

MEDICAL POLICY



SUBJECT: CARDIAC REHABILITATION	EFFECTIVE DATE: 09/16/99 REVISED DATE: 05/17/01, 06/20/02, 04/24/03, 03/18/04, 09/01/04, 09/15/05, 12/07/06, 12/13/07, 12/11/08, 12/10/09, 12/09/10, 06/24/11, 06/28/12, 06/27/13, 06/26/14, 06/25/15, 06/22/16, 08/25/17, 06/28/18
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<ul style="list-style-type: none">• <i>If a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply.</i>• <i>If a commercial product (including an Essential Plan product) or a Medicaid product covers a specific service, medical policy criteria apply to the benefit.</i>• <i>If a Medicare product covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.</i>	

POLICY STATEMENT:

- I. Based upon our criteria and the assessment of peer-reviewed literature, monitored *Phase I* and *Phase II* cardiac rehabilitation programs have been proven to be medically effective and are therefore, **medically appropriate** for patients with the following:
 - A. Acute myocardial infarction within the preceding 12 months;
 - B. Angioplasty with stenting within the preceding 12 months;
 - C. Coronary angioplasty within the preceding 12 months;
 - D. Coronary bypass surgery within the preceding 12 months;
 - E. Heart transplantation within the preceding 12 months;
 - F. Class II or higher congestive heart failure;
 - G. Stable angina pectoris; or
 - H. Valvular disease.
- II. Based upon our criteria and the assessment of peer-reviewed literature, *Phase III* maintenance programs are **not medically necessary**.

Maintenance programs are programs that consist of activities that preserve the patient's present level of function and prevent regression of that function. Maintenance begins when the therapeutic goals of a treatment plan have been achieved or when no additional functional progress is apparent or expected to occur.

POLICY GUIDELINES:

- I. Due to a strong scientific evidence base for the efficacy of cardiac rehabilitation in adult patients and the lack of a strong evidence base in pediatric patients, this policy generally applies to adult patients. Cardiac rehabilitation for pediatric patients will be reviewed based on clinical indicators including, but not limited to: the patient's diagnosis (e.g., congenital anomalies, valvular disorders), recent surgical procedures (e.g., cardiac transplant, valvular replacement or repair), and acceptance into a pediatric cardiac rehabilitation program.
- II. Monitored Phase II cardiac rehabilitation programs must be recommended by the patient's cardiologist or primary care physician and rendered by a provider whose cardiac rehabilitation program has been approved by:
 - A. the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) if the program is rendered at an outpatient free-standing facility or in the practitioner's office; or
 - B. the AACVPR, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), or the American Osteopathic Association (AOA) if the program is rendered at a hospital-based facility.
- III. Due to the increased risk of experiencing a cardiac event (e.g. ventricular arrhythmia, infarction) Phase II cardiac rehabilitation programs must include physician supervision and continuous electrocardiographic monitoring during exercise.
- IV. The Phase II program usually consists of 36 visits.
- V. Only one program of cardiac rehabilitation will be allowed per lifetime unless otherwise approved by a Health Plan Medical Director (e.g., another qualifying cardiac event).

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VI. Benefits for cardiac rehabilitation will be provided in accordance with the member's subscriber contract. Please contact your local Customer (Provider/Member) Service Department to determine contract coverage as not all contracts provide coverage for cardiac rehabilitation.

DESCRIPTION:

According to the US Public Health Service, the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR), the American College of Cardiology (ACC), and the American Heart Association (AHA) "Cardiac rehabilitation (CR) services are 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 re-infarction, control cardiac symptoms, stabilize or reverse the atherosclerotic process, and enhance the psychosocial and vocational status of selected patients".

A cardiac rehabilitation program should be initiated as soon as medically indicated following a cardiac event. Examples of cardiac events are acute myocardial infarction, coronary artery bypass graft, percutaneous transluminal coronary angioplasty (PTCA), heart valve surgery, heart transplantation, stable angina pectoris or compensated heart failure.

Cardiac Rehabilitation consists of three phases, or levels, of service:

- I. *Phase I*, or inpatient CR: a program that delivers preventive and rehabilitative services to hospitalized patients following an index cardiovascular disease (CVD) event.
- II. *Phase II*, or early outpatient CR: a physician supervised outpatient program that includes electrocardiographic monitoring during exercise and is intended to improve cardiac function and exercise tolerance. Programs are hospital or physician office/clinic based and must meet federal and state regulatory and licensing requirements; and
- III. *Phase III*, or long-term outpatient CR: a supervised or non-supervised maintenance program.

RATIONALE:

Cardiac rehabilitation program providers are subject to state and federal licensing requirements. Due to the advances in the diagnosis and treatment of cardiac disease there is a shift of cardiovascular disease from an acutely fatal event to a chronic disease. There is a growing need for medical services to aid patients in improving their quality of life, lessen symptoms, increase functional capacity and decrease disability. Formal cardiac rehabilitation programs meet this need, for select cardiac patients, and improve the net health outcome by decreasing the incidence of cardiac death.

Sumner et al (2017) published a systematic review of controlled observational studies evaluating cardiac rehabilitation in patients diagnosed with acute MI. Cardiac rehabilitation interventions consisted of structured multicomponent programs that included exercise and at least one of the following: education, information, health behavior change, and psychological or social support. Usual care interventions generally supervised medical interventions, were the control conditions. Ten studies met reviewers' eligibility criteria. In a meta-analysis of 5 studies reporting all-cause mortality (an unadjusted outcome), there was a significantly lower risk of death in the group that received cardiac rehabilitation (odds ratio, 0.25; 95% CI, 0.16 to 0.40). Three studies that reported an adjusted analysis of all-cause mortality also found a significant benefit from cardiac rehabilitation (odds ratio, 0.47; 95% CI, 0.38 to 0.59). Similarly, a meta-analysis of 3 studies reporting cardiac-related mortality (an unadjusted analysis) found a significant benefit from cardiac rehabilitation (odds ratio, 0.21; 95% CI, 0.12 to 0.37). Only 1 study reported an adjusted analysis of cardiac-related mortality, so data could not be pooled.

Nilsson et al (2018) investigated the effect of a 12-week cardiac rehabilitation program with a high-intensity interval exercise component using participant VO₂peak as a measure of improved exercise capacity. Increased exercise capacity has been shown to improve survival among persons with CHD. The objective of the study was to assess whether this addition to a cardiac rehabilitation program yielded improved long-term results. One hundred thirty-three coronary patients participated in this prospective cohort study and were evaluated at baseline, at the end of the 12-week program, and again at a 15-month follow-up. Additional test measurements included a cardiopulmonary exercise test, body mass

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index, blood pressure tests, and a quality of life questionnaire. Of the 133 patients, 86 patients had complete information for the 15-month follow-up. Mean VO₂peak improved from a baseline of 31.9 mL/kg/min to 35.9 mL/kg/min (p<0.001) at the end of the 12-week program, and to 36.8 mL/kg/min (CI not reported) at 15-month follow-up. Most of the 86 patients reported maintaining an exercise routine. Study limitations included the small sample size, a relatively low-risk male population at baseline, and lack of information on the qualifying event for cardiac rehabilitation. The authors concluded that the cardiac rehabilitation program intervention potentially fostered consistent and beneficial exercise habits as demonstrated by improved VO₂peak.

The benefits of formal cardiac rehabilitation programs outweigh those of informal exercise programs or the lack of a rehabilitative program. Through clinical trials, supervised/formal cardiac rehabilitation programs have been proven to improve the health outcomes of select cardiac patients.

CODES: Number Description

Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.

CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY

Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.

CPT: 93797 Physician or other qualified health care professional services for outpatient cardiac rehabilitation; without continuous ECG monitoring (per session)

 93798 with continuous ECG monitoring (per session)

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HCPCS: S9472 Cardiac rehabilitation program, non-physician provider, per diem

 G0422 Intensive cardiac rehabilitation; with or without continuous ECG monitoring with exercise, per session

 G0423 Intensive cardiac rehabilitation; with or without continuous ECG monitoring; without exercise, per session

ICD10: A52.03 Syphilitic endocarditis

 I01.1 Acute rheumatic endocarditis

 I02.0 Rheumatic chorea with heart involvement

 I05.0-I09.9 Rheumatic heart disease (code range)

 I20.1 Angina pectoris with documented spasm

 I20.8-I20.9 Other or unspecified forms of angina pectoris (code range)

 I21.01-I21.3 ST elevation (STEMI) myocardial infarction (code range)

 I214 Non-ST elevation (NSTEMI) myocardial infarction

 I220-I22.9 Subsequent ST (STEMI) or non-ST (NSTEMI) elevation myocardial infarction (code range)

 I25.10-I25.9 Chronic ischemic heart disease (code range)

 I34.0-I34.9 Nonrheumatic mitral valve disorders (code range)

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I35.0-I35.9	Nonrheumatic aortic valve disorders (code range)
I36.0-I36.9	Nonrheumatic tricuspid valve disorders (code range)
I37.0-I37.9	Nonrheumatic pulmonary valve disorders (code range)
I50.1-I50.9	Heart failure (code range)
Q23.2	Congenital mitral stenosis
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
Z95.5	Presence of coronary angioplasty implant and graft
Z95.812	Presence of fully implantable artificial heart
Z98.61	Coronary angioplasty status

Revenue: 943 Cardiac rehabilitation

REFERENCES:

Anderson L and Taylor RS. Cardiac rehabilitation for people with heart disease: an overview of Cochrane systematic reviews. *Cochrane Database Syst Rev*. 2014 Dec 12;12:CD011273.

Anderson L, et al. Exercise-based cardiac rehabilitation for coronary heart disease. *Cochrane Database of Systematic Reviews* 2016 Jan 5;1:CD001800.

*Balady GJ, 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 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. *Circ* 2007 May 22;115(20):2675-82.

BlueCross BlueShield Association. Cardiac rehabilitation in the outpatient setting. *Medical Policy Reference Manual Policy #8.03.08*. 2018 Mar 08.

Cano de la Cuerda R, et al. Cardiac rehabilitation programs and health-related quality of life. State of the art. *Rev Esp Cardiol* 2012 Jan;65(1):72-9.

Chen HM, et al. Efficiency of rehabilitation after acute myocardial infarction. *Kaohsiung J Med Sci* 2015 Jul;31(7):351-7.

Clark RA, et al. Alternative models of cardiac rehabilitation: a systematic review. *Eur J Prev Cardiol* 2015 Jan;22(1):35-74.

Fihn SD, et al. 2012 ACCF/AHA/ACP/AATS/PCNA/SCAI/STS guideline for the diagnosis and management of patients with stable ischemic heart disease: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines, and the American College of Physicians, American Association for Thoracic Surgery, Preventive Cardiovascular Nurses Association, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons. *J Am Coll Cardiol* 2012 Dec 18;60(24):2564-2603.

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Fleg JL, et al; American Heart Association Committees on Older Populations and Exercise Cardiac Rehabilitation and Prevention of the Council on Clinical Cardiology, Council on Cardiovascular and Stroke Nursing, Council on Lifestyle and Cardiometabolic He. Secondary prevention of atherosclerotic cardiovascular disease in older adults: a scientific statement from the American Heart Association. Circulation 2013 Nov 26;128(22):2422-46.

Fletcher GF, et al; American Heart Association Exercise, Cardiac Rehabilitation, and Prevention Committee of the Council on Clinical Cardiology, Council on Nutrition, Physical Activity and Metabolism, Council on Cardiovascular and Stroke Nursing, and Council on Epidemiology and Prevention. Exercise standards for testing and training: a scientific statement from the American Heart Association. Circulation 2013 Aug 20;128(8):873-934.

Goel K, et al. Impact of cardiac rehabilitation on mortality and cardiovascular events after percutaneous coronary intervention in the community. Circulation 2011 May 31;123(21):2344-52.

Huang K, et al. Telehealth interventions versus center-based cardiac rehabilitation of coronary artery disease: A systematic review and meta-analysis. Eur J Prev Cardiol 2015 Aug;22(8):959-71.

Isaksen K, et al. Exercise training and cardiac rehabilitation in patients with implantable cardioverter defibrillators: a review of current literature focusing on safety, effects of exercise training, and the psychological impact of programme participation. Eur J Prev Cardiol 2012 Aug;19(4):804-12.

Lawler PR, et al. Efficacy of exercise-based cardiac rehabilitation post-myocardial infarction: a systematic review and meta-analysis of randomized controlled trials. Am Heart J 2011 Oct;162(4):571-584.e2.

Mezzani A, et al; European Association for Cardiovascular Prevention and Rehabilitation; American Association of Cardiovascular and Pulmonary Rehabilitation; Canadian Association of Cardiac Rehabilitation. Aerobic exercise intensity assessment and prescription in cardiac rehabilitation: a joint position statement of the European Association for Cardiovascular Prevention and Rehabilitation, the American Association of Cardiovascular and Pulmonary Rehabilitation, and the Canadian Association of Cardiac Rehabilitation. J Cardiopulm Rehabil Prev 2012 Nov-Dec;32(6):327-50.

Mittag O, et al. Medium-term effects of cardiac rehabilitation in Germany: systematic review and meta-analysis of results from national and international trials. Eur J Cardiovasc Prev Rehabil 2011 Aug;18(4):587-93.

Nilsson BB, Lunde P, Groggaard HK, et al. Long-term results of high-intensity exercise-based cardiac rehabilitation in revascularized patients for symptomatic coronary artery disease. Am J Cardiol. Jan 1 2018;121(1):21-26.

Oldridge N. Exercise-based cardiac rehabilitation in patients with coronary heart disease: meta-analysis outcomes revisited. Future Cardiol 2012 Sep;8(5):729-51.

Oliveira NL, et al. Effect of 8-week exercise-based cardiac rehabilitation on cardiac autonomic function: A randomized controlled trial in myocardial infarction patients. Am Heart J 2014 May;167(5):753-61.e3.

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.

Pavy B, et al; Exercise, Rehabilitation Sport Group (GERS); French Society of Cardiology. French Society of Cardiology guidelines for cardiac rehabilitation in adults. Arch Cardiovasc Dis 2012 May;105(5):309-28.

*Piepoli MF, et al. Secondary prevention through cardiac rehabilitation: from knowledge to implementation. A position paper from the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. Eur J Cardiovasc Prev Rehabil 2010 Feb;17(1):1-17.

Rauch B, et al; OMEGA study group. Short-term comprehensive cardiac rehabilitation after AMI is associated with reduced 1-year mortality: results from the OMEGA study. Eur J Prev Cardiol 2014 Sep;21(9):1060-9.

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*Rhodes J, et al. Sustained effects of cardiac rehabilitation in children with serious congenital heart disease. Pediatrics 2006 Sep;118(3):e586-93.

Sandercock GR, et al. Cardiorespiratory fitness changes in patients receiving comprehensive outpatient cardiac rehabilitation in the UK: a multicentre study. Heart 2013 Jun;99(11):785-90.

Sandercock G, et al. Changes in cardiorespiratory fitness in cardiac rehabilitation patients: a meta-analysis. Int J Cardiol 2013 Aug 10;167(3):894-902.

Sheridan DJ, et al. Reply: The Efficacy of Exercise-Based Cardiac Rehabilitation: The Changing Face of Usual Care. J Am Coll Cardiol. 2017 Mar 7;69(9):1208-1209.

Sibilitz KL, et al. Exercise-based cardiac rehabilitation for adults after heart valve surgery. Cochrane Database of Systematic Reviews 2016 Mar 21;3:CD010876.

*Smith SC, et al. AHA/ACC scientific statement: AHA/ACC guidelines for preventing heart attack and death in patients with atherosclerotic cardiovascular disease: 2001 update: a statement for healthcare professionals from the American Heart Association and the American College of Cardiology. Circ 2001 Sep 25;104(13):1577-9.

Sumner J, et al. The effectiveness of modern cardiac rehabilitation: A systematic review of recent observational studies in non-attenders versus attenders. PLoS One. 2017;12(5):e0177658.

Taylor RS, et al. Exercise based rehabilitation for heart failure. Cochrane Database Syst Rev 2014 Apr 27;4:CD003331.

Taylor RS, et al. Home-based versus centre-based cardiac rehabilitation. Cochrane Database Syst Rev 2015 Aug 18;8:CD007130.

Taylor RS, et al. The Efficacy of Exercise-Based Cardiac Rehabilitation: The Changing Face of Usual Care J Am Coll Cardiol. 2017 Mar 7;69(9):1207-1208.

ter Hoeve N, et al. Does cardiac rehabilitation after an acute cardiac syndrome lead to changes in physical activity habits? Systematic review. Phys Ther 2015 Feb;95(2):167-79.

*Thomas RJ, et al. AACVPR/ACC/AHA 2010 update: performance measures on cardiac rehabilitation for referral to cardiac rehabilitation/secondary prevention services. J Cardiopulmon Rehabil Prev 2010;30:279-88.

Tikkanen AU, et al. Paediatric cardiac rehabilitation in congenital heart disease: a systematic review. Cardiol Young 2012 Jun;22(3):241-50.

Tsai YJ, et al. Improved oxygen uptake efficiency slope in acute myocardial infarction patients after early phase I cardiac rehabilitation. Int J Rehabil Res. 2017 Apr 13.

*Williams MA, et al. Secondary prevention of coronary heart disease in the elderly (with emphasis on patients > or = 75 years of age): an American Heart Association scientific statement from the Council on Clinical Cardiology Subcommittee on Exercise, Cardiac Rehabilitation, and Prevention. Circ 2002 Apr 9;105(14):1735-43.

*key article

KEY WORDS:

Cardiac rehabilitation, Cardiac therapy, Heart therapy.

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CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a National Coverage Determination (NCD) for Cardiac Rehabilitation Programs. Please refer to the following website for Medicare Members: <http://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=36&ncdver=3&DocID=20.10&bc=gAAAAAgAAAAAA%3d%3d&>.

There is also a Local article for Cardiac and Intensive Cardiac Rehabilitation. Please refer to the following website for Medicare Members: http://apps.ngsmedicare.com/sia/ARTICLE_A45888.htm.

In February 2014, CMS issued a decision memo regarding Cardiac Rehab programs for Chronic Heart Failure. Subsequently, a National Coverage Determination was issued. Please refer to the following website for the National Coverage Determination for Medicare Members: <http://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=359&ncdver=1&CoverageSelection=Both&ArticleType=All&PolicyType=Final&s=New+York++Entire+State&Keyword=cardiac+rehab&KeywordLookUp=Title&KeywordSearchType=And&bc=gAAAABAAAAAAA%3d%3d&>.

Additional information, regarding Cardiac and Intensive Cardiac Rehabilitation Programs, can be found in the Medicare Claims Processing Manual, Section 140, and can be accessed at: <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/clm104c32.pdf>.