02-33000-35

Original Effective Date: 09/15/16

Reviewed: 09/22/22

Revised: 05/25/23

Subject: Transcatheter Mitral Valve Repair (TMVR)

THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.

Position Statement	Billing/Coding	Reimbursement	Program Exceptions	<u>Definitions</u>	Related Guidelines
<u>Other</u>	References	<u>Updates</u>			

DESCRIPTION:

Transcatheter mitral valve repair (TMVR) is an alternative to surgical therapy for mitral regurgitation (MR). Mitral regurgitation is a common valvular heart disease that can result from a primary structural abnormality of the mitral valve (MV) complex or a secondary dilatation of an anatomically normal MV due to a dilated left ventricle caused by ischemic or dilated cardiomyopathy. Surgical therapy may be underutilized, particularly in patients with multiple comorbidities, suggesting that there is an unmet need for less invasive procedures for MV repair. One device, MitraClip™, has approval from the U.S. Food and Drug Administration (FDA) for the treatment of severe symptomatic MR due to a primary abnormality of the MV (primary MR) in patients considered at prohibitive risk for surgery and for patients with heart failure and moderate-to-severe or severe symptomatic secondary MR despite the use of maximally tolerated guideline-directed medical therapy.

POSITION STATEMENT:

Transcatheter mitral valve repair (TMVR) with a device **approved** by the FDA for use in mitral valve repair **meets the definition of medical necessity** for members with symptomatic, **primary** mitral regurgitation who are considered at risk for open surgery based on the presence of:

- Society for Thoracic Surgeons predicted mortality risk of 12% or greater; and/or
- Logistic EuroSCORE of 20% or greater.

Transcatheter mitral valve repair with a device approved by the FDA meets the definition of medical necessity for members with heart failure and moderate-to-severe or severe* symptomatic secondary mitral regurgitation despite the use of maximally tolerated guideline-directed medical therapy.

*[Moderate to severe or severe mitral regurgitation (MR) may be determined by: Grade 3+ (moderate) or 4+ (severe) MR confirmed by echocardiography or New York Heart Association (NYHA) functional class II, III, or IVa (ambulatory) despite the use of stable maximal doses of guideline-directed medical therapy and cardiac resynchronization therapy (if appropriate).]

Transcatheter mitral valve repair is considered **experimental or investigational** in all other situations. The evidence is insufficient to determine the effects of the technology on health outcomes.

BILLING/CODING INFORMATION:

CPT Coding:

33418	Transcatheter mitral valve repair, percutaneous approach, including transseptal puncture when performed; initial prosthesis
	· · · · · · · · · · · · · · · · · · ·
33419	Transcatheter mitral valve repair, percutaneous approach, including transseptal
	puncture when performed; additional prosthesis(es) during same session (List
	separately in addition to code for primary procedure)
0345T	Transcatheter mitral valve repair percutaneous approach via the coronary sinus
	(Investigational)
0544T	Transcatheter mitral valve annulus reconstruction, with implantation of adjustable
	annulus reconstruction device, percutaneous approach including transseptal puncture
	(Investigational)

ICD-10 Diagnosis Codes That Support Medical Necessity:

_	
101.1	Acute rheumatic endocarditis
102.0	Rheumatic chorea with heart involvement
105.1	Rheumatic mitral insufficiency
105.2	Rheumatic mitral stenosis with insufficiency
108.0	Rheumatic disorders of both mitral and aortic valves
108.1	Rheumatic disorders of both mitral and tricuspid valves
108.3	Combined rheumatic disorders of mitral, aortic and tricuspid valves
134.0-134.9	Nonrheumatic mitral valve disorders

REIMBURSEMENT INFORMATION:

Refer to section entitled **POSITION STATEMENT**.

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products: The following National Coverage Determination (NCD) was reviewed on the last guideline reviewed date: Transcatheter Mitral Valve Repair (TMVR) (20.33) located at cms.gov.

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at Coverage Protocol Exemption Request

DEFINITIONS:

Logistic EuroSCORE: European System for Cardiac Operative Risk Evaluation is a risk model which allows the calculation and predicts mortality according to the logistic regression equation. An online logistic EuroSCORE interactive calculator can be found at: http://www.euroscore.org/calc.html.

Society for Thoracic Surgeons (STS) Predicted Mortality Risk: a model that predicts the risk of operative mortality and morbidity after adult cardiac surgery on the basis of patient demographic, clinical variables and comparing outcomes across institutions with different patient populations. An online STS risk calculator can be found at: http://riskcalc.sts.org/stswebriskcalc/#/calculate.

RELATED GUIDELINES:

02-33000-33, Transcatheter Pulmonary Valve Implantation

OTHER:

None applicable.

REFERENCES:

- 1. Alozie A, Paranskaya L, Westphal B, et al. Clinical outcomes of conventional surgery versus MitraClip(R) therapy for moderate to severe symptomatic mitral valve regurgitation in the elderly population: an institutional experience. BMC Cardiovasc Disord. Mar 20 2017;17(1):85.
- 2. Armstrong EJ, Foster E. Transcatheter Mitral Valve Repair. In: UpToDate, Gaasch WH, Yeon SB (Eds), UpToDate, Waltham, MA; accessed at uptodate.com.
- 3. Arnold SV, Chinnakondepalli KM, et al. Health Status After Transcatheter Mitral-Valve Repair in Heart Failure and Secondary Mitral Regurgitation: COAPT Trial. J Am Coll Cardiol. 2019 May 7;73(17):2123-2132. doi: 10.1016/j.jacc.2019.02.010. Epub 2019 Mar 17. PMID: 30894288.
- 4. Atianzar K, Zhang M, et al. Why Did COAPT Win While MITRA-FR Failed? Defining the Appropriate Patient Population for MitraClip. Interv Cardiol. Feb 2019; 14(1): 45-47.
- 5. Baumgartner H, Falk V, Bax JJ, et al. 2017 ESC/EACTS Guidelines for the management of valvular heart disease. Eur Heart J. Sep 21 2017;38(36):2739-2791.
- 6. Blue Cross Blue Shield Association Evidence Positioning System®. 2.02.30 Transcatheter Mitral Valve Repair, 06/22.
- 7. Buzzatti N, Van Hemelrijck M, et al. Transcatheter or Surgical Repair for Degenerative Mitral Regurgitation in Elderly Patients: A Propensity-Weighted Analysis. JThorac Cardiovasc Surg. Jul 2019; 158(1): 86-94.e1. PMID 30797588.
- 8. Centers for Medicare & Medicaid Services (CMS), National Coverage Determination (NCD) for Transcatheter Mitral Valve Repair (TMVR) (20.33), accessed at cms.gov.

- 9. ClinicalTrials.gov. Clinical Evaluation of the Safety and Effectiveness of the MitraClip® System for the Treatment of Functional Mitral Regurgitation in Symptomatic Heart Failure Subjects; accessed August 2022.
- ClinicalTrials.gov. A Prospective, Multicenter, Objective Performance Criteria Study to Evaluate the Safety and Effectiveness of Dragonfly Transcatheter Mitral Valve Repair System for the Treatment of Functional Mitral Regurgitation (FMR); accessed August 2022.
- ClinicalTrials.gov. Transcatheter Repair of Mitral Regurgitation With Edwards PASCAL Transcatheter Valve Repair System: A European Prospective, Multicenter Post Market Clinical Follow-Up (PMCF); accessed August 2022.
- 12. Geis NA, Schlegel P, et al. One-year results following PASCAL-based or MitraClip-based mitral valve transcatheter edge-to-edge repair. ESC Heart Fail. 2022 Apr;9(2):853-865. PMID: 35170230.
- 13. Itabashi Y, Kobayashi S, et al. Treatment of secondary mitral regurgitation by transcatheter edge-to-edge repair using MitraClip. J Med Ultrason. 2022 Jul;49(3):389-403.PMID: 35708872.
- 14. lung B, Armoiry X, et al. Percutaneous Repair or Medical Treatment for Secondary Mitral Regurgitation: Outcomes at 2 Years. Eur J Heart Fail. Dec 2019;21(12): 1619-1627. PMID 31476260.
- 15. Joint Task Force on the Management of Valvular Heart Disease of the European Society of Cardiology, European Association for Cardio-Thoracic Surgery, Vahanian A, et al. Guidelines on the management of valvular heart disease (version 2012). Eur Heart J. Oct 2012;33(19):2451-2496.
- Kumar A, Al-Khafaji J, et al. Percutaneous Mitral Valve Repair for Secondary Mitral Valve Regurgitation: A Systematic Review and Meta-Analysis. Eur J InternMed. Feb 21 2020. PMID 32094019.
- 17. Lesevic H, Sonne C, Braun D, et al. Acute and midterm outcome after MitraClip therapy in patients with severe mitral regurgitation and left ventricular dysfunction. Am J Cardiol. Sep 1 2015;116(5):749-756.
- 18. Mack MJ, Lindenfeld J, et al. 3-Year Outcomes of Transcatheter Mitral Valve Repair in Patients With Heart Failure. J Am Coll Cardiol. 2021 Mar 2;77(8):1029-1040. PMID:33632476.
- 19. Minha S, Torguson R, Waksman R. Overview of the 2013 Food and Drug Administration Circulatory System Devices Panel meeting on the MitraClip Delivery System. Circulation. Aug 20 2013;128(8):864-868.
- Nishimura RA, Otto CM, Bonow RO, et al. 2014 AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. Circulation. Jun 10 2014;129(23):2440-2492.
- 21. O'Gara PT, Calhoon JH, Moon MR, et al. Transcatheter therapies for mitral regurgitation: a professional society overview from the American College of Cardiology, The American Association for Thoracic Surgery, Society for Cardiovascular Angiography and Interventions Foundation, and The Society of Thoracic Surgeons. J Thorac Cardiovasc Surg. Mar 2014;147(3):837-849.
- 22. Nishimura RA, Otto CM, Bonow RO, et al. 2017 AHA/ACC Focused Update of the 2014 AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol. Jul 11 2017;70(2):252-289.
- 23. Otto CM, Nishimura RA, et al. 2020 ACC/AHA Guideline for the Management of Patients With Valvular Heart Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation. 2021 Feb 2;143(5):e35-e71.
- 24. Philip F, Athappan G, Tuzcu EM, et al. MitraClip for severe symptomatic mitral regurgitation in patients at high surgical risk: a comprehensive systematic review. Catheter Cardiovasc Interv. Oct 1 2014;84(4):581-590.

- 25. Puls M, Lubos E, Boekstegers P, et al. One-year outcomes and predictors of mortality after MitraClip therapy in contemporary clinical practice: results from the German transcatheter mitral valve interventions registry. Eur Heart J. Feb 21 2016;37(8):703-712.
- 26. Sorajja P, Mack M, Vemulapalli S, et al. Initial experience with commercial transcatheter mitral valve repair in the United States. J Am Coll Cardiol. Mar 15 2016;67(10):1129-1140.
- 27. Stone GW, Lindenfeld J, et al. Transcatheter Mitral-Valve Repair in Patients with Heart Failure. N Engl J Med. 2018 Dec 13;379(24):2307-2318.
- 28. U.S. Food and Drug Administration (FDA), accessed at fda.gov.
- 29. Velazquez EJ, Samad Z, Al-Khalidi HR, et al. The MitraClip and survival in patients with mitral regurgitation at high risk for surgery: A propensity-matched comparison. Am Heart J. Nov 2015;170(5):1050-1059.

COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 09/22/22.

GUIDELINE UPDATE INFORMATION:

09/15/16	New Medical Coverage Guideline.
07/15/17	Annual review; position statements maintained and references updated.
07/15/18	Annual review; description, position statement, and references updated.
07/01/19	Quarterly CPT/HCPCS update. Added code 0544T.
	Annual review; Position statements, coding, and references updated.
07/15/20	Annual review; Position statements maintained and references updated.
07/15/21	Annual review; Position statements maintained; references updated.
10/15/22	Review: Position statements maintained; coding and references updated.
05/25/23	Update to Program Exceptions section.