Shoulder Labral Repair: Knotless vs Knotted Technique

Purpose

To report the early clinical outcomes of pain, function, and quality of life for patients who underwent shoulder labral repair with either knotless or a knotted technique.

Methods

The inclusion criteria for this analysis were patients enrolled in the Surgical Outcomes System™ global registry who underwent a labral repair with either a knotless or knotted technique based on site data entry. Standard patient-reported outcomes questionnaires for VAS, ASES, and SANE were administered at standard time points postoperatively. Results were reported from presurgery out to 2 years postsurgery. The numbers of compliant patients included per group are shown below.

<table>
<thead>
<tr>
<th>Time Point</th>
<th># of Compliant Knotless Patients/Total # of Patients</th>
<th># of Compliant Knotted Patients/Total # of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presurgery</td>
<td>778/1103</td>
<td>475/782</td>
</tr>
<tr>
<td>1 year</td>
<td>410/836</td>
<td>294/640</td>
</tr>
<tr>
<td>2 year</td>
<td>272/631</td>
<td>182/427</td>
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Trend Conclusion

Based on these results for shoulder labral repair, there appears to be a similar trend in pain, function, and quality-of-life scores for the knotless vs knotted technique. For this comparison, approximately 25% of the cases documented operative time. The average operative time was approximately 36 minutes less for cases using knotless technology. However, further statistical analysis is necessary to determine if these overall patient outcomes have statistical significance.
Results

### Visual Analog Pain Scale (VAS)

The Visual Analog Pain Scale (VAS) scores are shown for different time windows post-surgery. The scores range from 0 to 10, with lower scores indicating less pain.

### ASES Shoulder Function Score

The ASES Shoulder Function Score shows improvement over time for both knotless and knotted procedures. The scores are compared at various time points post-surgery.

The graphs illustrate the effectiveness of knotless and knotted procedures in improving shoulder function and reducing pain.
### SANE Score

**Knotless Avg ± STD VAS**
- Presurgery: 3.5 ± 2.4
- 1 year: 0.9 ± 1.5
- 2 years: 1.3 ± 1.9

**Knotted Avg ± STD VAS**
- Presurgery: 3.6 ± 2.5
- 1 year: 1.2 ± 1.8
- 2 years: 1.5 ± 2.2

**ASES Shoulder Function**
- Presurgery: 18.9 ± 5.9
- 1 year: 27.1 ± 4.3
- 2 years: 26.6 ± 4.6

**Knotless Avg ± STD ASES Shoulder Function**
- Presurgery: 18.3 ± 5.9
- 1 year: 26.2 ± 4.8
- 2 years: 26.2 ± 5.4

**Knotless Avg ± STD SANE**
- Presurgery: 45.3 ± 22.7
- 1 year: 83.5 ± 20.1
- 2 years: 78.1 ± 23.9

**Knotted Avg ± STD SANE**
- Presurgery: 43.1 ± 21.3
- 1 year: 79.1 ± 21.2
- 2 years: 78.0 ± 24.3