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Anterior-Based Muscle Sparing Approach for Total Hip Arthroplasty

A high value, high quality and low cost surgery:
a 7.5 year single-center, retrospective case series

Callahan M. Sturgeon, BS, George M. Babikian, MD, Brian J. McGrory, MD, Adam J. Rana, MD

Introduction

- Total hip arthroplasty (THA) has been described as “the operation of the century”
- The anterior based muscle sparing (ABMS) approach which is performed by 3 surgeons at MMC is a less studied muscle sparing, minimally invasive technique. Its benefits include:
 - Preservation of muscle integrity, therefore less painful
 - Facilitates quicker recovery, with earlier discharge home and sooner return to function
- No barriers to adoption:
 - Can be performed:
 - in the supine or lateral decubitus position
 - with or without fluoroscopy
 - using any femoral and acetabular components
- Cost effective:
 - Standard surgical table
 - Shorter length of stay
 - More likely to be discharged home vs rehab facility

Methods

- Utilized a single-institution’s electronic medical record database for data collection (EPIC)
- Collected perioperative, short- and mid-term postoperative outcomes from patients that underwent a primary THA between 2013-2020 performed using the lateral ABMS approach
- Major outcomes included: surgical time, blood loss, transfusion, pain medication requirements, length of stay, discharge destination and home health utilization, complications (dislocations, infections, periprosthetic fractures), 30-day emergency department (ED) rate, 90-day unplanned readmission rate and patient reported outcomes.

Results

- 6,251 patients were included in the study
- Procedure Duration: average 65 minutes
- Blood loss and transfusion rate: 204 mL, 0.7%
- Length of stay: avg 1.4 days over 7.5 years
- Discharge Disposition: 93.4% of patients were discharged home
- 30-day ED Visits: 1.9%
- 90-day Inpatient readmission: 2.9%
- Complications
 - Intraoperative calcar fractures: 0.26%
 - Dislocations: 0.11%
 - Postoperative fractures: 0.37%
 - Deep infection: 0.19%
 - Superficial infection (requiring and I&D): 0.11%
- Overall patient satisfaction: 9.4/10

Discussion

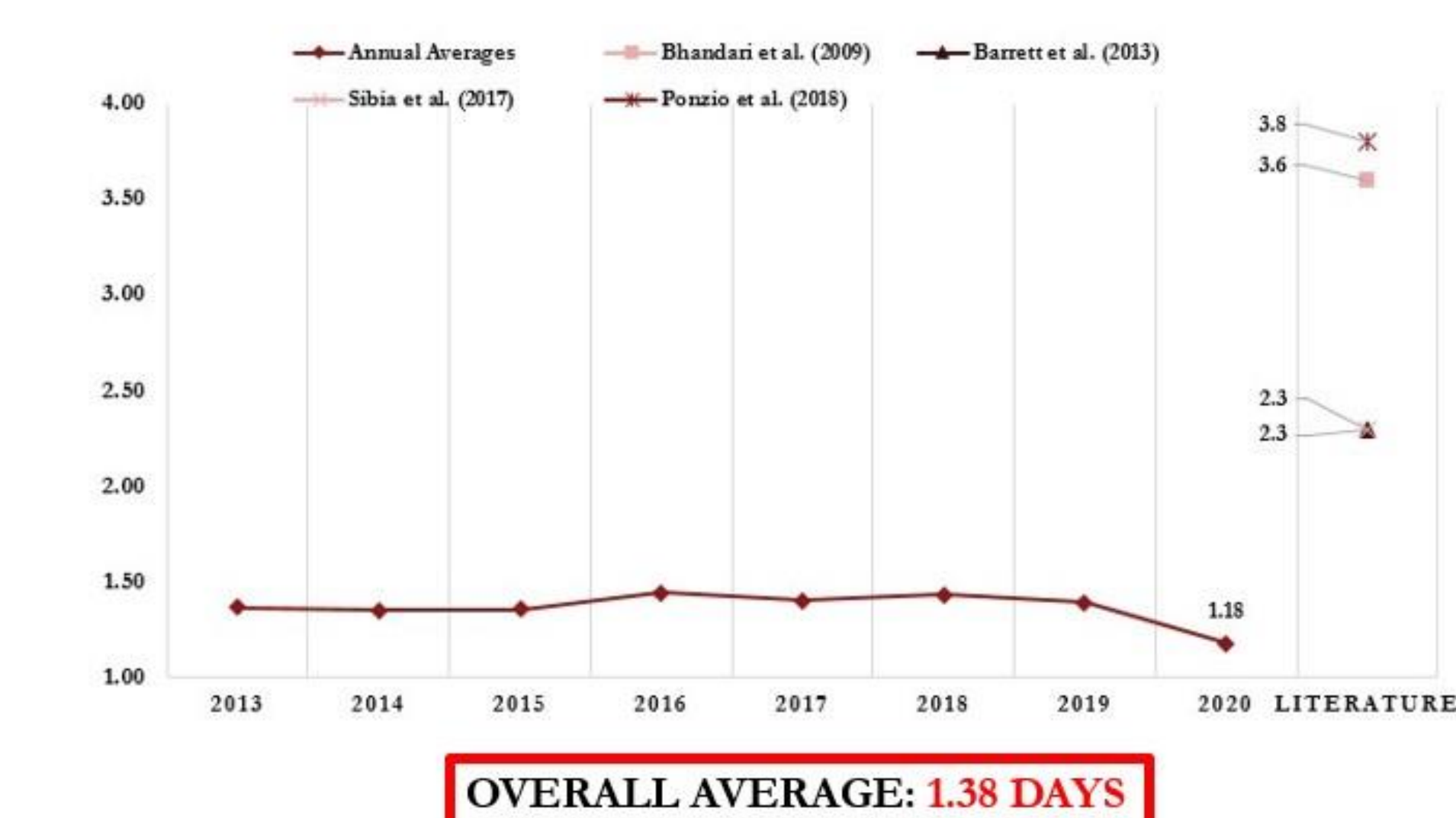
- The ABMS approach facilitates reproducible placement of implants through a minimally invasive, muscle-sparing approach, driving efficiencies, with few complications and minimal barriers to adoption
- The results from our study when compared with results using other surgical approaches (as demonstrated by Figures 1-3) demonstrated significantly superior results
- The ABMS approach is a high quality, low cost technique that is an efficient surgery (avg surgical duration 65 minutes), has a short length of stay with the majority of patients being discharged home, and is associated with reduced ED visits, readmissions, and complications, and is found to result in high patient-reported outcomes demonstrating a high degree of satisfaction
- The ABMS approach for THR should be considered by orthopedic surgeons during this era of value based healthcare

Graphs and Figures

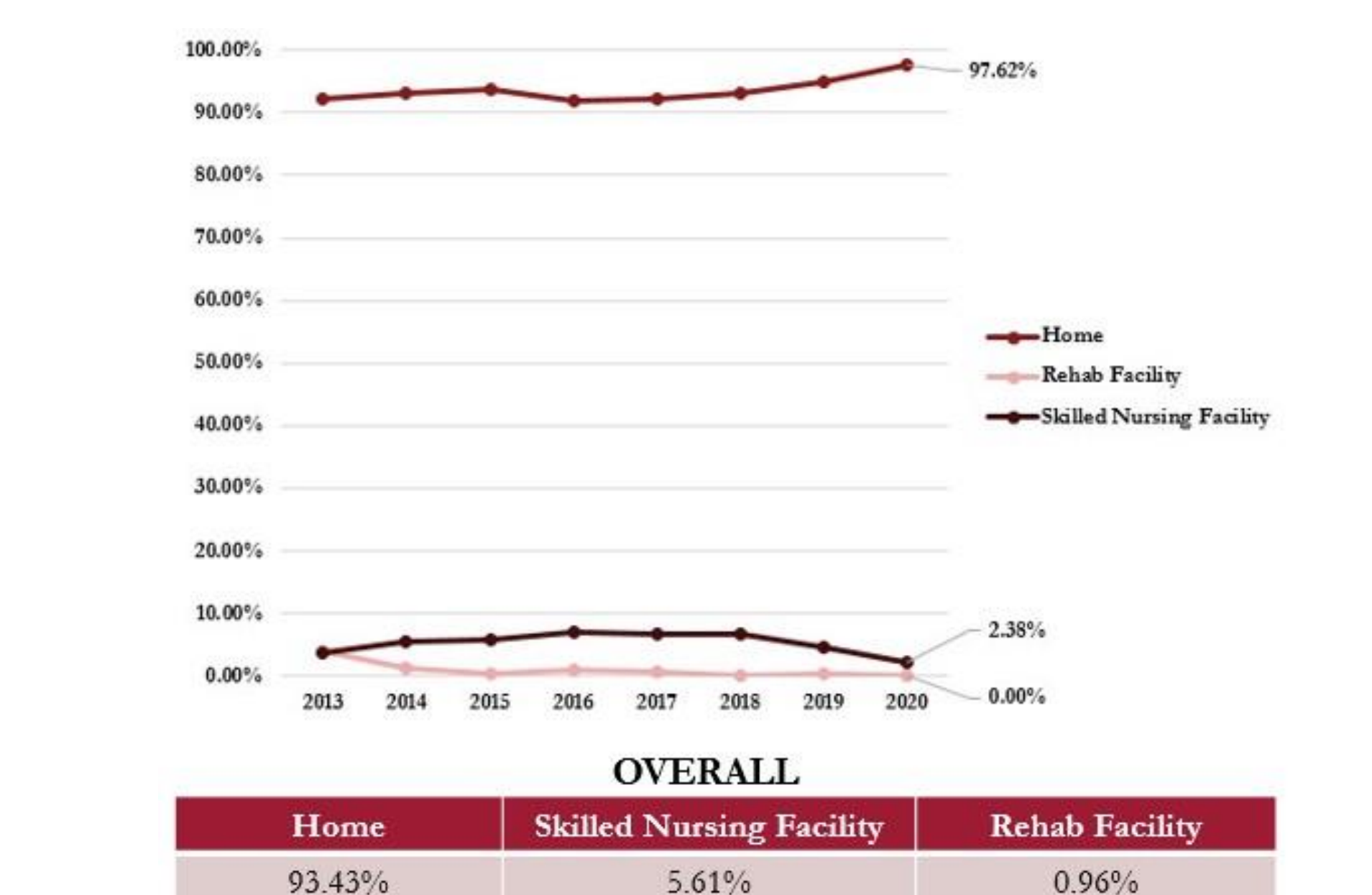
Procedure Duration



Length of Stay

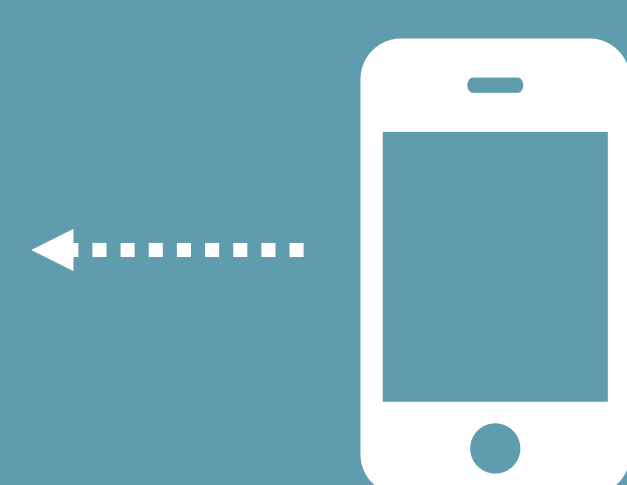
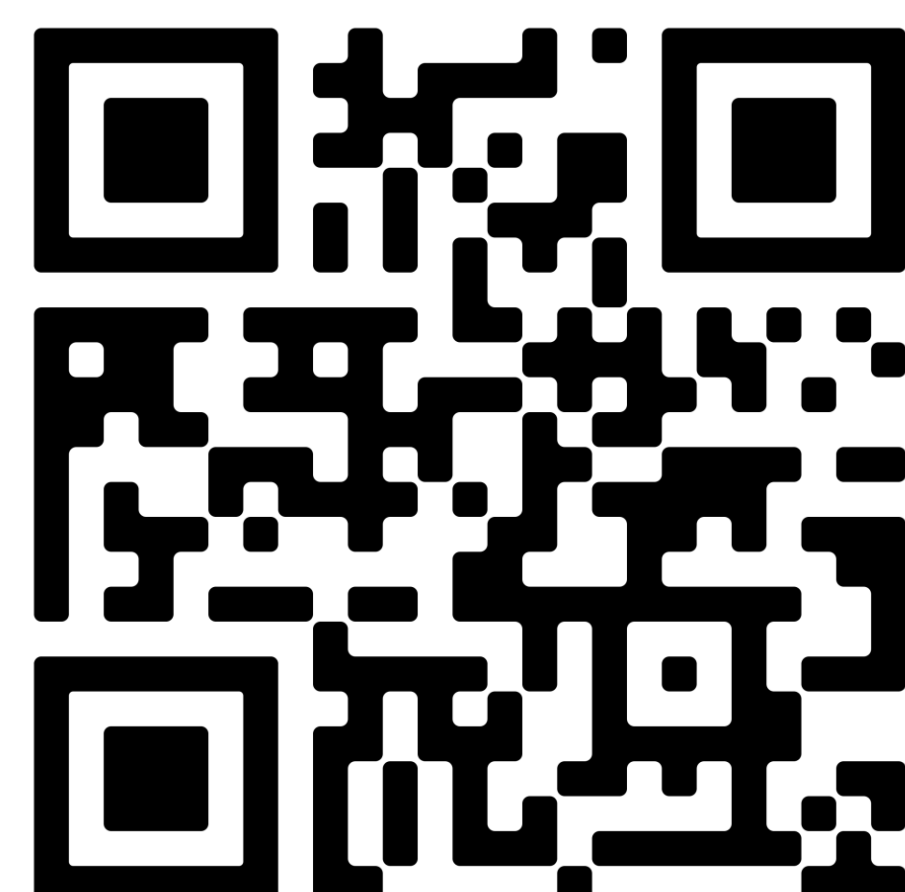


Discharge Disposition



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