thrombolysis and surgery have comparable limb salvage rates, but thrombolysis carries a higher risk of hemorrhagic complications. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who are adults with symptomatic lower extremity peripheral arterial disease (PAD) who receive percutaneous revascularization using lithotripsy, the evidence includes 1 RCT and nonrandomized studies. Relevant outcomes are overall survival, morbid events, functional outcomes, and treatment-related mortality and morbidity. The RCT demonstrated primary patency at 1 year was superior in the lithotripsy group compared to the control group (80.5% vs 68.0%, P=.017). A major limitation of the study was a lack of comparison to other percutaneous revascularization procedures. The nonrandomized studies are limited by their lack of a control group, small sample sizes, and heterogeneity in clinical and procedural characteristics. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who are adults with asymptomatic lower extremity peripheral arterial disease (PAD) who receive percutaneous revascularization using any procedure, the evidence includes RCTs, observational

studies, and systematic reviews. Relevant outcomes are overall survival, morbid events, functional outcomes, and treatment-related mortality and morbidity. Although some individuals with asymptomatic PAD will progress to symptomatic disease, there is no evidence that performing early invasive revascularization procedures leads to a reduction in the development of symptomatic disease. Further, there is evidence that undergone are vascularization procedure are at increased risk of subsequent complications, including the need for additional subsequent revascularization procedures. Therefore, the risks of the procedure do not outweigh any proposed benefits. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

CODING

Medicare Advantage Plans and Commercial Products

The following CPT and HCPCS codes are considered medically necessary when the medical criteria above has been met:

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 road mapping 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

C7531 Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(ies), unilateral, with transluminal angioplasty with intravascular ultrasound (initial noncoronary vessel) during diagnostic evaluation and/or therapeutic intervention, including radiological supervision and interpretation

C7534 Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(ies), unilateral, with atherectomy, includes angioplasty within the same vessel, when performed with intravascular ultrasound (initial noncoronary vessel) during diagnostic evaluation and/or therapeutic intervention, including radiological supervision and interpretation

C7535 Revascularization, endovascular, open or percutaneous, femoral, popliteal artery(ies), unilateral, with transluminal stent placement(s), includes angioplasty within the same vessel, when performed, with intravascular ultrasound (initial noncoronary vessel) during diagnostic evaluation and/or therapeutic intervention, including radiological supervision and interpretation

The following HCPCS code(s) are considered not covered for Medicare Advantage Plans and not medically necessary for Commercial Products:

37262 Intravascular lithotripsy(ies), iliac vascular territory, including all imaging guidance and radiological supervision and interpretation necessary to perform the intravascular lithotripsy(ies) within the same artery (list separately in addition to code for primary procedure) (New Code Effective 1/1/2026)

37279 Intravascular lithotripsy(ies), femoral and popliteal vascular territory, including all imaging guidance and radiological supervision and interpretation necessary to perform the intravascular lithotripsy(ies) within the same artery (list separately in addition to code for primary procedure) (New Code Effective 1/1/2026)

C9764 Revascularization, endovascular, open or percutaneous, lower extremity artery(ies), except tibial/peroneal; with intravascular lithotripsy, includes angioplasty within the same vessel(s), when performed

C9765 Revascularization, endovascular, open or percutaneous, lower extremity artery(ies), except tibial/peroneal; with intravascular lithotripsy, and transluminal stent placement(s),includes angioplasty within the same vessel(s), when performed

C9766 Revascularization, endovascular, open or percutaneous, lower extremity artery(ies), except tibial/peroneal; with intravascular lithotripsy and atherectomy, includes angioplasty within the same vessel(s), when performed

C9767 Revascularization, endovascular, open or percutaneous, lower extremity artery(ies), except tibial/peroneal; with intravascular lithotripsy and transluminal stent placement(s),and atherectomy, includes angioplasty within the same vessel(s), when performed

C9772 Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies), with intravascular lithotripsy, includes angioplasty within the same vessel (s), when performed

C9773 Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies); with intravascular lithotripsy, and transluminal stent placement(s), includes angioplasty within the same vessel(s), when performed

C9774 Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies); with intravascular lithotripsy and atherectomy, includes angioplasty within the same vessel(s), when performed

C9775 Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies); with intravascular lithotripsy and transluminal stent placement(s), and atherectomy, includes angioplasty within the same vessel (s), when performed

RELATED POLICIES

Prior Authorization of Services, Treatments or Procedures

PUBLISHED

Provider Update, March 2026
Provider Update, October 2025

REFERENCES

1. Gornik HL, Aronow HD, Goodney PP, et al. 2024ACC/AHA/AACVPR/APMA/ABC/SCAI/SVM/SVN/SVS/SIR/VESS Guideline for the Management of Lower Extremity Peripheral Artery Disease: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation. Jun 11 2024; 149(24): e1313-e1410. PMID 38743805
2. Conte MS, Pomposelli FB, Clair DG, et al. Society for Vascular Surgery practice guidelines for atherosclerotic occlusive disease of the lower extremities: management of asymptomatic disease and claudication. J Vasc Surg. Mar 2015; 61(3 Suppl): 2S-41S. PMID 25638515
3. Criqui MH, Matsushita K, Aboyans V, et al. Lower Extremity Peripheral Artery Disease: Contemporary Epidemiology, Management Gaps, and Future Directions: A Scientific Statement From the American Heart Association. Circulation. Aug 31 2021; 144(9): e171-e191. PMID 34315230
4. Wardle BG, Ambler GK, Radwan RW, et al. Atherectomy for peripheral arterial disease. Cochrane Database Syst Rev. Sep 29 2020; 9(9): CD006680. PMID 32990327
5. Ott I, Cassese S, Groha P, et al. Randomized Comparison of Paclitaxel-Eluting Balloon and Stenting Versus Plain Balloon Plus Stenting Versus Directional Atherectomy for Femoral Artery Disease (ISAR-STATH). Circulation. Jun 06 2017; 135(23): 2218-2226. PMID 28424222
6. Zeller T, Langhoff R, Rocha-Singh KJ, et al. Directional Atherectomy Followed by a Paclitaxel-Coated Balloon to Inhibit Restenosis and Maintain Vessel Patency: Twelve-Month Results of the DEFINITIVEAR Study. Circ Cardiovasc Interv. Sep 2017; 10(9): e004848. PMID 28916599
7. Dattilo R, Himmelstein SI, Cuff RF. The COMPLIANCE 360° Trial: a randomized, prospective, multicenter, pilot study comparing acute and long-term results of orbital atherectomy to balloon angioplasty for calcified femoropopliteal disease. J Invasive Cardiol. Aug 2014; 26(8): 355-60. PMID25091093
8. Shammas NW, Lam R, Mustapha J, et al. Comparison of orbital atherectomy plus balloon angioplasty vs. balloon angioplasty alone in patients with critical limb ischemia: results of the CALCIUM 360randomized pilot trial. J Endovasc Ther. Aug 2012; 19(4): 480-8. PMID 22891826
9. Shammas NW, Coiner D, Shammas GA, et al. Percutaneous lower-extremity arterial interventions with primary balloon angioplasty versus Silverhawk atherectomy and adjunctive balloon angioplasty: randomized trial. J Vasc Interv Radiol. Sep 2011; 22(9): 1223-8. PMID 21757372
10. Nakamura S, Conroy RM, Gordon IL, et al. A randomized trial of transcutaneous extraction atherectomy in femoral arteries: intravascular ultrasound observations. J Clin Ultrasound. Oct 1995; 23(8): 461-71.PMID 7499516
11. Vroegindeweij D, Tielbeek AV, Buth J, et al. Directional atherectomy versus balloon angioplasty in segmental femoropopliteal artery disease: two-year follow-up with color-flow duplex scanning. J Vasc Surg. Feb 1995; 21(2): 255-68; discussion 268-9. PMID 7853599

12. Abouzid MR, Vyas A, Kamel I, et al. Comparing the efficacy and safety of endovascular therapy versus surgical revascularization for critical limb-threatening ischemia: A systematic review and Meta-analysis. Prog Cardiovasc Dis. Jul 07 2024. PMID 38981532
13. Farber A, Menard MT, Conte MS, et al. Surgery or Endovascular Therapy for Chronic Limb-Threatening Ischemia. N Engl J Med. Dec 22 2022; 387(25): 2305-2316. PMID 36342173
14. Bradbury AW, Moakes CA, Popplewell M, et al. A vein bypass first versus a best endovascular treatment first revascularisation strategy for patients with chronic limb threatening ischaemia who required an infra-popliteal, with or without an additional more proximal infra-inguinal revascularisation procedure to restore limb perfusion (BASIL-2): an open-label, randomised, multicentre, phase 3 trial. Lancet. May 272023; 401(10390): 1798-1809. PMID 37116524
15. Abu Dabrh AM, Steffen MW, Undavalli C, et al. The natural history of untreated severe or critical limb ischemia. J Vasc Surg. Dec 2015; 62(6): 1642-51.e3. PMID 26391460
16. Kim TI, Zhang Y, Cardella JA, et al. Outcomes of bypass and endovascular interventions for advanced femoropopliteal disease in patients with premature peripheral artery disease. J Vasc Surg. Dec 2021;74(6): 1968-1977.e3. PMID 34090986
17. Latz CA, Boitano L, Wang LJ, et al. Contemporary Endovascular 30-Day Outcomes for Critical Limb Threatening Ischemia Relative to Surgical Bypass Grafting. Vasc Endovascular Surg. Jul 2021; 55(5):441-447. PMID 33602047
18. Lee KB, Macsata RA, Lala S, et al. Outcomes of open and endovascular interventions in patients with chronic limb threatening ischemia. Vascular. Oct 2021; 29(5): 693-703. PMID 33190618
19. Lawaetz M, Fisker L, Lönn L, et al. In Situ Vein Bypass Is Superior to Endovascular Treatment of Femoropopliteal Lesions in Chronic Limb-Threatening Ischemia. Ann Vasc Surg. Aug 2020; 67: 437-447. PMID 32234573
20. Stavroulakis K, Gkremoutis A, Borowski M, et al. Bypass Grafting vs Endovascular Therapy in Patients With Non-Dialysis-Dependent Chronic Kidney Disease and Chronic Limb-Threatening Ischemia(CRITISCH Registry). J Endovasc Ther. Aug 2020; 27(4): 599-607. PMID 32633651
21. Altreuther M, Mattsson E. Long-Term Limb Salvage and Amputation-Free Survival After Femoropopliteal Bypass and Femoropopliteal PTA for Critical Ischemia in a Clinical Cohort. Vasc Endovascular Surg. Feb 2019; 53(2): 112-117. PMID 30803415
22. Dayama A, Tsilimparis N, Kolakowski S, et al. Clinical outcomes of bypass-first versus endovascular-first strategy in patients with chronic limb-threatening ischemia due to infrageniculate arterial disease. J Vasc Surg. Jan 2019; 69(1): 156-163.e1. PMID 30579443
23. Bodewes TCF, Darling JD, Deery SE, et al. Patient selection and perioperative outcomes of bypass and endovascular intervention as first revascularization strategy for infrainguinal arterial disease. J Vasc Surg. Jan 2018; 67(1): 206-216.e2. PMID 28844467
24. Fashandi AZ, Mehaffey JH, Hawkins RB, et al. Major adverse limb events and major adverse cardiac events after contemporary lower extremity bypass and infrainguinal endovascular intervention inpatients with claudication. J Vasc Surg. Dec 2018; 68(6): 1817-1823. PMID 30470369
25. Shannon AH, Mehaffey JH, Cullen JM, et al. A Comparison of Outcomes After Lower Extremity Bypass and Repeat Endovascular Intervention Following Failed Previous Endovascular Intervention for Critical Limb Ischemia. Angiology. Jul 2019; 70(6): 501-505. PMID 30376723
26. Veraldi GF, Mezzetto L, Macrì M, et al. Comparison of Endovascular Versus Bypass Surgery in Femoropopliteal TASC II D Lesions: A Single-Center Study. Ann Vasc Surg. Feb 2018; 47: 179-187.PMID 28943491
27. Darling JD, McCallum JC, Soden PA, et al. Results for primary bypass versus primary angioplasty/stent for lower extremity chronic limb-threatening ischemia. J Vasc Surg. Aug 2017; 66(2): 466-475. PMID28274753
28. Mehaffey JH, Hawkins RB, Fashandi A, et al. Lower extremity bypass for critical limb ischemia decreases major adverse limb events with equivalent cardiac risk compared with endovascular intervention. J Vasc Surg. Oct 2017; 66(4): 1109-1116.e1. PMID 28655549
29. Siracuse JJ, Menard MT, Eslami MH, et al. Comparison of open and endovascular treatment of patients with critical limb ischemia in the Vascular Quality Initiative. J Vasc Surg. Apr 2016; 63(4): 958-65.e1.PMID 26830690

30. McQuade K, Gable D, Pearl G, et al. Four-year randomized prospective comparison of percutaneous ePTFE/nitinol self-expanding stent graft versus prosthetic femoral-popliteal bypass in the treatment of superficial femoral artery occlusive disease. J Vasc Surg. Sep 2010; 52(3): 584-90; discussion 590-1,591.e1-591.e7. PMID 20598480
31. Nugteren MJ, Hazenberg CEVB, Akkersdijk GP, et al. Twelve-Month Outcomes of Intravascular Lithotripsy for Treatment of Calcified Popliteal and Infrapopliteal Lesions in Patients With Chronic Limb-Threatening Ischemia. J Endovasc Ther. Oct 18 2023: 15266028231205421. PMID 37853746
32. Veenstra EB, van der Laan MJ, Zeebregts CJ, et al. A systematic review and meta-analysis of endovascular and surgical revascularization techniques in acute limb ischemia. J Vasc Surg. Feb 2020;71(2): 654-668.e3. PMID 31353270
33. Taha AG, Byrne RM, Avgerinos ED, et al. Comparative effectiveness of endovascular versus surgical revascularization for acute lower extremity ischemia. J Vasc Surg. Jan 2015; 61(1): 147-54. PMID25080883
34. de Donato G, Setacci F, Sirignano P, et al. The combination of surgical embolectomy and endovascular techniques may improve outcomes of patients with acute lower limb ischemia. J Vasc Surg. Mar 2014;59(3): 729-36. PMID 24342067
35. Ouriel K, Veith FJ, Sasahara AA. A comparison of recombinant urokinase with vascular surgery as initial treatment for acute arterial occlusion of the legs. Thrombolysis or Peripheral Arterial Surgery (TOPAS)Investigators. N Engl J Med. Apr 16 1998; 338(16): 1105-11. PMID 9545358
36. Ouriel K, Veith FJ, Sasahara AA. Thrombolysis or peripheral arterial surgery: phase I results. TOPAS Investigators. J Vasc Surg. Jan 1996; 23(1): 64-73; discussion 74-5. PMID 8558744
37. Hoch JR, Tullis MJ, Acher CW, et al. Thrombolysis versus surgery as the initial management for native artery occlusion: efficacy, safety, and cost. Surgery. Oct 1994; 116(4): 649-56; discussion 656-7. PMID7940162
38. Ouriel K, Shortell CK, DeWeese JA, et al. A comparison of thrombolytic therapy with operative revascularization in the initial treatment of acute peripheral arterial ischemia. J Vasc Surg. Jun 1994;19(6): 1021-30. PMID 8201703
39. Results of a prospective randomized trial evaluating surgery versus thrombolysis for ischemia of the lower extremity. The STILE trial. Ann Surg. Sep 1994; 220(3): 251-66; discussion 266-8. PMID 8092895
40. Nilsson L, Albrechtsson U, Jonung T, et al. Surgical treatment versus thrombolysis in acute arterial occlusion: a randomised controlled study. Eur J Vasc Surg. Mar 1992; 6(2): 189-93. PMID 1572460
41. Earnshaw JJ, Gregson RH, Makin GS, et al. Acute peripheral arterial ischemia: a prospective evaluation of differential management with surgery or thrombolysis. Ann Vasc Surg. Oct 1989; 3(4): 374-9. PMID2512979
42. Seeger JM, Flynn TC, Quintessenza JA. Intra-arterial streptokinase in the treatment of acute arterial thrombosis. Surg Gynecol Obstet. Apr 1987; 164(4): 303-7. PMID 3563841
43. Tepe G, Brodmann M, Werner M, et al. Intravascular Lithotripsy for Peripheral Artery Calcification: 30-Day Outcomes From the Randomized Disrupt PAD III Trial. JACC Cardiovasc Interv. Jun 28 2021;14(12): 1352-1361. PMID 34167675
44. Tepe G, Brodmann M, Bachinsky W, et al. Intravascular Lithotripsy for Peripheral Artery Calcification: Mid-term Outcomes From the Randomized Disrupt PAD III Trial. J Soc Cardiovasc Angiogr Interv. 2022;1(4): 100341. PMID 39131928
45. Adams G, Soukas PA, Mehrle A, et al. Intravascular Lithotripsy for Treatment of Calcified Infrapopliteal Lesions: Results from the Disrupt PAD III Observational Study. J Endovasc Ther. Feb 2022; 29(1): 76-83. PMID 34380334
46. Shammas NW, Mangalmurti S, Bernardo NL, et al. Intravascular Lithotripsy for Treatment of Severely Calcified Common Femoral Artery Disease: Results From the Disrupt PAD III Observational Study. J Endovasc Ther. Jun 15 2024: 15266028241255622. PMID 38877777
47. Bailey SR, Beckman JA, Dao TD, et al. ACC/AHA/SCAI/SIR/SVM 2018 Appropriate Use Criteria for Peripheral Artery Intervention: A Report of the American College of Cardiology Appropriate Use Criteria Task Force, American Heart Association, Society for Cardiovascular Angiography and Interventions, Society of Interventional Radiology, and Society for Vascular Medicine. J Am Coll Cardiol. Jan 22 2019;73(2): 214-237. PMID 30573393

48. Feldman DN, Armstrong EJ, Aronow HD, et al. SCAI guidelines on device selection in Aorto-Iliac arterial interventions. Catheter Cardiovasc Interv. Oct 01 2020; 96(4): 915-929. PMID 32406565
49. Woo K, Siracuse JJ, Klingbeil K, et al. Society for Vascular Surgery appropriate use criteria for management of intermittent claudication. J Vasc Surg. Jul 2022; 76(1): 3-22.e1. PMID 35470016
50. Conte MS, Aulivola B, Barshes NR, et al. Society for Vascular Surgery Clinical Practice Guideline on the management of intermittent claudication: Focused update. J Vasc Surg. Aug 2025; 82(2): 303-326.e11.PMID 40316185
51. U.S. Preventive Services Task Force. Peripheral artery disease and cardiovascular disease: screening and risk assessment with the ankle-brachial index. July 10, 218.https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/peripheral-artery-disease-in-adults-screening-with-the-ankle-brachial-index. Accessed September 3, 2025.

CLICK THE ENVELOPE ICON BELOW TO SUBMIT COMMENTS

This medical policy is made available to you for informational purposes only. It is not a guarantee of payment or a substitute for your medical judgment in the treatment of your patients. Benefits and eligibility are determined by the member's subscriber agreement or member certificate and/or the employer agreement, and those documents will supersede the provisions of this medical policy. For information on member-specific benefits, call the provider call center. If you provide services to a member which are determined to not be medically necessary (or in some cases medically necessary services which are non-covered benefits), you may not charge the member for the services unless you have informed the member and they have agreed in writing in advance to continue with the treatment at their own expense. Please refer to your participation agreement(s) for the applicable provisions. This policy is current at the time of publication; however, medical practices, technology, and knowledge are constantly changing. BCBSRI reserves the right to review and revise this policy for any reason and at any time, with or without notice. Blue Cross & Blue Shield of Rhode Island is an independent licensee of the Blue Cross and Blue Shield Association.