# Coverage Summary

## Transmyocardial Revascularization (TMR)

<table>
<thead>
<tr>
<th>Policy Number:</th>
<th>T-001</th>
<th>Products:</th>
<th>UnitedHealthcare Medicare Advantage Plans</th>
<th>Original Approval Date:</th>
<th>02/18/2009</th>
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<tr>
<td>Approved by:</td>
<td>UnitedHealthcare Medicare Benefit Interpretation Committee</td>
<td>Last Review Date:</td>
<td>03/19/2019</td>
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<tr>
<td>Related Medicare Advantage Policy Guideline:</td>
<td>Transmyocardial Revascularization (TMR) (NCD 20.6)</td>
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The benefit information in this Coverage Summary is based on existing national coverage policy, however, Local Coverage Determinations (LCDs) may exist and compliance with these policies is required where applicable.

There are instances where this document may direct readers to a UnitedHealthcare Commercial Medical Policy, Medical Benefit Drug Policy, and/or Coverage Determination Guideline (CDG). In the absence of a Medicare National Coverage Determination (NCD), Local Coverage Determination (LCD), or other Medicare coverage guidance, CMS allows a Medicare Advantage Organization (MAO) to create its own coverage determinations, using objective evidence-based rationale relying on authoritative evidence (Medicare IOM Pub. No. 100-16, Ch. 4, §90.5).

## INDEX TO COVERAGE SUMMARY

| I. | COVERAGE |
| II. | DEFINITIONS |
| III. | REFERENCES |
| IV. | REVISION HISTORY |

## I. COVERAGE

**Coverage Statement:** Transmyocardial Revascularization (TMR) is covered when Medicare coverage criteria are met. Partial ventriculectomy is not covered.

*For Cardiac Stenting, refer to the Coverage Summary for Percutaneous Transluminal Angioplasty and Stenting.*

**Guidelines/Notes:**

Transmyocardial Revascularization (TMR) is a surgical technique which uses a laser to bore 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.

1. **Transmyocardial Revascularization (TMR) is covered** when all of the following criteria are met:
   a. TMR is a late or last resort for patients with severe (Canadian Cardiovascular Society
classification Classes III or IV) angina (stable or unstable), which has been found refractory to standard medical therapy, including drug therapy at the maximum tolerated or maximum safe dosages.

b. The angina symptoms must be caused by areas of the heart not amenable to surgical therapies such as percutaneous transluminal coronary angioplasty, stenting, coronary atherectomy or coronary bypass.

c. Coverage is further limited to those uses of the laser used in performing the procedure which have been approved by the Food and Drug Administration for the purpose for which they are being used.

2. Patients must also meet the following additional selection guidelines:
   a. An ejection fraction of 25% or greater;
   b. Have areas of viable ischemic myocardium (as demonstrated by diagnostic study) which are not capable of being revascularized by direct coronary intervention; and
   c. Have been stabilized, or have had maximal efforts to stabilize acute conditions such as severe ventricular arrhythmias, decompensated congestive heart failure or acute myocardial infarction.

See the NCD for Transmyocardial Revascularization (20.6). (Accessed March 6, 2019)

II. DEFINITIONS

None

III. REFERENCES

See above

IV. REVISION HISTORY

04/01/2019 Updated policy introduction; added language to clarify:
   • There are instances where [the Coverage Summary] may direct readers to a UnitedHealthcare Commercial Medical Policy, Medical Benefit Drug Policy, and/or Coverage Determination Guideline (CDG)
   • In the absence of a Medicare National Coverage Determination (NCD), Local Coverage Determination (LCD), or other Medicare coverage guidance, CMS allows a Medicare Advantage Organization (MAO) to create its own coverage determinations, using objective evidence-based rationale relying on authoritative evidence (Medicare IOM Pub. No. 100-16, Ch. 4, §90.5)

03/19/2019 Annual review; no updates.
03/20/2018 Annual review; no updates.
03/21/2017 Annual review; no updates.
03/15/2016 Annual review with the following update - deleted reference to Local Coverage Determinations (LCDs) and link for Transmyocardial Revascularization (no longer available).
03/24/2015 Annual review; no updates.
03/18/2014 Annual review; no updates.
04/29/2013 Annual review; no updates.
04/23/2012  Annual review; no updates.
02/21/2011  Annual review; no updates.