



MASSACHUSETTS

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Medical Policy

Intravascular Brachytherapy for Preventing and Managing Restenosis after Percutaneous Transluminal Angioplasty - PTA

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Policy Number: 650

BCBSA Reference Number: 2.02.11A

Related Policies

None

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO BlueSM and Medicare PPO BlueSM Members

Intravascular coronary brachytherapy using gamma or beta-emitting radiation may be **MEDICALLY NECESSARY** to treat restenosis of a previously placed bare-metal stent in a native coronary artery.

Intravascular coronary brachytherapy using gamma or beta-emitting radiation is **INVESTIGATIONAL** to treat or prevent restenosis of drug-eluting stents.

Intravascular coronary brachytherapy using gamma radiation only may be **MEDICALLY NECESSARY** to treat in-stent restenosis of a non-native coronary artery (i.e., saphenous vein graft).

Intravascular coronary brachytherapy to reduce the risk of de novo restenosis, in conjunction with PTA with or without stent placement, is **INVESTIGATIONAL**.

Intravascular brachytherapy of the femoropopliteal system is **INVESTIGATIONAL**.

Prior Authorization Information

Pre-service approval is required for all inpatient services for all products.

See below for situations where prior authorization may be required or may not be required for outpatient services.

Yes indicates that prior authorization is required.

No indicates that prior authorization is not required.

N/A indicates that this service is primarily performed in an inpatient setting.

Outpatient

Commercial Managed Care (HMO and POS)	No
Commercial PPO and Indemnity	No
Medicare HMO BlueSM	No
Medicare PPO BlueSM	No

CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

The following codes are included below for informational purposes only; this is not an all-inclusive list.

The above medical necessity criteria MUST be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:

CPT Codes

CPT codes:	Code Description
36247	Selective catheter placement, arterial system; initial third order or more selective abdominal, pelvic, or lower extremity artery branch, within a vascular family
36248	Selective catheter placement, arterial system; additional second order, third order, and beyond, abdominal, pelvic, or lower extremity artery branch, within a vascular family (List in addition to code for initial second or third order vessel as appropriate)
77316	Brachytherapy isodose plan; simple (calculation[s] made from 1 to 4 sources, or remote afterloading brachytherapy, 1 channel), includes basic dosimetry calculation(s)
77317	Brachytherapy isodose plan; intermediate (calculation[s] made from 5 to 10 sources, or remote afterloading brachytherapy, 2-12 channels), includes basic dosimetry calculation(s)
77318	Brachytherapy isodose plan; complex (calculation[s] made from over 10 sources, or remote afterloading brachytherapy, over 12 channels), includes basic dosimetry calculation(s)
77770	Remote afterloading high dose rate radionuclide interstitial or intracavitary brachytherapy, includes basic dosimetry, when performed; 1 channel
77771	Remote afterloading high dose rate radionuclide interstitial or intracavitary brachytherapy, includes basic dosimetry, when performed; 2-12 channels
77772	Remote afterloading high dose rate radionuclide interstitial or intracavitary brachytherapy, includes basic dosimetry, when performed; over 12 channels
76965	Ultrasonic guidance for interstitial radioelement application
92974	Transcatheter placement of radiation delivery device for subsequent coronary intravascular brachytherapy (List separately in addition to code for primary procedure)

HCPCS Codes

HCPCS codes:	Code Description
C1716	Brachytherapy source, nonstranded, gold-198, per source
C1719	Brachytherapy source, nonstranded, nonhigh dose rate iridium-192, per source
C1728	Catheter, brachytherapy seed administration
C2616	Brachytherapy source, nonstranded, yttrium-90, per source
C2634	Brachytherapy source, nonstranded, high activity, iodine-125, greater than 1.01 mCi

	(NIST), per source
C2635	Brachytherapy source, nonstranded, high activity, palladium-103, greater than 2.2 mCi (NIST), per source
C2636	Brachytherapy linear source, nonstranded, palladium-103, per 1 mm
C2638	Brachytherapy source, stranded, iodine-125, per source
C2639	Brachytherapy source, nonstranded, iodine-125, per source
C2640	Brachytherapy source, stranded, palladium-103, per source
C2641	Brachytherapy source, nonstranded, palladium-103, per source
C2642	Brachytherapy source, stranded, cesium-131, per source
C2643	Brachytherapy source, nonstranded, cesium-131, per source
C2645	Brachytherapy planar source, palladium-103, per square millimeter

Description

Intravascular brachytherapy in conjunction with percutaneous transluminal angioplasty (PTA) has been investigated primarily in the coronary arteries but also in the femoropopliteal system. In the coronary arteries, two clinical applications of intravascular brachytherapy have been investigated:

1. As a technique to reduce the risk of de novo restenosis after intracoronary stent placement (i.e., in-stent restenosis).
 - The risk of restenosis in patients who undergo percutaneous transluminal coronary angioplasty (PTCA) for coronary artery disease is estimated at 30%–50%, based on angiographic studies. Placement of stents as an adjunct to PTCA is one strategy to reduce restenosis.
2. As a treatment of restenosis at the site of a prior intracoronary stent.
 - Management of in-stent restenosis is notoriously ineffective, with recurrence rates of 30%–70%. PTCA, restenting, laser angioplasty, and rotational atherectomy, are often ineffective, requiring medical management or surgical revascularization. Intracoronary brachytherapy is an alternative to these therapies for managing in-stent restenosis.

Intravascular brachytherapy has also been investigated as an adjunct to percutaneous transluminal angioplasty of the femoropopliteal systems, as a technique to reduce the risk of a de novo restenosis, either in native or grafted vessels, and with or without stent placement.

Examples of devices intended for use in intracoronary brachytherapy include the Beta-Cath system from Novoste Corp. the CheckMate system from Cordis and the Galileo Intravascular Radiotherapy System from Guidant. All devices intended for use in intracoronary brachytherapy are considered investigational regardless of the commercial name, the manufacturer or FDA approval status except as noted in the policy statement.

Summary

Treating restenosis of bare-metal stents in native coronary arteries: A meta-analysis pooled data from 11 separate randomized controlled trials (RCTs) comparing vascular brachytherapy versus PTA, with or without stent placement. Major adverse cardiac events was the only long-term outcome significantly reduced by vascular brachytherapy; the treatment is considered medically necessary.

Treating restenosis in drug-eluting stents: Two clinical series reported on use of vascular brachytherapy to treat restenosis in a DES. Case series data cannot determine whether brachytherapy is as or more effective than other methods of treating these restenoses. Further study is needed to determine if vascular brachytherapy is useful to treat restenosis in DES.

In-stent restenosis in saphenous vein graft (SVG): A literature search supports the policy statement that vascular brachytherapy may be considered medically necessary to treat in-stent restenosis of SVGs. The pattern of results for other outcomes suggests that DES is at least equivalent to brachytherapy and rates of outcomes are better (although not statistically significant in most cases) and so is considered medically necessary.

Preventing restenosis after primary PTCA with or without stent placement: The studies with long-term follow-up reported that early benefit from vascular brachytherapy was not sustained because of delayed and progressive restenosis and thrombotic complications. The treatment is considered investigational.

Treating or preventing restenosis after angioplasty in femoropopliteal arteries: Two studies reported long-term follow-up after endovascular brachytherapy to prevent restenosis in femoropopliteal arteries treated with balloon angioplasty. Both reported that brachytherapy delayed restenosis when measured after short-term follow-up, but these benefits were not sustained, and the rates of restenosis were similar in treated and control groups with longer follow-up. The treatment is considered investigational.

Policy History

Date	Action
1/2016	Clarified coding information.
1/2015	Clarified coding information.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
2/2012	BCBSA National medical policy review. No changes to policy statements.
4/2011	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.
9/2010	BCBSA National medical policy review. Changes to policy statements.
4/2010	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.
9/2009	BCBSA National medical policy review. No changes to policy statements.
4/2009	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.
12/2008	BCBSA National medical policy review. No changes to policy statements.
4/2008	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.
11/2007	BCBSA National medical policy review. No changes to policy statements.
4/2007	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

References

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2. 2002 TEC Assessments; Tab 22.
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