

POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

	□ MINIMIZE SAFETY RISK OR CONCERN.
BENEFIT	☑ MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS.
	Assure Appropriate level of care.
	□ ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS.
	Assure that recommended medical prerequisites have been met.
	□ ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	12/1/2024

POLICY	PRODUCT VARIATIONS	DESCRIPTION/BACKGROUND
RATIONALE	DEFINITIONS	BENEFIT VARIATIONS
DISCLAIMER	CODING INFORMATION	<u>REFERENCES</u>
POLICY HISTORY		

#### I. POLICY

Outpatient cardiac rehabilitation programs may be considered **medically necessary** for patients who require monitored exercise and have a recent history of one of the following conditions or procedures:

- Acute myocardial infarction (MI) (heart attack) within the preceding 12 months;
- Compensated heart failure;
- Coronary artery bypass graft (CABG) surgery;
- Heart or heart-lung transplant;
- Heart valve surgery;
- Percutaneous transluminal coronary angioplasty (PTCA) or coronary stenting; or
- Current stable angina pectoris

**AND** ALL of the following components must be included in the cardiac rehabilitation program:

- Physician-prescribed exercise each day cardiac rehabilitation services are provided;
- Cardiac risk factor modification;
- Psychosocial assessment;
- Outcomes assessment; and
- Individualized treatment plan detailing how each of the above components is utilized.

Services provided after a patient has reached their maximum potential for improvement are considered maintenance therapy and **not considered medically necessary** as part of the cardiac rehabilitation program.

Repeat participation in an outpatient cardiac rehabilitation program in the absence of another qualifying cardiac event is considered **investigational** as there is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with this procedure.



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

Intensive cardiac rehabilitation with the Ornish Program for Reversing Heart Disease, Pritikin Program, or Benson-Henry Institute Program is considered **investigational** as there is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with this procedure.

Physical and/or occupational therapies are **not considered medically necessary** in conjunction with a cardiac rehabilitation program unless performed for an unrelated diagnosis.

Virtual cardiac rehabilitation may be considered **medically necessary** as an alternative for patients who are unable to participate in facility-based cardiac rehabilitation.

#### **Policy Guidelines**

Except for acute myocardial infarction, a cardiac rehabilitation program should be initiated within ninety (90) days of the cardiac event and completed within six (6) months of the cardiac event. Individual consideration will be given for initiation of cardiac rehab beyond the ninety days.

A comprehensive evaluation may be performed before the initiation of cardiac rehabilitation to evaluate the patient and determine an appropriate exercise program. In addition to a medical examination, an EKG stress test may be performed. An additional stress test may be performed at the completion of the program. A typical program consists of an exercise and training session that lasts twenty (20) to forty (40) minutes.

A reasonable duration for a cardiac rehabilitation program is twelve (12) weeks, generally three sessions per week for a total of thirty-six (36) sessions.

#### Cross-reference: MP 2.380 Diagnosis and Treatment of Post-Acute Sequelae COVID (PASC)

#### **II. PRODUCT VARIATIONS**

This policy is only applicable to certain programs and products administered by Capital Blue Cross and subject to benefit variations as discussed in Section VI. Please see additional information below.

**FEP PPO** - Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at:

https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-managementguidelines/medical-policies

#### III. DESCRIPTION/BACKGROUND

Cardiac rehabilitation refers to comprehensive medically supervised programs in the outpatient setting that aim to improve the function of patients with heart disease and prevent future cardiac events. National organizations have specified core components to be included in cardiac rehabilitation programs.

#### <u>Тор</u>

Тор



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

#### **Heart Disease**

Heart disease is the leading cause of mortality in the United States, accounting for more than half of all deaths. Coronary artery disease is the most common cause of heart disease. In a 2023 update on heart disease and stroke statistics from the American Heart Association, it was estimated that 720,000 Americans have a new coronary attack (first hospitalized myocardial infarction or coronary heart disease death) and 335,000 have a recurrent attack annually. Both coronary artery disease and various other disorders structural heart disease and other genetic, metabolic, endocrine, toxic, inflammatory, and infectious causes can lead to the clinical syndrome of heart failure, of which there are about 650,000 new cases in the U.S. annually. Given the burden of heart disease, preventing secondary cardiac events and treating the symptoms of heart disease and heart failure have received much attention from national organizations.

#### **Cardiac Rehabilitation**

In 1995, the U.S. Public Health Service defined cardiac rehabilitation services as, in part, "comprehensive, long-term programs involving medical evaluation, prescribed exercise, cardiac risk factor modification, education, and counseling.... [These programs] are designed to limit the physiologic and psychological effects of cardiac illness, reduce the risk for sudden death or reinfarction, control cardiac symptoms, stabilize or reverse the atherosclerotic process, and enhance the psychosocial and vocational status of selected patients." The U.S. Public Health Service recommended cardiac rehabilitation services for patients with coronary heart disease and with heart failure, including those awaiting or following cardiac transplantation. A 2010 definition of cardiac rehabilitation from the European Association of Cardiovascular Prevention and Rehabilitation stated: "Cardiac rehabilitation can be viewed as the clinical application of preventive care by means of a professional multi-disciplinary integrated approach for comprehensive risk reduction and global long-term care of cardiac patients." Since the release of the U.S. Public Health Service guidelines, other societies, including the American Heart Association (2005) and the Heart Failure Society of America (2010) have developed guidelines on the role of cardiac rehabilitation in patient care.

#### **Regulatory Status**

Not applicable.

#### **IV. RATIONALE**

#### Summary of Evidence

For individuals who have been diagnosed with heart disease and receive outpatient cardiac rehabilitation, the evidence includes multiple RCTs and systematic reviews of these trials. Relevant outcomes are overall survival, disease-specific survival, symptoms, and morbid events. Meta-analyses of the available trials have found that cardiac rehabilitation improves health outcomes for select patients, particularly those with coronary heart disease, heart failure, and who have had cardiac surgical interventions. The available evidence has limitations, including lack of blinded outcome assessment, but, for the survival-related outcomes of interest, this limitation is less critical. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

<u>Тор</u>



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

For individuals who have diagnosed heart disease without a second event who receive repeat outpatient cardiac rehabilitation, the evidence includes no trials. Relevant outcomes are overall survival, disease-specific survival, symptoms, and morbid events. No studies were identified evaluating the effectiveness of repeat participation in a cardiac rehabilitation program. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have diagnosed heart disease who receive intensive cardiac rehabilitation with the Ornish Program for Reversing Heart Disease, the evidence includes an RCT and uncontrolled studies. Relevant outcomes are overall survival, disease-specific survival, symptoms, and morbid events. No RCTs have compared the Ornish Program with a "standard" cardiac rehabilitation program; an RCT compared it with usual care. The trial included patients with coronary artery disease and no recent cardiac events and had mixed findings at 1 and 5 years. The trial had a small sample size for a cardiac trial (N=48), and only 35 patients were available for the 5-year follow-up. The Ornish Program is considered by the Centers for Medicare & Medicaid Services as an intensive cardiac rehabilitation. No studies were identified comparing the Ornish Program with any other cardiac rehabilitation program. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have diagnosed heart disease who receive intensive cardiac rehabilitation with the Pritikin Program, the evidence includes a case series. Relevant outcomes are overall survival, disease-specific survival, symptoms, and morbid events. Studies are needed that compare the impact of intensive cardiac rehabilitation using the Pritikin Program with standard outpatient cardiac rehabilitation programs. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have diagnosed heart disease who receive intensive cardiac rehabilitation with the Benson-Henry Institute Program, the evidence includes a case-control study and case series. Relevant outcomes are OS, disease-specific survival, symptoms, and morbid events. Studies are needed that compare the impact of intensive cardiac rehabilitation using the Benson-Henry Institute Program with standard outpatient cardiac rehabilitation programs. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have been diagnosed with heart disease and receive virtual cardiac rehabilitation, the evidence includes systematic reviews/meta-analyses, RCTs, and retrospective studies. Relevant outcomes are overall survival, disease-specific survival, symptoms, and morbid events. Meta-analyses have found beneficial effects of virtual cardiac rehabilitation on physical activity and quality of life, but not on cardiovascular hospitalization or mortality. The few available prospective randomized studies have conflicting findings on the effect of virtual cardiac rehabilitation compared to traditional outpatient cardiac rehabilitation for hospital readmission. The evidence is insufficient to determine that the technology results in a general improvement in the net health outcome.



TOP

### MEDICAL POLICY

POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

#### V. **DEFINITIONS**

**ANGINA PECTORIS** is an oppressive pain or pressure in the chest caused by inadequate blood flow and oxygenation to heart muscle.

**ANGIOPLASTY** is an endovascular procedure that reopens narrowed blood vessels and restores forward blood flow.

**CORONARY ARTERY BYPASS SURGERY** is surgical establishment of a shunt that permits blood to travel from the aorta or internal mammary artery to a branch of the coronary artery at a point past an obstruction.

**HEART FAILURE** is the inability of the heart to circulate blood effectively enough to meet the body's metabolic needs.

**MYOCARDIAL INFARCTION** is the death of previously living heart muscle as a result of coronary artery occlusion

#### VI. BENEFIT VARIATIONS

The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member's health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits, and which require preauthorization. There are different benefit plan designs in each product administered by Capital Blue Cross. Members and providers should consult the member's health benefit plan for information or contact Capital Blue Cross for benefit information.

#### VII. DISCLAIMER

Capital Blue Cross' medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital Blue Cross' Provider Services or Member Services. Capital Blue Cross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

#### VIII. CODING INFORMATION

**Note:** This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

# <u>Top</u>

Тор

### <u>Тор</u>



### MEDICAL POLICY

POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

### Intensive cardiac rehabilitation is considered investigational; therefore not covered:

Procedur	e Codes				
G0422	G0423				

#### Covered when medically necessary:

Procedur	e Codes							
S0340	S0341	S0342	S9472	93015	93016	93017	93018	93797
93798								

ICD-10-CM Diagnosis Code	Description
I20.1	Angina pectoris with documented spasm
120.2	Refractory angina pectoris
120.8	Other forms of angina pectoris
120.81	Angina pectoris with coronary microvascular dysfunction
120.89	Other forms of angina pectoris
120.9	Angina pectoris, unspecified
121.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery
121.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
121.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall
I21.A1	Myocardial infarction type 2
I21.A9	Other myocardial infarction type
I21.B	Myocardial infarction with coronary microvascular dysfunction
121.11	ST elevation (STEMI) myocardial infarction involving right coronary artery
121.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
l21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery
I21.29	ST elevation (STEMI) myocardial infarction involving other sites
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
122.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
l22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
122.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
122.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites
122.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site
125.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING			
POLICY NUMBER	MP 8.005			

ICD-10-CM Diagnosis Code	Description
125.112	Atherosclerosic heart disease of native coronary artery with refractory angina pectoris
125.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
125.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris
125.2	Old myocardial infarction
125.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm
125.702	Atherosclerosis of coronary artery bypass graft(s), unspecified, with refractory angina pectoris
125.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris
125.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris
125.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
125.712	Atherosclerosis of autologous vein coronary artery bypass graft(s) with refractory angina pectoris
125.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris
125.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris
125.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
125.722	Atherosclerosis of autologous artery coronary artery bypass graft(s) with refractory angina pectoris
125.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
125.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris
125.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
125.732	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with refractory angina pectoris
125.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris
125.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris
125.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm



<b>—</b>	
POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING

POLICY NUMBER MP 8.005

ICD-10-CM Diagnosis Code	Description
125.752	Atherosclerosis of native coronary artery of transplanted heart with refractory angina pectoris
125.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
125.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris
125.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm
125.762	Atherosclerosis of bypass graft of coronary artery of transplanted heart with refractory angina pectoris
125.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris
125.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris
125.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm
125.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
125.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris
125.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
125.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
125.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
150.1	Left ventricular failure
150.21	Acute systolic (congestive) heart failure
150.22	Chronic systolic (congestive) heart failure
150.23	Acute on chronic systolic (congestive) heart failure
150.31	Acute diastolic (congestive) heart failure
150.32	Chronic diastolic (congestive) heart failure
150.33	Acute on chronic diastolic (congestive) heart failure
150.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure
150.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure
150.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
150.811	Acute right heart failure
150.812	Chronic right heart failure
150.813	Acute on chronic right heart failure



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

ICD-10-CM Diagnosis Code	Description
150.814	Right heart failure due to left heart failure
150.82	Biventricular heart failure
150.83	High output heart failure
150.84	End stage heart failure
150.89	Other heart failure
Z94.1	Heart transplant status
Z94.3	Heart and lungs transplant status
Z95.1	Presence of aortocoronary bypass graft
Z95.2	Presence of prosthetic heart valve
Z95.3	Presence of xenogenic heart valve
Z95.4	Presence of other heart-valve replacement
Z95.5	Presence of coronary angioplasty implant and graft
Z98.61	Coronary angioplasty status

#### IX. REFERENCES

TOP

- Corra U, Piepoli MF, Carre F, et al. Secondary prevention through cardiac rehabilitation: physical activity counseling and exercise training: key components of the position paper from the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. Eur Heart J. Aug 2010; 31(16):1967-1974. PMID 20643803
- 2. Casey A, Chang BH, Huddleston J, et al. A model for integrating a mind/body approach to cardiac rehabilitation: outcomes and correlators. J Cardiopulm Rehabil Prev. Jul-Aug 2009; 29(4): 230-8; quiz 239-40. PMID 19451830
- Leon AS, Franklin BA, Costa F, et al. Cardiac rehabilitation and secondary prevention of coronary heart disease: an American Heart Association scientific statement from the Council on Clinical Cardiology (Subcommittee on Exercise, Cardiac Rehabilitation, and Prevention) and the Council on Nutrition, Physical Activity, and Metabolism (Subcommittee on Physical Activity), in collaboration with the American Association of Cardiovascular and Pulmonary Rehabilitation. Circulation. Jan 25 2005; 111(3):369-376. PMID 15668354
- Lindenfeld J, Albert NM, et al. Heart Failure Society of America, HFSA 2010 Comprehensive Heart Failure Practice Guideline. J Card Fail. Jun 2010; 16(6):e1-194. PMID 20610207
- 5. Mozaffarian D, Benjamin EJ, Go AS, et al. Heart disease and stroke statistics--2015 update: a report from the American Heart Association. Circulation. Jan 27 2015; 131(4):e29-322. PMID 25520374
- 6. Balady GJ, Williams MA, Ades PA, et al. Core components of cardiac rehabilitation/secondary prevention programs: 2007 update: a scientific statement from the American Heart Association Exercise, Cardiac Rehabilitation, and Prevention



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

Committee, the Council on Clinical Cardiology; the Councils on Cardiovascular Nursing, Epidemiology and, Prevention, and Nutrition, Physical Activity, and Metabolism; and the American Association of Cardiovascular and Pulmonary Rehabilitation. Circulation. May 22, 2007; 115(20):2675-2682. PMID 17513578

- 7. Oldridge N. Exercise-based cardiac rehabilitation in patients with coronary heart disease: meta-analysis outcomes revisited. Future Cardiol. Sep 2012; 8(5):729-751. PMID 23013125
- 8. Anderson L, Thompson DR, Oldridge N, et al. Exercise-based cardiac rehabilitation for coronary heart disease. Cochrane Database Syst Rev. Jan 5, 2016; 1:CD001800. PMID 26730878
- 9. Davies EJ, Moxham T, Rees K, et al. Exercise based rehabilitation for heart failure. Cochrane Database Syst Rev. 2010(4): CD00 3331. PMID 20393935
- 10. Heran BS, Chen JM, Ebrahim S, et al. Exercise-based cardiac rehabilitation for coronary heart disease. Cochrane Database Syst Rev. Jul 6, 201,1(7): CD0 01800. PMID 21735386
- 11. Mordi IR, Bridges C, et al. Exercise-based cardiac rehabilitation for adults with heart failure. Cochrane Database Syst Rev. 2019 Jan; 1:CD003331. PMID 30695817
- West RR, Jones DA, Henderson AH. Rehabilitation after myocardial infarction trial (RAMIT): multi-centre randomised controlled trial of comprehensive cardiac rehabilitation in patients following acute myocardial infarction. Heart. Apr 2012; 98(8):637-644. PMID 22194152
- 13. Doherty P, Lewin R. The RAMIT trial, a pragmatic RCT of cardiac rehabilitation versus usual care: what does it tell us? [editorial]. Heart. Apr 2012; 98(8):605-606. PMID 22505460
- Pandey A, Kitzman DW, Brubaker P, et al. Response to endurance exercise training in older adults with heart failure with preserved or reduced ejection fraction. J Am Geriatr Soc. Aug 2017; 65(8):1698-1704. PMID 28338229
- 15. Kitzman DW, Brubaker PH, Morgan TM, et al. Exercise training in older patients with heart failure and preserved ejection fraction: a randomized, controlled, single-blind trial. Circ Heart Fail. Nov 2010; 3(6):659-667. PMID 20852060
- Sumner J, Harrison A, Doherty P. The effectiveness of modern cardiac rehabilitation: A systematic review of recent observational studies in non-attenders versus attenders. PLoS One. May 2017; 12(5):e0177658. PMID 28498869
- 17. Nilsson BB, Lunde P, Grogaard HK, et al. Long-term results of high-intensity exercisebased cardiac rehabilitation in revascularized patients for symptomatic coronary artery disease. Am J Cardiol. Jan 1 2018; 121(1):21-26. PMID 29096886
- Ornish D, Brown SE, Scherwitz LW, et al. Can lifestyle changes reverse coronary heart disease? The Lifestyle Heart Trial. Lancet. Jul 21 1990; 336(8708):129-133. PMID 1973470
- 19. Ornish D, Scherwitz LW, Billings JH, et al. Intensive lifestyle changes for reversal of coronary heart disease. Jama. Dec 16 1998; 280(23):2001-2007. PMID 9863851
- 20. Barnard RJ, Guzy PM, Rosenberg JM, et al. Effects of an intensive exercise and nutrition program on patients with coronary artery disease: five-year follow-up. J Cardiac Rehabil 1983; 3:183-190.



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

- 21. Snoek JA, Prescott EI, van der Velde AE, et al. Effectiveness of Home-Based Mobile Guided Cardiac Rehabilitation as Alternative Strategy for Nonparticipation in Clinic-Based Cardiac Rehabilitation Among Elderly Patients in Europe: A Randomized Clinical Trial. JAMA Cardiol. Oct 2,8 2020. PMID 33112363
- 22. Qaseem A, Fihn SD, Dallas P, et al. Management of stable ischemic heart disease: summary of a clinical practice guideline from the American College of Physicians/American College of Cardiology Foundation/American Heart Association/American Association for Thoracic Surgery/Preventive Cardiovascular Nurses Association/Society of Thoracic Surgeons. Ann Intern Med. Nov 20 2012; 157(10):735-743. PMID 23165665
- 23. Zeng W, Stason WB, Fournier S, et al. Benefits and costs of intensive lifestyle modification programs for symptomatic coronary disease in Medicare beneficiaries. Am Heart J. May 2013; 165(5): 785-92. PMID 23622916
- 24. Lanza GA, Grea F. Stable Ischemic Heart Disease: The Update to the 2012 Guideline.
- 25. Thomas RJ, Beatty AL, Beckie TM, et al. Home-Based Cardiac Rehabilitation: A Scientific Statement From the American Association of Cardiovascular and Pulmonary Rehabilitation, the American Heart Association, and the American College of Cardiology. J. Am. Coll. Cardiol. 2019 Jul; 74(1). PMID 31097258
- 26. Virani SS, Alonso A, Benjamin EJ, et al. Heart Disease and Stroke Statistics-2020 Update: A Report From the American Heart Association. Circulation. Mar 03 2020; 141(9): e139-e596. PMID 31992061
- 27. Centers for Medicare % Medicaid Services (CMS). National Coverage Determination (NCD) for Intensive Cardiac Rehabilitation Programs (20.31). 2010
- 28. Centers for Medicare & Medicaid Services (CMS). CMS Manual System: Pub 100-03 Medicare National Coverage Determinations. Cardiac Rehabilitation Programs for Chronic Heart Failure. 2014
- 29. Centers for Medicare & Medicaid Services (CMS). Decision Memo for INTENSIVE CARDIAC Rehabilitation (ICR) Program - Dr. Ornish's Program for Reversing Heart Disease (CAG-00419N). 2010
- Centers for Medicare and Medicaid Services. Decision memo for intensive cardiac rehabilitation (ICR) program - Benson-Henry Institute Cardiac Wellness Program (CAG-00434N). May 6, 2014
- Tsao CW, Aday AW, Almarzooq ZI, et al. Heart Disease and Stroke Statistics-2023 Update: A Report From the American Heart Association. Circulation. Feb 21 2023; 147(8): e93-e621. PMID 36695182
- 32. Long L, Mordi IR, Bridges C, et al. Exercise-based cardiac rehabilitation for adults with heart failure. Cochrane Database Syst Rev. Jan 29 2019; 1(1): CD003331. PMID 30695817
- 33. Jafri SH, Imran TF, Medbury E, et al. Cardiovascular Outcomes of Patients Referred to Home Based Cardiac Rehabilitation. Heart Lung. 2022; 52: 1-7. Moulson N, Bewick D, Selway T et al. Cardiac Rehabilitation During the COVID-19 Era: Guidance on Implementing Virtual Care. Can J Cardiol 2020 Aug. PMID: 34801771
- 34. Lakhani F, Racette SB, Park LK, et al. Prospective Study of the Impact of Outpatient Intensive Cardiac Rehabilitation on Diet Quality, Health-related Quality of Life, and Cardiovascular Health Indices. Am J Cardiol. Feb 01 2023; 192: 60-66. PMID 36736014



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

- 35. Jin Choo Y, Chang MC. Effects of telecardiac rehabilitation on coronary heart disease: A PRISMA-compliant systematic review and meta-analysis. Medicine (Baltimore). Jul 15 2022; 101(28): e29459. PMID 35839029
- 36. Nacarato D, Sardeli AV, Mariano LO, et al. Cardiovascular telerehabilitation improves functional capacity, cardiorespiratory fitness and quality of life in older adults: A systematic review and meta-analysis. J Telemed Telecare. Dec 05 2022: 1357633X221137626. PMID 36469017
- 37. Cruz-Cobo C, Bernal-Jiménez MÁ, Vázquez-García R, et al. Effectiveness of mHealth Interventions in the Control of Lifestyle and Cardiovascular Risk Factors in Patients After a Coronary Event: Systematic Review and Meta-analysis. JMIR Mhealth Uhealth. Dec 02 2022; 10(12): e39593. PMID 36459396
- 38. Maulana S, Trisyani Y, Mirwanti R, et al. The Potential of Cardiac Telerehabilitation as Delivery Rehabilitation Care Model in Heart Failure during COVID-19 and Transmissible Disease Outbreak: A Systematic Scoping Review of the Latest RCTs. Medicina (Kaunas). Sep 21 2022; 58(10). PMID 36295482
- Ramachandran HJ, Jiang Y, Tam WWS, et al. Effectiveness of home-based cardiac telerehabilitation as an alternative to Phase 2 cardiac rehabilitation of coronary heart disease: a systematic review and meta-analysis. Eur J Prev Cardiol. May 25 2022; 29(7): 1017-1043. PMID 34254118
- 40. Nagatomi Y, Ide T, Higuchi T, et al. Home-based cardiac rehabilitation using information and communication technology for heart failure patients with frailty. ESC Heart Fail. Aug 2022; 9(4): 2407-2418. PMID 35534907
- 41. Brouwers RWM, Kemps HMC, Herkert C, et al. A 12-week cardiac telerehabilitation programme does not prevent relapse of physical activity levels: long-term results of the FIT@Home trial. Eur J Prev Cardiol. May 25 2022; 29(7): e255-e257. PMID 35040993
- 42. Brouwers RWM, Kraal JJ, Regis M, et al. Effectiveness of Cardiac Telerehabilitation With Relapse Prevention: SmartCare-CAD Randomized Controlled Trial. J Am Coll Cardiol. Jun 01 2021; 77(21): 2754-2756. PMID 34045031
- Indraratna P, Biswas U, McVeigh J, et al. A Smartphone-Based Model of Care to Support Patients With Cardiac Disease Transitioning From Hospital to the Community (TeleClinical Care): Pilot Randomized Controlled Trial. JMIR Mhealth Uhealth. Feb 28 2022; 10(2): e32554. PMID 35225819
- 44. Snoek JA, Prescott EI, van der Velde AE, et al. Effectiveness of Home-Based Mobile Guided Cardiac Rehabilitation as Alternative Strategy for Nonparticipation in Clinic-Based Cardiac Rehabilitation Among Elderly Patients in Europe: A Randomized Clinical Trial. JAMA Cardiol. Apr 01 2021; 6(4): 463-468. PMID 33112363
- 45. Piotrowicz E, Pencina MJ, Opolski G, et al. Effects of a 9-Week Hybrid Comprehensive Telerehabilitation Program on Long-term Outcomes in Patients With Heart Failure: The Telerehabilitation in Heart Failure Patients (TELEREH-HF) Randomized Clinical Trial. JAMA Cardiol. Mar 01 2020; 5(3): 300-308. PMID 31734701
- 46. Yudi MB, Clark DJ, Tsang D, et al. SMARTphone-based, early cardiac REHABilitation in patients with acute coronary syndromes: a randomized controlled trial. Coron Artery Dis. Aug 01 2021; 32(5): 432-440. PMID 32868661
- 47. Hakala S, Kivistö H, Paajanen T, et al. Effectiveness of Distance Technology in Promoting Physical Activity in Cardiovascular Disease Rehabilitation: Cluster



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

Randomized Controlled Trial, A Pilot Study. JMIR Rehabil Assist Technol. Jun 18 2021; 8(2): e20299. PMID 34142970

- 48. Dalli Peydró E, Sanz Sevilla N, Tuzón Segarra MT, et al. A randomized controlled clinical trial of cardiac telerehabilitation with a prolonged mobile care monitoring strategy after an acute coronary syndrome. Clin Cardiol. Jan 2022; 45(1): 31-41. PMID 34952989
- 49. Maddison R, Rawstorn JC, Stewart RAH, et al. Effects and costs of real-time cardiac telerehabilitation: 13andomized controlled non-inferiority trial. Heart. Jan 2019; 105(2): 122-129. PMID 30150328
- Nkonde-Price C, Reynolds K, Najem M, et al. Comparison of Home-Based vs Center-Based Cardiac Rehabilitation in Hospitalization, Medication Adherence, and Risk Factor Control Among Patients With Cardiovascular Disease. JAMA Netw Open. Aug 01 2022; 5(8): e2228720. PMID 36006642
- 51. Heidenreich PA, Bozkurt B, Aguilar D, et al. 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. J Am Coll Cardiol. May 03 2022; 79(17): e263-e421. PMID 35379503
- 52. Thomas RJ, Beatty AL, Beckie TM, et al. Home-Based Cardiac Rehabilitation: A Scientific Statement From the American Association of Cardiovascular and Pulmonary Rehabilitation, the American Heart Association, and the American College of Cardiology. J Am Coll Cardiol. Jul 09 2019; 74(1): 133-153. PMID 31097258
- 53. Wenger NK, Rosenson RS, Braun LT. Cardiac rehabilitation: Indications, efficacy, and safety in patients with coronary heart disease. In: UpToDate Online Journal [serial online]. Waltham, MA: UpToDate; Updated Dec 05, 2023. Literature current through May 2024
- 54. Schopfer DW, Whooley MA, Allsup K et al. Effects of Home-Based Cardiac Rehabilitation on Time to Enrollment and Functional Status in Patients With Ischemic Heart Disease. J Am Heart Assoc Sept 2020. PMID: 32954885
- 55. Moulson N, Bewick D, Selway T et al. Cardiac Rehabilitation During the COVID-19 Era: Guidance on Implementing Virtual Care. Can J Cardiol 2020 Aug. PMID: 32553606
- 56. Braun L, Wegner N, Rosenson R. Cardiac rehabilitation progams. In: UpToDate Online Journal [serial online]. Waltham, MA: UpToDate, Updated May 15, 2024. Literature current through Jun 2024.
- 57. Świątkiewicz I, Di Somma S, De Fazio L, Mazzilli V, Taub PR. Effectiveness of Intensive Cardiac Rehabilitation in High-Risk Patients with Cardiovascular Disease in Real-World Practice. Nutrients. 2021;13(11):3883. Published 2021 Oct 29. doi:10.3390/nu13113883. PMID: 34836144
- 58. Lawton JS, Tamis-Holland JE, Bangalore S, et al. 2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization: Executive Summary: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines [published correction appears in Circulation. 2022 Mar 15;145(11):e771.Circulation. 2022;145(3):e4-e17. PMID: 34882436
- 59. Blue Cross Blue Shield Association Medical Policy Reference Manual. 8.03.08, Cardiac Rehabilitation in the Outpatient Setting. April 2024



POLICY TITLE	CARDIAC REHABILITATION IN THE OUTPATIENT SETTING
POLICY NUMBER	MP 8.005

#### X. POLICY HISTORY

**TOP** 

MP 8.005	02/11/2020 Consensus Review. Policy statement unchanged. References
	updated.
	05/24/2021 Minor Review. Deleted "recommended by a cardiologist" in first
	paragraph in policy statement. Added Benson-Henry Institute Program as
	investigational. Rationale updated. References updated.
	04/28/2022 Consensus Review. No change to policy statement.
	References reviewed and updated. Coding table format updated. Cross-
	reference added.
	10/01/2022 Administrative Update. New ICD 10 codes added to policy.
	06/12/2023 Minor Review. Medically necessary statement for virtual
	cardiac rehabilitation added to policy statement. Policy guidelines updated.
	Rationale updated. References updated. Coding and table updated: G0422,
	G0423 moved to INV to align with policy statement.
	08/31/2023 Administrative Update. ICD-10-CM codes added: I20.81,
	I20.89, I21.B as part of new code update. Effective date 10/1/2023.
	07/19/2024 Consensus Review. No change to policy statement. Updated
	references.

### <u>Top</u>

Health care benefit programs issued or administered by Capital Blue Cross and/or its subsidiaries, Capital Advantage Insurance Company<sup>®</sup>, Capital Advantage Assurance Company<sup>®</sup>, and Keystone Health Plan<sup>®</sup> Central. Independent licensees of the Blue Cross BlueShield Association. Communications issued by Capital Blue Cross in its capacity as administrator of programs and provider relations for all companies.