Flexor Hallucis Longus Tenolysis/Tenosynovectomy in Dancers

Elizabeth Barchi, MD   Stephanie Swenson, MD   Tracy Espiritu-McKay, DO   Donald Rose, MD
Harkness Center for Dance Injuries, Department of Orthopedics
NYU Langone Health, New York, NY

BACKGROUND
• FHL tendon passes through a fibro-osseous tunnel behind the medial malleolus
• Repetitive hyperplantarflexion at the tendon sheath entrance leads to tendon irritation
• History:
  • Pain/triggering with pointe, demi-pointe, relevé, tendu, and jumping
• Physical Exam:
  • Tenderness/crepitus/clicking and/or triggering over FHL tendon sheath posterior to medial malleolus
  • XRs, MRI, and ultrasound useful in ruling out additional pathology
• Diagnosis:
  • Isolated FHL tenosynovectomy via an open posteromedial approach
  • At least 6 weeks conservative management
  • Minimum 1 year follow up
• Treatment:
  • Conservative management is the gold standard
  • Physical therapy, NSAIDs, local modalities, rest
  • Surgical intervention indicated only for refractory cases

METHODS
• Retrospective case series
• 63 ankles, 58 patients
• All dancers were interviewed and medical charts were reviewed
• Inclusion Criteria:
  • Isolated FHL tenosynovectomy via an open posteromedial approach
  • At least 6 weeks conservative management
• Exclusion Criteria:
  • Non-dancers
  • Any associated ankle pathology i.e. as trigonum syndrome
  • Any associated ankle procedure (i.e. ankle arthroscopy)

RESULTS
• Surgical cases: 63
  • Pre-operative triggering, n (%): 60 (95)
  • Post-operative triggering, n (%): 6 (9)
  • Return to dance: Yes, n (%): 62 (98)
  • Return to dance symptom free: Yes, n (%): 61 (97)
  • Time to return to dance in weeks, average (range): 7.1 (2-24)
  • Pain/stiffness at follow-up, n (%): 4 (6.3)

• Operative Characteristics
  • Surgical Time, average (range): 12 minutes (5-30)

CONCLUSIONS
• Isolated FHL tenosynovectomy via an open posteromedial approach is a safe, reliable, and effective treatment for stenosing FHL tendinitis/tenosynovitis in a dancer who has failed conservative management
• This is the largest series reported to date of isolated FHL tenosynovectomy via an open posteromedial approach in dancers

DISCUSSION
• FHL tendon repair took an average of 4 weeks longer to return to dance
• Low rate of minor complications (7.9%) and return to the OR (1.6%)
• No neurovascular complications
• Technique is safe and successful with 97% return to dance
• High patient satisfaction (97%)

LIMITATIONS:
• Retrospective nature
• 6 ankles out of 69 lost to follow-up
• No validated outcome scores
• Level IV evidence

Operative Characteristics

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Surgical cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenosynovectomy, n (%)</td>
<td>63 (100)</td>
</tr>
<tr>
<td>Tendon Debridement, n (%)</td>
<td>10 (16)</td>
</tr>
<tr>
<td>Tendon Repair, n (%)</td>
<td>7 (11)</td>
</tr>
<tr>
<td>FHL muscle belly impingement, n (%)</td>
<td>22 (35)</td>
</tr>
<tr>
<td>Surgical Time, average (range)</td>
<td>12 minutes (5-30)</td>
</tr>
</tbody>
</table>

Complications

<table>
<thead>
<tr>
<th>Type of Complication</th>
<th>Surgical cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial infection, n (%)</td>
<td>2 (3.2)</td>
</tr>
<tr>
<td>Wound issues, n (%)</td>
<td>3 (4.8)</td>
</tr>
<tr>
<td>Return to OR for revision</td>
<td>1 (1.6)</td>
</tr>
</tbody>
</table>

Contact Information:
Elizabeth Barchi: elizabeth.barchi@nyulangonehealth.org