Pulmonary Rehabilitation

Presented by
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Objectives
Learner will be able to:
1. Differentiate between patients who meet CMS GOLD Criteria for Comprehensive Pulmonary Rehab versus Therapeutic Respiratory Care Services.
2. Apply evidence based clinical practice guideline recommendations for pulmonary rehabilitation.
3. Use patient outcomes to monitor areas of program that are clinically significant and those that need improvement.

Disclosures
- I don't have any disclosures

Learner Outcome:
- See that Pulmonary Function Testing and clinical documentation are essential to insure the patient meets CMS GOLD Criteria for Pulmonary Rehab or Therapeutic Respiratory Care Services.
- Be able to use resources provided to start or improve your pulmonary rehab program.
Comprehensive Pulmonary Rehabilitation for COPD per CMS Rules follow

Global Obstructive Lung Disease (GOLD) Criteria

Charge CODE G0424 and ICD 10 Code J44.9

- Stage II Moderate COPD  • less than 70% FEV1/FVC
  - 50% less than or equal to FEV1 less than 80%
- Stage III Severe COPD  • FEV1/FVC less than 70%
  - 30% less than or equal to FEV1 less than 50%
- Stage IV Very Severe COPD  • FEV1/FVC less than 70%
  - FEV1 less than 30% predicted or FEV1 less than 50% predicted plus chronic respiratory failure.

- GOLD Criteria is post bronchodilator
- CMS allows 36 sessions/lifetime. However there is a 2nd set of up to 36 sessions allowed if patient has significant medical need (such as hospitalizations with exacerbations – rare)
- Use KX modifier if you go past initial 36 allowed

Therapeutic Respiratory Care Services for Other Lung Diseases with Exacerbation of Respiratory Symptoms

- Asthma
- Asthmatic Bronchitis
- Interstitial lung disease
- Restrictive Lung Disease
- Obesity Hypoventilation Syndrome
- Pulmonary hypertension
- Neuromuscular disorders
- Lung transplant
- Lung cancer
- Chest wall disorders
- Thoracic surgery
- Cystic fibrosis

Therapeutic Respiratory Care Services

Charge codes G0237, G0238 & G0239 and ICD 10 codes as applicable

- G0237 1:1 Therapeutic procedures to improve respiratory muscle function.
- Examples: 6 MWT, Inspiratory Muscle Training (IMT), Acapella or Aerobika training, Breathing Retraining, Panic Control with Breath Saving Positions
Therapeutic Respiratory Care Services

- **G0238** (1:1) Therapeutic procedures to improve respiratory function & strengthening of the Extremities
- Examples: Therapeutic Exercise, Energy Conservation & proper breathing with ADLs, Starting Home Exercise, and Home Exercise Prescription

Therapeutic Respiratory Care

- G0237 & G0238 are for 1:1 therapy
- 1 unit = ≥ 8 - 22 minutes
- 2 units = ≥ 23 - 37 minutes
- 3 units = ≥ 38 to 52 minutes
- 4 units = ≥ 53 to 67 minutes
- And so forth...
  - If you use more than 1 unit of a code you need to add modifier 59 for additional units

Therapeutic Respiratory Care

- **G0239** (Group code for anything done in G0237 & G0238 with more than 1 person)
  - Must be at least 8 min. and can only be charged once per day per person
Lung Volume Reduction Surgery

- Pre and post lung volume reduction surgery (LVRS)
- G0302 - G0305 per services provided
- These are bundled codes

Benefits of Pulmonary Rehab

- Increased endurance, strength and functional capacity
- Less dyspnea with exertional activities & exercise
- Greater independence with activities of daily living
- Improved quality of life

Pulmonary Rehab Referrals / Orders

- Outpatient clinics – Majority come from Pulmonary Medicine, Internal Medicine or Family Practice
- Hospital – Patient can be referred from physician at hospital however a physician that follows the patient regularly needs to sign orders.
- Hospital referrals from a Hospitalist – Hospital Readmission Reduction Program (HRRP). We make sure PFT’s meet CMS GOLD Criteria or that the diagnosis meets need for Therapeutic Respiratory Care Services.
- If there isn’t a PFT with Before & After Bronchodilator (BABD) within 2 years we ask physician to order one.
- If they have had a PFT within the year without BABD we ask for either a PFT post BD test or BABD.
Physician Referrals / Orders

- We have electronic orders that say Pulmonary Rehab Consult or Pulmonary Rehab Outpatient Consult pending PFT’s to see if CMS criteria is met.

Pulmonary Rehab Orders

- We currently send or fax more specific paper orders for physician to sign.
- Goal is to have these specific orders in our electronic system.
- Order has an area to mark diagnosis with check box for GOLD Stage COPD or Non-COPD with Exacerbation and place for date of exacerbation.
- Order allows us to titrate oxygen
- Perform 6 MWT
- Give nebulizer treatments PRN
- To use target HR or 60-85% age related max or other
- Exercise prescription & ability to adjust it per policy or they can write specific prescription.

Prevention of Acute Exacerbation of COPD

- Executive Summary: Chest April 2015; 147(4):883-893
- American College of Chest Physicians and Canadian Thoracic Society Guideline
- PICO Format defines the population, intervention, comparator, and outcome of interest.
PICO1 Recommendations:

- 4. “In patients with moderate, severe, or very severe COPD who have had a recent exacerbation (i.e. < 4 weeks), we recommend pulmonary rehabilitation to prevent acute exacerbations of COPD.” (Grade 1C)
- 5. “We do not suggest pulmonary rehabilitation to prevent acute exacerbations in patients with COPD greater than 4 weeks after a recent hospitalization.” (Grade 2B)

Chest: Evidence-Based Medicine

- PICO 1.
  5. It has been well established that pulmonary rehabilitation improves quality of life, exercise tolerance and dyspnea.

ACOS
Asthma – COPD Overlap Syndrome

- Starting to see this diagnosis appear in patients records
- PFT with BABD guides if patient will come into therapy under Comprehensive Pulmonary Rehab defined by GOLD Criteria for COPD or under Therapeutic Respiratory Care for Asthma with recent exacerbation
GOLD Issues 2017 Report
Published online ahead of print by the American Journal of Respiratory & Critical Care Medicine January 27th, 2017 aarc.org/gold-issues-2017-report

- Separation of spirometric values from the ABCD grouping of pts by symptoms and risk of exacerbation.
  - FEV1 predicts hospitalization and mortality
  - Individualized care highlights importance of symptoms and exacerbation risks to guide therapies for COPD
- Inclusion of specific escalation and de-escalation strategies for pharmacological treatments.
- Addition of a comprehensive review of non-pharmacologic treatment of COPD.
  - Benefits Pulm Rehab, exercise training, O2 therapy, vaccinations, interventional bronchoscopy & surgery, end of life & palliative care.
  - Recognition that COPD often coexists with other diseases, including CVD, Osteoporosis, anxiety, depression, GERD & OSA. Treat COPD to ensure simplicity of tx and minimize polypharmacy.

Essential Components of Pulmonary Rehabilitation

AACVPR Position Statement for Clinical Competency PR Professionals

- Coordinator trained in health-related profession. Clinical experience and expertise in care of patients with pulmonary diseases. Should understand philosophy of pulmonary rehab and be knowledgeable in program administration, marketing and patient education, exercise and training and reimbursement.
- HIPAA
- Awareness of state practice act restrictions.
- Risk management knowledge as applies to assessment, intervention and follow-up.
- Current license
- ACLS/BLS
- Maintain contact education hours required by state license

Emergency Planning – 4 per year for AACVPR Certification

- CPR – Code
- Chest Pain/Angina
- Tachy Arrhythmias
- Brady Arrhythmias
- Acute Dyspnea
- Hypertension
- Hypertension
- Hyperglycemia
- Hypoglycemia
Clinical Competency-4 per year for AACVPR Certification
- Dyspnea assessment & management
- Respiratory medications/therapeutics
- Psychosocial management
- Collaborative self management
- 6 MWT or other exercise testing
- 02 Therapy and 02 Management
- Respiratory diseases other than COPD
- Tobacco Cessation
- Exercise training/exercise prescription

Patient Assessment
- Diagnosis, secondary diagnosis, orthopedic issues, other co-morbidities
- PFT, CXR, CT, ECG, ECHO, Stress Test, CV hx, vaccinations, lab work
- Patient goals – specific, measurable
- Program goals – educational classes, days of exercise per week and for non-COPD number of weeks
- Compliance with 02, medications, inhaled medications, CPAP/BiPAP
- Are they cleaning and disinfecting respiratory equipment
- Dyspnea at rest, exertion, ADL’s
- Surveys – Quality of Life

Psychosocial Assessment
- Surveys
- Adjusting to disease process and limitations
- Substance abuse problems
- Anxiety, panic, depression, stress
- Motivation
- Interpersonal conflict
- Family issues
Psychosocial Assessment
- Home situation
- Financial problems
- Disability
- Neuropsychological impairment
- AD, Living Will, 5 Wishes, POLST
- Consider Social Service/Care Management Consult
- Stress management class
- Panic Control Class

Nutritional Assessment
- Height/weight and BMI
- Alcohol use
- Goal lose wt, gain wt, avoid wt loss
- Surveys
- Underweight < 21 BMI
- Normal 22-25 BMI
- Overweight 26 – 30 BMI
- Obese 31 – 35 BMI
- Morbidly Obese 36 & > BMI
- Hospital Dietician leads class

Tobacco Use Assessment
- Smoker? Smoking hx
- If quit – date
- Stage of change – precontemplative, contemplative, action, maintenance or termination
- Preparing to quit?
- Coaching
- Adjunctive therapy
- Literature, workbook
Educational Classes

- Inhaled medications
- Disease Process
- Bronchial Hygiene – Huff cough, Aerobika or Acapella
- Energy Conservation with AQLs & Starting Home Exercise
- O2 Therapy Altitude and Travel
- Keeping Respiratory Equipment Clean
- Infection Control
- Self Assessment
- Panic Control
- Triggers and Environmental Controls
- Home Exercise Prescription
- Advanced Directives – Case Management
- Proper Nutrition – Dietician
- Stress Management – Social Worker

Monitoring in Pulmonary Rehab

- Providing physiologic or other data about the patient during the period before, during and after the activities.
- It may include pulse oximetry, electrocardiography, pulmonary testing, measurements of strength or endurance performed to assess status of patient before during or after the activities.
- Blood pressure
- Blood sugar on diabetics on orals or insulin pre and post exercise
- Pain, BORG, RPE

Functional Capacity

- 6 MWT
- Staff with Clinical Competency in 6 minute walk testing
- Contraindications?
  - Prescribed O2 flow with exercise for 10 minutes at rest prior
  - We usually do on patient’s portable system to see if adequate
  - Emergency equipment is readily available
  - Marked track for distance
- Wrist oximeter for continuous O2 monitoring, telemetry (we do initially and PRN per Risk assessment)
- Stop watch, BP cuff, clip board, 6 MWT form, Dyspnea and RPE Scales
- Has patient had quick acting bronchodilator within 2 hrs? Ok to use prior to walk if prescribed to use prior to exercise or if patient is due for treatment.
6 Minute Walk Testing

- Do they use cane, walker, 4 wheeled walker, pull or carry O2 usually?
- Standardized way to tell patient why you are doing the test and how to do the test - covering as much distance as they can. Use level tone in encouragement.
- Assess vital signs at rest, immediately post walk and 5 minutes post rest and PRN with adverse signs and symptoms with walk.
- Stop testing for adverse symptoms or SpO2 < 80%.
- Big learning curve so if patient is able 2 tests should be done.
- You can titrate O2 if needed between tests.

6 Minute Walk Test

- Good indicator of what happens with patients oxygen saturations when performing ADLs.
- Can be used to assess responsiveness to treatment effects in COPD, I LD and PH.
- Desaturation during 6 MWT is associated with increased disease severity, progression, more rapid decline in FEV1 and worse prognosis.
- Distance walked is inversely related to risk of hospitalization in chronic respiratory disease and morbidity in COPD.
- Calculate mph (distance in feet x 10 divided by 5280 (# ft in 1 mile)).
- Useful in setting exercise prescription.

Use 6 MWT Distance in Meters to Calculate BODE Risk of Death Index

- Body mass index, airflow Obstruction (FEV1%), Dyspnea MMRC 0-4 scale, and Exercise capacity - distance in meters.
- Increased risk of death with BMI ≤ 21.
- Higher the number the greater the risk of death. 0 – 10 Point Scale.
Exercise Assessment

- Currently exercising?
- Mode, frequency, duration, intensity
- Goals?

Pulmonary Rehabilitation

- Reduction in lactate production and ventilation at a given work load.
- Improvement in peripheral muscle dysfunction.
- Reduction in hyperinflation during exercise.
- Exercise, bronchodilators, oxygen, and breathing retraining decreases dynamic hyperinflation, reduces respiratory rate during exercise, & reduces load on respiratory system.
- Patient experiences reduced dyspnea and generalized improvement in exercise capacity.

Therapeutic Exercises

- Aerobic - modality, frequency, duration, intensity
  - Walk track - consider 4WW
  - Treadmill
  - Bike upright, recumbent, arm and leg
  - UBE - arm bike - various brands
  - We use NuStep or Sci-Fit Step One for seated arm &/or leg exercise
  - Seated or standing elliptical

* ACCP/AACVPR Evidence-Based Guidelines on Pulmonary Rehabilitation Exercise - Grade of Recommendation 1A
Resistance Training & Flexibility

- We generally don’t start for until 2 weeks of aerobic and stretching
- Light free weights
- Therapy bands
- Resistance machines in select patients
- Post-op resistance training usually 6-8 weeks out with light free wts or bands
- Stretching helps with flexibility and balance

Oxygen Therapy Assessment and Management

- Titrate if indicated 6 MWT – usually titrate in between tests if needed
- Titrate with exercise to keep ≥ 89-90% or per physician orders
- Notify physician
- Is patient’s O2 system adequate
- RRT does O2 Therapy and Altitude and Travel education

Documentation

- Daily documentation should be clear and concise.
- Detailed with respiratory and physical exercises completed and time used by patient to complete activities as appropriate
- Notes should report progress related to specific goals outlined in the patient’s plan of care
- Patient should be discharged when the patient has met goals, can manage home exercise program and has reached maintenance level
Documentation on Non-COPD

- Each component has to be reviewed individually and must support services for the respiratory condition.
- Documentation must support medical need for respiratory services such as exacerbation of respiratory symptoms. Pulmonary Hypertension, ILD or asthma alone does not support medical need in and of itself.
- Documentation should support the need for pulmonary services, the patient’s present and prior condition to support medical need, goals, and education. In this setting Medicare does not cover “conditioning or endurance” type training.

Pulmonary Rehab Medical Director

- Responsible for ensuring PR program is safe, effective and medically appropriate for individual patients.
- Responsible for ensuring initial medical evaluation of the patient is completed and appropriate clinical goals have been developed. Reviews and signs all initial Individualized Treatment Plans.
- Responsible for ensuring that relevant clinical information is communicated to referring physician so long-term preventive care can be coordinated.
- Face to face with patients each month, makes recommendations or continues POC. Contacts the referring physician as needed. His partners act as Medical Director on his behalf when he is not available.

Individualized Treatment Plan (ITP)

- Must be signed by staff and your programs Medical Director following initial evaluation and each 30 days from the initial date.
- You shouldn't pull the patient in for their 2nd visit until ITP has been signed by your Medical Director ideally within a day or two. We schedule next visit the following week.
- We have a Medical Director but in his absence one of his partners in Pulmonary Medicine can sign.
Pulmonary Rehabilitation ITP

- Is required by CMS on COPD patients.
- We do on all patients to keep consistent.
- Our initial assessment & ITP are currently still on paper but we hope to have electronically very soon and we will be able to send electronically for our Medical Director’s signature.

Pulmonary Rehab ITP

- Initial Assessment, Goals & Plan, Re-assessment each 30 days and at discharge.
- Must include 5 categories at initial assessment, each 30 days reassessment and at discharge

<table>
<thead>
<tr>
<th>Exercise Assessment</th>
<th>Exercise Plan</th>
<th>Exercise 30 day Re-Assessment</th>
<th>Exercise Follow up or Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Functional Status/Exercise Capacity &gt; 6 MWT – 2 as learning effect &gt; Use best distance &gt; BORG Modified Dyspnea 10 point Scale &gt; MMRC &amp; BODE</td>
<td>&gt; Goals &gt; Interventions &gt; Exercise Prescription &gt; Includes Mode, Frequency, Duration, Intensity &gt; Education &gt; Comments</td>
<td>&gt; Exercise Prescription &gt; Includes Mode, Frequency, Duration, Intensity &gt; Education &gt; Comments</td>
<td>&gt; 6 MWT &gt; MMRC/BODE &gt; Exercise Prescription &gt; Includes Mode, Frequency, Duration, Intensity &gt; Goals met/not &gt; Home Exercise Prescription Comments</td>
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<tr>
<th>Nutrition Assessment</th>
<th>Nutrition Plan</th>
<th>Nutrition 30 day Reassessment</th>
<th>Nutrition Follow up or DC</th>
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<tr>
<td>&gt; Survey &gt; Weight &gt; Height &gt; BMI</td>
<td>&gt; Goals &gt; Interventions &gt; Education</td>
<td>&gt; Goals &gt; Interventions &gt; Education &gt; Comments</td>
<td>&gt; BMI &gt; Goals met/not &gt; Interventions &gt; Education Comments</td>
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</tbody>
</table>
### Psychosocial Assessment
- **Stress level**
  - 2015/2016 CES-D Depression Tool & PHQ3 Anxiety
  - 2017 change to PHQ15 & GAD-7
  - Related medications
  - Counseling

### Psychosocial Plan
- **Goals**
  - Education
  - Notify physician if high scores
  - Recheck outcomes if high scores

### Psychosocial 30 Day Re-Assess
- **Goals**
  - Education
  - Notify MD PRN

### Psychosocial Follow up or Discharge
- **Outcome scores**

### Oxygen Initial Assessment
- **Adequate flow**
  - rest & exercise

### Oxygen Plan
- **Goals**
  - Notify MD PRN

### Oxygen 30 Day Re-Assess
- **Goals**
  - Notify MD PRN

### Oxygen F/U or DC
- **Outcome scores**

### Tobacco Use Initial Assess.
- **Hx/current**
  - 2nd Hand exp.
  - Adjuncts

### Tobacco Use Plan
- **Goals**
  - Notify MD PRN

### Tobacco Follow up or DC
- **Outcome scores**

### Hytensive ADLs & QOL Initial Assessment
- **UCSD SDBQ Ferrans & Powers QOL 2010-2016**

### Dyspnea ADL Plan
- **Goals**
  - Notify MD PRN

### Dyspnea ADL 30 Day Re-Assessment
- **Goals**

### Dyspnea ADL F/U or DC
- **Outcome scores**

### Other Core Competencies or Risk Factors

### Diabetes Initial Assessment
- **A1C/FBG**
- **Meds**
- **Diet controlled**

### Diabetes Plan
- **Goals**

### Diabetes 30 Day Reassess.
- **Goals**

### Diabetes Follow up or DC
- **A1C/FBG**

### Hypertension Initial Assess.
- **BP Rest/Exercise**
- **Meds**

### Hypertension Plan
- **BP Rest/Exer**

### HTN 30 Day Reassessment
- **BP Rest/Exer**

### HTN Follow-up or Discharge
- **BP Rest/Exer**
Other Core Components/Risk Factors

<table>
<thead>
<tr>
<th>Disease Process</th>
<th>Disease Process Plan</th>
<th>Disease Process 30 Day Reassessment</th>
<th>Disease Process Follow Up or DC</th>
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<tbody>
<tr>
<td>Initial Assess.</td>
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<tr>
<td>Knowledge Test Score</td>
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<td>✔ Goals - Describes understanding</td>
<td>✔ Goals - Describes understanding</td>
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<td>Describes understanding</td>
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<td>✔ Interventions</td>
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<td>✔ Infection Control</td>
<td>✔ Infection Control</td>
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<td>✔ Self Assess</td>
<td>✔ Self Assess</td>
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<td>Comments</td>
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Bronchial Hygiene Initial Assess.
- Volume, Consistency, Color
- Adaptive devices

Bronchial Hygiene Plan
- Goals
- Interventions
- Obtain order adaptive device PRN
- Education

Bronchial Hygiene 30 Day Reassessment
- Goals
- Interventions
- Obtain order adaptive device PRN
- Education

Bronchial Hygiene Follow Up or Discharge
- Goals met or not met
- Interventions
- Education
- Comments

Physician Supervision
- We document Cardiologist who is responsible for responding to emergency each day and Pulmonologist on call each day on patients chart. Cardiologist supervising is also documented in EMR on each patient billed.
- We also keep an updated list in a notebook for each month for both Cardiologist and Pulmonologist.

Patient comment from AACVPR Guidelines for Pulmonary Rehabilitation Programs

"Pulmonary rehabilitation has been a life-saving pathway between inactivity and activity, isolation and socialization, depression and hope, and from being an observer of life to an active participant."
Resources for Pulmonary Rehabilitation Programs

- AACVPR.org
- Guidelines for Pulmonary Rehabilitation Programs
  AACVPR; 2011; Human Kinetics
- AARC.org
- Krames.com
- ALA Freedom From Smoking

References

- AACVPR.org 2017 Certification and 2017 Tool Kit
- GOLD Issues 2017 Report
  Published online ahead of print by the American Journal of Respiratory & Critical Care Medicine January 27, 2017 aarc.org/gold-issues-2017-report/
- Respiratory Care Science Journal, Volume 54, #8, Aug. 09, Pulmonary Rehabilitation and COPD, pp1099-1109
- Global Initiative for Obstructive Lung Disease 2015 & 2017

References

- CMS 140.4-Pulmonary Rehabilitation Program Service Furnished On or After January 1, 2010/66, 1473, Issue 2/11/09, Effective: 02-01-10, Implementation: 01-04-10, Specified 42, CFR 410.47 and 140.4.1 Coding Requirements for Pulmonary Rehabilitation Services.
- Federal Register / Vol. 65, No. 212 (Thursday, November 1, 2001 / Rules and Regulations; Respiratory Therapy Codes
- CMS Noridian Contractor Information, Article for Pulmonary Rehabilitation and or Services (A35630)