Patella Tendon Imbrication to Correct Patella Alta

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Patella Height

- Insall-Salvati Ratio
- Blackburne-Peel Index
- Caton-Deschamps
- AP View
Surgical Treatment
Patella Alta Correction

Tibial Tuberosity Osteotomy – Distalization
What about skeletally immature patients?
Patellar Imbrication Technique

Novel all-soft-tissue technique to correct patella alta

Study Aim

• To determine whether this novel patellar tendon imbrication technique (1) normalizes patellar height, (2) does it maintain correction at minimum 2-year follow-up and (3) what are the complications associated with it?
Methods

• Radiographic Study
• Retrospective Case Review
• Patients with minimum 2-year post-operative
  – 54 patients (61 Knees) between 2007-2013
    • 54 patients eligible
    • 27 patients (32 knees) had adequate minimum 2 year follow-up
• Patellar height assessment on lateral radiograph
  – Pre-op
  – 3 Week post-op
  – Minimum 2 year post-op
Patients

- 27 participants (32 knees)
- 20 females, 12 males
- Average age at surgery: 19.8 years (range 12-35)
- Average length of follow-up: 4.1 years (range 2-8.5)
Results

- **Average patellar tendon length**
  - Pre-op: 6.1cm (range, 5.0-8.0)
  - 3 weeks: 5.1cm (range, 3.4-8.0)
  - >2 years: 5.2cm (range, 3.7-7.1)

- **Average change in patellar tendon length**
  - Pre-op to 3 weeks post-op: 0.97cm (SD +- 0.67).
  - Pre-op to >2 years: 0.86cm (SD +- 0.69).
## Results

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<th>IS</th>
<th>BP</th>
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<tbody>
<tr>
<td>Pre-op</td>
<td>Avg</td>
<td>1.4</td>
<td>1.5</td>
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<td>Range</td>
<td>0.8-1.8</td>
<td>1.2-2.1</td>
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<td>3 Week</td>
<td>Avg</td>
<td>1.0</td>
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<td>Range</td>
<td>0.5-1.5</td>
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<td>2 Year</td>
<td>Avg</td>
<td>1.1</td>
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<td>Range</td>
<td>0.7-1.5</td>
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16-year-old female

- Pre-op
- 3 weeks post-op
- 2 year follow-up
Complications

- **Related to PTI**
  - (2):
    - Non-compliant patient who was full WB and out of brace by 3 wks
    - Patient who fell down stairs multiple times during first 4 wks

- **Not directly related to PTI**
  - (2): Redislocated and needed additional Rx: MPFL/Troch osteotomy
  - (2): Delayed wound healing requiring I&D, not at PTI site
  - (1): Persistent Medial pain and extension lag → MPFLL release
  - (1): Recurrence of RSD
Conclusion

- Patellar tendon imbrication is a safe alternative method of correcting patella alta in patients of all ages
- Results are maintained at final follow-up.