

Open Repair of Retracted, Full Thickness Gluteus Medius/Minimus Tears Demonstrates Superior Results to Endoscopic Repair

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INTRODUCTION:

Differing gluteus medius and/or minimus tear characteristics may impact postoperative outcomes following surgical repair. The “Three-Grade” MRI-Based classification is based on tear thickness and retraction; however, its correlation to clinical outcomes has yet to be determined. The first aim of this study was to determine how the Three-Grade classification impacts clinical outcomes after gluteus medius/minimus repair at 2-years postoperatively. The second aim was to determine how surgical approach (open vs. endoscopic) impacts rates of clinically significant outcomes when stratified by MRI grade.

METHODS:

A retrospective review identified patients undergoing primary endoscopic or open gluteus medius/minimus repair from 2012 to 2021. Preoperative MRIs were reviewed and classified based on the Three-Grade classification. Patient-reported outcomes (PROs) were collected preoperatively and at two years. Cohort-specific Minimal Clinically Important Difference (MCID) and Patient Acceptable Symptomatic State (PASS) thresholds were calculated, and rates of achievement were compared by MRI Grades. A subanalysis was performed comparing rates of MCID and PASS achievement between Grades when stratified by open vs. endoscopic surgical approach.

RESULTS: A total of 112 patients (MRI Grade 1=71, Grade 2=19, Grade 3=22) were included. MRI Grade 1 patients underwent endoscopic repair ($p < 0.001$) more often compared to the other groups. No significant differences by MRI Grade were noted between preoperative, 2-year, or delta PROs ($p \geq 0.212$) and no differences were noted between 2-year MCID ($p \geq 0.187$) and PASS ($p \geq 0.071$) achievement rates. When stratified by open and endoscopic approach, endoscopic repair of MRI Grade 1 tears resulted in significantly higher MCID ($p = 0.022$) achievement for HOS-ADL, while open repair of MRI Grade 3 tears resulted in significantly higher rates of achievement of MCID achievement for iHOT-12 ($p = 0.016$) and VAS Pain ($p = 0.034$), and PASS achievement for HOS-ADL ($p = 0.017$), iHOT-12 ($p = 0.012$), and VAS Pain ($p = 0.037$).

DISCUSSION AND CONCLUSION: Primary repair of gluteus medius and/or minimus tears results in statistically significant improvements in PROs and high achievement of MCID/PASS at 2-years postoperatively in patients in all three MRI Grades. Endoscopic repair of Grade 1 tears resulted in significantly higher MCID achievement in HOS-ADL, while open repair of Grade 3 tears resulted in significantly higher rates of achievement of MCID achievement for iHOT-12 and VAS Pain, and PASS achievement for HOS-ADL, iHOT-12, and VAS Pain. Surgeons may consider open surgical approaches for repair of full-thickness, ≥ 2 cm retracted tears of the gluteus medius and/or minimus.

