

# Journal Pre-proof

Racial Disparities in Arthroscopic Rotator Cuff Repair: An Analysis of Utilization and Perioperative Outcomes

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**Title:** Racial Disparities in Arthroscopic Rotator Cuff Repair: An Analysis of Utilization and Perioperative Outcomes

**Running Title:** Race Differences in Rotator Cuff Repair

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1 **Title:** Racial Disparities in Arthroscopic Rotator Cuff Repair: An Analysis of Utilization and  
2 Perioperative Metrics

3 **ABSTRACT:**

4 **Background:** There remains a paucity of literature addressing racial disparities in utilization and  
5 perioperative metrics in arthroscopic rotator cuff repair procedures.

6 **Methods:** The American College of Surgeons National Surgical Quality Improvement Program  
7 database was utilized to evaluate patients undergoing arthroscopic rotator cuff repair from 2010  
8 – 2019. Baseline demographics, utilization trends, and perioperative measures including adverse  
9 events, operative time, length of hospital stay, days from operation to discharge, and readmission  
10 were analyzed.

11 **Results:** Of 42,443 included patients, 38,090 (89.7%) were White and 4,353 (10.3%) were Black  
12 or African American. Black or African American patients had a significantly higher percentage  
13 of diabetes mellitus (23.6% vs. 15.6%), smoking (16.9% vs. 14.8%), congestive heart failure  
14 (0.3% vs. 0.1%), and hypertension (59.2% vs. 45.9%). Additionally, logistic regression showed  
15 that Black or African American patients had increased odds of longer operative time [adjusted  
16 rate ratio (ARR) 1.07, 95% confidence interval (CI) 1.05-1.08] and time from operation to  
17 discharge [ARR 1.19, 95% CI 1.04-1.37]. Disparities in relative utilization decreased as the  
18 proportion of Black or African American patients undergoing arthroscopic rotator cuff repair  
19 increased (7.4% in 2010 vs. 10.4% in 2019) compared to White patients ( $p_{\text{trend}} < .0001$ ).

20 **Conclusion:** Racial disparities exist regarding baseline comorbidities and perioperative metrics  
21 in arthroscopic rotator cuff repair. Further investigation is needed to fully understand and address  
22 causes of these inequalities to provide equitable care.

23 **Level of Evidence:** Epidemiology Study; Large Database Analysis

24 **Keywords:** race; arthroscopic rotator cuff repair; shoulder; utilization; outcomes; trends; NSQIP  
25 Healthcare in the United States, like many other facets of modern society, is  
26 disproportionately affected by differences in race, ethnicity, sex, and socioeconomic status. For  
27 example, when analyzing racial identity, Black or African American patients are more likely to  
28 have hypertension, diabetes mellitus, and coronary artery disease (CAD) compared to White  
29 patients.<sup>28</sup> Specifically in orthopedics, differences in utilization rates based on patients' race have  
30 been observed in total joint arthroplasty.<sup>7,27</sup> Pandya et al demonstrated a lower rate of total knee  
31 arthroplasties among minority patients, along with a lower rate of total shoulder arthroplasties  
32 among Black males.<sup>27</sup> As such, various government and orthopedic organizations, such as the  
33 American Academy of Orthopedic Surgery, Association of Bone and Joint Surgery, Orthopaedic  
34 Research Society, and the Department of Health and Human Services, have created initiatives to  
35 address racial disparities in orthopedic care.<sup>22,26</sup> However, according to Amen et al and Best et al,  
36 the results have shown that disparities continue to exist between Black and White patients  
37 regarding utilization, length of stay, and perioperative complication rates in total joint  
38 arthroplasty.<sup>2,7,8</sup> Specifically, Black patients tend to have increased lengths of stay, risk of  
39 mortality, and risk of complications during both total hip arthroplasty and total knee arthroplasty.  
40 While prior research has provided valuable insight into the inequality that exists in orthopedics in  
41 North America, there continues to be a paucity of literature specifically addressing the impact of  
42 racial disparities on utilization and perioperative measures in arthroscopic rotator cuff repair  
43 despite its increase in demand.

44 Therefore, the primary purpose of this study is to investigate racial disparities amongst  
45 patients undergoing arthroscopic rotator cuff repair procedures by analyzing perioperative  
46 measures and trends over an extended timeframe. It is essential for clinicians to understand

47 underlying prognostic factors, as well as any other barriers patients must overcome, to provide  
48 equitable care at an individual level. We hypothesize that there will be statistically significant  
49 differences in the complication rates between White and Black or African American patients.

## 50 **MATERIALS AND METHODS**

### 51 *Source Data*

52 This study utilized data from the American College of Surgeons National Surgical  
53 Quality Improvement Program (NSQIP) database from 2010 to 2019. The NSQIP registry serves  
54 to provide 30-day postoperative complication data that is collected and stored with the end goal  
55 of decreasing the frequency of adverse events and complications.<sup>15,25</sup> The database exhibits a  
56 high-quality collection method and undergoes continuous rigorous audits in order to maintain its  
57 validity and accuracy.<sup>11</sup> The database contains over 300 perioperative variables from over 700  
58 medical institutions within the United States.<sup>11,21,25,31</sup> Importantly, it has been used in previous  
59 orthopedic studies to articulate differences in surgical procedures.<sup>13,24</sup> Institutional review board  
60 approval was obtained for this study (#2021P001230).

### 61 *Inclusion Criteria*

62 Patients included in this study were adults (age  $\geq 18$ ) found in the NSQIP database who  
63 underwent an arthroscopic rotator cuff repair procedure according to the Current Procedural  
64 Terminology (CPT) code 29827. Baseline demographics included age, sex, body mass index  
65 (BMI), American Society of Anesthesiologists (ASA) status, race, smoking status, diabetes  
66 mellitus, severe chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF),  
67 steroid use for chronic condition, and hypertension requiring medication. Total operative time,  
68 total length of hospital stay, days from operation to discharge, and readmission were also  
69 analyzed. Similar to previous studies utilizing the NSQIP database, adverse events were

70 classified as serious or minor.<sup>12,14,16,24</sup> Serious adverse events included: death, reoperation,  
71 pulmonary complications (unplanned intubation or ventilator greater than 48 hours), pneumonia,  
72 cardiac complications (cardiac arrest or myocardial infarction), renal complications (progressive  
73 renal insufficiency or acute renal failure), thromboembolic complications  
74 (DVT/thrombophlebitis or pulmonary embolism), deep wound complications (deep incisional  
75 surgical site infection, wound dehiscence, or joint space infection), and sepsis. Minor adverse  
76 events included superficial surgical site infection and urinary tract infection. Furthermore, trends  
77 for serious adverse events, length of total hospital stay, and relative procedure rates over the  
78 study length were examined.

### 79 *Statistical Analysis*

80 Statistical analyses were performed using SAS v9.4 (SAS Institute Inc., Cary, NC, USA).  
81 Baseline demographic variables as well as outcome variables were analyzed using either chi-  
82 squared tests or Fisher's exact tests. Binomial models and logistic regression models were  
83 employed for continuous and categorical variables, respectively. Cochran-Armitage Trend test  
84 was utilized in order to discern any significance in relative procedural usage over the study  
85 period. Continuous variables are reported as mean  $\pm$  standard deviation. P-values  $<0.05$  were  
86 considered significant.

## 87 **RESULTS**

88 A total of 42,443 patients were included in this analysis. There were 38,090 (89.7%)  
89 White patients and 4,353 (10.3%) Black or African American patients. Significant differences  
90 between the two patient groups were observed regarding age, sex, BMI, diabetes mellitus, ASA  
91 class, smoking status, congestive heart failure, and hypertension requiring medication, ( $p<0.001$   
92 for all). White patients tended to be older [90.8% vs. 85.2% ( $> 45$  years),  $p<0.001$ ] with a higher

93 percentage being males (58.8% vs. 47.6%,  $p < 0.001$ ). There was a larger proportion of Black or  
94 African American patients that were classified as overweight or obese compared to White  
95 patients (89.9% vs. 83.8%,  $p < 0.001$ ). Regarding medical comorbidities, the Black or African  
96 American cohort had a larger proportion of patients with diabetes mellitus (23.6% vs. 15.6%),  
97 smoking within the past year (16.9% vs. 14.8%), CHF (0.3% vs. 0.1%), and hypertension  
98 requiring medication (59.2% vs. 45.9%), ( $p < 0.001$  for all). A comprehensive summary of  
99 baseline demographics and clinical characteristics are presented in **Table 1**.

#### 100 *Perioperative Metrics of Arthroscopic Rotator Cuff Repair*

101       Importantly, there were no significant differences between Black or African American  
102 and White patients when comparing length of total hospital stay, readmission, serious adverse  
103 events, and minor adverse events. However, statistically significant differences were noted  
104 between the two cohorts with regards to total operative time and days from operation to  
105 discharge. Black or African American patients had a longer mean operative time [ $94.0 \pm 45.7$  vs.  
106  $88.9 \pm 45.9$  minutes] and mean time from operation to discharge from the hospital [ $0.17 \pm 2.1$  vs.  
107  $0.13 \pm 1.3$  days] when compared to White patients, ( $p < 0.001$  for both) (**Table 2**).

108       In order to further evaluate the differences in outcomes between Black or African  
109 American and White patients, a logistic regression analysis was performed while controlling for  
110 age, sex, BMI, diabetes mellitus, ASA class, smoking status, congestive heart failure, and  
111 hypertension (**Table 3**). Compared to White patients, Black or African American patients had an  
112 increased risk of experiencing longer total operative time [adjusted relative risk (ARR): 1.07,  
113 95% confidence interval (CI) 1.05-1.08,  $p < 0.001$ ] as well as a longer elapsed time from  
114 operation to time of discharge [RR: 1.19, 95% CI 1.04-1.37,  $p = 0.013$ ].

#### 115 *Trends in Arthroscopic Rotator Cuff Repair*



116           When examining relative utilization, the proportion of patients undergoing arthroscopic  
117 rotator cuff repair procedures who identified as Black or African American significantly  
118 increased from 7.4% in 2010 to 10.4% in 2019 ( $p_{\text{trend}} < 0.0001$ ) (**Figure 1**). Length of total  
119 hospital stay for both Black or African American (coefficient -0.11,  $p < 0.001$ ) and White patients  
120 (coefficient -0.08,  $p < 0.0001$ ) significantly decreased over the study period. There was no  
121 significant difference in length of stay between Black or African American and White patients  
122 (ARR: 1.03, 95% CI 0.88-1.19), and this association persisted over time ( $p_{\text{trend}} > 0.05$ ). Regarding  
123 rates of serious adverse events, they did not significantly change within patient populations over  
124 the study period, nor did they change between the two cohorts over the study period, ( $p > 0.05$  for  
125 both groups,  $p_{\text{trend}} > 0.05$ ).

## 126 **DISCUSSION**

127           The results of this critical study add to the ever-growing evaluation of disparities between  
128 different racial groups in orthopedics. Specifically, the NSQIP database was utilized to compare  
129 procedure trends and perioperative measures between Black or African American and White  
130 patients undergoing arthroscopic rotator cuff repair in the United States. From 2010-2019, there  
131 was a significant increase in the proportion of Black or African American patients undergoing  
132 arthroscopic rotator cuff repairs. Despite differences in baseline demographics, we disproved our  
133 hypothesis as there was a nonsignificant impact on the rate of adverse events between cohorts.  
134 Additionally, demographic and clinical differences did not dictate the disparities observed in the  
135 study, as these differences persisted after adjustment.

136           In the adjusted analyses, Black or African American patients were noted to have a  
137 statistically significant increase in odds for longer operative time (5.1 minutes) and time from  
138 operation to discharge (.04 days or 57.6 minutes), however, the clinical relevance of these

139 findings will require further investigation. Of note, value-based healthcare has been a growing  
140 enterprise in the United States and future correlations with time-driven activity-based costing  
141 (TDABC) may reveal the true economic impact of these differences.<sup>23</sup>

142 A multitude of baseline demographic factors were significantly different between Black  
143 or African American and White patients. Specifically, Black or African American patients  
144 exhibited higher rates of smoking, hypertension, and greater BMIs. Smoking has been noted in  
145 the literature to impair wound healing, reduce bone mass, and decrease spinal fusion.<sup>3,29,32</sup>  
146 Furthermore, Kashanchi et al demonstrated that smoking is a significant predictor of  
147 complications and readmission following arthroscopic rotator cuff repair.<sup>19</sup> Additionally, as  
148 reported by Ateschrang et al, a BMI > 30 is associated with higher re-tear rates after rotator cuff  
149 repair along with lower patient-reported outcome scores.<sup>6</sup> Lastly, the differences in hypertension  
150 between cohorts in this study is consistent with prior data, as a recent analysis by Aggarwal et al  
151 stated that the rate of hypertension is significantly higher in Black patients compared to White  
152 patients (45.3% vs. 31.4%).<sup>1</sup>

153 While there is a paucity of similar literature for arthroscopic rotator cuff repair, previous  
154 studies have examined the impact of racial discrepancies in joint arthroplasty.<sup>2,5,10,27</sup> For  
155 example, Amen et al reported a large incongruity in utilization of hip arthroplasty based on race.<sup>2</sup>  
156 Moreover, there were significant differences between the complication rates of Black and White  
157 patients in knee arthroplasty, with the difference increasing from 2006 [6.1% vs 5.1%,  
158 respectively] to 2015 [6.0% vs 3.9%, respectively].<sup>2</sup> Similarly, Best et al found that Black  
159 patients had increased odds of experiencing a multitude of adverse events, such as death [odds  
160 ratio (OR): 2.88] and acute myocardial infarction [OR: 1.43].<sup>7</sup> However, Schairer et al found that

161 race did not have a significant effect on readmission in shoulder arthroplasty when comparing  
162 readmission rates amongst different racial groups.<sup>30</sup>

163         Recently, a study performed by Johnson et al discussed the association of race on  
164 outcomes in arthroscopic rotator cuff repair from 2016-2018 using the NSQIP and TriNetX  
165 Research Network databases.<sup>18</sup> After propensity score matching, the study reported a significant  
166 difference in operative times between minority and White patients. While this study sheds  
167 critical insight into the impact of race in arthroscopic rotator cuff repair, it was particularly  
168 limited in its overall investigation timeframe and stratification of cohorts. Notable trends include  
169 significant decreases in operative times for both Black or African American and White patients  
170 as well as increased relative utilization for Black or African American patients from 2010-2019.  
171 There was a nonsignificant difference between changes in operative time over the study period,  
172 suggesting the original disparity persisted over time. Analysis of readmission, serious, and minor  
173 adverse events displayed nonsignificant differences between Black or African American and  
174 White patients. Moreover, despite a small, nonsignificant increase in serious adverse events over  
175 the study period for both patient cohorts, this trend was not significantly different between racial  
176 identities.

177         A variety of factors have been referenced as possible causes for Black-White disparities.  
178 For example, previous literature has documented differences in medical understanding of joint  
179 surgery, significant distrust in the medical system, and a lack of cultural competence amongst  
180 physicians.<sup>20,21</sup> Some studies have postulated that Black patients may be more likely to engage  
181 in non-surgical forms of care, such as prayer and herbal medicine, when compared to White  
182 patients.<sup>4,9,17</sup> Importantly, multiple initiatives have been developed in order to combat  
183 discrepancies in healthcare, such as the AAOS/ORS/ABJS Musculoskeletal Healthcare

184 Disparities Research Symposium and the HHS Action Plan to Reduce Racial and Ethnic Health  
185 Disparities. In 2010, The AAOS/ORS/ABJS research symposium identified three main avenues  
186 to focus on in order to achieve their goal of lessening the burden of musculoskeletal disparities:  
187 increasing diversity in orthopedic staff, research, and education.<sup>26</sup> While there have been positive  
188 advances in the realm of arthroscopic rotator cuff repair over the past decade, there continues to  
189 be critical improvements. It is imperative for physicians and policymakers alike to construct  
190 realistic and meaningful initiatives in order to guarantee that every person, regardless of racial  
191 identity, receives the best possible care.

### 192 *Limitations*

193 While this study critically examines racial disparities in arthroscopic rotator cuff repair  
194 and benefits from its extended time period and large patient population, it is not without  
195 limitations. The NSQIP database is limited to capturing events within 30 days postoperatively,  
196 and thus may potentially underestimate rates of adverse events due to complications occurring  
197 outside of this time period. Moreover, the NSQIP database is restricted to evaluating adverse  
198 events strictly occurring in patients who seek medical care at participating institutions.  
199 Information regarding the clinical characteristics of the rotator cuff tears (i.e., size, chronicity,  
200 tendon quality, degree of retraction etc.) and specific details of the procedures (i.e., number and  
201 type of anchors, sutures, etc.) are not captured in the database and their potential impact could  
202 not be assessed. Furthermore, postoperative rehabilitation protocols are not incorporated in the  
203 NSQIP database, and their effect on certain complications (i.e., DVT) could not be evaluated.  
204 Lastly, as a result of the large number of patients included in this study, the analyses performed  
205 may reveal statistically significant differences that are not clinically significant. Despite these  
206 limitations, the NSQIP database has been used to provide novel, valuable insight for assessing

207 operative and clinical characteristics as well as 30-day outcomes.<sup>12,14,16,24</sup> Importantly, the use of  
208 a large national database such as the NSQIP is essential for studies on national policy and  
209 disparities such as the present study. This is particularly important for studies on racial and  
210 socioeconomic disparities and studies that assess utilization, since smaller, single surgeon studies  
211 may not have adequate sample size and may not be generalizable to the national patient  
212 population.

## 213 **CONCLUSION**

214 With the increasing popularity of arthroscopic rotator cuff repair procedures, it is  
215 imperative to evaluate and address the influence of racial disparities. The difference in operative  
216 time and days from operation to discharge was statistically longer for Black or African American  
217 patients, however the clinical relevance of these findings remains unclear. Additionally, Black or  
218 African American patients constitute a relatively smaller proportion of arthroscopic rotator cuff  
219 repair patients, although this difference has significantly decreased over time. Further  
220 investigation is needed to fully understand and address causes of inequalities in arthroscopic  
221 rotator cuff repair in order to provide equitable care.

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322 **FIGURE AND TABLE LEGENDS:**

323 **Figure 1.** Trends in relative utilization of arthroscopic rotator cuff repair amongst Black and  
324 White patients between 2010 and 2019.

325 **Table 1:** Clinical and demographic characteristics of Black or African American and White  
326 patients undergoing arthroscopic rotator cuff repair

327 **Table 2:** Comparison of outcomes between Black or African American and White patients  
328 following arthroscopic rotator cuff repair

329 **Table 3:** Adjusted analysis comparing perioperative and postoperative metrics between Black or  
330 African American and White patients following arthroscopic rotator cuff repair

**Table 1:** Clinical and demographic characteristics of Black or African American and White patients undergoing arthroscopic rotator cuff repair

Variables	Total N=42443(%)	Black or African American N=4353(%)	White N=38090(%)	P Value
<b>Age Group</b>				<.001 * <sup>C</sup>
0-24	203 (0.5)	29 (0.7)	174 (0.5)	
25-34	719 (1.7)	106 (2.4)	613 (1.6)	
35-44	3223 (7.6)	508 (11.7)	2715 (7.1)	
45+	38297 (90.2)	3710 (85.2)	34587 (90.8)	
<b>Sex</b>				<.001 * <sup>C</sup>
Female	17960 (42.3)	2280 (52.4)	15680 (41.2)	
Male	24483 (57.7)	2073 (47.6)	22410 (58.8)	
<b>BMI Group</b>				<.001 * <sup>C</sup>
Normal (<24.9 kg/m <sup>2</sup> )	6559 (15.6)	435 (10.0)	6124 (16.2)	
Overweight (25-29.9 kg/m <sup>2</sup> )	14706 (34.9)	1305 (30.1)	13401 (35.4)	
Obese (>30 kg/m <sup>2</sup> )	20910 (49.6)	2592 (59.8)	18318 (48.4)	
<b>Diabetes Mellitus</b>	6982 (16.5)	1026 (23.6)	5956 (15.6)	<.001 * <sup>C</sup>
<b>ASA Class</b>				<.001 * <sup>C</sup>
1	3269 (7.7)	299 (6.9)	2970 (7.8)	
2	24310 (57.3)	2350 (54.0)	21960 (57.7)	
3+	14844 (35.0)	1704 (39.1)	13140 (34.5)	
<b>Current Smoker (within one year)</b>	6361 (15.0)	735 (16.9)	5626 (14.8)	<.001 * <sup>C</sup>
<b>Severe COPD</b>	1384 (3.3)	124 (2.8)	1260 (3.3)	0.106 <sup>C</sup>
<b>Congestive Heart Failure</b>	61 (0.1)	15 (0.3)	46 (0.1)	<.001 * <sup>C</sup>
<b>Hypertension Requiring Medication</b>	20051 (47.2)	2579 (59.2)	17472 (45.9)	<.001 * <sup>C</sup>
<b>Steroid Use (Chronic Condition)</b>	876 (2.1)	104 (2.4)	772 (2.0)	0.111 <sup>C</sup>

\*Statistically significant ( $\alpha = 0.05$ )<sup>†</sup>Exact test<sup>C</sup>Chi-square test

Abbreviations: BMI: Body Mass Index; ASA: American Society of Anesthesiologist

**Table 2:** Comparison of outcomes between Black or African American and White patients following arthroscopic rotator cuff repair

	<b>Total N=42443(%)</b>	<b>Black or African American N=4353(%)</b>	<b>White N=38090(%)</b>	<b>P Value</b>
<b>Total Operative Time (Mean ± SD)</b>	89.5 ± 45.9	94.0 ± 45.7	88.9 ± 45.9	<.001* <sup>NB</sup>
<b>Length of Total Hospital Stay (Mean ± SD)</b>	0.16 ± 2.4	0.17 ± 2.1	0.16 ± 2.5	0.408 <sup>NB</sup>
<b>Days from Operation to Discharge (Mean ± SD)</b>	0.1 ± 1.4	0.17 ± 2.1	0.13 ± 1.3	<.001* <sup>NB</sup>
<b>Any Readmission</b>	437 (1.07)	50 (1.19)	387 (1.05)	0.417 <sup>C</sup>
<b>Serious Adverse Events</b>	353 (0.83)	35 (0.80)	318 (0.83)	0.832 <sup>C</sup>
Death	10 (0.02)	1 (0.02)	9 (0.02)	1 <sup>F+</sup>
Return to OR	118 (0.28)	9 (0.21)	109 (0.29)	0.346 <sup>C</sup>
Pulmonary Complications	28 (0.07)	5 (0.11)	23 (0.06)	0.202 <sup>F+</sup>
Cardiac Complications	31 (0.07)	4 (0.09)	27 (0.07)	0.554 <sup>F+</sup>
Renal Complications	8 (0.02)	0 (0.00)	8 (0.02)	1 <sup>F+</sup>
Thromboembolic Complications	123 (0.29)	14 (0.32)	109 (0.29)	0.680 <sup>C</sup>
Deep Wound Complications	32 (0.08)	3 (0.07)	29 (0.08)	1 <sup>F+</sup>
<b>Minor Adverse Events</b>	134 (0.32)	13 (0.30)	121 (0.32)	0.832 <sup>C</sup>
Superficial surgical site infection	50 (0.12)	3 (0.07)	47 (0.12)	0.321 <sup>C</sup>
Urinary Tract Infection	84 (0.20)	10 (0.23)	74 (0.19)	0.618 <sup>C</sup>

\*Statistically significant ( $\alpha = 0.05$ )<sup>F</sup>Exact test<sup>C</sup>Chi-square test; <sup>F</sup>Fisher's exact test; <sup>NB</sup>Negative binomial model

**Table 3:** Adjusted analysis comparing perioperative and postoperative metrics between Black or African American and White patients following arthroscopic rotator cuff repair

<b>Outcomes</b>	<b>Adjusted OR<sup>a</sup>/Adjusted RR<sup>b</sup></b>	<b>95% CI</b>		<b>P value</b>
<b>Readmission</b>	1.03 <sup>a</sup>	0.76	1.40	0.8274
<b>SAE</b>	0.96 <sup>a</sup>	0.68	1.37	0.8329
<b>MAE</b>	0.84 <sup>a</sup>	0.48	1.47	0.5496
<b>Total Operative Time</b>	1.07 <sup>b</sup>	1.05	1.08	<.0001*
<b>Length of Total Hospital Stay</b>	1.03 <sup>b</sup>	0.88	1.19	0.7290
<b>Days from Operation to Discharge</b>	1.19 <sup>b</sup>	1.04	1.37	0.0130*

\*Statistically significant ( $\alpha = 0.05$ )

All values computed relative to white patients

All values adjusted for age, sex, BMI, diabetes mellitus, ASA class, smoking status, CHF, and hypertension

Abbreviations: SAE: Serious Adverse Event; MAE: Minor Adverse Event

**Figure 1:** Trends in relative utilization of arthroscopic rotator cuff repair amongst Black and White patients between 2010 and 2019.

