Length of Intraabdominal Measurements of Bowel (LIMB Trial)

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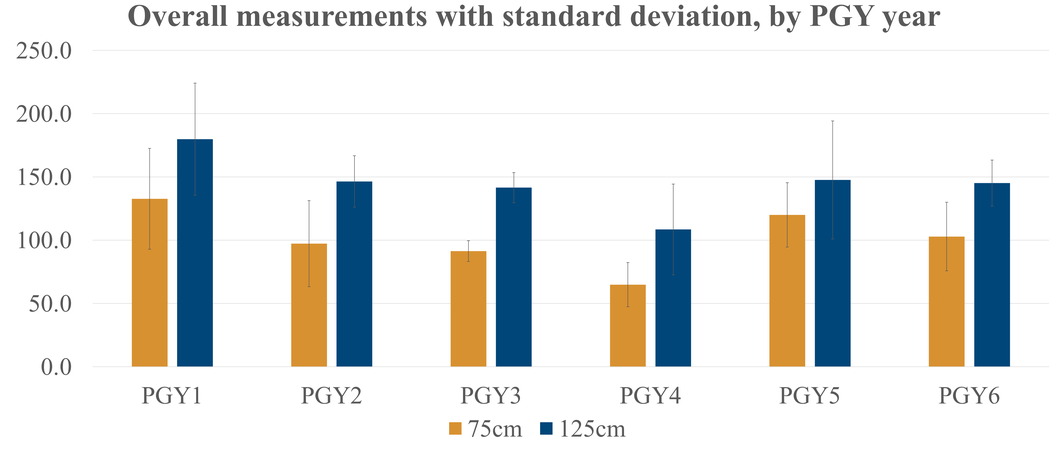
Purpose

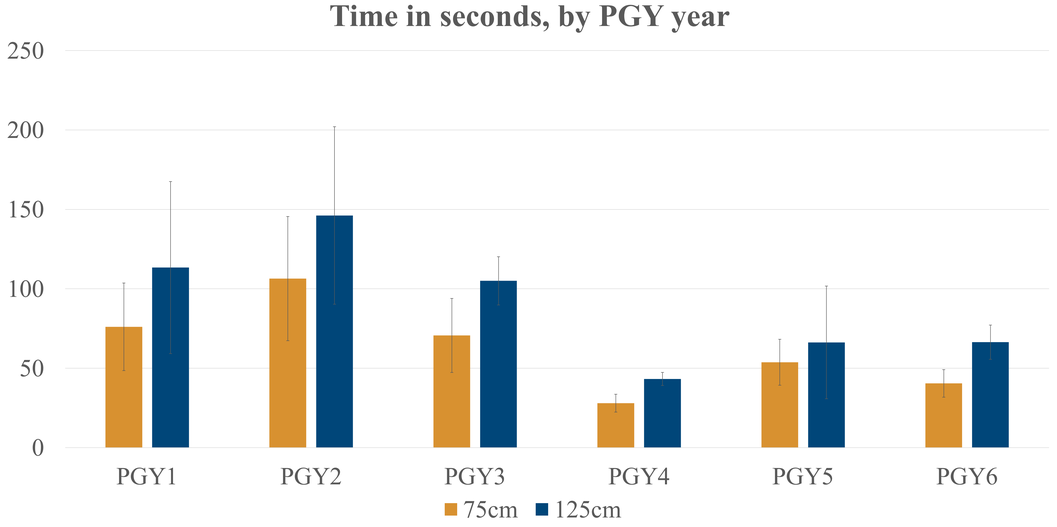
Laparoscopic Roux-en-Y gastric bypass (RYGB) is one of the most common bariatric surgeries performed (Wehrtmann, 2020). The learning curve for bariatric surgery depends on the training facility, laparoscopic experience, and procedure volume, with estimates ranging from up to 500 procedures before a resident will become proficient (Wehrtmann, 2020). William Beaumont Army Medical Center (WBAMC), which trains surgical residents, is known as a bariatric center of excellence. The purpose of this project is to investigate the accuracy of WBAMC surgical resident measurements of a simulated Roux limb compared to their own measurements, their respective class, and their fellow peers in the residency program at WBAMC.

Materials and Methods

Participants included surgical residents from William Beaumont Army Medical Center. Participants used a laparoscopic trainer and two bowel graspers to measure both a garden hose (to simulate bowel) and a nylon rope to 75cm and 125cm, three times each. Each trial was timed, and technique was also noted. Data analysis included student's t-test and relative standard deviations.

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Results & Conclusions

Fifteen residents participated in the study. Residents displayed accuracy of 21.6%. Thirty-three percent of residents were precise for the 75 cm measurement, and 53% of residents were precise for the 125 cm measurement. PGY-4 residents were the most accurate while PGY-3 residents were the most precise. There were no statistical differences between junior residents (PGY 1-4; includes research year residents) and senior residents (PGY 5-6) in accuracy or precision in the measurement of 75 cm or 125 cm ($p=0.38$ and $p=0.80$, respectively). No statistical differences were found measuring the hose versus rope for either measurement ($p=0.50$ and $p=0.18$ for 75 cm and 125 cm, respectively). PGY-4 residents completed the task in the least amount of time while PGY-2 (research residents) took the longest to complete each task.

This study demonstrates that generally residents are neither precise nor accurate in measurements of simulated bowel lengths, and experience (i.e., time in residency) does not contribute to either. Time in residency does correlate with speed. Further studies need to be performed, perhaps across multiple general surgery programs, to better power the study and determine true trends across residents.

Reference

Wehrtmann, F.S., de la Garza, J.R., Kowalewski, K.F. et al. Learning Curves of Laparoscopic Roux-en-Y Gastric Bypass and Sleeve Gastrectomy in Bariatric Surgery: a Systematic Review and Introduction of a Standardization. OBES SURG 30, 640–656 (2020). https://doi.org/10.1007/s11695-019-04230-7