2:25 pm
Return to Duty after Elective Fasciotomy for Chronic Exertional Compartment

· Jeremy R. McCallum, MS, MD (Honolulu, Hawaii)
  Jay B. Cook, MS; Adam Hines, MD; James Shaha, MD; Jefferson Jex, MD; Joseph Orchowski, MD

Background:
Civilian literature has reported excellent outcomes after elective fasciotomy for chronic exertional compartment syndrome (CECS). Worse outcomes were recently reported in the military population based on a database review. However, no recent study has reported on both subjective and functional outcomes in the military population.

Hypothesis/purpose:
Our study purpose was to objectively investigate the functional outcome of fasciotomies performed for CECS in the high demand military population.

Study design:
Case Series

Methods:
A retrospective review of all fasciotomies performed for CECS at a single, tertiary military medical center from October 2007 to May 2011 was performed. The primary outcome measure was the ability to return to full active duty. Diagnosis, surgical technique and number of compartments addressed were collected and analyzed. Patients were contacted and the VAS pain score, functional SANE score, as well as overall satisfaction were reported.

Results:
Return to duty status was collected on 70 of 70 (100%) consecutive operative extremities with an average follow up of 26 months. Only nineteen patients (41.3%) were able to return to full active duty. Ten patients (21.7%) underwent a medical separation from the military and seventeen (37%) patients remained in the military but were on restricted duty secondary to persistent leg pain. Thirty-five of 46 (76%) of the patients were contacted and provided subjective feedback. The average SANE score was 72.3 and there was a mean improvement of 4.3-points in VAS score postoperatively. Overall, 71% of patients were satisfied and would undergo the procedure again. Subgroup analysis demonstrated different outcomes in regard to surgical technique, patient rank, and branch of military service.

Conclusion:
Our study shows a return to full military duty in 41% of patients who underwent elective fasciotomy for CECS. Overall 78% of patients remained in the military, which is consistent with previous military literature. Subjective satisfaction rate was 71%. Both the return to activity...
and subjective outcomes in our study population were substantially lower than reported results in civilian populations.

METHODS:
Retrospective Review, Single Medical Center
Primary Outcome: Return to Duty
Secondary Outcome: SANE (function)
               VAS (pain)
               Patient Satisfaction

RESULTS:

<table>
<thead>
<tr>
<th>Total Number of Patients</th>
<th>46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Follow up</td>
<td>26 mo (8-51)</td>
</tr>
<tr>
<td>Mean Age</td>
<td>30 y.o. (19-50)</td>
</tr>
</tbody>
</table>

Primary Outcome:

Return to Duty Status

<table>
<thead>
<tr>
<th>Remained in Military (Restricted &amp; Full Duty)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officers/Senior Enlisted</td>
</tr>
<tr>
<td>Junior Enlisted</td>
</tr>
</tbody>
</table>

Return to Full Active Duty

| Navy/Marine                  | 83.30% |
| Army/Air Force               | 35.00% p=0.036 |
*similar rates of retention in the military

Secondary Outcome:

<table>
<thead>
<tr>
<th>SANE Score (mean function)</th>
<th>72.3 (30-100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAS (Pain)</td>
<td></td>
</tr>
<tr>
<td>Preoperative</td>
<td>8.16</td>
</tr>
<tr>
<td>Follow Up</td>
<td>3.76</td>
</tr>
</tbody>
</table>
*Lower postoperative VAS scores were associated with higher SANE scores (p=0.002)
*Patient with > 4 decrease in VAS scores were more likely to be satisfied (p=0.002)

| Patient Satisfaction       | 71.40% 25/35 |
| Satisfied Patient Mean SANE| 78.4     |
| Unsatisfied Patient Mean SANE| 57.8 p=0.002 |
*Soldiers who returned to full active duty were more likely to be satisfied (p=0.002)
Discussion:

**Return to Full Activity**

---

**References:**