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 Blue℠ and Medicare PPO Blue℠ 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

Commercial Members: Managed Care (HMO and POS)
Prior authorization is NOT required.

Commercial Members: PPO, and Indemnity
Prior authorization is NOT required.
Medicare Members: HMO Blue\textsuperscript{SM}
Prior authorization is NOT required.

Medicare Members: PPO Blue\textsuperscript{SM}
Prior authorization is NOT required.

CPT Codes / HCPCS Codes / ICD-9 Codes
The following codes are included below for informational purposes. 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.

CPT Codes

<table>
<thead>
<tr>
<th>CPT codes</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>36247</td>
<td>Selective catheter placement, arterial system; initial third order or more selective abdominal, pelvic, or lower extremity artery branch, within a vascular family</td>
</tr>
<tr>
<td>36248</td>
<td>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)</td>
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<tr>
<td>77326</td>
<td>Brachytherapy isodose plan; simple (calculation made from single plane, 1 to 4 sources/ribbon application, remote afterloading brachytherapy, 1 to 8 sources)</td>
</tr>
<tr>
<td>77327</td>
<td>Brachytherapy isodose plan; intermediate (multiplane dosage calculations, application involving 5 to 10 sources/ribbons, remote afterloading brachytherapy, 9 to 12 sources)</td>
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<tr>
<td>77328</td>
<td>Brachytherapy isodose plan; complex (multiplane isodose plan, volume implant calculations, over 10 sources/ribbons used, special spatial reconstruction, remote afterloading brachytherapy, over 12 sources)</td>
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<tr>
<td>77785</td>
<td>Remote afterloading high dose rate radionuclide brachytherapy; 1 channel</td>
</tr>
<tr>
<td>77786</td>
<td>Remote afterloading high dose rate radionuclide brachytherapy; 2-12 channels</td>
</tr>
<tr>
<td>77787</td>
<td>Remote afterloading high dose rate radionuclide brachytherapy; over 12 channels</td>
</tr>
<tr>
<td>76950</td>
<td>Ultrasonic guidance for placement of radiation therapy fields</td>
</tr>
<tr>
<td>76965</td>
<td>Ultrasonic guidance for interstitial radioelement application</td>
</tr>
<tr>
<td>92974</td>
<td>Transcatheter placement of radiation delivery device for subsequent coronary intravascular brachytherapy (List separately in addition to code for primary procedure)</td>
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HCPCS Codes

<table>
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<tr>
<th>HCPCS codes</th>
<th>Code Description</th>
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<tr>
<td>C1716</td>
<td>Brachytherapy source, nonstranded, gold-198, per source</td>
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<tr>
<td>C1717</td>
<td>Brachytherapy source, nonstranded, high dose rate iridium-192, per source</td>
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<tr>
<td>C1719</td>
<td>Brachytherapy source, nonstranded, nonhigh dose rate iridium-192, per source</td>
</tr>
<tr>
<td>C1728</td>
<td>Catheter, brachytherapy seed administration</td>
</tr>
<tr>
<td>C2616</td>
<td>Brachytherapy source, nonstranded, yttrium-90, per source</td>
</tr>
<tr>
<td>C2634</td>
<td>Brachytherapy source, nonstranded, high activity, iodine-125, greater than 1.01 mCi (NIST), per source</td>
</tr>
<tr>
<td>C2635</td>
<td>Brachytherapy source, nonstranded, high activity, palladium-103, greater than 2.2 mCi (NIST), per source</td>
</tr>
<tr>
<td>C2636</td>
<td>Brachytherapy linear source, nonstranded, palladium-103, per 1 mm</td>
</tr>
<tr>
<td>C2638</td>
<td>Brachytherapy source, stranded, iodine-125, per source</td>
</tr>
</tbody>
</table>
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

<table>
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<th>Date</th>
<th>Action</th>
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<tbody>
<tr>
<td>2/2012</td>
<td>BCBSA National medical policy review.  No changes to policy statements.</td>
</tr>
<tr>
<td>9/2009</td>
<td>BCBSA National medical policy review.  No changes to policy statements.</td>
</tr>
<tr>
<td>12/2008</td>
<td>BCBSA National medical policy review.  No changes to policy statements.</td>
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### 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

1. 2000 TEC Assessments; Tab 19.
2. 2002 TEC Assessments; Tab 22.