

## Background

- Superbariatric patients (BMI > 50 kg/m<sup>2</sup>) are presenting more often in inpatient rehabilitation settings but outcomes are understudied.
- Obese patients receiving inpatient rehabilitation have different challenges with mobilization due to body habitus.
- New hospital environment and equipment were acquired in 2017 to assist with the safe mobilization of patients up to 1200 lbs to improve patient safety and outcomes.
- The 6-minute walk (6mw) distance is obtained during PT to assess patient walking endurance and ability.



## Objectives

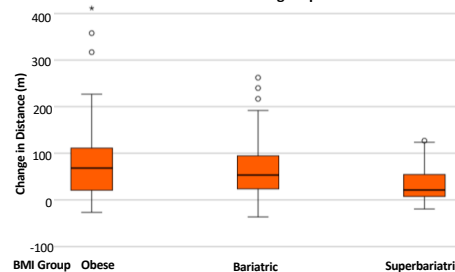
- Explore the trajectory of the 6mw distance for the following patient groups:
  - obese (35-39 kg/m<sup>2</sup>, n=69)
  - bariatric (40-49 kg/m<sup>2</sup>, n=58)
  - superbariatric (50+ kg/m<sup>2</sup>, n=16)
- Explore factors that impact the trajectory of the 6mw distance: days since baseline test, assistance level, and diagnosis group.

## Methods

- Retrospective study of 143 patients admitted to a single inpatient rehabilitation hospital between January 1 to December 31, 2018.
- Patients ≥ 18 years old with LOS ≥ 5 days, BMI ≥ 35, and at least two 6mw distance results.
- All patients received usual care of 3 hours of therapy (PT, OT, SLP), 5 of 7 days a week.
- Variables included:
  - Days since baseline test
  - 6mw distance (m)
  - Assistance to ambulate during the 6mw: 1-2 (total-maximum assistance), 3-4 (moderate-minimum assistance), and 5-7 (no hands-on assistance)
  - Diagnosis category: neuro related vs. non-neuro related
- Groups were categorized based on BMI class of obese, bariatric, and superbariatric.
- All data was obtained from EMR.
- Regression analysis was used to determine the effect of BMI group on 6mw distance over time (days since baseline test).

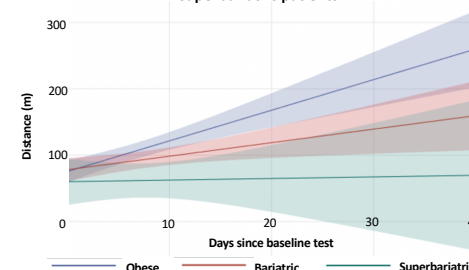
## Results

**Figure 1: Distribution of change between first and last 6mw distance was similar across BMI groups.**



6mw distance was measured multiple times over the course of patients' rehabilitation stay. Change in 6mw distance was obtained by subtracting the final 6mw distance from the baseline 6mw distance. The distribution of change was similar across BMI groups (F(2 DF) = 2.43, p=0.10). The length of stay was also similar across BMI groups: 22 ± 10, 21 ± 9, 25 ± 10 days for the obese, bariatric, and superbariatric groups, respectively (F(2 DF)=1.20, p=0.31).

**Figure 2: Obese patients had greater gains in 6mw distance compared to superbariatric patients.**



There was a difference in 6mw distance over time where the obese patients had steeper gains in 6mw distance than the superbariatric group, when controlling for assistance level and days since baseline test (F(2 DF)=4.63, p=0.01).

Patient diagnosis (neuro related vs. non-neuro related) had no impact on 6mw distance (F(1 DF)=2.14, p=0.14).

## Conclusions

- This study showed that obese patients made greater gains in walking distances over time compared to superbariatric patients, regardless of assistance level or diagnosis category.
- Each patient is unique due to an interaction of multiple factors that contributed to variable 6mw distance outcomes.
- A limitation of the study is the small sample size, especially for the superbariatric group (n=16).
- Future investigations should explore additional factors contributing to lower ambulation gains in the superbariatric population.

## References

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