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

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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.