BlueCross BlueShield of Vermont

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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

(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

1. Blue Cross and Blue Shield Association. Medical Policy Reference Manual # 2.02.29 Optical Coherence Tomography for Imaging of Coronary Arteries (Archived). Last reviewed: November 2019.
2. Blue Cross and Blue Shield Association. Medical Policy Reference Manual # 6.01.04 Intravascular Ultrasound Imaging of Coronary Arteries (Archived). Last reviewed: January 2020.
3. Glenn N. Levine, Eric R. Bates, James C. Blankenship, Steven R. Bailey, John A. Bittl, Bojan Cercek, Charles E. Chambers, Stephen G. Ellis, Robert A. Guyton, Steven M. Hollenberg, Umesh N. Khot, Richard A. Lange, Laura Mauri, Roxana Mehran, Issam D. Moussa, Debabrata Mukherjee, Brahmajee K. Nallamothu and Henry H. Ting. 2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Society for Cardiovascular Angiography and Interventions. 2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention. Journal of the American College of Cardiology. Volume 58, Issue 24, December 2011. DOI:10.1016/j.jacc.2011.08.007 Accessed 1/2020
4. Stankovic G, Dobric M. Intravascular ultrasound and fractional flow reserve in assessment of the intermediate coronary stenosis: what you see is not what you get. J Am Coll Cardiol. 2013 Mar 5;61(9):924-5
5. Kang SJ1, Lee JY, Ahn JM, Mintz GS, Kim WJ, Park DW, Yun SC, Lee SW, Kim YH, Lee CW, Park SW, Park SJ. Validation of intravascular ultrasound-derived parameters with fractional flow reserve for assessment of coronary stenosis severity. Circ Cardiovasc Interv. 2011 Feb 1;4(1):65-71
6. Yoon HJ1, Hur SH. Optimization of stent deployment by intravascular ultrasound. Korean J Intern Med. 2012 Mar;27(1):30-8

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 compete, 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

01/2020	New Policy, Codes will require prior approval are: 92978 & 92979.
03/2021	Policy Reviewed. No changes to policy statement.
04/2022	Policy Reviewed. No changes to policy statement.

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

Attachment I

Code Type	Number	Description	Policy Instructions
The following codes will be considered as medically necessary when applicable criteria have been met.			
CPT®	92978	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)	Prior Approval Required
CPT®	92979	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)	Prior Approval Required