

Subject: Pulmonary Rehabilitation
Guideline #: CG-REHAB-03
Status: Revised

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Description

This document addresses the use of pulmonary rehabilitation for the treatment of various lung conditions. Pulmonary rehabilitation (PR) is an individually tailored multidisciplinary program of care for people with chronic respiratory impairment.

Clinical Indications

Medically Necessary:

Pulmonary rehabilitation (PR) is considered **medically necessary** in individuals who meet the following criteria:

- A. Individual is preparing for **or** recovering from surgical interventions such as:
 - 1. Lung transplantation; **or**
 - 2. Lung volume reduction surgery; **or**
 - 3. Post-operative states; (for example, thoracic or abdominal surgery).
- or**
- B. Individual has any of the following conditions:
 - 1. Chronic obstructive pulmonary disease such as:
 - a. Asthma; **or**
 - b. Bronchiectasis; **or**
 - c. Chronic bronchitis; **or**
 - d. Cystic fibrosis; **or**
 - e. Emphysema; **or**
 - 2. Restrictive diseases such as:
 - a. Chest wall disease; **or**
 - b. Interstitial disease; **or**
 - c. Post-polio syndrome; **or**
 - d. Selected neuromuscular disorders; **or**
 - e. Thoracic cage abnormalities; **or**
 - 3. Stable lung cancer;
- and**
- C. Individual continues to have disabling dyspnea despite optimal medical management associated with the following:
 - 1. A restriction in ordinary activities; **and**
 - 2. Significant impairment in quality of life;
- and**
- D. Individual is motivated to participate in a PR program;
- and**
- E. Individual is free from the following (1 and 2 below):
 - 1. Conditions that may interfere with the individual undergoing the rehabilitative process, including but not limited to:
 - a. Advanced arthritis; **or**
 - b. Disruptive behavior; **or**
 - c. Inability to learn;
 - and**
 - 2. Conditions that may place the individual at undue risk during exercise training, including but not limited to:
 - a. Recent myocardial infarction; **or**
 - b. Severe pulmonary hypertension; **or**
 - c. Unstable angina.

Repeat PR programs may be considered **medically necessary** for individuals undergoing a second PR program in connection with lung transplantation or lung volume reduction surgery when medical necessity criteria for PR are met.

Not Medically Necessary:

PR provided in the **inpatient** setting is considered **not medically necessary** when medical necessity criteria for PR are not met.

Place of Service/Duration

Place of Service: Ambulatory/Outpatient

Duration: Frequency and duration of the program may vary according to the individual's needs. It is not uncommon for the individual to receive therapy 3 times per week for 4 to 6 weeks.

Coding

The following codes for treatments and procedures applicable to this document are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

When services may be Medically Necessary when criteria are met:

CPT

| | |
|--------------|--|
| 94625 | Physician or other qualified health care professional services for outpatient pulmonary rehabilitation; without continuous oximetry monitoring (per session) |
| 94626 | Physician or other qualified health care professional services for outpatient pulmonary rehabilitation; with continuous oximetry monitoring (per session) |
| HCPCS | |
| G0237 | Therapeutic procedures to increase strength or endurance of respiratory muscles, face to face, one on one, each 15 minutes (includes monitoring) |
| G0238 | Therapeutic procedures to improve respiratory function, other than described by G0237, one on one, face to face, per 15 minutes (includes monitoring) |
| G0239 | Therapeutic procedures to improve respiratory function or increase strength or endurance of respiratory muscles, two or more individuals (includes monitoring) |
| G0302-G0304 | Pre-operative pulmonary surgery services for preparation for LVRS [includes codes G0302, G0303, G0304] |
| G0305 | Post-discharge pulmonary surgery services after LVRS, minimum of 6 days of services |
| S9473 | Pulmonary rehabilitation program, non-physician provider, per diem |

ICD-10 Diagnosis

All diagnoses

When services are Not Medically Necessary:

For the procedure codes listed above when criteria are not met.

Discussion/General Information

According to the American Thoracic Society (ATS) pulmonary rehabilitation is defined as:

A comprehensive intervention based on a thorough patient assessment followed by patient-tailored therapies, which include, but are not limited to, exercise training, education, and behavior change, designed to improve the physical and psychological condition of people with chronic respiratory disease and to promote the long-term adherence of health-enhancing behaviors.

The PR program combines an accurate diagnosis with therapy, emotional support, and education to stabilize or reverse both the physio- and psychopathology of pulmonary disease.

The goal of PR is to:

- Restore the individual to the highest possible level of independent function.
- Educate the individual and significant others about the disease, treatment options, and coping strategies.
- Encourage individuals to be actively involved in providing for their own healthcare and to be more independent in activities of daily living (ADL).

Several studies have demonstrated important benefits of PR including reducing dyspnea (shortness of breath) and improving exercise capacity, total energy expenditure, and quality of life (QOL) (Dodd, 2012; Dowman, 2021; Egan, 2012; Higashimoto, 2020; Mandal, 2012; McFarland, 2012). A number of studies have demonstrated that PR has also been associated with decreases in hospitalization rates and the overall utilization of medical resources. A randomized trial conducted by Ries, and colleagues (2005) demonstrated a non-significant trend for PR to increase 5-year survival. Mandal and colleagues (2012) conducted a pilot randomized controlled trial (RCT) with 30 subjects with non-cystic fibrosis bronchiectasis. The primary outcome measure was the incremental shuttle walking test (ISWT). Study authors reported no benefit for subjects in the control group, who received chest physiotherapy only, at the end of 8 weeks of therapy, or at 20 weeks post-therapy. Subjects in the experimental group, who received chest physiotherapy in conjunction with PR, demonstrated significant benefits (relative to baseline values) on ISWT ($p=0.03$), endurance walk test (EWT) ($p=0.01$), Leicester Cough Questionnaire (LCQ) ($p<0.001$), and St. George's Respiratory Questionnaire (SGRQ) ($p<0.001$). At 12 weeks following the last training session, the experimental group also showed continued and significant improvement (relative to baseline values) for ISWT ($p=0.04$) and EWT ($p=0.003$). LCQ and SGRQ also were significantly improved compared with baseline ($p<0.001$ for both measures). Limitations of this study included the lack of statistical comparisons between treatment and control groups, small study population, lack of blinding, and lack of clinically relevant primary outcome measures. Additional well-designed RCTs are necessary to confirm these initial findings.

An RCT by Lai and colleagues (2017) compared a preoperative, high-intensity, 7-day pulmonary rehabilitation program to standard care for 101 subjects preparing for lung cancer lobectomy. The primary endpoint was postoperative complications within 30 days of surgery, including atelectasis, acute respiratory distress syndrome, respiratory failure, mechanical ventilation, deep vein thrombosis/pulmonary embolism, and empyema/pneumonia. The researchers found that postoperative complications were significantly lower in the pulmonary rehabilitation group compared to the standard care group (5/51, 9.8% versus 14/50, 28%; $p=0.019$). In addition, the pulmonary rehabilitation group was able to walk further in 6 minutes (22.9 ± 25.9 m versus 4.2 ± 9.2 m), had better peak expiratory flow (increase of 25.2 ± 24.6 l/min versus 4.2 ± 7.7 l/min), and had a shorter postoperative hospital stay (6.1 ± 3.0 versus 8.7 ± 4.6 days; $p=0.001$). A total of 6 subjects did not complete the 7-day pulmonary rehabilitation program due to needing surgery early (2 cases), lack of endurance (2 cases), and perceived lack of benefit (2 cases). Overall, the researchers concluded that individuals with lung cancer benefit from a high-intensity, systematic, preoperative pulmonary rehabilitation program and have fewer postoperative complications.

In a joint consensus statement by the American Thoracic Society and the European Respiratory Society (2015), the following statement was made:

PR has demonstrated effectiveness for several respiratory conditions other than COPD. Randomized controlled trials demonstrating its beneficial effects on exercise capacity, symptoms, and/or health-related quality of life are available in interstitial lung disease, bronchiectasis, asthma, cystic fibrosis, lung transplantation, lung cancer, and pulmonary hypertension.

In a joint guideline published by the American College of Chest Physicians and the Canadian Thoracic Society (2016), the following recommendations were made for individuals with severe, or very severe COPD:

- ...a recent exacerbation (for example, ≤ 4 weeks), we recommend pulmonary rehabilitation to prevent acute exacerbations of COPD (Grade 1C)
- ...an exacerbation greater than the past 4 weeks, we do not suggest pulmonary rehabilitation to prevent acute exacerbations of COPD (Grade 2B)

In a joint guideline by the American Thoracic Society and the European Respiratory Society (Wedzicha, 2017), the following statement was made:

Pulmonary rehabilitation implemented within 3 weeks after discharge following a COPD exacerbation reduces hospital admissions and improves quality of life, while pulmonary rehabilitation implemented within 8 weeks after discharge increases exercise capacity.

Effective January 1, 2022 the Center for Medicare Services issued a final rule which requires pulmonary rehabilitation coverage for beneficiaries with confirmed or suspected COVID-19 who experience persistent symptoms that include respiratory dysfunction for at least four weeks.

Li and colleagues (2021) reported the results of a parallel-group, randomised controlled trial, with 1:1 block randomization of 120 previously hospitalized COVID-19 survivors with complaints of lingering dyspnea. The study investigated whether survivors in a 6-week telerehabilitation program (n=59) via smartphone, and remotely monitored with heart rate telemetry, could improve functional exercise capacity, pulmonary function, lower limb muscle strength, health related quality of life, and dyspnea versus no rehabilitation (control n=61). The study demonstrated that 6-minute walking distance in the control group increased by 17.1 m from baseline at 6-week post-treatment assessment, whereas 6-minute walking distance in the treatment group improved by 80.2 m. The adjusted between-group difference in change from baseline was 65.45 m (p<0.001). Additionally, lower muscle strength was measured via static squat test in how many seconds participants could remain in the squatting position. This measurement also improved to a greater degree in the treatment group as compared with the control group. Squat test times were 20.12s post-treatment (p<0.001), and 22.23s (p<0.001) at 24-week follow-up. Lung function also improved in both groups. However, no differences were found between groups apart from a change from baseline of 10.57 L/min (p=0.005) in post-treatment maximum voluntary ventilation (MVV) in the treatment group. Health related quality of life as measured by the Short Form Health Survey-12 and Modified Medical Council Dyspnea Scale, also increased to a greater degree in the treatment group at post-treatment 3.79 points (p=0.004) and 2.69 points at follow-up (p=0.045), with 90.4% being dyspnea-free in the treatment group as opposed to 61.7% in the control group (p=0.001). Interestingly, a treatment effect for on dyspnea was found immediately after the treatment but not at follow up. No serious adverse events occurred during the study. Eight individuals (5 in the treatment and 3 in the control group) were hospitalized, all for non-life-threatening reasons unrelated to COVID-19 or the intervention and all in the follow-up period. The authors concluded that the telerehabilitation program was superior over not intervention with regard to functional exercise capacity, lower muscle strength, and physical health related quality of life. Short term effects were found for self-reported dyspnea and MVV. The effects of the program on pulmonary function are otherwise unlikely and effects on the mental aspects of quality of life are small at best.

Hockele and colleagues (2022) also reported the results of a clinical trial which studied the effects of pulmonary and physical rehabilitation on functional capacity via six-minute walk test, pulmonary function measured by spirometry, respiratory muscle strength by manovacuometry, handgrip strength by dynamometry, quality of life by the COPD Assessment Test, and functional status by the Post Covid Functional Status Test. Twenty-nine (n=29) individuals diagnosed with post-COVID-19 mild, moderate, or severe involvement by chest tomography, underwent 16 sessions in a rehabilitation program. After testing participants performed inspiratory muscle training exercises (IMT), aerobic exercise and peripheral muscle strength exercises, standardized by a protocol two times per week, for 60 min each. After two months of treatment, participants were reassessed to measure their individual improvements. The functional capacity increased in meters walked from 326.3 ± 140.6 to 445.4 ± 151.1 (p< 0.001), with an increase in the predicted value from 59.7% to 82.6% (p< 0.001). The lung function increased in liters from 2.9 ± 0.8 to 3.2 ± 0.8 (p=0.004) for forced vital capacity and from 2.5 ± 0.7 to 2.7 ± 0.7 (p=0.001) for forced expiratory volume in the first second. The respiratory muscle strength increased in cmH₂O from 101.4 ± 46.3 to 115.8 ± 38.3 (p=0.117) for inspiratory pressure and from 85.8 ± 32.8 to 106.7 ± 36.8 (p<0.001) for expiratory pressure. The authors concluded that the program provided an improvement in all domains for the participants, restoring their quality of life.

Multiple systematic reviews have been published that support the efficacy of PR in managing COPD-related illnesses (Gordon, 2019; Lee, 2016; Lee, 2019; Mantoani, 2016; Meshe, 2016; Paneroni, 2017; Yang, 2019; Yu, 2019) including a Cochrane Review which included 20 studies representing a total of 1477 individuals (Puhan, 2016).

Frequency and duration of the program may vary according to the individual's needs. It is not uncommon for the person to receive therapy 3 times per week for 4 to 6 weeks.

The permanence of outcomes achieved by PR appears to be more related to the structure and duration of the supervised maintenance component of the program than the intensity of the program. The long-term outcome data are somewhat limited in this respect. To achieve sustained results, it is important that the person continues with the at-home regimen outlined in the PR program.

There is currently no evidence that repeat pulmonary rehabilitation programs result in additive long-term benefits in terms of dyspnea, exercise tolerance, or health-related quality of life (HR-QOL) measures.

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Asthma
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 Chronic Obstructive Pulmonary Disease
 Chronic Respiratory Impairment
 Cystic Fibrosis
 Emphysema
 Lung Transplantation
 Lung Volume Reduction
 Post-Polio Syndrome
 Pulmonary Rehabilitation

History

| Status | Date | Action |
|----------|--------------------------|---|
| Revised | 05/11/2023 | Medical Policy & Technology Assessment (MPTAC) review. Revised hierarchy and formatting of MN in Clinical Indications section. Updated Discussion and References section. |
| Reviewed | 05/12/2022 12/29/2021 | MPTAC review. Updated References section. Updated Coding section with 01/01/2022 CPT and HCPCS changes; added 94625, 94626 effective 01/01/2022, removed G0424 deleted 12/31/2021. |
| Reviewed | 05/13/2021 | MPTAC review. Discussion/General Information and References sections updated. Reformatted Coding section. |
| Reviewed | 05/14/2020 | MPTAC review. References section updated. |
| Reviewed | 06/06/2019 | MPTAC review. References section updated. |
| Reviewed | 07/26/2018 | MPTAC review. The document header wording updated from "Current Effective Date" to "Publish Date." Discussion/General Information and References sections updated. |
| Reviewed | 08/03/2017 | MPTAC review. Updated Discussion/General Information and References section. |
| Reviewed | 08/04/2016 | MPTAC review. Updated Reference section. Removed ICD-9 codes from Coding section. |
| Revised | 08/06/2015 | MPTAC review. Reformatted criteria. Updated Background/Overview and References sections. |
| Reviewed | 08/14/2014 | MPTAC review. Updated Discussion/General Information and References sections. |
| Reviewed | 08/08/2013 | MPTAC review. Updated reference section. |
| Reviewed | 08/09/2012 | MPTAC review. Updated reference section. |
| Reviewed | 08/18/2011 | MPTAC review. |
| Reviewed | 08/19/2010 | MPTAC review. |
| | 01/01/2010 | Updated coding section with 01/01/2010 HCPCS changes. |
| Reviewed | 08/27/2009 | MPTAC review. |
| Reviewed | 08/28/2008 | MPTAC review. |
| | 11/05/2007 | Updated Reference section. Added 2007 ACCP/AACVPR recommendations. |
| Revised | 08/23/2007 | MPTAC review. Removed "superimposed cardiac disease" from medically necessary section. Updated reference section. Coding updated; removed HCPCS G0110-G0116 deleted 12/31/2005. |
| Reviewed | 09/14/2006 11/21/2005 | MPTAC review. Updated references. Added reference for Centers for Medicare and Medicaid Services (CMS) – National Coverage Determination (NCD). |
| Revised | 09/22/2005 | MPTAC review. Revision based on Pre-merger Anthem and Pre-merger WellPoint Harmonization. |

| Pre-Merger Organizations | Last Review Date | Document Number | Title |
|---------------------------------|------------------|-----------------|---|
| Anthem MidWest | | RA-010 | Pulmonary Rehab in Acute Inpatient Rehabilitation Setting |
| Anthem West | | UMR.016 | Pulmonary Rehabilitation |
| Anthem SouthEast | | Memo 1121 | Pulmonary Rehabilitation |
| Anthem New Hampshire | | | Pulmonary Rehabilitation |
| WellPoint Health Networks, Inc. | 04/28/2005 | 2.05.10 | Pulmonary Rehabilitation (Outpatient) |

Federal and State law, as well as contract language, and Medical Policy take precedence over Clinical UM Guidelines. We reserve the right to review and update Clinical UM Guidelines periodically. Clinical guidelines approved by the Medical Policy & Technology Assessment Committee are available for general adoption by plans or lines of business for consistent review of the medical necessity of services related to the clinical guideline when the plan performs utilization review for the subject. Due to variances in utilization patterns, each plan may choose whether to adopt a particular Clinical UM Guideline. To determine if review is required for this Clinical UM Guideline, please contact the customer service number on the member's card.

Alternatively, commercial or FEP plans or lines of business which determine there is not a need to adopt the guideline to review services generally across all providers delivering services to Plan's or line of business's members may instead use the clinical guideline for provider education and/or to review the medical necessity of services for any provider who has been notified that his/her/its claims will be reviewed for medical necessity due to billing practices or claims that are not consistent with other providers, in terms of frequency or in some other manner.

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