Appendix A

Appendix for:

**Proximal hamstring tendon avulsions: comparable clinical outcomes of operative and non-operative treatment at one-year follow-up in a shared decision-making model.**

Anne D van der Made, Rolf W Peters, Claire Verheul, Frank Smithuis, Gustaaf Reurink, Maarten H Moen, Johannes L Tol, Gino MMJ Kerkhoffs.
Shared decision-making

• Proximal hamstring anatomy + location of injury
• Expected advantages & disadvantages of treatment options
• Expected short-term outcome of operative & non-operative treatment
• Expected long-term outcome of operative & non-operative treatment
Anatomy + location of injury

Ischial tuberosity
3. Vertical ridge
Divides upper region into:
4. Lateral facet
   → Semimembranosus
5. Medial facet
   → Biceps Femoris
   → Semitendinosus

1. Semitendinosus
2. Semimembranosus
4. Biceps Femoris (Long head)
5. Ischial tuberosity
6. Sacrotuberous ligament
8. Sciatic nerve

1. Semitendinosus
2. Semimembranosus
4. Biceps Femoris (Long head)
5. Ischial tuberosity
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8. Sciatic nerve

Operative & non-operative treatment

• Operative treatment
  • Surgical refixation of hamstrings
  • Post-operative protection (cast/brace)
  • Start of (phased) rehabilitation programme with experienced physiotherapist

• Non-operative treatment
  • Direct start of (phased) rehabilitation programme with experienced physiotherapist
## Operative & non-operative treatment

### Expected advantages & disadvantages

<table>
<thead>
<tr>
<th>Operative</th>
<th>Non-operative</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Refixation of tendon(s)</td>
<td>+ Direct start of rehabilitation</td>
</tr>
<tr>
<td>+ Improved long-term recovery of strength/function</td>
<td>+ Quicker resumption of self-care/daily activities</td>
</tr>
<tr>
<td>+ Improved recovery of sciatic symptoms</td>
<td></td>
</tr>
</tbody>
</table>

- **Post-operative casting/bracing**  
- **Complication risk (e.g. re-operation, nerve damage, infection, DVT, hematoma)**

- **Outcome less predictable (tendon recovery ≈50%)**
- **Higher chance of long-term strength deficit & decreased function**
Operative & non-operative treatment

Expected short-term outcome (current study, at 1 year)

<table>
<thead>
<tr>
<th></th>
<th>Operative</th>
<th>Non-Operative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full recovery self-care (%)</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>Full recovery ADL (%)</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>No pain/discomfort (%)</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>Return to sports (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same sport</td>
<td>65</td>
<td>70</td>
</tr>
<tr>
<td>Same sport, same level</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>Strength (% of other leg)</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Tendon recovery (% on MRI)</td>
<td>95</td>
<td>50</td>
</tr>
</tbody>
</table>
## Operative & non-operative treatment

### Expected long-term outcome (at 3-4 years, summary of scientific literature)

<table>
<thead>
<tr>
<th></th>
<th>Operative</th>
<th>Non-Operative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return to sports (%)</td>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>Strength (% of other leg)</td>
<td>85</td>
<td>65</td>
</tr>
<tr>
<td>LEFS (function score)</td>
<td>73</td>
<td>70</td>
</tr>
<tr>
<td>SF-12 (health score)</td>
<td>53</td>
<td>53</td>
</tr>
</tbody>
</table>