Background

- **Bronchiectasis** is a disease defined by abnormal dilatation of the bronchi, which is a result of recurrent infections and/or chronic inflammation.1,2,3
- A **lobectomy** is the surgical removal of one lobe of a lung and reduces the symptoms of bronchiectasis.1,2,3
- Patients who undergo this surgery are more likely to have long-term pulmonary limitations.3
- There is little to no literature regarding the long-term treatment of patients who underwent multiple lobectomies.

Purpose

The purpose of this case report was to describe an appropriate intervention program for an 82-year-old female who suffered from multiple pulmonary complications secondary to multiple lobectomies.

Case Description

- 82-year-old female referred to a SNF following a 7-day hospitalization due to exacerbation of chronic obstructive pulmonary disease (COPD)
- PMH: lobectomy of her bilateral (B/L) lower lobes and right middle lobe secondary to bronchiectasis, COPD, restrictive lung disease, emphysema, recurrent pneumonia, asthma, pulmonary arterial hypertension, cardiomyopathy, hypothyroidism, osteoporosis, B/L hearing loss and blindness (20/400) secondary to Stargardt disease.
- Negative smoking history.

Outcomes

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>IE</th>
<th>PN (Week 2)</th>
<th>DC (Week 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6MWT</td>
<td>140.8 m</td>
<td>160.9 m</td>
<td>176.8 m</td>
</tr>
<tr>
<td>BLE gross strength</td>
<td>3+/5</td>
<td>4/-5</td>
<td>4/5</td>
</tr>
<tr>
<td>Dynamic Standing Balance</td>
<td>Fair +</td>
<td>Fair +</td>
<td>Good</td>
</tr>
<tr>
<td>Stairs</td>
<td>N/A</td>
<td>N/A</td>
<td>1 x 5 straight cane</td>
</tr>
<tr>
<td>Transfers</td>
<td>CGA 25% VC</td>
<td>10% VC</td>
<td>0% VC</td>
</tr>
</tbody>
</table>

Patient outcomes: IE = initial evaluation, PN = progress note, DC = discharge, 6MWT = 6 minute walk test, BLE = bilateral lower extremities, CGA = contact guard assistance, VC = verbal cues, I = independent

Discussion/Conclusion

**Implications for Clinical Practice:**
- Patients who have undergone multiple lobectomies may benefit from PT that incorporates cardiovascular endurance training, dynamic standing balance exercises and bilateral lower extremity strength training in order to improve independence with functional mobility.
- Increasing age and COPD are two factors that increase rate of decline in pulmonary function for individuals who undergo a lobectomy.3,6
- Clinicians should expect a greater decline in pulmonary function when working with older patients who have a pulmonary resection with the comorbidity of COPD.

**Implications for Future Research:** Investigation of the long-term pulmonary effects of multiple lobectomies would be beneficial.

References


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**Inpatient Physical Therapy Management for a Patient with Chronic Pulmonary Complications Secondary to Multiple Lobectomies: A Case Report**

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**Figure 2: Representation of the patient’s lungs post-lobectomies**

The translucent portions (bilateral lower lobes and right middle lobe) have been surgically removed. (Figure 2A) Anterior view. (Figure 2B) Posterior view.

**Timeline**

- **14 Days Prior**
  - Completed 36 week pulmonary rehabilitation
  - Began home OT & PT

- **7 Days Prior**
  - Hospitalized for acute exacerbation of COPD

- **Day 1**
  - Initial treatment: seated therapeutic exercises, NuStep gait & neurological re-education
  - PT Diagnoses: Difficulty walking & unspecified lack of coordination

- **Week 1**
  - Interventions: standing therapeutic exercises, NuStep gait & neurological re-education
  - Medical Diagnoses: COPD & cardiomegaly

- **Week 2**
  - Progress note
  - Final treatment: standing therapeutic exercises, NuStep gait, step-ups with a cane & education on breathing techniques

- **Week 3**
  - Discharged

**Interventions**

- **Cardiovascular Endurance**
- **BLE Strengthening**
- **Standing Balance Exercises**
- **Patient Education**