

# COVID-19 related Bilateral Lung Transplant Recipients: A Case Series on an Emerging Rehabilitation Population

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## Case Presentations

**Patient #1:**

70-year-old male with hypertension, hyperlipidemia, and Type II Diabetes Mellitus diagnosed with COVID-19 in July 2020 requiring bilateral lung transplant in late August. Admitted to inpatient rehabilitation in September. Rehabilitation course complicated by urinary retention, dysphagia requiring enteral access, poor nutrition, orthostasis, and reduced endurance. Upon discharge, patient had improved endurance, but no significant improvement of his dysphagia and was discharged on pureed diet with no liquids.

**Patient #2:**

64-year-old male with hypertension, hyperlipidemia, and tobacco use, diagnosed with COVID-19 in June 2020 requiring bilateral lung transplant in August. Post-transplant course complicated by Grade 3 Primary Graft Dysfunction with acute hypoxemic respiratory failure requiring re-intubation and tracheostomy, dysphagia requiring enteral access, deep vein thrombosis, and new onset atrial fibrillation. Rehabilitation course notable for reduced endurance with therapies limited by blood oxygen desaturations. Upon discharge, endurance was improved and he was discharged on room air and regular diet.



## Discussion

- The new application of double lung transplantation for COVID-19 patients presents variable risks and complications.
- Prior to the COVID-19 pandemic, lung transplantation was primarily utilized as an important therapy in patients with chronic lung disease and was rarely used for the treatment of patients with acute infectious pneumonia.
- Emerging from the pandemic is a new patient population of bilateral lung transplant recipients after COVID-19 pneumonia.
- These patients are particularly vulnerable to complications, both as transplant recipients and as a result of sequelae from COVID-19 infection.
- Consequently, the rehabilitation course of these patients is highly variable, making their rehabilitation needs difficult to predict and a relevant area of study.

## Conclusion

As evidenced by these cases, it is challenging to predict the rehabilitation needs of COVID-19 related bilateral lung transplant recipients. The inevitable growth of this patient population warrants further research aimed at predicting their needs and outcomes.

## References

1. Bharat, Querrey. "Lung Transplantation for Patients with Severe COVID-19." *Science translational medicine* 12.574 (2020): n. pag. Web.