Utilizing Preoperative Resiliency Scores to Predict Postoperative Outcomes
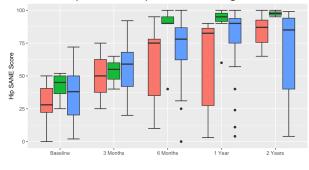
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INTRODUCTION: The Brief Resilience Scale (BRS) is a 6-question survey that quantifies a patient's ability to recover from physical and emotional stress. This study aims to determine if there is an association between preoperative BRS scores and postoperative Patient-Reported Outcome Measures (PROMs) in patients undergoing hip arthroscopy.

METHODS: This is a retrospective observational study of 76 patients who underwent hip arthroscopy for labral repair or reconstruction. PROMs were extracted from the medical record include BRS, iHOT12, Hip Outcome Score, modified Harris Hip Score, Hip SANE, and PROMIS Pain Interference and Physical Function. Patients were divided into categories based on their preoperative BRS scores. Scores between 0-2.99 were categorized as LOW, 3.0-4.30 as NORMAL, and 4.31-5.0 as HIGH. Outcomes of interest were captured at baseline, 3-months, 6-months, 1-year, and 2-years postoperatively. Paired Wilcoxon signed-rank tests were performed to compare PROMs. Kruskal-Wallis tests were performed to compare these differences, grouped by category. Medians are reported for amount of improvement, with alpha of 0.05.

RESULTS: Subjects aged between 15 and 74 (μ=37.86, SD=13.41), 65.82% were female, and 86.08% white. All subjects underwent hip arthroscopy for labral repair; 33 left, 43 right, and none bilateral. Subjects were grouped based on preoperative BRS score: 9 LOW resilience, 50 NORMAL resilience, and 17 high resilience. LOW and NORMAL resiliency groups showed significant improvement at 1-year compared to baseline for both iHOT12 [LOW: +56.42, IQR=16.6, p=0.016, W=0] [NORMAL: +45.08, IQR=29.95, p=0.00, W=12] and SANE [LOW: +50, IQR=26.5, p=0.022, W=0] [NORMAL: +40.5, IQR=57.75, p=0.00, W=17.5]. NORMAL resiliency showed significant improvement at all timepoints compared to baseline for both iHOT12 and SANE scores. The only significant improvement for the HIGH group was for SANE scores at 6M [+10, IQR=68.25, p=0.031, W=0]. There was a significant difference between iHOT12 scores across groups at 2-years (H=6.773, p=0.034) and SANE scores across groups at 1-year (H=11.015, p=0.0041).

DISCUSSION AND CONCLUSION: The preliminary data suggests a significant difference in improvement for patients of a certain resiliency category. Data collection continues as more is needed to compare additional PROS for all groups, across timepoints. We plan to use regression models to further understand the relationship between BRS and PROMs.