Mid-term Results of the Salto Talaris Ankle Arthroplasty

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Disclosures

• I (and/or my co-authors) have something to disclose.

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Methods

- 106 ankles performed between March 2007 to February 2012
  - Used “off-label” without cement
  - Goal was to report our midterm (5-10 year) clinical results

- **Contraindications for TAA:** active infection, NM dysfunction, Charcot arthropathy, severe PVD, uncontrolled DM

- **Contraindications for Salto TAA:** inadequate bone stock or coronal plane deformity >20 °
Results

• 72 pts with a minimum of 5 year follow-up
  ▪ Average 81.1 months, (60-115 months)
  ▪ Age 61.9 years, (32-86 years old)
  ▪ BMI 29.6, (19.3-46.6)

• Significant improvements seen in all outcome measures

• Implant survivorship was 95.8% (3 revisions)

• Reoperation rate was 19% (14 patients)
### Outcome Measure

<table>
<thead>
<tr>
<th></th>
<th>Preoperative</th>
<th>1 year postop</th>
<th>Last postop f/u</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAS for pain</td>
<td>70.0 (+/- 23)</td>
<td>7.1 (+/- 12)*</td>
<td>12.2 (+/- 21)*</td>
</tr>
<tr>
<td>SF-36</td>
<td>45.1 (+/- 16)</td>
<td>74.0 (+/- 19)*</td>
<td>69.8 (+/- 22)*</td>
</tr>
<tr>
<td>SMFA function index</td>
<td>35.4 (+/- 13)</td>
<td>13.4 (+/- 14)*</td>
<td>16.9 (+/- 15)*</td>
</tr>
<tr>
<td>SMFA bother index</td>
<td>43.2 (+/- 17)</td>
<td>15.6 (+/- 17)*</td>
<td>19.2 (+/- 18)*</td>
</tr>
<tr>
<td>AOFAS total score</td>
<td>43.4 (+/-15)</td>
<td>82.0 (+/- 11)*</td>
<td>79.4 (+/-14)</td>
</tr>
</tbody>
</table>

Data are expressed as the mean value plus the standard deviation.

* The mean score was significantly improved (p<0.05) compared with the preoperative mean score.
Revision #1

- 68 y/o F with aseptic loosening of the tibial component 3 years out from primary surgery
- Syndesmotic suture fixation device only able to be partially excised during index operation; some speculation that this may have interfered with prosthesis ingrowth
• Revised to a custom Salto Talaris tibial component with a large intramedullary component
• Now five years postop from her revision and doing well both clinically and radiographically
Revision #2

• Second patient underwent revision two years after the index procedure for aseptic loosening. She was revised to an InBone prosthesis.

• She is now 7 years out from her revision.
Revision #3

- 7 years out from index surgery, she had an ankle arthroscopy for impingement and developed a chronic wound that tracked to her implants.

- A third patient is scheduled for explantation with abx spacer and then an ankle arthrodesis once infection clears.
## Reoperation Rates

**Title: Reoperations Performed after Index Total Ankle Replacement**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Procedure</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankle impingement</td>
<td>Exostectomy and debridement</td>
<td>9</td>
</tr>
<tr>
<td>Equinus contracture</td>
<td>Gastroc recession vs TAL</td>
<td>3</td>
</tr>
<tr>
<td>Painful hardware</td>
<td>Hardware removal</td>
<td>2</td>
</tr>
<tr>
<td>Tarsal tunnel syndrome</td>
<td>Tarsal tunnel release</td>
<td>2</td>
</tr>
<tr>
<td>Adjacent joint arthritis</td>
<td>Subtalar arthrodesis</td>
<td>2</td>
</tr>
<tr>
<td>Aseptic loosening</td>
<td>Revision total ankle</td>
<td>2</td>
</tr>
<tr>
<td>Osteolysis</td>
<td>Bone grafting of a cyst, poly exchange</td>
<td>1</td>
</tr>
<tr>
<td>Tibial nerve injury</td>
<td>Neurolysis with nerve repair</td>
<td>1</td>
</tr>
</tbody>
</table>
Conclusions

• Previous studies at our institution showed significant improvements in pain, quality of life, and functional outcomes with the Salto Talaris implant in short-term follow-up (average 2.8 years)

• Now, at mid-term follow-up (average 6.8 years) implant survivorship, function and pain relief remain excellent
References