

### Background

- Critical Illness Myopathy commonly occurs in critically ill patients.
- Proximal limbs are affected more than distal.
- Pathophysiology is not clearly understood.
- Critical Illness Myopathy is usually reversible but may take weeks to months, leading to prolonged hospitalization and rehabilitation courses.

### Conclusion

- Patients infected with the COVID-19 virus are suffering long lasting and severe sequelae of this disease, one of which may be Critical Illness Myopathy.
- Understanding and advancing rehabilitation therapeutics including therapeutic exercises focusing on proximal muscle strengthening may help to improve outcomes in this population.

### Discussion

- Critical Illness Myopathy can be commonly seen in ICU admissions, especially in patients who require mechanical ventilation.
- Although the etiology is not completely understood, there is an acute loss of thick myosin filaments of muscle resulting in muscle atrophy as well as loss of fat tissue.
- Patients prone to Critical Illness Myopathy are those with SIRS and those with multi-organ failure.

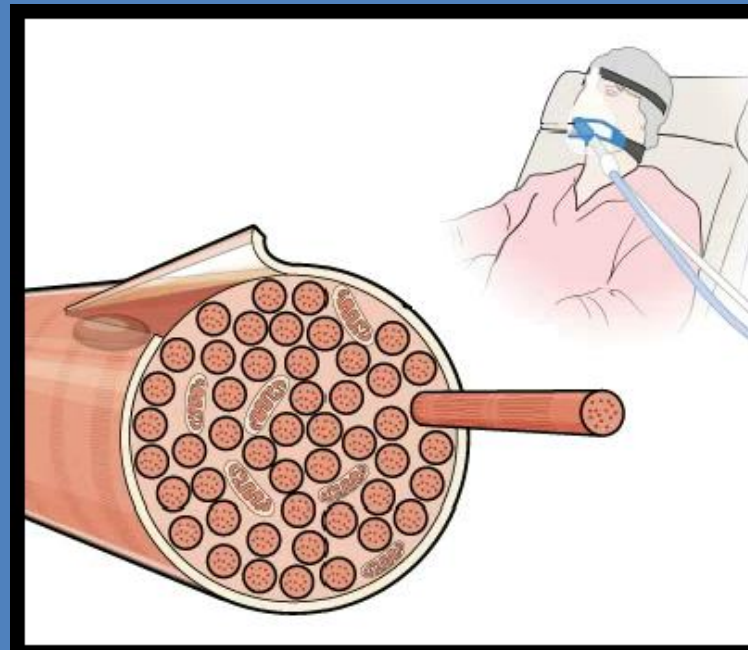
### Discussion (continued)

- The recent COVID-19 pandemic in which patients severely infected by the COVID-19 virus and often require extended ICU. Many requiring mechanical ventilation.
- This population is highly susceptible to Critical Illness Myopathy and therefore prone to significant disability requiring comprehensive and often extensive rehabilitation.
- In this case, application of therapeutic exercises focusing on the proximal muscles of the upper and lower extremity resulted in notable improvement in function.

### Case description

- 54 year old male admitted to inpatient rehabilitation following a hospitalization for pneumonia secondary to COVID-19.
- Hospital course significant for acute respiratory failure requiring intubation and extensive ICU management.
- Patient was admitted to Acute Rehabilitation for critical illness myopathy with significant proximal muscle weakness.
- Patient was eventually discharged to a subacute rehab, however patient did show functional improvement with mobility and exercise tolerance.

### Images



### References

1. De Jonghe B, Sharshar T, Lefaucheur JP, et al. Paresis acquired in the intensive care unit: a prospective multicenter study. JAMA 2002; 288:2859.
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3. Rich MM, Pinter MJ, Kraner SD, Barchi RL. Loss of electrical excitability in an animal model of acute quadriplegic myopathy. Ann Neurol 1998; 43:171.