Cohere Medical Policy - Peripheral Atherectomy, Non-Lower Extremity

Clinical Guidelines for Medical Necessity Review

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Guideline Information:

Specialty Area: Cardiology
Guideline Name: Cohere Medical Policy - Peripheral Atherectomy, Non-Lower Extremity

Date of last literature review: 11/27/2024
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Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Peripheral Atherectomy, Non-Lower Extremity

Recommended Clinical Approach

This service is clinically unproven and not medically necessary. Peripheral atherectomy is an experimental/investigational endovascular procedure purported to clear heavily calcified arteries that are blocked, to achieve increased blood flow. Atherectomy is a minimally invasive procedure that removes blockages in blood vessels to re-establish normal blood flow. The procedure generally involves the removal of atheromatous plaque from within a blood vessel and uses a catheter that is fitted with a cutting blade, laser, or grinding burr.[1-2]

This policy addresses atherectomy of peripheral arteries in the non-lower extremity. This includes, but is not limited to, upper extremity arteries, the abdominal aorta, renal arteries, the brachiocephalic trunk and its branches, and visceral arteries, including mesenteric arteries and arteries to other internal organs.

Long-term data regarding the safety and efficacy of peripheral atherectomy in arteries in the non-lower extremities are limited. A review of the literature showed no clinical trials evaluating the safety or efficacy of atherectomy in the abdominal aorta, renal artery, non-renal visceral arteries, or the brachiocephalic trunk and its branches. Societal Guidelines that address the use of atherectomy in non-lower extremity disease are lacking. Additionally, there are few published clinical papers on the effectiveness and safety of atherectomy for these clinical scenarios.

Medical Necessity Criteria

Indications

- ➔ A **peripheral atherectomy, non-lower extremity,** is considered appropriate if **ALL** of the following is **TRUE**:
  - ◆ This procedure is clinically unproven and not medically necessary. There is inconclusive evidence of its effectiveness.

Non-Indications

➔ A **peripheral atherectomy, non-lower extremity,** is not considered appropriate if **ALL** of the following are **TRUE**:

- ◆ This is not applicable as there are no indications.

Site of Service Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
0234T	Transluminal peripheral atherectomy, open or percutaneous, including radiological supervision and interpretation; renal artery
0235T	Transluminal peripheral atherectomy, open or percutaneous, including radiological supervision and interpretation; visceral artery (except renal), each vessel
0236T	Transluminal peripheral atherectomy, open or percutaneous, including radiological supervision and interpretation of the abdominal aorta
0237T	Transluminal peripheral atherectomy, open or percutaneous, including radiological supervision and interpretation; brachiocephalic trunk and branches, each vessel

Medical Evidence

Published literature and clinical guidelines predominantly focus on peripheral atherectomy of the lower extremity and do not address atherectomy of an upper extremity artery.

Aboyans et al. (2018) document diagnostic methods and therapeutic recommendations for atherosclerotic disease in several anatomic regions, including mesenteric, renal, and upper extremity arteries. For acute or chronic mesenteric artery disease (MAD), characterized by high mortality and underdiagnosis, the authors recommend endovascular surgery in most cases because a less invasive option is preferred in such patients who are often frail. In chronic MAD, open surgery provides the advantage of durability. In acute embolic occlusion, open and endovascular surgery have comparable success rates. The authors recommend first-line endovascular therapy for revascularization in patients with acute thrombotic occlusion of the superior mesenteric artery. In patients with acute embolic occlusion of the superior mesenteric artery, they recommend both endovascular therapy and open surgery. The authors note that in patients with atherosclerotic renal artery disease (RAD), defined by greater than 60% renal arterial stenosis, renal revascularization generally does not improve blood pressure or renal or cardiovascular outcomes. Upper extremity artery disease (UEAD) due to atherosclerosis is most common at the level of the brachiocephalic trunk and the subclavian and axillary arteries. Aboyans et al. note that revascularization can be proposed for severe or disabling symptoms, bilateral stenosis or stenosis with ipsilateral arteriovenous fistula for dialysis, or in patients with upcoming coronary artery bypass grafting, or patients who have already undergone such surgery with evidence of myocardial ischemia. When revascularization surgery is considered, both endovascular and open options can be proposed based on the characteristics of the lesion and the patient's risk.[1]

Huber et al. (2021) provide practice guidelines for diagnosing and treating patients with chronic mesenteric ischemia (CMI) caused by atherosclerosis. The authors, including a committee of vascular surgeons, conducted a systematic review to identify the optimal technique for revascularization. The committee recommends patients with symptoms consistent with CMI should undergo an expedited workup, including a computed tomography arteriogram to exclude other potential causes of CMI. Significant arterial occlusive disease in the mesenteric vessels, particularly the superior mesenteric artery, is consistent with a diagnosis of CMI. Revascularization

should primarily target the superior mesenteric artery. Endovascular revascularization with a balloon-expandable covered intraluminal stent is recommended as the initial treatment, with open repair in select younger patients and patients who are not endovascular candidates. Long-term surveillance is recommended following revascularization and in asymptomatic patients with severe mesenteric occlusion. An endovascular-first approach is recommended if symptoms recur following revascularization due to stenoses.[3]

Parikh et al. (2014) report renal artery stenting has emerged as the predominant revascularization strategy in most patients with hemodynamically significant atherosclerotic renal arterial stenosis, despite considerable debate regarding the role of medical therapy versus revascularization in patients with renovascular hypertension. In the consensus statement from the Society for Cardiovascular Angiography and Interventions (SCAI), experts note that systolic and diastolic blood pressure show improvement with high safety profiles in patients with renal artery stenosis, according to prospective multicenter registries. The authors also note that although randomized controlled clinical trials comparing the efficacy of optimal medical therapy and renal stenting show limited benefit in preserving renal function following stenting, such trials often exclude patients who may benefit from renal artery stenting.[4]

Usai et al. (2020) conducted a retrospective review on patients at two institutions to evaluate the performance of less invasive endovascular stent therapy versus open surgical revascularization in patients with subclavian artery atherosclerotic disease (SAAD). Reintervention-free survival (RFS) was the primary endpoint of the study, while the secondary endpoints included primary patency (PPR) and secondary patency (SPR) rates, overall survival (OS) times, and time to reintervention. The median time to follow-up was 87 months in the surgical group versus 27 months in the endovascular group. At 98 months, RFS was significantly higher in the surgical group, although OS did not differ significantly between the two groups. Open surgical repair was also associated with a reduced reintervention rate. At 98 months, PPR was 96% in the surgery group and 65% in the endovascular group, but SPR did not differ significantly. The authors conclude that surgical treatment was associated with higher patency and lower reintervention than endovascular treatment.[5]

Diaz et al. (2020) present a case report on laser atherectomy to treat in-stent restenosis of the superior mesenteric artery in a 53-year-old male with chronic mesenteric ischemia caused by severe in-stent restenosis who experienced abdominal pain and weight loss. The authors used a 0.9 mm laser catheter with low energy and pulse rate together with balloon therapy.

Based on the patient's improved symptoms following revascularization, the authors conclude that treating severe in-stent restenosis of the superior mesenteric artery using laser atherectomy is safe and can result in a favorable outcome when conventional percutaneous therapies fail.[6]

In another case report, Valle et al. (2017) describe the use of orbital atherectomy in a renal artery in a 55-year-old male with severe renal artery stenosis and drug-refractory hypertension. The patient presented with severe calcification of the right renal artery. The authors initially used orbital atherectomy to modify the renal plaque, followed by stenting of the renal artery. Based on favorable follow-up angiography and clinical results, the authors conclude that using orbital atherectomy in the renal vasculature is safe and effective and warrants further evaluation.[7]

References

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Clinical Guideline Revision History/Information

Original Date: September 25, 2023		
Review History		
Version 2	12/11/2024	• Annual review. • Medical evidence rewritten to reflect CPT codes. • Aligned to the current template. • References updated. • Standardized language updated for indications and non-indications.