

## Rehabilitation Course of a Patient with COVID 19 Admitted to the Acute Care Hospital

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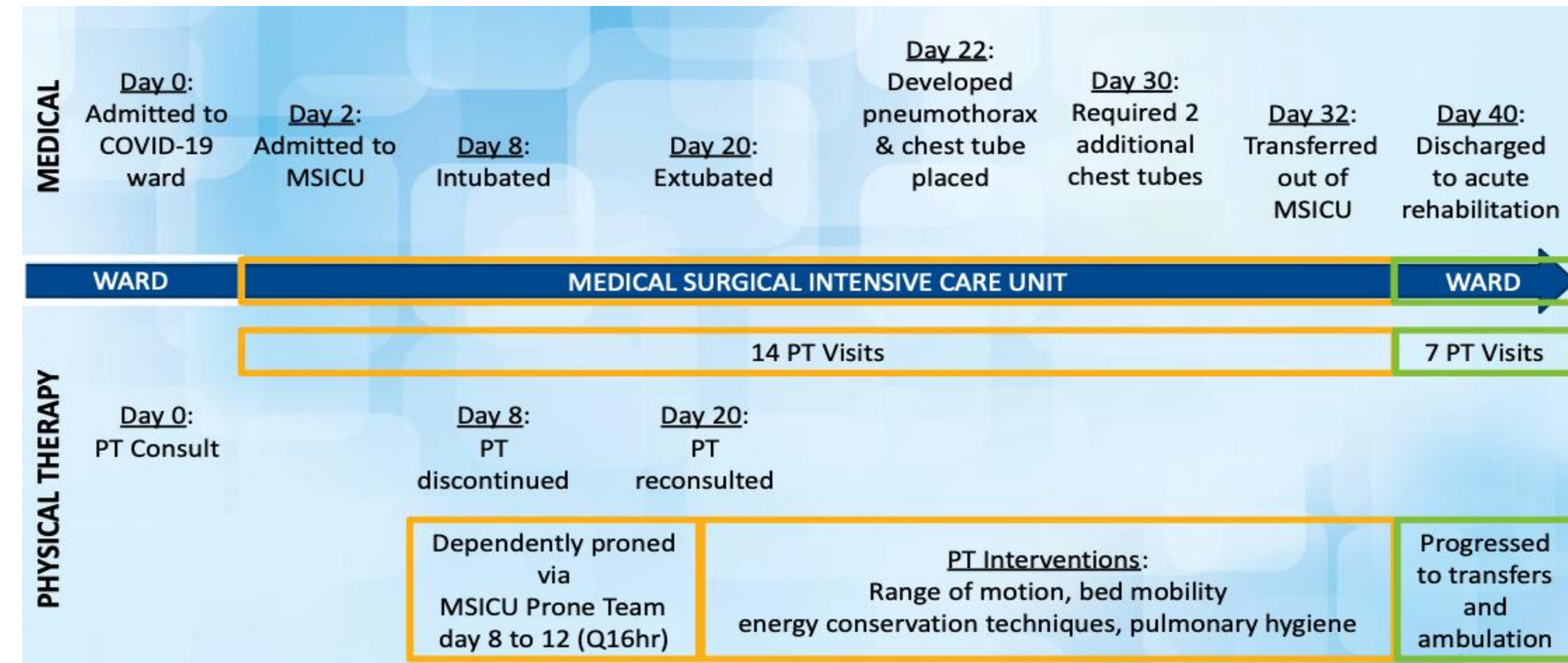
### Background and Purpose

- When patients with COVID-19 were initially admitted to the medical surgical intensive care unit (MSICU), physical therapy (PT) was discontinued since medical management and prognosis were evolving.
- Additionally, efforts were made to conserve protective personal equipment and decrease exposure by minimizing “room traffic”.
- As time passed and knowledge improved, the role of the physical therapist became vital to help optimize pulmonary hygiene and functional outcomes.
- The purpose of this case study is to describe the therapeutic management of a patient with COVID-19.
- Hospital course included a secondary diagnosis of acute respiratory distress syndrome (ARDS), 12 days on mechanical ventilation with prone positioning during first 3 days, and a 30-day intensive care unit stay.

### Description

- Chief Complaint:**
  - 63-year-old male who presented to the emergency department with cough, fever, and shortness of breath . His pulse ox was 83% on room air.
- Past Medical History:**
  - Hypertension, obstructive sleep apnea, body mass index = 33
- Prior Level of Function:**
  - Independent with all functional mobility and activities of daily living
- Medical Diagnosis:**
  - COVID-19 (+) via PCR test with progression to ARDS
- Medical Treatments:**
  - Proning: initially self-proning; dependent when mechanically ventilated
  - Supplemental oxygen: nasal cannula with progression to mechanical ventilation
  - Medications: cefepime, hydroxychloroquine, azithromycin, vancomycin, corticosteroids

### Outcomes

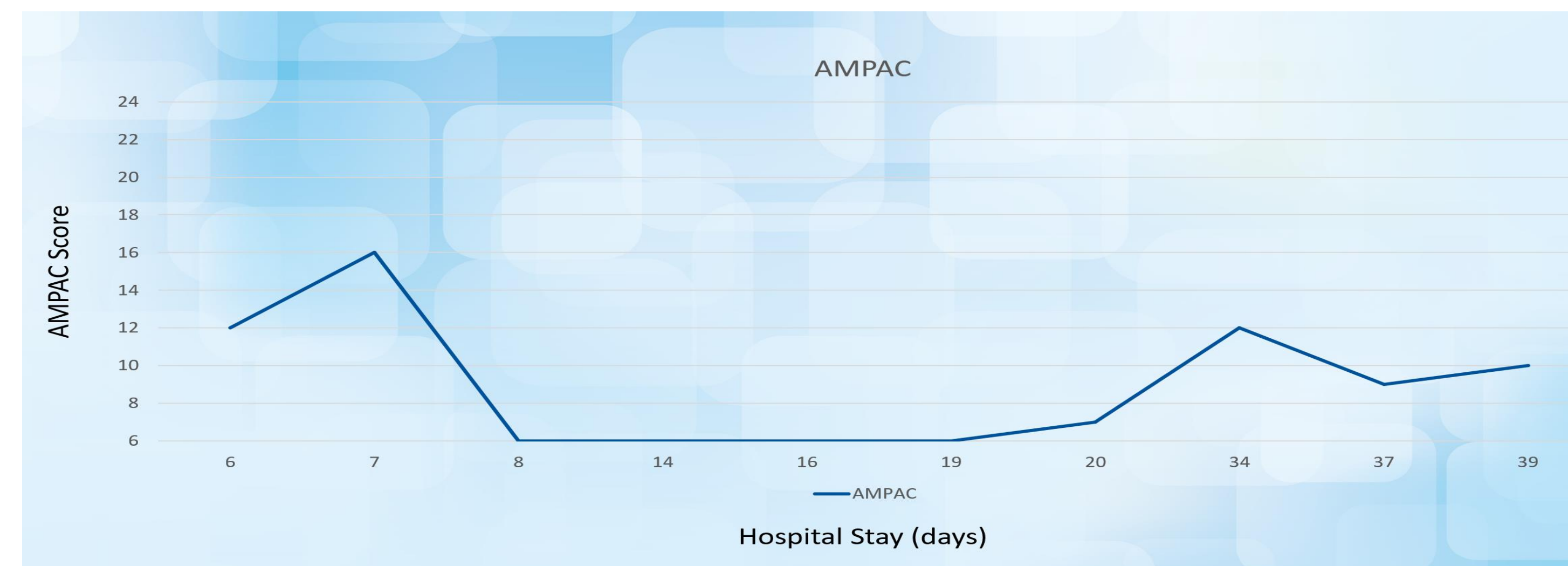


#### MSICU PT Management

- Interventions:** range of motion of bilateral upper / lower extremities; energy conservation; progressive (mostly bed and edge of bed) mobility; pulmonary hygiene; nursing education
- Limitations:** medical stability, intensive care unit acquired weakness (ICUAW)

#### Ward PT Management

- Interventions:** The above + functional mobility retraining, including transfer and ambulation; education on respiratory muscle training, diaphragmatic breathing, management of dyspnea, and the importance of continued mobility
- Limitations:** subjective reports of dyspnea; objective findings of hypoxia



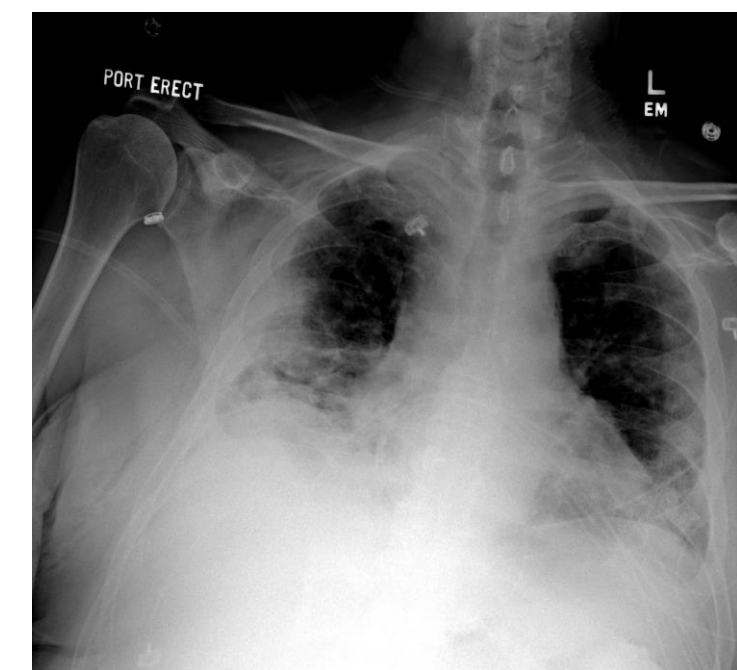
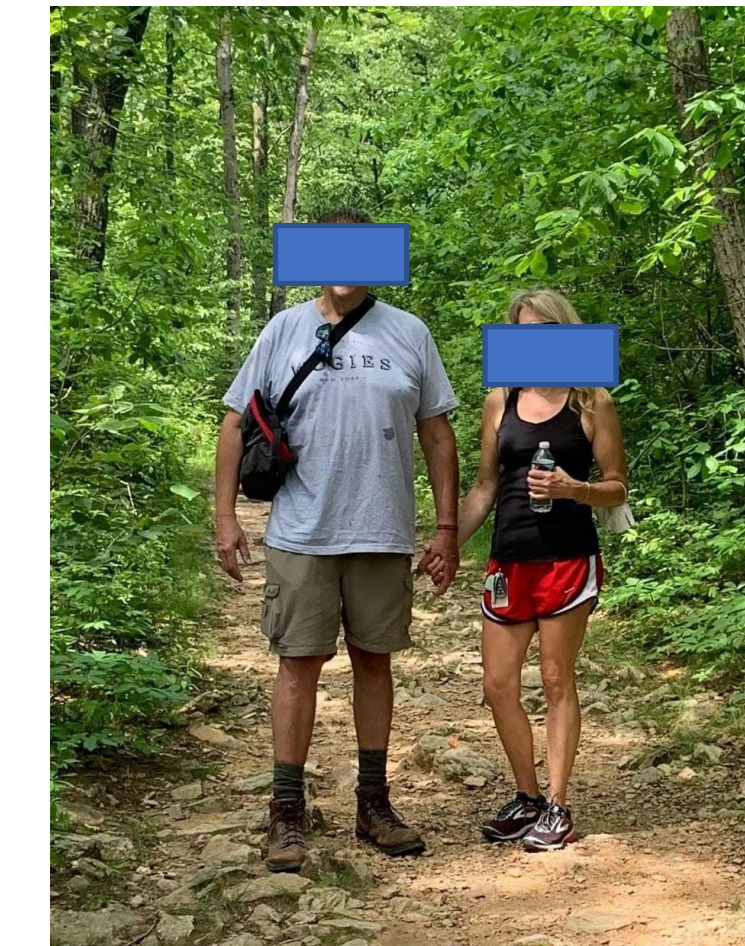
### Discussion

- This case report highlights the successes and challenges of rehabilitation with a patient who was diagnosed with COVID-19 and subsequent ARDS.
- As a result of the ICUAW, this patient presented with respiratory, skeletal muscle, and functional mobility impairments.
- Resulting severe activity intolerance was addressed with inter-professional collaboration, effective and efficient communication, and education about the importance of progressive mobility.
- Primary challenges included de-saturations during PT.
- Lessons learned include understanding the pathophysiology of COVID-19 and ARDS, PT advocacy, and the importance of inter-professional collaboration and education to optimize patient outcomes.

Post admission day 92



Hospital Day 8 (“Vent day” 1)



Hospital Day 34: Chest tube and dobhoff tube discontinued

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