Policy Name: Transmyocardial Revascularization
Effective Date: 12/17/2018

Important Information – Please Read Before Using This Policy

These services may or may not be covered by all Medica plans. Please refer to the member’s plan document for specific coverage information. If there is a difference between this general information and the member’s plan document, the member’s plan document will be used to determine coverage. With respect to Medicare and Minnesota Health Care Programs, this policy will apply unless those programs require different coverage. Members may contact Medica Customer Service at the phone number listed on their member identification card to discuss their benefits more specifically. Providers with questions about this Medica coverage policy may call the Medica Provider Service Center toll-free at 1-800-458-5512.

Medica coverage policies are not medical advice. Members should consult with appropriate health care providers to obtain needed medical advice, care and treatment.

Coverage Policy
Transmyocardial revascularization (TMR) as an adjunct to coronary artery bypass graft (CABG) surgery is COVERED for patients who have a portion of ischemic myocardium that can be treated with CABG and who also have other areas of ischemia that cannot be treated with bypass grafting due to diffuse or distal vascular disease.

Transmyocardial revascularization as an independent or stand-alone procedure is investigative and unproven and therefore NOT COVERED. There is insufficient reliable evidence in the form of high quality peer-reviewed medical literature to establish the effects on health care outcomes.

Note: This policy is no longer scheduled for routine review of the scientific literature.

Description
TMR, also known as transmyocardial laser revascularization (TMLR), is a surgical technique that uses a laser to create holes through the myocardium of the heart in an attempt to restore perfusion to areas of the heart not being reached by diseased or clogged arteries. This technique is used as a late or last resort for relief of symptoms of severe angina in patients with ischemic heart disease not amenable to direct coronary revascularization interventions such as angioplasty, stenting, or open coronary bypass. TMR has been performed using either an open surgical procedure or using a less invasive approach called percutaneous myocardial revascularization (PMR or PTMR). TMR as an adjunct to CABG is used in patients with end-stage coronary artery disease who have a portion of ischemic myocardium that can be treated with CABG, but other areas of ischemia that cannot be treated with bypass grafting due to diffuse or distal vascular disease. The ischemic myocardium not amenable to CABG is then treated with TMR in conjunction with the standard CABG procedure.

FDA Approval
The FDA has approved several lasers for surgical TMR including the Heart Laser™ and Heart Laser 2™ (PLC Systems, Inc.), the TMR Holmium Laser System™ (Eclipse Surgical Technologies) and the SolarGen2100S (CardioGenesis Corp). These devices were approved for treatment of stable angina refractory to medical treatment and secondary to objectively demonstrated coronary artery atherosclerosis not amenable to direct coronary revascularization. No device has FDA approval for TMR as an adjunct to CABG. Therefore, use of TMR as an adjunct to CABG would be considered an off-label use of an FDA-approved device. The FDA has not approved a laser system specifically for use in PMR at this time.
Prior Authorization
Prior authorization is not required. However, services with specific coverage criteria may be reviewed retrospectively to determine if criteria are being met. Retrospective denial may result if criteria are not met.

Coding Considerations
Use the current applicable CPT/HCPCS code(s). The following codes are included below for informational purposes only, and are subject to change without notice. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement.

CPT Codes:
- 33140 - Transmyocardial laser revascularization, by thoracotomy; (separate procedure)
- 33141 - Transmyocardial laser revascularization, by thoracotomy; performed at the time of other open cardiac procedure(s) (List separately in addition to code for primary procedure)

Original Effective Date: 1/1/2004

Re-Review Date(s):
9/26/2006
9/22/2009
9/19/2018
3/16/2020 – administrative update; format

© 2004 - 2020 Medica. Medica® is a registered service mark of Medica Health Plans. “Medica” refers to the family of health services companies that includes Medica Health Plans, Medica Community Health Plan, Medica Insurance Company, Medica Self-Insured, MMSI, Inc. d/b/a Medica Health Plan Solutions, Medica Health Management, LLC and the Medica Foundation.