Clinical Outcomes of Single Row versus Double Row Repair for Large to Massive Rotator Cuff Tears

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Disclosure of Interest

- Grant/Research Support
  - Arthrex, Inc.

- Speaker's Bureau
  - Arthrex, Inc.

- Consultant
  - Arthrex, Inc.

- Major Shareholder
  - None

- Other
  - None

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Objective of the study

- Evaluate clinical outcomes after arthroscopic single row (SR) and double row (DR) repairs of large and massive tears

- Determine a statistically significant difference in patient reported outcomes (PROMs) between rotator cuff repair (RCR) techniques using a large, international, self-reporting registry
Materials and methods

• Large, international, self-reporting registry, Surgical Outcomes System (SOS)

• Requirements for inclusion: Size of RC tears, repair method, minimum of 2 years of follow-up

• Clinical outcomes evaluated using American Shoulder and Elbow Surgeons (ASES), Pain Visual Analog Scale (VAS), and the Single Assessment Numeric Evaluation (SANE) scores at pre-operative, 3 and 6 months, and 1- and 2-years post-operative

• Student’s t-test, two-way ANOVA
Single row *versus* double row
VAS scores for large and massive RCR

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P = 0.394
ASES Patient reported outcomes

ASES scores for large and massive RCR

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SANE Patient reported outcomes

SANE scores for large and massive RCR

Time Window
- Single Row
- Double Row

Pre-op  3 mos.  6 mos.  1 yr.  2 yr.

SANE score

P = 0.054
P = 0.211
P = 0.155
## Results

<table>
<thead>
<tr>
<th></th>
<th>SR (Group 1, (n = 87))</th>
<th>DR (Group 2, (n = 294))</th>
<th>P*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-operative</td>
<td>95.0% CI</td>
<td>2-year Post-operative</td>
</tr>
<tr>
<td>VAS</td>
<td>4.43±0.29</td>
<td>0.57</td>
<td>1.27±0.19</td>
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<tr>
<td>ASES</td>
<td>50.71±2.12</td>
<td>4.21</td>
<td>84.52±1.84</td>
</tr>
<tr>
<td>SANE</td>
<td>35.10±2.40</td>
<td>4.77</td>
<td>75.40±2.61</td>
</tr>
</tbody>
</table>

Values are presented as mean ± standard error of the mean.

*Differences in 2-year post-operative P-values between the two groups

VAS - Visual Analogue Score; ASES - American Shoulder and Elbow Surgeons; SANE - Single Assessment Numeric Evaluation

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• DR fixation provides superior results in large and massive RCR, in terms of ASES scoring
• No significant differences were found in VAS and SANE scores
Significance of findings

- This study is the first to confirm the same superior clinical PROMs of DR fixation over SR that have been reported with *in vitro* biomechanical studies and on structural-integrity, MRI follow-up studies.