Use of Intravascular Ultrasound and Optical Coherence Tomography
Corporate Medical Policy

File Name: Use of Intravascular Ultrasound and Optical Coherence Tomography
File Code: 6.01.VT203
Origination: 01/2020
Last Review: 04/2022
Next Review: 04/2023
Effective Date: 06/01/2022

Description/Summary

Intravascular ultrasound (IVUS) imaging is a technique in which a miniaturized ultrasound transducer, mounted on the tip of a catheter, is inserted directly into an artery or vein to produce either 2-dimensional tomographic images or 3-dimensional computer-assisted reconstructions of planar IVUS images. As applied to intracoronary imaging, intravascular ultrasound is used as an adjunct to angioplasty, atherectomy, or placement of a stent. The American College of Cardiology 2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention makes recommendations on the use of IVUS in PCI.

Optical coherence tomography (OCT) is an imaging technique that uses near-infrared light to image the coronary arteries. Potential applications in cardiology include evaluating the characteristics of coronary artery plaques for the purpose of risk stratification and following coronary stenting to determine the success of the procedure.

OCT has some advantages over intravascular ultrasound (IVUS) for imaging coronary arteries. It has a higher resolution and provides greater detail for accessible structures compared with IVUS. Case series have demonstrated that OCT can be performed with a high success rate and few complications. Head-to-head comparisons of OCT and IVUS have reported that OCT picks up additional abnormalities not detected by IVUS, implying that OCT is a more sensitive test than IVUS.

As an adjunct to percutaneous coronary intervention (PCI), OCT may improve on the ability of IVUS to pick up clinically relevant abnormalities, and this may lead to changes in management. A single small randomized controlled trial did not report any advantage of OCT over IVUS for achieving optimal stent placement. Several noncomparative studies have addressed whether an OCT-guided treatment strategy involving deferred stenting is feasible. However, no comparative studies have been conducted to demonstrate improved clinical outcomes with such a strategy. Overall, the current evidence is limited and includes relatively small numbers of patients who have been evaluated by OCT. As a result, it is not possible to determine the degree of improvement with OCT, or the clinical significance of this
improvement. Therefore, the use of OCT as an adjunct to PCI is considered investigational.

For the indications of risk stratification of coronary plaques and follow-up of stenting, OCT may also be more accurate than IVUS for imaging of superficial structures. However, the clinical utility of IVUS has not been demonstrated for these indications, because test results do not lead to changes in management that improve outcomes. Therefore, clinical utility has not been demonstrated for OCT for the same reasons. As a result, OCT is considered investigational for risk stratification of coronary plaques and for follow-up poststent implantation. Per The American College of Cardiology 2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention, the appropriate role for optical coherence tomography in routine clinical decision making has not been established.

**Policy**

**When a service may be considered medically necessary**

BCBSVT will provide benefits for Intravascular Ultrasound when it is determined to be medically necessary, when the medical criteria and guidelines below are met:

BCBSVT considers IVUS medically necessary in any of the following clinical scenarios per the American College of Cardiology 2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention:

- IVUS for the assessment of angiographically indeterminant left main coronary artery disease (CAD).
- IVUS and coronary angiography 4 to 6 weeks and 1 year after cardiac transplantation to exclude donor CAD, detect rapidly progressive cardiac allograft vasculopathy, and provide prognostic information
- IVUS to determine the mechanism of stent restenosis
- IVUS for the assessment of non-left main coronary arteries with angiographically intermediate coronary stenosis (50% to 70% diameter stenosis)
- IVUS for guidance of coronary stent implantation, particularly in cases of left main coronary artery stenting
- IVUS to determine the mechanism of stent thrombosis

**When a service is considered investigational**

IVUS for all other indications that are not listed as medically necessary, including, but not limited to, routine lesion assessment when revascularization with PCI or CABG is not being contemplated, is considered investigational.

Optical coherence tomography is considered investigational when used as an adjunct to percutaneous coronary interventions with stenting.

Optical coherence tomography is considered investigational in all other situations, including but not limited to, risk stratification of intracoronary atherosclerotic plaques and follow-up evaluation of stenting.

**Coding Information**

Click the links below for attachments, coding tables & instructions.
Attachment I

Reference Resources


Document Precedence

Blue Cross and Blue Shield of Vermont (BCBSVT) Medical Policies are developed to provide clinical guidance and are based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. The applicable group/individual contract and member certificate language, or employer’s benefit plan if an ASO group, determines benefits that are in effect at the time of service. Since medical practices and knowledge are constantly evolving, BCBSVT reserves the right to review and revise its medical policies periodically. To the extent that there may be any conflict between medical policy and contract/employer benefit plan language, the member’s contract/employer benefit plan language takes precedence.

Audit Information

BCBSVT reserves the right to conduct audits on any provider and/or facility to ensure compliance with the guidelines stated in the medical policy. If an audit identifies instances of non-compliance with this medical policy, BCBSVT reserves the right to recoup all non-compliant payments.
Administrative and Contractual Guidance

Benefit Determination Guidance

Prior approval is required and benefits are subject to all terms, limitations and conditions of the subscriber contract.

Incomplete authorization requests may result in a delay of decision pending submission of missing information. To be considered complete, see policy guidelines above.

NEHP/ABNE members may have different benefits for services listed in this policy. To confirm benefits, please contact the customer service department at the member’s health plan.

Federal Employee Program (FEP): Members may have different benefits that apply. For further information please contact FEP customer service or refer to the FEP Service Benefit Plan Brochure. It is important to verify the member’s benefits prior to providing the service to determine if benefits are available or if there is a specific exclusion in the member’s benefit.

Coverage varies according to the member’s group or individual contract. Not all groups are required to follow the Vermont legislative mandates. Member Contract language takes precedence over medical policy when there is a conflict.

If the member receives benefits through an Administrative Services Only (ASO) group, benefits may vary or not apply. To verify benefit information, please refer to the member’s employer benefit plan documents or contact the customer service department. Language in the employer benefit plan documents takes precedence over medical policy when there is a conflict.

Policy Implementation/Update information

<table>
<thead>
<tr>
<th>Date</th>
<th>Information</th>
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<tbody>
<tr>
<td>01/2020</td>
<td>New Policy, Codes will require prior approval are: 92978 &amp; 92979.</td>
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<tr>
<td>03/2021</td>
<td>Policy Reviewed. No changes to policy statement.</td>
</tr>
<tr>
<td>04/2022</td>
<td>Policy Reviewed. No changes to policy statement.</td>
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Eligible providers

Qualified healthcare professionals practicing within the scope of their license(s).

Approved by BCBSVT Medical Directors    Date Approved

Joshua Plavin, MD, MPH, MBA
Chief Medical Officer

Tom Weigel, MD, MBA
Senior Medical Director
The following codes will be considered as medically necessary when applicable criteria have been met.

<table>
<thead>
<tr>
<th>Code Type</th>
<th>Number</th>
<th>Description</th>
<th>Policy Instructions</th>
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<tbody>
<tr>
<td>CPT®</td>
<td>92978</td>
<td>Endoluminal imaging of coronary vessel or graft using intravascular ultrasound (IVUS) or optical coherence tomography (OCT) during diagnostic evaluation and/or therapeutic intervention including imaging supervision, interpretation and report; initial vessel (List separately in addition to code for primary procedure)</td>
<td>Prior Approval Required</td>
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<tr>
<td>CPT®</td>
<td>92979</td>
<td>Endoluminal imaging of coronary vessel or graft using intravascular ultrasound (IVUS) or optical coherence tomography (OCT) during diagnostic evaluation and/or therapeutic intervention including imaging supervision, interpretation and report; each additional vessel (List separately in addition to code for primary procedure)</td>
<td>Prior Approval Required</td>
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