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Susan G. Wager
Wayne State University, hf8974@wayne.edu

Spencer Brown
Wayne State University

Michael Gaudiani
Henry Ford Health

Joshua P. Castle
Henry Ford Health

Eric Jiang
Henry Ford Health

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Authors
Susan G. Wager, Spencer Brown, Michael Gaudiani, Joshua P. Castle, Eric Jiang, Vasilios Moutzouros, Eric Makhni, and Stephanie J. Muh

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Worse Postoperative Outcomes and Higher Reoperation in Smokers Compared to Nonsmokers for Arthroscopic Rotator Cuff Repair

Susan G. Wager BS,1 Spencer Brown BS,1 Michael Gaudiani MD,2 Joshua P. Castle MD,2 Eric Jiang MD,2 Vasilios Moutzouros MD,2 Eric Makhni MD MBA,2 Stephanie J. Muh MD2

1Wayne State University School of Medicine, Detroit MI, 2Henry Ford Hospital Department of Orthopaedic Surgery, Detroit MI

swager@wayne.edu

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Introduction:
Smoking impairs healing potential and is a significant risk factor for complications following orthopaedic surgeries. The purpose of this study was to determine if a cohort of former or current smokers at time of surgery met the minimally clinical important difference (MCID) for Patient-Reported Outcomes Measurement Information System Upper Extremity (PROMIS-UE), Depression (PROMIS-D), and Pain Interference (PROMIS-PI) scores in comparison to nonsmokers.

Methods:
A retrospective review of patients who underwent rotator cuff repair was performed. Patients who completed preoperative and 6-month postoperative PROMIS scores were included. The MCID was calculated using a distribution technique with a threshold of 0.5 standard deviations above the mean. A cohort of nonsmokers was compared to current/former smokers in terms of clinical outcomes and PROMIS scores.

Results:
A total of 182 patients, 80 current/former smokers and 102 nonsmokers, were included. Smokers had significantly more massive-sized tears and more reoperations (16.3% vs 5.9%, P=0.02). No differences were found in change in PROMIS scores, proportion meeting MCID for PROMIS scores, and retear rate. In the sub-analysis, 74 current/former smokers were matched to 74 nonsmokers. Smokers had lower change in PROMIS-UE (8.6±9.8 vs 12.3±10.0, P=0.007) and PROMIS-PI (-9.1±8.5 vs -12.8±10.1, P=0.03) postoperatively. Fewer met MCID for PROMIS UE postoperatively (60.3% vs 82.4%, P=0.003) and more had reoperations (16.2% vs 4.1%, P=0.02).

Conclusion:
Smokers or former smokers demonstrated smaller improvements in function, pain scores, and were less likely to meet MCID for PROMIS-UE when compared to nonsmokers after arthroscopic rotator cuff repair. Smokers were more likely to undergo reoperations within 6 months.