

INTRODUCTION

- Patients with COVID-19 are at known risk for hypercoagulability¹
- This case describes the rehabilitation course of a patient with amputation due to hypercoagulable state from COVID-19, demonstrating this population can benefit from rehabilitation

CASE PRESENTATION

- 54-year-old man with COVID-19 requiring prolonged hospitalization and left transfemoral amputation presented to an inpatient rehabilitation facility (IRF).
- Acute care course: aortic thrombus requiring thrombectomy and left lower extremity fasciotomy; septic and hypovolemic shock requiring intubation; retroperitoneal hematomas, intermittent fever, and left lower extremity ischemia requiring transfemoral amputation
- IRF medical course: bacterial pneumonia, anemia, acidosis, candida urinary tract infection, pyelonephritis, and a clostridium difficile infection
- During rehabilitation, phantom pain worsened when gabapentin dosing was decreased due to acute kidney injury, responded to addition of duloxetine. Residual limb edema managed with a shrinker.
- Functional gains: ambulating 22 feet with partial assistance -> ambulating 105 feet with rolling walker and supervision. Lower body dressing: maximal assistance -> independent; bed to chair and toilet transfers: maximal assistance -> independence.
- To date: Completed day rehabilitation for continued therapy. Has a prosthesis, is a K3 ambulator.

IMPROVEMENT IN GG SCORE

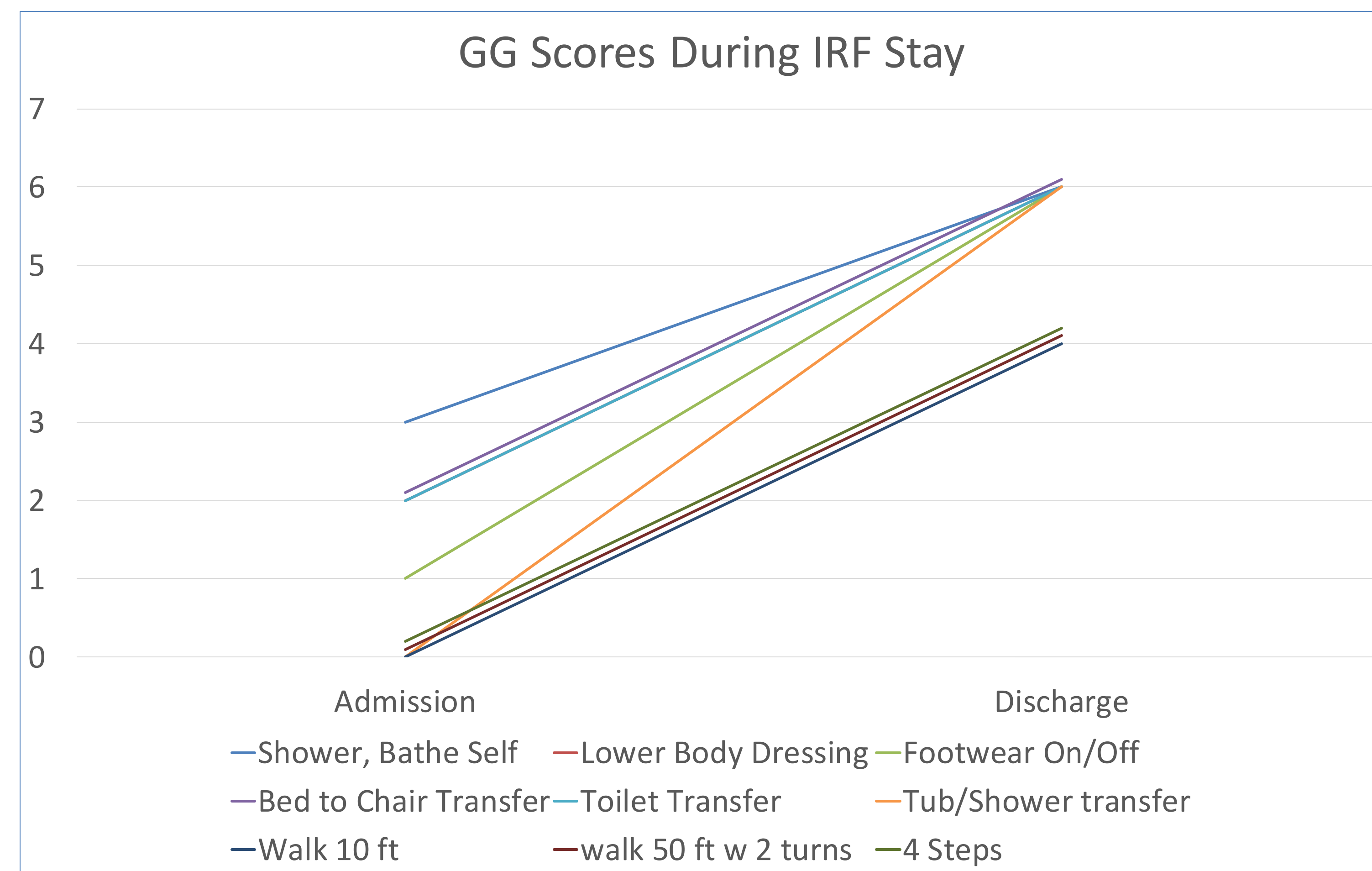


Figure 1. GG scores on admission vs at time of discharge where 0= not scored 01= Dependent; 02= Substantial/Maximal; 03=partial/moderate; 04=supervision/touching; 05=Setup/Clean-up; 06=Independent

HEALING OF RESIDUAL LIMB



Images 1&2.
Left: Wound at site of Transfemoral amputation on admission
Right: Wound at discharge

Notable for reduction in bruising and edema with healing at staple sites and around incision line by time of discharge

DISCUSSION

- COVID-19 is linked to hypercoagulability during acute illness.¹
- commonly manifests as elevated D-dimer or deep-vein thrombosis; more severe outcomes such as stroke or amputation can also be seen.
- Patients with COVID-19 are at higher risk of failed thrombectomy and are more likely to require leg amputation than uninfected patients with thrombus.²
- This patient's case was complicated and illustrates the disease-related and iatrogenic complications that can occur with COVID-19.
- Our patient was able to participate in therapies and achieve a good post-discharge outcome despite significant medical complexity.

CONCLUSION

- This rare case of amputation due to COVID-19 related hypercoagulability demonstrates that with an interdisciplinary approach to physical deconditioning, psychologic health, early amputee care, and medical complications, this population can achieve excellent outcomes in the IRF setting.

REFERENCES

1. Zhang, Y. et al. Coagulopathy and antiphospholipid antibodies in patients with COVID-19. *N. Engl. J. Med.* 382, e38 (2020).
2. Goldman IA, Ye K, Scheinfeld MH. Lower-extremity Arterial Thrombosis Associated with COVID-19 Is Characterized by Greater Thrombus Burden and Increased Rate of Amputation and Death. *Radiology.* 2020 Nov;297(2):E263-E269. doi: 10.1148/radiol.2020202348. Epub 2020 Jul 16. PMID: 32673190; PMCID: PMC7370378.