Comorbidities in the PR Patient’s Exercise Plan of Care

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“When you can’t breath, nothing else matters”
American Lung Association

Comorbidities

- Presence of one or more additional diseases or disorders co-occurring with a primary disease or disorder
- Worse health outcomes, complex clinical management and increase health care costs
- 80% of Medicare spending is devoted to 4 or more comorbidities
- Pulmonary disease related comorbidities contribute to morbidity, mortality and severity
Pulmonary related comorbidities

➢ Cardiovascular Related
Hypertension, CAD, Systolic/Diastolic LV dysfunction, Pulmonary hypertension, Cerebrovascular disease, Stroke

➢ Skeletal and muscular
Osteoporosis, Osteopenia, Osteoarthritis, Spinal defects, Abnormal BMI, Cachexia, Obesity

➢ Psychosocial disorders
Anxiety, depression, Social, Financial, mental health deficits

➢ Diabetes, OSA, Renal, GERD, Substance abuse, Overlap syndrome, Metabolic syndrome, Anemia, Dental diseases

Blue Boater Vs. Pink Puffer

**CHRONIC BRONCHITIS**
Clinical diagnosis: Daily productive cough for three months or more, in at least two consecutive years

- Overweight, and cyanotic
- Elevated hemoglobin
- Peripheral edema
- Rhonchi and wheezing

**EMPHYSEMA**
Pathologic diagnosis, permanent enlargement and destruction of airspaces distal to the terminal bronchiole

- Older and thin
- Severe dyspnea
- X-ray: Hyperinflation with flattened diaphragms
Pulmonary Rehab

- PR is a cornerstone for management of most pulmonary compromised clients using a multidisciplinary approach
- Is the client interested in participating?
- Qualifying data needed for medical necessity and stratification of disease “PFTs”
- Client must be stable or at baseline in order to properly evaluate for functional status
- Medically and pharmacologically optimized
- PR appropriate or contraindicated “Medical Necessity with prescription”

Establishing a Clinical Picture

- Root Cause analysis with a focus on their complete clinical perspective for PR
- Physical, Behavioral, Social and Mental wellbeing graded prior to admittance
- BODE, LACE, mMRC, CAT, BMI scoring
- Physical and Psychosocial exam “Look, Listen, Feel” develop a mental picture for developing a care plan
- Treat the patient and not the results or the numbers
Treating the Patient

Exercise prescription with target goals
Medication reconciliation and review
Education on referred disease state
Learning barriers or educational deficits
Tobacco abuse with cessation programs
Nutrition assessment and practical goals
Psychosocial screening tools “PHQ”
Readiness to learn with documented return demonstration of teaching
Individualized Treatment Plan or Plan of Care Considerations

➢ Acute on chronic heart failure signs and symptoms must be addressed
➢ Orthopedics issues maintained with pain management or corrective interventions
➢ Obesity or cachexia managed by dietician
➢ IPF closely related to pulmonary hypertension which complicates exercise
➢ Manage and intervene with psychological and social deficits or risk factors

Cardiac Considerations

➢ Right sided heart failure from pulmonary conditions referred as “cor pulmonale”
➢ Atrial Fibrillation with symptomology
➢ Volume overload with “wet lungs”
➢ Pulmonary hypertension with aggressive rehabilitation regimen, weight bearing
➢ Uncontrolled blood pressure
➢ Resting tachycardia or bradycardia
➢ Angina and chest pain etiology causes
Other factors for consideration

- Qualify patient for home oxygen needs
- $\text{SpO}_2 \leq 88\%$ at rest or $\text{PaO}_2 \leq 55$ mmHg
- Long term prednisone usage
- Fluid intake while exercising and diuretics
- Is the dyspnea primarily respiratory
- Too debilitated for cardiac rehabilitation
- Anxiety and depression are major issues
- Guidelines established for comorbidities?

Conclusion

Comorbidities have a negative effect on outcomes. They could offset the benefits of decreased dyspnea, increased functional exercise capacity and improved quality of life. Optimal treatment plan should therefore include baseline assessment of comorbidities with a subsequent individual tailored pulmonary rehabilitation plan.


Managing Comorbidities in IPF, Steven A. Sahn, MD, Medical University of South Carolina, Found at PILOT publication; https://www.pilotforpulmonary.org/content/resources/comorbidities_monograph.pdf Dec. 31, 2009