AAOS
AMERICAN ACADEMY OF
ORTHOPAEDIC SURGEONS

Shoulder & Elbow Registry
Improving Orthopaedic Care Through Data

October 2019

Shoulder & Elbow Registry Annual Report Preview

This report provides a preview into the recently launched Shoulder and Elbow Registry (SER). A full annual report will be published at the American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, March 2020.

Thank you to the SER Steering Committee and Registry Oversight Committee for their contributions and leadership in bringing this Registry to fruition.

About the Shoulder and Elbow Registry

The AAOS launched SER with the leadership of the SER Steering Committee, including representatives from the American Shoulder and Elbow Surgeons (ASES), the American Orthopaedic Society for Sports Medicine (AOSSM), the Arthroscopy Association of North America (AANA), and the American Society for Surgery of the Hand (ASSH). Working in collaboration with the specialty societies, the Academy created this Registry to collect shoulder and elbow procedural data across the United States. National data allows for establishing survivorship curves, tracking revisions, and improving the quality of patient care.

SER has three modules: shoulder arthroplasty, rotator cuff repair and elbow arthroplasty.

Registry Oversight Committee	**SER Steering Committee**
William J. Maloney, MD, Chair	Gerald R. Williams Jr., MD, Chair
David A Halsey, MD, Immediate Past President	Mark E. Baratz, MD (ASSH)
Kevin J. Bozic, MD, MBA	Stephen F. Brockmeier, MD (AOSSM)
Michael J. Gardner, MD	Grant E. Garrigues, MD (ASES)
Steven D. Glassman, MD	John E. Kuhn, MD
David S. Jevsevar, MD, MBA	Ronald A. Navarro, MD
Ronald A. Navarro, MD	Joaquin Sanchez-Sotelo, MD
Kurt P. Spindler, MD	Richard Seiden, Esq. (Patient Representative)
Gerald R. Williams Jr., MD	Patrick St. Pierre, MD (AANA)
	Stephen C. Weber, MD

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Data Collection Preview

This report represents data submitted to SER. While SER collects historical data, ICD (International Classification of Diseases)-10 and CPT (Current Procedural Terminology) coding is accepted representing data from 2016 to present following ICD-10 implementation.

As of September 2019, there were over 70 facilities participating in SER. Sites include hospitals, private practices, and ambulatory surgical centers spanning 24 states across the United States.

States with a SER contracted facility

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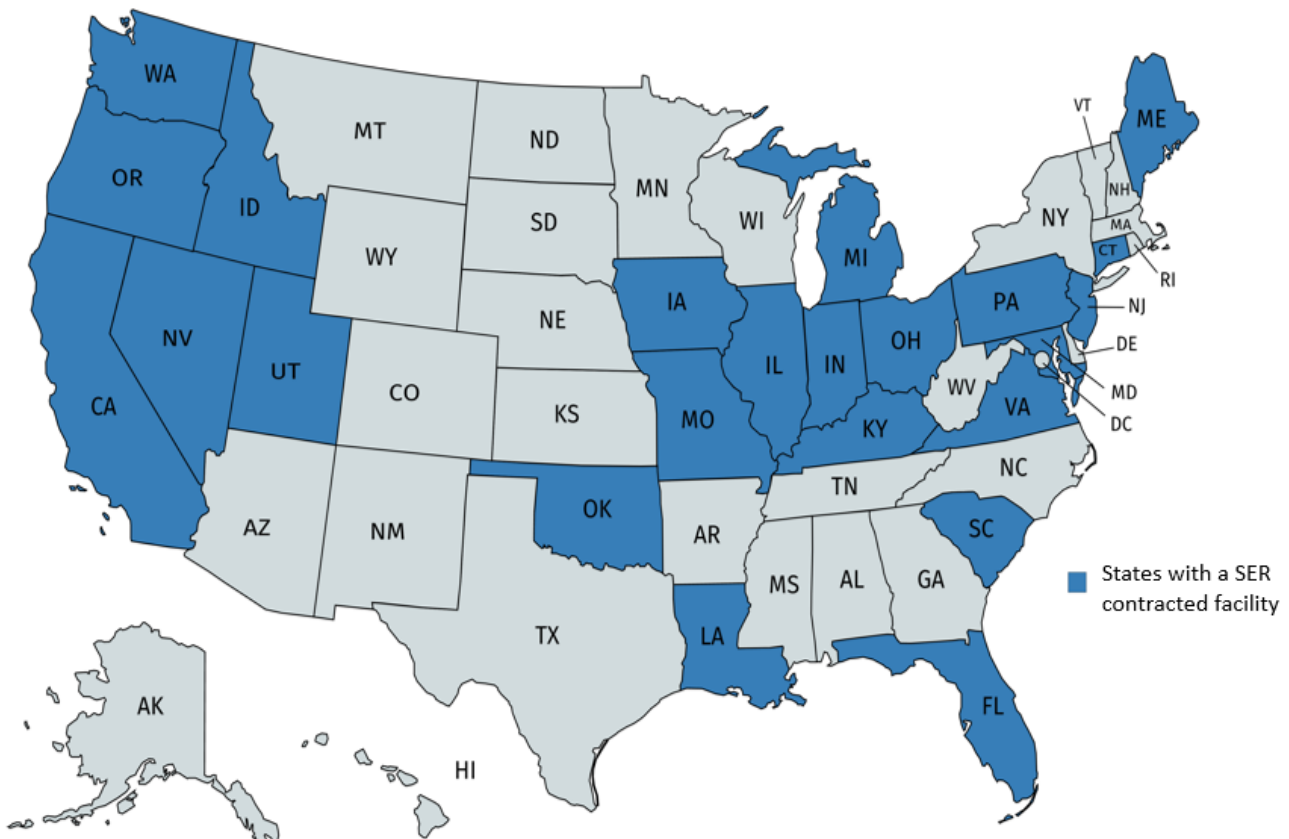
2019 Preview

Shoulder Arthroplasty

As of this Publication, SER had over 1,900 shoulder arthroplasty procedures
Cases submitted to SER in 2019 spanning procedures performed 2016 to 2019

This preview includes over 1,900 shoulder arthroplasty procedures submitted to SER in 2019 spanning procedures performed 2016 to 2019. Most procedures were reverse shoulder arthroplasties (46.9%) (Figure 1). When examining race, 97.1% of all procedures were done on Caucasian patients. Mean age was 62.7 years (SD 16.5) (Figure 2) and 50.4% were females.

Figure 1: Distribution of Shoulder Arthroplasty Procedures, (N=1,924)

Pie chart legend:
- Reverse Shoulder Arthroplasty — 46.9% (n=903)
- Revision — 1.1% (n=22)
- Total Shoulder Replacement — 24.8% (n=477)
- Hemiarthroplasty, Manipulation Under Anesthesia and Arthroscopy — 27.1% (n=522)

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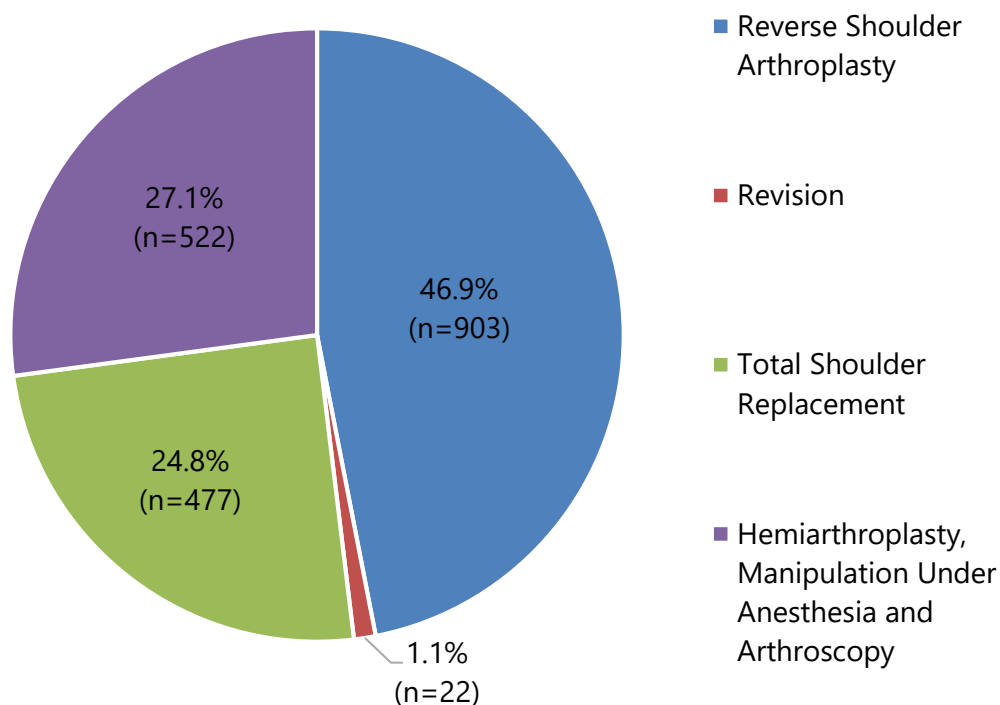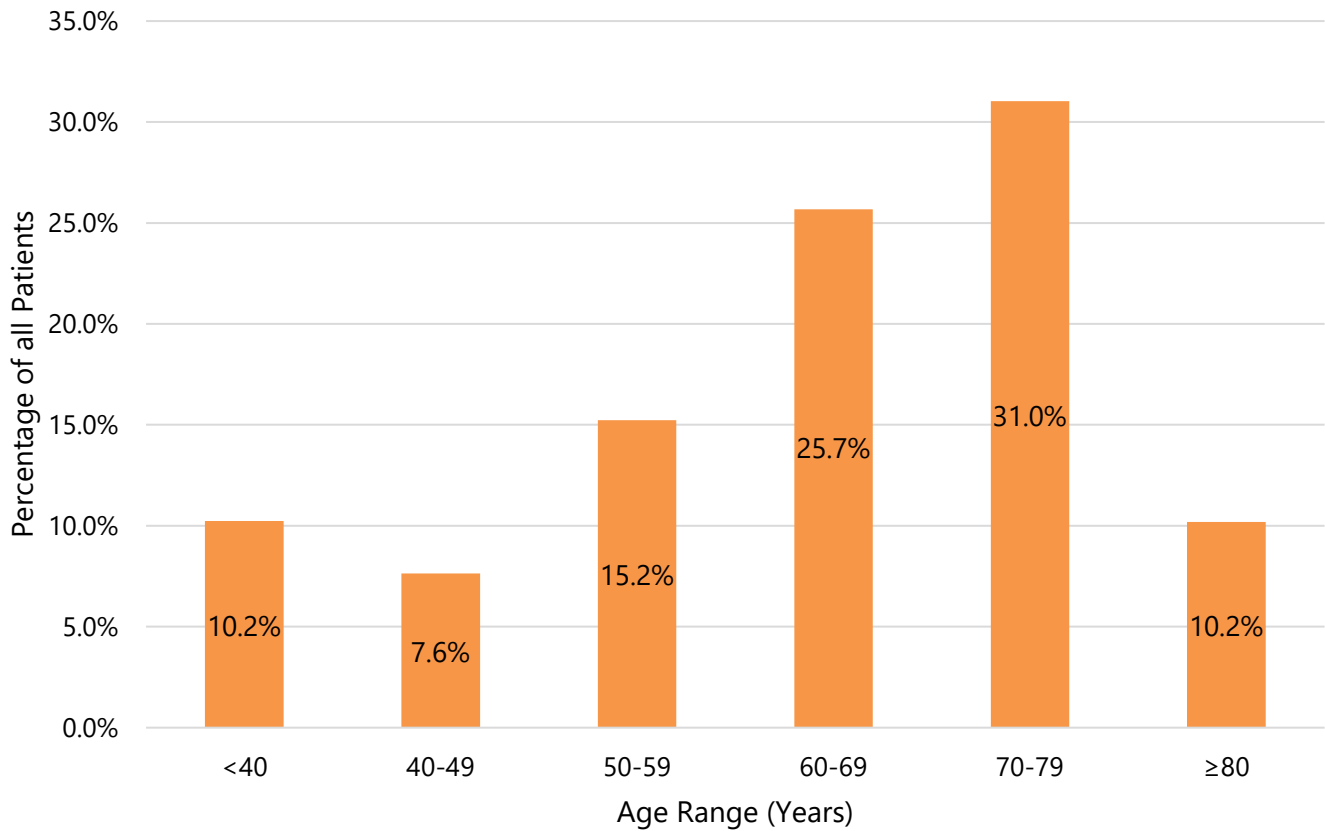
2019 Preview

Figure 2: Age of Patients with a Shoulder Arthroplasty Procedure (N=1,924)

Within this preview, for all procedures reported to the SER shoulder arthroplasty module, 45.1% contained a diagnosis of osteoarthritis, 5.8% had a diagnosis of fracture and 2.1% a diagnosis of pain. Comparing body mass index (BMI) 80.7% were classified as either pre-obese or obese (Figure 3). For discharge disposition, 76.5% were discharged to home (Figure 4).

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Figure 3: Percentage of All Shoulder Arthroplasty Patients Classified as Either Pre-obese or Obese (N=1,016)* *Based on the Centers for Disease Control and Prevention Adult BMI Index
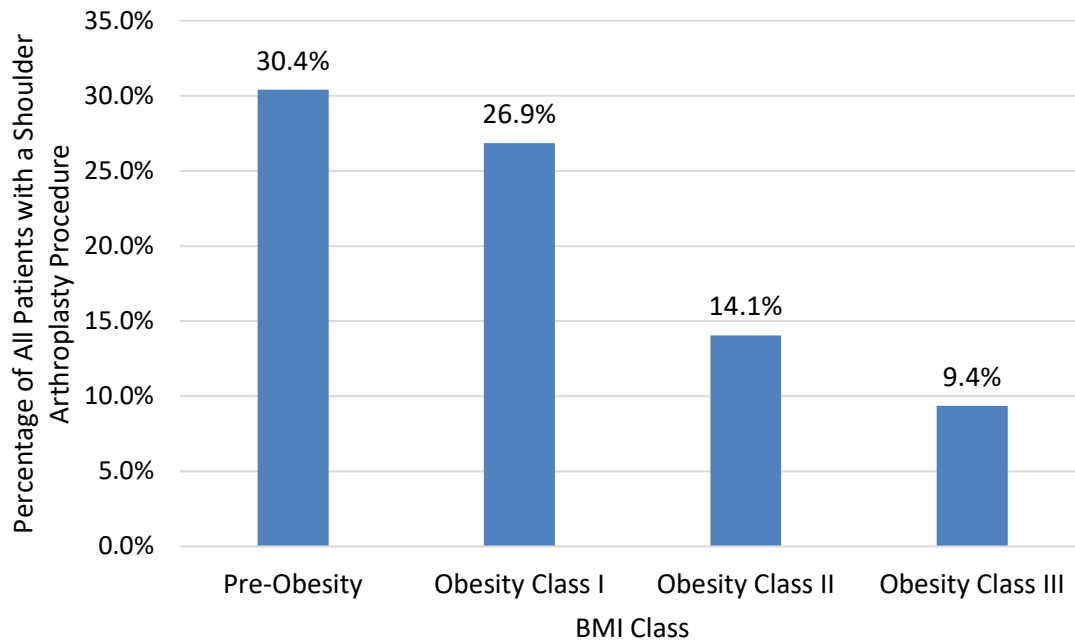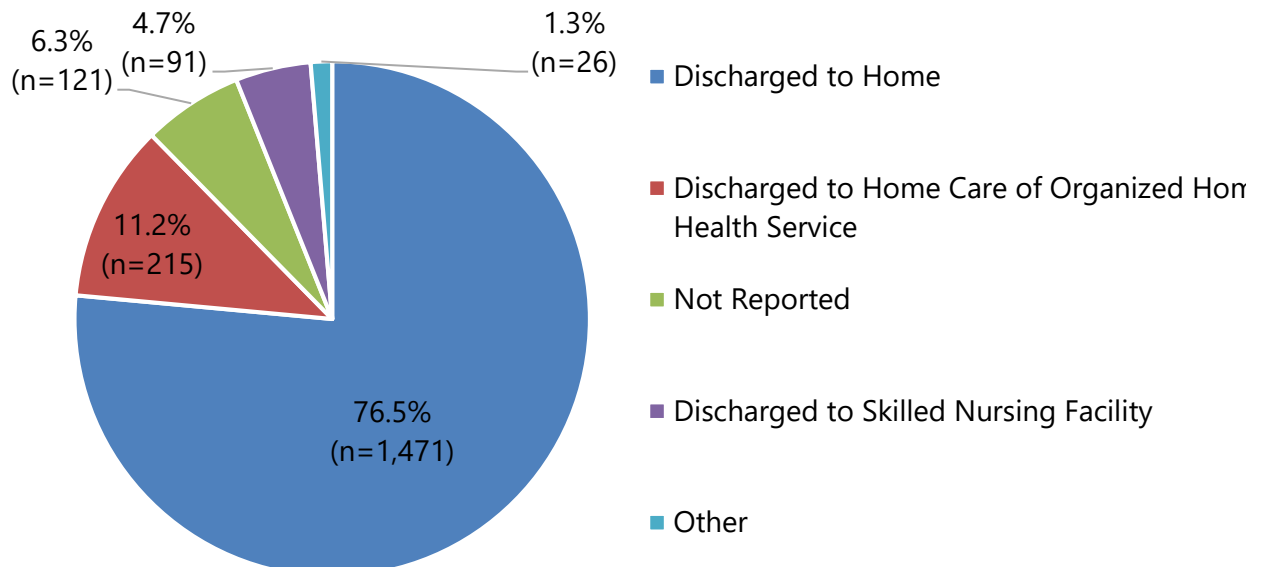

Figure 4: Discharge Disposition of All Shoulder Arthroplasty Procedures (N=1,924)*
*SER collects Centers for Medicare and Medicaid Services (CMS) Patient Discharge Status Codes directly from sites of service.

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Rotator Cuff Repair

As of this Publication, SER had over 1,200 rotator cuff repair procedures
Cases submitted to SER in 2019 spanning procedures performed 2016 to 2019

This preview includes over 1,200 rotator cuff repair procedures submitted to SER in 2019, spanning procedures performed 2016 to 2019. When examining race, 95.0% of all procedures were done on Caucasian patients. Mean age was 57.1 years (SD 11.9) (Figure 5) and majority were males (Figure 6). 85.0% were classified as either pre-obese or obese (Figure 7) and 94.2% were discharged to home.

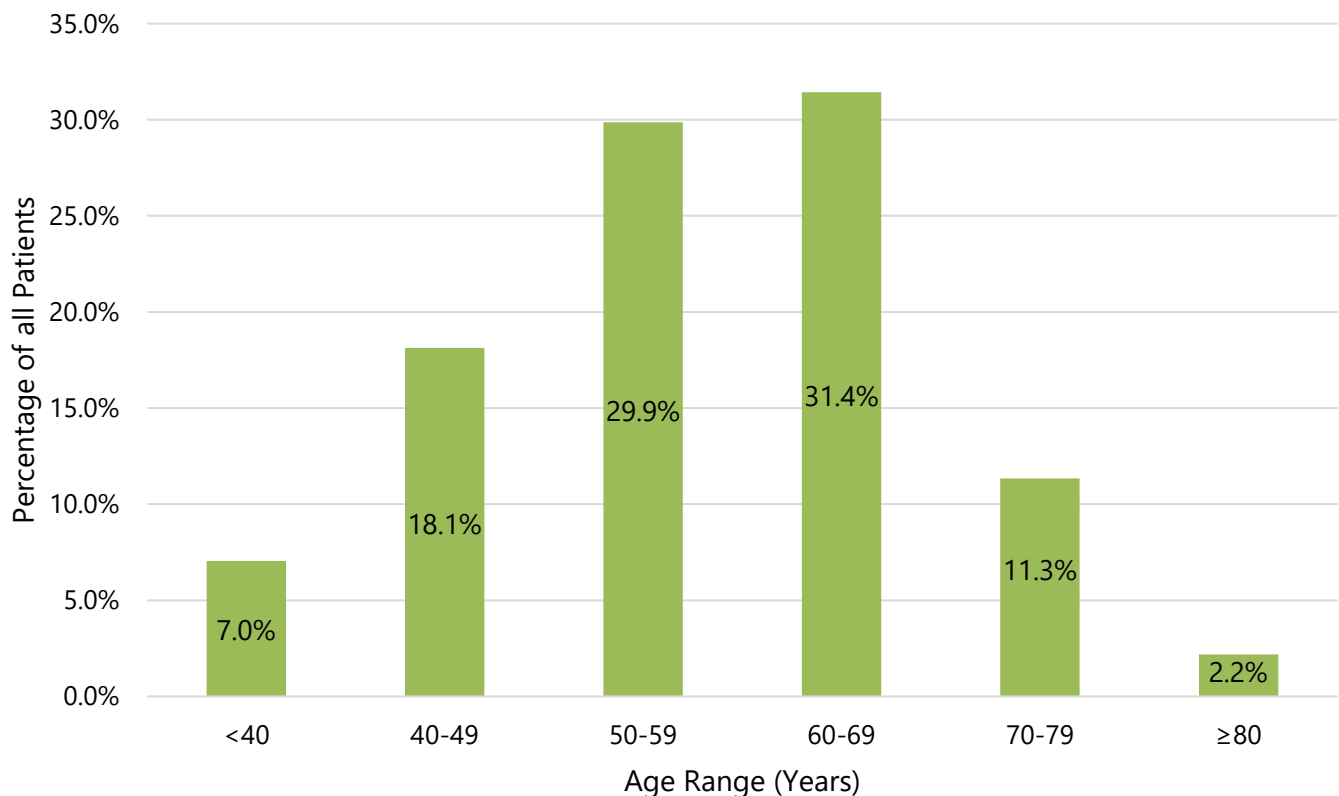**Figure 5: Age of Patients with a Rotator Cuff Repair Procedure (N=1,279)**

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Figure 6: Sex Distribution for All Rotator Cuff Repair Procedures (N=1,279)

■ Female ■ Male
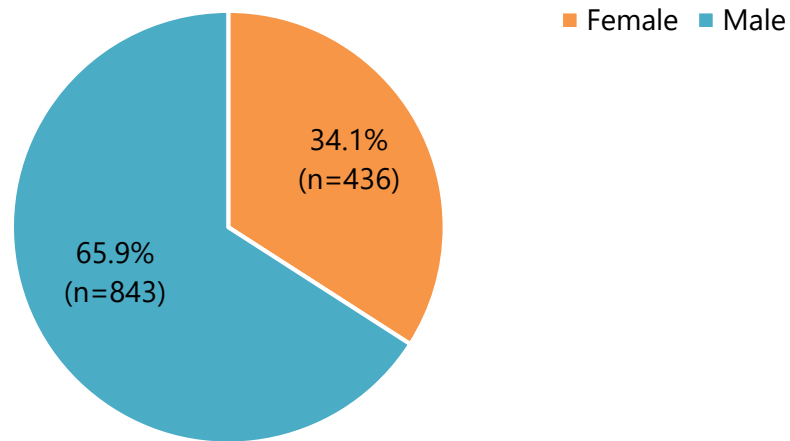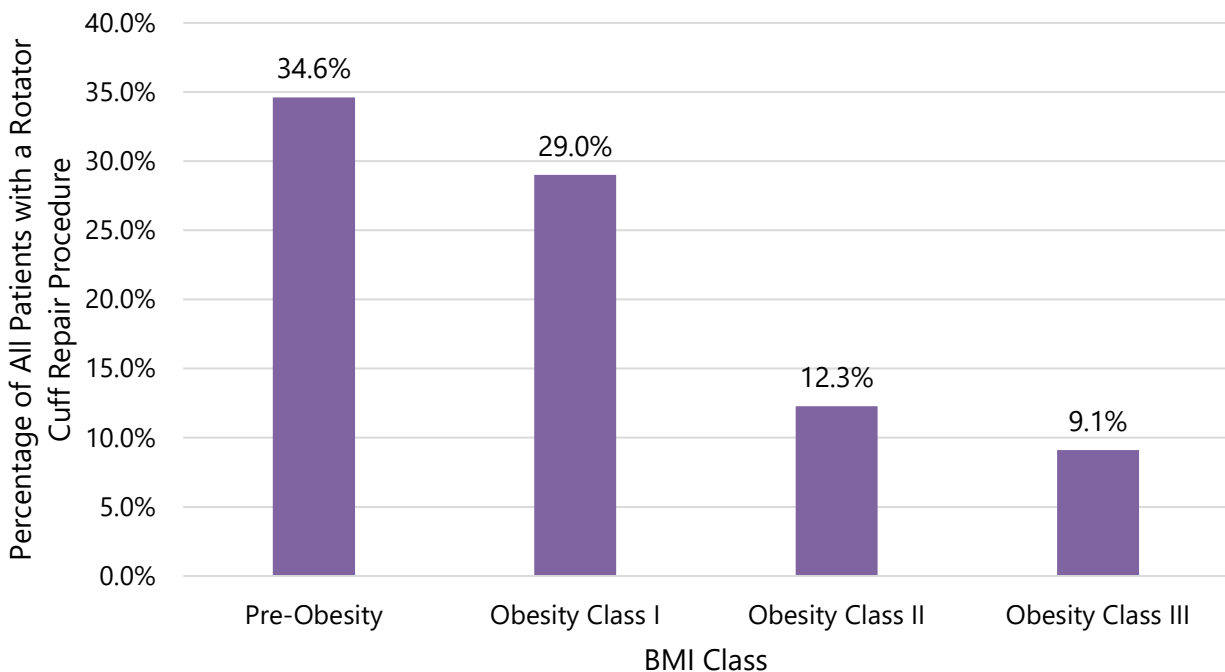
34.1%
(n=436)

65.9%
(n=843)

Figure 7: Percentage of All Rotator Cuff Repair Patients Classified as Either Pre-obese or Obese (N=1,046)* *Based on the Centers for Disease Control and Prevention Adult BMI Index

Percentage of All Patients with a Rotator Cuff Repair Procedure

BMI Class	Percentage
Pre-Obesity	34.6%
Obesity Class I	29.0%
Obesity Class II	12.3%
Obesity Class III	9.1%

Data Elements Collected in the Shoulder and Elbow Registry

Procedural

Patient

- Name (Last, First)
- Date of birth
- Social Security Number
- Diagnosis (ICD-10/CPT)
- Gender
- Ethnicity

Sites of Service

- Name (TIN/NPI)

Surgeon

- Name (National Provider Identifier)

Procedure

- Type (ICD-10/CPT)
- Date of surgery
- Laterality
- Implants
- Height + Weight/Body Mass Index
- Length of Stay
- Surgical Approach
- American Society of Anesthesiologists (ASA) classification

Post-Operative, Complications

Patient risk factors (ICD-10)*

- Chronic lung disease
- Congestive heart failure
- Coronary artery disease
- Diabetes mellitus
- Dialysis
- History of venous thrombosis and embolism
- Hypertension
- Obesity
- Peripheral artery disease
- Previous cardiac condition (past myocardial infarction)
- Smoking status

*Comorbidities listed of focus, all comorbidities are accepted

Post-operative complications

- Early revisions
- Hospital re-admission

Patient Reported Outcome Measures, PROMs

- PROMIS 10-item Global Health
- Veterans Rand 12-Item Health Survey (VR-12)
- Single Assessment Numeric Evaluation (SANE)
- American Shoulder and Elbow Society (ASES)