MedStar Family Choice		
ADMINISTRATIVE POLICY AND PROCEDURE		
Policy #:	**1417**	
Subject:	**Pulmonary Rehabilitation Program**	
Section:	**Medical Non-Pharmacy Protocols**	
Initial Effective Date:	**01/01/2017**	
Revision Effective Date(s):	**07/18, 07/19, 07/20, 07/21, 07/22, 7/23**	
Historical Revision Date(s):		
Review Effective Date(s):		
Historical Review Date(s):	**07/17**	
Responsible Parties:	**Inna Kats, M.D.**	
Responsible Department(s):	**Clinical Operations**	
Regulatory References:	1. Code of Federal Regulations section 42 CFR410.47 https://gov.ecfr.io/cgi-bin/textidx?SID=e6ad0b73a71e76dccf2e3dcf31358610&mc=true&node=se42.2.410_147&rgn	
Approved:	**Carol Attia, MBA, BSN, RN** **VP Clinical Care and Quality**	**Karyn Wills, MD** **Chief Medical Officer**

Purpose: **To define the conditions under which MedStar Family Choice (MFC) utilization staff may authorize medically supervised pulmonary rehabilitation programs.**

Scope: **MedStar Family Choice, Maryland**

Policy: **It is the policy of MFC to authorize medically supervised pulmonary rehabilitation programs by nurse utilization management staff and Medical Directors as outlined in the criteria below. Requests that do not specifically meet the criteria may be submitted with supporting medical records, articles from the literature, etc. and will be reviewed by a Medical Director for a Medical Exception.**

Procedure:

A. Medical Necessity Criteria:

1. Chronic Obstructive Pulmonary Disease (COPD): Nurse utilization management staff may authorize medically supervised Pulmonary Rehabilitation programs that are prescribed by in-network pulmonology specialists when members have Chronic Obstructive Pulmonary Disease (COPD) that meets or exceeds GOLD Class II criteria for Moderate COPD (FEV1 < 80% predicted).

2. Chronic Respiratory Impairment other than COPD: Drawing on information provided in Table 2 (below) as well as a review of current medical literature and evidence-based practice guidelines, a Medical Director will assess the medical necessity of supervised Pulmonary Rehabilitation programs prescribed by in-network pulmonology specialists for members with the following diagnoses who have disabling dyspnea that restricts ordinary activities of daily living:
    a. Interstitial Lung Disease
    b. Bronchiectasis
    c. Cystic Fibrosis
    d. Asthma
    e. Pulmonary Hypertension
    f. Lung Cancer
    g. Lung Volume Reduction Surgery
    h. Lung Transplantation
    i. Covid-19, confirmed or suspected with persistent symptoms that include respiratory dysfunction for at least four weeks

3. Duration of Pulmonary Rehabilitation & Redetermination: Initial authorization may include 2 one-hour sessions per day up to 36 covered sessions for up to 36 weeks pending redetermination, with a maximum of 72 total covered sessions after redetermination. The redetermination process involves a review of medical records that reflect member performance in the initially authorized Pulmonary Rehabilitation program.

TABLE 2. EXERCISE-BASED REHABILITATION IN PATIENTS WITH CHRONIC RESPIRATORY DISEASE OTHER THAN CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Population	Evidence for PR	Outcomes of PR	Special Considerations	Specific Assessment Tools
Interstitial lung disease	Two RCTs of exercise training (272, 273); one observational pulmonary rehabilitation study (274); one systematic review (275)	Improved 6-min walk distance, dyspnea, and quality of life. Magnitude of benefits smaller than that seen in COPD (275, 276). Benefits not maintained at 6 mo (275, 276).	Exercise-induced desaturation and pulmonary hypertension are common. Supplemental oxygen should be available and appropriate monitoring of oxyhemoglobin saturation during exercise is indicated.	An IPF-specific version of the St. George's Respiratory Questionnaire is available, with fewer items than the standard version (277)
Bronchiectasis	One RCT of exercise ± inspiratory muscle training (278); one large retrospective study of standard PR (279)	Improvement in incremental shuttle walk test distance and endurance exercise time. Benefits maintained after 3 mo only in group that did inspiratory muscle training in addition to whole body exercise training (278). Benefits of equivalent magnitude to those seen in COPD (279).	Role of airway clearance techniques not yet established. Importance of inspiratory muscle training muscle training unclear—associated with better maintenance of benefit in RCT (278)	Consider measuring impact of cough, e.g., Leicester Cough Questionnaire (280)
Cystic fibrosis	Six RCTs of aerobic training (281–283), anaerobic training (283, 284), combined training (285), or partially supervised sports (286); one systematic review (287)	Improvements in exercise capacity, strength, and quality of life; slower rate of decline in lung function; effects not consistent across trials	Walking exercise decreases sputum mechanical impedance (288), indicating a potential role for exercise in maintaining bronchial hygiene. No specific recommendations regarding pulmonary rehabilitation are included in CF infection control guidelines (289); however, it is noted that people with CF should maintain a distance of at least 3 ft from all others with CF when in the outpatient clinic setting. Local infection control policies may preclude participation in group exercise programs.	CF-specific quality of life questionnaires are available—Cystic Fibrosis Quality of Life Questionnaire (290) and Cystic Fibrosis Questionnaire (291)
Asthma	One systematic review (292); two RCTs of exercise training (293, 294)	Improved physical fitness asthma symptoms, anxiety, depression, and quality of life (292–294)	Preexercise use of bronchodilators and gradual warm-up are indicated to minimize exercise-induced bronchospasm. Cardiopulmonary exercise testing may be used to evaluate for exercise-induced bronchospasm (295).	Consider measures of asthma symptoms and asthma-specific quality of life measures, e.g., Asthma Quality of Life Questionnaire (296)
Pulmonary hypertension	One RCT (297); two prospective case series (87, 298)	Improved exercise endurance, WHO functional class, quality of life, peak $\dot{V}O_2$ (87, 297, 298), increased peak workload (298), and increased peripheral muscle function (87)	Care must be taken to maintain $Sa_{O_2} > 88\%$ during exercise and supplemental O_2 should be available. BP and pulse should be monitored closely. Telemetry may be needed for patients with known arrhythmias. Avoid falls for patients receiving anticoagulant medication. Light or moderate aerobic, and light resistive, training are recommended forms of exercise (299). High-intensity exercise, activities that involve Valsalva-like maneuvers or concurrent arm/leg exercises are generally not recommended. Close collaboration between PR providers and pulmonary hypertension specialists is needed to ensure safe exercise training. Exercise should be discontinued if the patient develops lightheadedness, chest pain, palpitations, or syncope.	Cambridge Pulmonary Hypertension Outcome Review (CAMPHOR) (300) WHO Functional Class (301) SF-36 (302) Assessment of Quality of Life instrument (AQoL) (303)

Lung cancer	Preoperative PR: Small, uncontrolled observational studies (304, 305) Postoperative PR: Small uncontrolled trials (306–308); two RCTs comparing aerobic training, resistive training, or both in postsurgical lung cancer patients are ongoing (309, 310); one systematic review (311) Medical treatment: Case series of patients with nonresectable stage III or IV cancer (312)	Improved exercise tolerance (304, 305), possible change in status from noncandidate for surgical resection to operative candidate Increased walking endurance, increased peak exercise capacity, reduced dyspnea and fatigue (306–308). Variable impact on quality of life (311) Improved symptoms and maintenance of muscle strength (312)	Short duration (e.g., 2–4 wk), up to 5 times per week, needed to avoid delay in potential curative surgery	Functional Assessment of Cancer Therapy-Lung Cancer (FACT-L) (313, 314) Trial Outcome Index (314, 315) Functional Assessment of Cancer Therapy Fatigue Scale (316, 317)
Lung volume reduction surgery	Prospective observational study (318): Analysis of data from the National Emphysema Treatment Trial; a small case series (efficacy of home-based PR before LVRS) (319)	Pre-LVRS PR and exercise training: Improved exercise capacity (peak workload, peak $\dot{V}O_2$, walking endurance), muscle strength, dyspnea, and quality of life (318, 319)	Oxygen saturation should be monitored. Explanations of the surgical procedure, postoperative care including chest tubes, lung expansion, secretion clearance techniques, and importance of early postoperative mobilization should be included in the educational component of PR	Quality of Well-Being Score (320, 321) Usual outcome assessments for COPD, such as CRQ (322) and SGRQ (323), are appropriate. Consider generic tools such as SF-36 (302) to allow comparison with population normative values postoperatively
Lung transplantation	Pretransplant PR: One RCT comparing interval versus continuous training (324); small uncontrolled trials evaluating benefits of pretransplant PR, including Nordic walking (325–328) Post-transplant PR: Two RCTs; a few cohort studies; one systematic review assessing PR after lung transplantation (83, 329–331)	Pretransplant PR: Improved exercise tolerance and well-being (325–327) Post-transplant PR: Increased muscle strength, walking endurance, maximal exercise capacity, and quality of life (83, 329–331)	Exercise prescription must be tailored to patients with severe end-stage lung disease and to specific considerations pertaining to the disease for which the transplant is being considered. Patients may require lower intensity or interval training. Hemodynamic parameters and oxygenation should be monitored closely; O_2 should be available. Educational component should cover surgical techniques, risks, benefits of the surgery, postoperative care (controlled cough, incentive spirometry, chest tubes, wound care, secretion clearance techniques, importance of early mobilization, risk and benefits of immunosuppressive agents)	SF-36 and other assessment tools appropriate for the individual disease state

Definition of abbreviations: BP = blood pressure; CF = cystic fibrosis; COPD = chronic obstructive pulmonary disease; CRQ = Chronic Respiratory Questionnaire; IPF = interstitial pulmonary fibrosis; LVRS = lung volume reduction surgery; PR = pulmonary rehabilitation; RCT = randomized controlled trial; Sa_{O_2} = oxygen saturation; SF-36 = Short Form-36; SGRQ = St. George's Respiratory Questionnaire; $\dot{V}O_2$ = aerobic capacity; WHO = World Health Organization.

References:

2. Department of Health & Human Services, Centers for Medicare and Medicaid Services (CMS). CMS Manual System, Pub 100-02 Medicare Benefit Policy, Transmittal 124. May 7, 2010. https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R124BP.pdf
3. Department of Health & Human Services, Centers for Medicare and Medicaid Services (CMS). Local Coverage Article: Billing and Coding: Pulmonary Rehabilitation Services (A56152) https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=56152
4. Department of Health & Human Services, Centers for Medicare and Medicaid Services (CMS). National Coverage Determination (NCD): Pulmonary Rehabilitation Services (240.8) https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=320&ver=1
5. Rochester CL, Vogiatzis I, Holland AE, et al. An Official American Thoracic Society/European Respiratory Society Policy Statement: Enhancing Implementation, Use, and Delivery of Pulmonary Rehabilitation. Am J Respir Crit Care Med. 2015. https://www.atsjournals.org/doi/full/10.1164/rccm.201309-1634ST

6. Code of Federal Regulations section 42 CFR410.47
   https://gov.ecfr.io/cgi-bin/textidx?SID=e6ad0b73a71e76dccf2e3dcf31358610&mc=true&node=se42.2.410_147&rgn

Summary of Changes:	**07/23:** • Updated approved by to Carol Attia and Dr. Wills • Updated References • Updated Regulatory References **07/22:** • Added Maryland EQRO Systems Performance Review: Standard 7.2 to Regulatory References. • Changed Medical Advisors to Medical Directors. • Changed Physician Advisor to Medical Director. • Added Covid-19 to Medical Necessity Criteria. • Increased duration of coverage. • Changed responsible party from Dr. Toye to Dr. Kats. • Formatted reference section. **07/21:** • Added "Maryland" to scope. • Updated Responsible Departments from Utilization Management to Clinical Operations. • Updated references. **07/20:** • Updated Section from Care Management to Medical Non-Pharmacy Protocols. **07/19:** • Removed "Maryland" from scope. **07/18:** • Removed references to DC health plans. • Changed "Physician Advisor" to "Medical Director." • Modified Effective Date to Initial Effective Dates; added Historical Revision Dates and Revision Effective Dates; and added Historical Review Dates and Review Effective Dates. **07/17:** • Changed Carol Attia to Theresa Bittle and updated Dr. Patryce Toye's title from Senior Medical Director to Chief Medical Officer. **01/17:** • New policy.