



# 2021 LEAD Capstone Poster Session

## **Neoadjuvant Rehabilitation in Gastrointestinal Malignancies: Developing a Multidisciplinary Prehabilitation Program to Improve Post-Surgical Outcomes**

Michael Fediw, MD

Assistant Professor

Medical Director of Cancer Rehabilitation

Physical Medicine and Rehabilitation



# Abstract

- Premorbid functional status prior to cancer and major surgery has been shown to correlate with treatment outcomes
- This modifiable risk factor is often forgotten or not prioritized as a way to improve patient outcomes
- Prehabilitation exercise programs have been shown to decrease morbidity, improve post-operative outcomes and shorten patient recovery after major abdominal surgery
- Goal is develop and implement a prehabilitation program that improves outcomes in patient with gastrointestinal malignancies



# Objectives

- Develop a multimodal prehab program for patients with gastrointestinal (GI) malignancies here at UT Southwestern
- Improve outcomes and health related quality of life in patients undergoing surgery for GI malignancy
- Track functional outcome measures to inform future research



# Background Information

- GI malignancies are the 2<sup>nd</sup> most common group of cancers in the US
- Surgical resection remains a mainstay of treatment for GI malignancies but is often associated with
- Premorbid functional status prior to cancer and major abdominal surgery has been shown to correlate with treatment outcomes and is associated with all-cause mortality.
- Feasibility of prehabilitation in patients with GI malignancies has been demonstrated



# Specific Aims

- Improve strength, cardiorespiratory fitness and nutritional status in the neoadjuvant setting
- Decrease post-op hospital length of stay
- Decrease post-op morbidity
- Decrease amount of time for functional recovery post-op



# Project Plan

- Implement a multimodal prehab program
  - PM&R MD visit to educate patients, identify and manage risk factors and address barriers to implementing home prehab program. Provide specific prescription for prehabilitation.
  - Physical therapy visit to teach proper technique and form for home exercise program focusing on key muscle groups
    - ✦ Generalizable to all patients in neoadjuvant setting
  - Create high quality video content for patients to reference that include proper technique and modifications of exercises within home program
- Obtain baseline and post-operative functional measures in order to study effectiveness of different prehab interventions



# Application of What You Learned at LEAD

- Using DISC profile to understand my personality style as well as understand how to adapt to other personality styles
- How to organize and prioritize tasks in level of importance
- How to assess my own inherent biases to ensure I am addressing potential patients barriers and providing equitable care to all patients



# Proposed Budget

- 0.2 FTE for physical therapist
- \$10,000 for videographer for creation of high quality digital content



# Innovation and Significance

- Few cancer centers nationally have well established relationships between oncologic and rehabilitation providers
- Establishment of a successful clinical prehab program will enhance patient care, drive new research, and build national reputation at UTSW and the Simmons Cancer Center
- This program meets the strategic mission of UT Southwestern to promote interprofessional collaborative practice and foster innovation



# References

- Zhuang CL, Ye XZ, Zhang XD, et al. Enhanced recovery after surgery programs versus traditional care for colorectal surgery: a meta-analysis of randomized controlled trials. *Dis Colon Rectum* 2013;56(5):667–78.
- Gillis C, Li C, Lee L, et al. Prehabilitation versus rehabilitation: a randomized control trial in patients undergoing colorectal resection for cancer. *Anesthesiology* 2014;121(5):937–47.
- Minnella EM, Awasthi R, Bousquet-Dion G, Ferreira V, Austin B, Audi C, Tanguay S, Aprikian A, Carli F, Kassouf W. Multimodal Prehabilitation to Enhance Functional Capacity Following Radical Cystectomy: A Randomized Controlled Trial. *Eur Urol Focus*. 2021 Jan;7(1):132-138. doi: 10.1016/j.euf.2019.05.016. Epub 2019 Jun 8.
- Parker NH, Ngo-Huang A, Lee RE, O'Connor DP, Basen-Engquist KM, Petzel MQB, Wang X, Xiao L, Fogelman DR, Schadler KL, Simpson RJ, Fleming JB, Lee JE, Varadhachary GR, Sahai SK, Katz MHG. Physical activity and exercise during preoperative pancreatic cancer treatment. *Support Care Cancer*. 2019 Jun;27(6):2275-2284. doi: 10.1007/s00520-018-4493-6. Epub 2018 Oct 17.