

Corporate Medical Policy

Intravascular Ultrasound Imaging (IVUS)

File Name: intravascular_ultrasound_imaging_(ivus)
Origination: 3/1994
Last CAP Review: 3/2010
Last Review: 3/2010

Active policy, no longer scheduled for routine literature review.

Description of Procedure or Service

Intravascular ultrasound (IVUS) is a procedure that uses high frequency sound waves to acquire three-dimensional images from the inside of blood vessels. A miniaturized ultrasound transducer is mounted on the tip of a catheter and inserted directly into the arterial or venous vasculature. Images are produced that can be used to determine the extent and composition of atherosclerotic lesions in coronary and peripheral vessels and to measure the burden of non-occlusive atherosclerosis prior to clinical events. As applied to intracoronary imaging, IVUS is used as an adjunct to angioplasty, atherectomy, or placement of a stent.

*****Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

Policy

Active policy, no longer scheduled for routine literature review.

BCBSNC will provide coverage for Intravascular Ultrasound Imaging (IVUS) when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.

Benefits Application

Please refer to Certificate for availability of benefits. This policy relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore certificate language should be reviewed before applying the terms of the policy.

When Intravascular Ultrasound Imaging is covered

1. The 2005 American College of Cardiology/American Heart Association Task Force on Practice Guidelines for Percutaneous Coronary Interventions (PCI) states that IVUS is reasonable for the following:
 - a. Assessment of the adequacy of deployment of coronary stents, including the extent of stent apposition and determination of the minimum luminal diameter within the stent
 - b. Determination of the mechanism of stent restenosis and to enable selection of appropriate therapy
 - c. Evaluation of coronary obstruction at a location difficult to image by angiography in a patient with a suspected flow-limiting stenosis
 - d. Assessment of a suboptimal angiographic result following PCI

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- e. Establishment of the presence and distribution of coronary calcium in patients for whom adjunctive rotational atherectomy is contemplated
 - f. Determination of plaque location and circumferential distribution for guidance of directional coronary atherectomy
2. IVUS may be considered for the following:
 - a. Determination of the extent of atherosclerosis in patients with characteristic anginal symptoms and a positive functional study with no focal stenoses or mild CAD on angiography
 - b. Pre-interventional assessment of lesional characteristics and vessel dimensions as a means to select an optimal revascularization device
 - c. Diagnosis of coronary disease after cardiac transplantation

When Intravascular Ultrasound Imaging is not covered

1. When the above criteria are not met.
2. Intravascular ultrasound imaging of any artery other than coronary is considered investigational. BCBSNC does not cover investigational procedures.
3. IVUS is not recommended when the angiographic diagnosis is clear and no interventional treatment is planned.

Policy Guidelines

Angiograms only produce a silhouette of the luminal wall. In contrast, intravascular ultrasound (IVUS) can provide information on the composition of the arterial wall and the amount of remaining atherosclerotic plaque. Therefore, IVUS has been extensively investigated as a technique to determine plaque composition, mechanism of action of PTCA, and to determine residual plaque at the end of a procedure; i.e., the acute procedural success. The major limitation of transcatheter revascularization techniques (i.e., angioplasty, atherectomy with and without stent placement) is the high rate of restenosis, thought to be related in part to the adequacy of the plaque disruption or removal. Therefore, increasing the acute procedural success, as measured by the minimal luminal diameter or the lumen cross-sectional area, has been investigated as a risk factor for future restenosis and as a tool to guide further patient management.

IVUS has probably been most extensively investigated as an adjunct to stent placement. The early experience with stents was plagued by a high acute restenosis rate related to thrombosis. Therefore, patients receiving stents required acute thrombolytic therapy (i.e., heparin and coumadin), which required an increased length of hospitalization and was associated with an increased incidence of complications. The results of IVUS suggested that the risk of thrombosis was in part related to improper stent placement or incomplete stent expansion. The use of IVUS to guide stent placement has now obviated the need for thrombolytic therapy.

Restenosis is a similar concern in patients undergoing atherectomy. Similarly, IVUS has been used to determine the adequacy of atherectomy. For example, even when adequate angiogram results are present, IVUS can demonstrate significant residual atherosclerotic plaque and guide its removal in order to achieve the largest size lumen without damaging underlying vascular media or intima. Registry data suggest that IVUS-guided atherectomy results in lower rates of restenosis.

IVUS has also been investigated as an initial technique to determine plaque composition, and thus guide selection, of revascularization technique, i.e., atherectomy, angioplasty, and/or stent placement.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it

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will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable codes: 37250, 37251, 92978, 92979, 75945, 75946

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources

BCBSA Medical Policy Reference Manual - 12/95

Reaffirmed - 5/99

BCBSA Medical Policy Reference Manual - 3/99

Medical Policy Advisory Group - 12/99

Specialty Matched Consultant Advisory Panel - 8/2000

Medical Policy Advisory Group - 10/2000

Specialty Matched Consultant Advisory Panel - 8/2002

BCBSA Medical Policy Reference Manual 6.01.04, 7/12/02

Specialty Matched Consultant Advisory Panel - 6/2004

BCBSA Medical Policy Reference Manual [Electronic Version]. 6.01.04, 12/17/03

ACC/AHA/SCAI 2005 Guideline Update for Percutaneous Coronary Intervention. Section 5.6.1

Medical Advisory Secretariat, Ontario Ministry of Health and Long-Term Care. Intravascular Ultrasound to Guide Percutaneous Coronary Interventions. Health technology literature review. Toronto, ON: MAS: April 2006. Retrieved 1/8/08 from

http://www.health.gov.on.ca/english/providers/program/ohtac/tech/reviews/pdf/rev_ivus_040106.pdf

Specialty Matched Consultant Advisory Panel – 3/2010

BCBSA Medical Policy Reference Manual [Electronic Version]. 6.01.04, 9/16/10

Policy Implementation/Update Information

11/93 Evaluated: Investigational in transcatheter revascularization therapy of coronary artery disease.

6/96 Reaffirmed: National Association reviewed 12/95. No changes.

5/97 Codes added to policy.

5/99 Reaffirmed.

11/99 Reviewed; reformatted; Eligible for coverage based on Individual Consideration basis.

12/99 Medical Policy Advisory Group.

3/00 92978 added to billing and coding section.

8/00 Specialty Matched Consultant Advisory Panel. Added statement saying IVUS of Coronary Arteries is covered to better quantify the degree of stenosis in left main coronary artery disease.

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- 9/00 92979 added to billing and coding section. System coding changes.
- 10/00 Medical Policy Advisory Group review. No change to criteria. Approve.
- 9/02 Specialty Matched Consultant Advisory Panel review. New references added. No change to criteria. Approve.
- 4/04 Benefits Application and Billing/Coding sections updated for consistency.
- 6/24/04 Policy criteria changed to include new indications for coverage. Policy renamed from "Intravascular Ultrasound Imaging (IVUS) of Coronary Arteries" to "Intravascular Ultrasound Imaging (IVUS)". Statement added to indicate IVUS of any artery other than coronary artery is investigational. Specialty Matched Consultant Advisory Panel review. Coverage criteria broadened. Added statement, "Intravascular ultrasound imaging of any artery other than coronary is considered investigational." BCBSNC does not cover investigational procedures". References added. Notification 6/ 24/2004. Effective date 8/26/2004.
- 2/17/05 CPT codes 37250 and 37251 added to the Billing/Coding section to include intravascular ultrasound imaging performed for non-coronary vessels.
- 3/16/06 Specialty Matched Consultant Advisory Panel review 2/27/06. Sections "When IVUS is covered" and "When IVUS is not covered" revised to reflect 2005 ACC/AHA/SCAI Guideline Update for Percutaneous Coronary Intervention. Policy number added to Key Words. References updated.
- 4/7/08 Description section revised for clarity. Guidelines sections reformatted into a numbered list. References updated. Specialty Matched Consultant Advisory Panel review 3/12/08. No change to policy statement. (adn)
- 4/27/10 Specialty Matched Consultant Advisory Panel Review 3/24/2101. Added CPT code 75945 and 75946 to Billing/Coding section. Removed Medical Policy number. (mco)
- 3/15/11 References updated. Policy status changed to "Active policy, no longer scheduled for routine literature review." (mco)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.