INTRAVASCULAR ULTRASOUND (IVUS) WITH OR WITHOUT DOPPLER
RAD602.015

COVERAGE:

The use of Intravascular Ultrasound (IVUS) and Intravascular Doppler Ultrasound, as an adjunct to guiding transcatheter revascularization therapy, is considered medically necessary.

The use of Intravascular Ultrasound (IVUS) and Intravascular Doppler Ultrasound, is not eligible for coverage as a separate evaluation as it is considered an integral part of the primary procedure (i.e. angioplasty, stenting, or atherectomy) and therefore no additional benefits will be allowed.

EXCEPTION: When NOT used as an adjunct to guiding transcatheter revascularization, intravascular doppler ultrasound may be eligible for coverage as a separate procedure when used to measure blood flow across a previous stent or angioplasty site

NOTE: When the primary procedure is a non-covered service, the IVUS used is also non-covered.

DESCRIPTION:

Transcatheter 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 two-dimensional tomographic images or three-dimensional computer-assisted reconstruction’s of planar IVUS images.

Intravascular Doppler Ultrasound is a technique in which a small ultrasound transducer is advanced through the stenosis in question to a position distal to the lesion permitting measurement of flow velocity across the coronary lesion. Other applications of intracoronary doppler ultrasound include estimating the adequacy of a Percutaneous Transluminal Coronary Angioplasty (PTCA) and the need for a stent, and for monitoring after myocardial infarction.

RATIONALE:

INTRAVASCULAR ULTRASOUND (IVUS)

Angiograms only produce a silhouette of the luminal wall. In contrast, 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), that required an increased length of hospitalization and was associated with an increased risk of complications. The results of IVUS to guide stent placement have now obviated the need for thrombolytic therapy. A series of subsequent trials have also validated the use of IVUS to identify those patients with acute procedural success who could forego aggressive anticoagulational therapy. The early trials of IVUS demonstrated that anticoagulation was not routinely necessary when the stent was adequately expanded using high-pressure balloon dilation. Ongoing trials are investigating whether IVUS is routinely required to guide optimal stent placement and expansion. Interim results suggest that IVUS stent implantation may improve acute stent dimensions without an increase in complications.

Restenosis is a similar concern in patient undergoing atherectomy. Similarly, IVUS has been used to determine the adequacy of atherectomy. For example, even when adequate angiogram results are available, 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 result in lower rates of restenosis.

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

**INTRAVASCULAR DOPPLER ULTRASOUND**

Intravascular Doppler Ultrasound when used to obtain measurement of coronary flow reserve is a valid diagnostic means to guide treatment decisions concerning revascularization.

The advantage of intravascular doppler ultrasound is the clinical significance of an intermediate stenosis can be assessed at the time of angiography, instead of deferring treatment until a postangiogram cardiac functional test is performed.

**PRICING:**

When IVUS or Intravascular Doppler Ultrasound is appropriate it should be considered an integral component of the primary procedure and therefore NO ADDITIONAL benefits will be allowed.

**DISCLAIMER:**

State and federal law, as well as contract language, including definitions and specific inclusions/exclusions, takes precedence over Medical Policy and must be considered first in determining coverage. The member’s contract benefits in effect on the date that services are rendered must be used. Any benefits are subject to the payment of
premiums for the date on which services are rendered. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

HMO Blue Texas physicians who are contracted/affiliated with a capitated IPA/medical group must contact the IPA/medical group for information regarding HMO claims/reimbursement information and other general polices and procedures.

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