Coronary Artery Atherectomy and Intracoronary Lithotripsy Guideline

Clinical Guidelines for Medical Necessity Review

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Important Notices

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Other Notices:

Guideline Information:

Disease Area: Cardiology
Care Path Group: Not applicable
Guideline Name: Coronary Artery Atherectomy
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17yo)

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Medical Necessity Criteria

Service: Coronary Artery Atherectomy

General Guidelines

- **Units, Frequency, & Duration:** An Atherectomy is usually performed as a single service however, there may be the need for one or more additional services within 1-2 months under certain circumstances.
- **Criteria for Subsequent Requests:** In patients with multivessel coronary artery disease with multiple vessels requiring treatment, there may be the need to stage the treatment of additional coronary lesions over several procedures. Staging may be needed if: 1) the patient has chronic kidney disease and it is necessary to limit contrast dose; or 2) if the initial procedure reached the recommended limit of contrast dose or radiation exposure; or 3) if there is a complication during the initial procedure that requires a delay in treatment of subsequent lesions.
- **Recommended Clinical Approach:** Coronary atherectomy is a percutaneous interventional technique that removes or ablates coronary plaque. Three atherectomy devices are approved: 1) rotational (RotaPro, Boston Scientific); 2) orbital (Diamondback, CSI); and 3) excimer laser (ELCA, Phillips). These devices are typically used as adjuncts to balloon angioplasty and stenting procedures and rarely used as stand-alone treatment. They improve procedural success in patients with fibrotic and/or moderate to severely calcified lesions and in lesions that are unable to be crossed or adequately expanded with a balloon.[1-7] Atherectomy may also be useful to improve procedural success in lesions that are eccentric, lesions that are due to in-stent restenosis (rotational or laser)[8-11], aorto-ostial or branch ostial (bifurcation) lesions, and in under-expanded stents (rotational or laser) [11-13]. Additional procedures sometimes used with atherectomy or to treat similar lesions include atherotomy devices (cutting and scoring balloons) and intracoronary lithotripsy.[14-17]
- **Exclusions:** Patients who are not candidates for percutaneous coronary interventional procedures or do not have an indication for coronary revascularization.

Medical Necessity Criteria

Indications

➔ **Coronary Artery Atherectomy** is considered appropriate if **ANY** of the following are **TRUE**:

- After successful wire crossing to treat **ANY** of the following to facilitate successful PCI[6,10,11,18]:
  - Balloon uncrossable lesions.
  - Lesions in which the balloon fails to expand.
  - Dilate the lesion (including chronic total occlusions (CTOs)).
- Rotational atherectomy may be used to treat **ANY** of the following:
  - Patients undergoing PCI of fibrotic or heavily calcified lesions to achieve plaque modification.[1,2,3,7,10,11]
  - In-stent restenosis lesions to facilitate successful PCI.[8-11, 18]
  - Aorto ostial or branch ostial stenoses (bifurcations) to debulk lesions and facilitate successful PCI.[10,11, 18,19]
  - Under-expanded stents in lesions previously treated with stents (stent thrombosis or restenosis.).[10-13]
- Orbital atherectomy may be used to treat **ANY** of the following:
  - Patients undergoing PCI of fibrotic or heavily calcified lesions to achieve plaque modification.[1,4-6,18]
- Excimer laser atherectomy may be used to treat **ANY** of the following:
  - In-stent restenosis lesions to facilitate successful PCI.[8-11, 18]
  - Aorto ostial or branch ostial stenoses (bifurcations) to debulk lesions and facilitate successful PCI. [10,11,18,19]
  - Under-expanded stents in lesions previously treated with stents (stent thrombosis or restenosis).[10-13]
  - Saphenous vein graft lesions or to treat large thrombus burden in native coronary arteries.[18]
  - Patients undergoing PCI of fibrotic or heavily calcified lesions to achieve plaque modification.[1,4-6,18]

Non-Indications

➔ **Coronary Artery Atherectomy** may not be considered appropriate if **ANY** of the following are **TRUE**:

- Comorbid conditions (e.g., advanced malignancy, active bleeding, acute renal failure, acute systemic infections).
- No indication for coronary artery revascularization.
- Performed at a facility without emergency cardiac surgery backup and does not have a transfer agreement with a cardiac surgery facility and proven plan to transfer to a facility with cardiac surgery backup within an acceptable time frame.[20]
- Performed in the setting of a significant coronary artery dissection.
- The lesion is not successfully crossed with a guidewire.
- Routine atherectomy and **ANY** of the following are **TRUE**:

- Performed on a lesion that is not heavily calcified by angiography. (Severe calcification is most commonly defined as radiopacities seen without cardiac motion before contrast injection, usually affecting both sides of the arterial lumen).
- Does not meet the criteria by intravascular ultrasound (IVUS) or optical coherence tomography (OCT) that predicts non-dilatable lesions or impaired stent delivery and expansion (e.g., calcium thickness greater than 500 µm by OCT or greater than 270 degree arc of calcium by IVUS or OCT or other proposed scoring system that predicts stent underexpansion).[21,22]
- Has not been first treated with full inflation and expansion of an appropriately sized balloon.

◆ Orbital atherectomy is performed in **ANY** of the following:
- Within a previously stented lesion (in-stent restenosis).
- A saphenous vein graft lesion.
- The setting of large clot burden.

◆ Rotational atherectomy is performed **ANY** of the following:
- A saphenous vein graft lesion.
- The setting of large clot burden.

Site of Service Criteria

Outpatient.

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition
92924	Percutaneous transluminal coronary atherectomy, with coronary angioplasty when performed; single major coronary artery or branch
+92925	Percutaneous transluminal coronary atherectomy, with coronary angioplasty when performed; each additional branch of a major coronary artery (list separately in addition to code for primary procedure)
92933	Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary angioplasty when performed; single major coronary artery or branch
+92934	Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary angioplasty when performed; each additional branch of a major coronary

	artery (list separately in addition to code for primary procedure)
92937	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of intracoronary stent, atherectomy and angioplasty, including distal protection when performed; single vessel
+92938	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of intracoronary stent, atherectomy and angioplasty, including distal protection when performed; each additional branch subtended by the bypass graft (List separately in addition to code for primary procedure)
92943	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty; single vessel
+92944	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty; each additional coronary artery, coronary artery branch, or bypass graft (list separately in addition to code for primary procedure)
C9602	Percutaneous transluminal coronary atherectomy, with drug eluting intracoronary stent, with coronary angioplasty when performed; single major coronary artery or branch
+C9603	Percutaneous transluminal coronary atherectomy, with drug-eluting intracoronary stent, with coronary angioplasty when performed; each additional branch of a major coronary artery (list separately in addition to code for primary procedure)
C9604	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free

	arterial, venous), any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including distal protection when performed; single vessel
+C9605	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including distal protection when performed; each additional branch subtended by the bypass graft (list separately in addition to code for primary procedure)
C9607	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty; single vessel
+C9608	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty; each additional coronary artery, coronary artery branch, or bypass graft (list separately in addition to code for primary procedure)
C1724	Catheter, transluminal atherectomy, rotational

Service: Coronary Artery Lithotripsy

General Guidelines

- **Recommended Clinical Approach:** Intravascular lithotripsy (IVL) incorporates principles used to transmit acoustic energy for the treatment of nephrolithiasis (i.e., extracorporeal lithotripsy). Multiple lithotripsy emitters mounted on a traditional catheter platform deliver localized pulsatile sonic pressure waves to circumferentially modify vascular calcium.[23] IVL has been evaluated as an adjunct to coronary stenting in severely calcified lesions. To date, the manufacturer (Shockwave Medical, Inc.) sponsored major studies (Disrupt CAD I, II, III, and IV) that have been reported were all single-arm studies lacking a concurrent control population. The lack of a randomized comparator precludes definitive comparisons with balloon-based (scoring, cutting, noncompliant) or atheroablative (rotational or orbital atherectomy, laser) techniques for PCI of severely calcified vessels.[24] Further clinical studies are in progress.

Medical Necessity Criteria

Non-Indications

➔ **Coronary Artery Lithotripsy:** Humana members may NOT be eligible under the Plan for coronary intravascular lithotripsy. This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Site of Service Criteria

Outpatient.

Procedure Codes (HCPCS/CPT)

HCPCS Code	Code Description/Definition	
0715T	Percutaneous transluminal coronary lithotripsy (List separately in addition to code for primary	**Not Covered**

	procedure)	
C1761	Catheter, transluminal intravascular lithotripsy, coronary	**Not Covered**
+92972	Percutaneous transluminal coronary lithotripsy	**Not Covered**

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