Optimizing TAVR Outcomes

We aim to reduce average length of stay after Transcatheter Aortic Valve Replacement (TAVR) from 9.17 days to 5.93 days through pre-operative Physical Therapy evaluation and treatment.

### Specific Measures

- **Background**
  - MUHC started performing TAVR procedures on high risk to inoperable patients with severe aortic stenosis in December 2014.
  - 12 TAVR cases done from December 2014 to August 2015 with average LOS 9.17 days and 30 day readmission rate 25%.
  - Quality & Accountability Group average LOS for TAVR patients from June 2014 to June 2015 was 5.93. 30 day readmission rates for <60 cases/year was 6.12%.

- **Plan**
  - Valve Clinic collaboration with Physical Therapy (PT) for pre-operative PT evaluation of TAVR patients.
  - Obtain 6 MWT for functional assessment.
  - Based on PT’s evaluation, refer to Home Health PT or Outpatient PT as indicated before TAVR.
  - All patients also provided with and instructed on-in-home TAVR exercises.

- **Do**
  - Pilot project started October 2015.
  - PT and OT developed TAVR home exercise sheet. Obtained approval from PT, OT, Cardiology and Cardiothoracic surgery.
  - Possible TAVR patients identified by Valve Clinic Nurse Coordinator.
  - All patients received TAVR home exercise sheet.
  - Based on inpatient post-TAVR PT/OT evaluation, Home Health PT or Outpatient PT ordered as indicated for discharge.
  - Coordinate with Fit For Life to perform 6MWT on all possible TAVR patients pre-operatively for objective functional assessment.
  - Team meetings to review patients and collaborative data collection.
  - Following TAVR, PT and OT continued therapy for entire hospitalization.

- **Study**
  - From October 1, 2015 to March 14, 2016, five patients underwent TAVR.
  - All five patients received pre-operative PT evaluation.
  - All five patients received TAVR home exercise sheet pre-operatively.
  - In addition, three of the patients received Home Health PT pre-operatively.
  - The Kansas City Cardiomyopathy Questionnaire (KCCQ-12) evaluates patient’s physical function, symptoms, social function, self-efficacy and knowledge, and quality of life.
  - The 6 minute walk test is performed on a hard, flat surface while the patient is connected to a pulse oximetry and telemetry monitor with trained staff to assist. It assesses the patient’s functional exercising capacity.

- **Act**
  - Continue PT evaluation prior to TAVR.
  - Consider involvement of Supportive Care and/or Geriatric Care pre-operatively.
  - Investigate involving Social Services pre-operatively, as a need for services was identified in several patients prior to surgery.
  - Investigate financial reimbursements of TAVR in regards to pre-operative and post-operative home care.

### Graphics / Data

![Inpatient LOS Post TAVR](image)