

Advanced Heart Failure: The role of the PT in measuring and treating frailty in patients being considered for Heart Transplant or VAD

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2:30 - 3:30pm

Cardiovascular Pulmonary

The goal of the multidisciplinary team in providing patients with end stage heart failure the highly specialized interventions of heart transplantation and/or VAD implementation is to prolong and improve quality of life. Both interventions carry substantial risk of mortality. Age and frailty increase this risk. We anticipate that our patients with HF and especially advanced HF will have physical limitations related to impaired cardiac output, HF skeletal muscle dysfunction, and deconditioning related to chronic illness. How are these limitations different from frailty? We know these factors will impact a patient's progress through surgery, mortality, morbidity, and also functional recovery. International committees recommend the assessment of frailty prior to VAD or transplant. The physical therapist has a unique perspective on the patient as a whole and on their functioning throughout life roles. There is an opportunity for physical therapists to measure and treat frailty and further collaboration with multidisciplinary VAD and transplant teams.

This course will discuss different measures of frailty. There is no current gold standard and there are two main categories of frailty measurement: those that measure cumulative deficits and those that measure frailty as a phenotype. This course will also discuss the role of PT in "prehabilitating" patients who are listed for VAD/Transplant in both the outpatient and inpatient ICU setting. Many patients who are considered for VAD/Transplant are being so considered after a severe cardiac event that leaves them at an ICU level of care. As medical care is advancing it is essential for the Physical Therapist to progress PT interventions to be able to provide optimal care to these complex patients. Optimal care involves mobilizing patients with advancing types of temporary mechanical support. And also selecting optimal impairment based interventions at the optimal intensity.

Objectives:

- Attendees will be able to describe current frailty measures in the advanced HF population
- Attendees will be able to describe the role of PT in "prehabilitating" patients being considered for VAD/Transplant
- Attendees will be able to describe the concerns and contraindications for mobilizing patients with temporary circulatory support device
- Attendees will be able to describe considerations for impairment based exercise interventions for patients on temporary circulatory support device

1. Aili, Samira R. PhD^{1,2}; De Silva, Ricardo MD¹; Wilhelm, Kay MD^{3,4}; Jha, Sunita R. PhD^{1,2}; Fritis-Lamora, Rodrigo RN¹; Montgomery, Elyn RN¹; Pierce, Rachel BSc¹; Lam, Fiona BAppSc¹; Brennan, Xavier MBBS¹; Gorrie, Natasha MBBS¹; Schnegg, Bruno MD¹; Jabbour, Andrew PhD^{1,4,5}; Kotlyar, Eugene MD^{1,4}; Muthiah, Kavitha PhD^{1,4,5}; Keogh, Anne M. MD^{1,4}; Jansz, Paul C. PhD, FRACS¹; Hayward,

Christopher MD1,4,5;Macdonald, Peter S. PhD1,4,5 Validation of Cognitive Impairment in Combination With Physical Frailty as a Predictor of Mortality in Patients With Advanced Heart Failure Referred for Heart Transplantation, Transplantation: January 2022 - Volume 106 - Issue 1 - p 200-209

2. Jha, Sunita1;Newton, Phillip1,4;Montgomery, Elyn1;Hayward, Christopher1,2,3;Jabbour, Andrew1,2,3;Muthiah, Kavitha1;Kotlyar, Eugene1,3;Connellan, Mark1;Dhital, Kumud1,2,3;Granger, Emily1;Jansz, Paul1,3;Spratt, Phillip1,3;MacDonald, Peter1,2,3 Frailty Predicts Mortality after Heart Transplantation, Transplantation: July 2018 - Volume 102 - Issue - p S62

3. Macdonald, Peter MD1,2,3 Frailty of the Heart Recipient, Transplantation: November 2021 - Volume 105 - Issue 11 - p 2352-2361

4. Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, et al. Frailty in older adults evidence for a phenotype. *J Gerontol A Biol Sci Med Sci* 2001;56:M146-57

5. Macdonald PS, Gorrie N, Brennan X, et al. The impact of frailty on mortality after heart transplantation. *J Heart Lung Transplant*. 2021;40(2):87-94. doi:10.1016/j.healun.2020.11.007

6. Seese L, Hirji S, Sultan I, Gleason T, Kilic A. Frailty Screening Tool for Patients Undergoing Orthotopic Heart Transplant. *Ann Thorac Surg*. 2021;111(2):586-593. doi:10.1016/j.athoracsur.2020.05.072"