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In patella alta associated with an excessively long patellar tendon, it is more logical to shorten the patellar tendon than to distalize the tibial tubercle (TT). We have therefore developed a technique to correct this anomaly. It is particularly indicated in patients who are skeletally immature in which a TT transfer would be contraindicated. However, it must be used with caution. It is not a conventional Z-plasty as it has the advantage of maintaining the integrity of the posterior half of the patellar tendon, limiting the risk of rupture post-operatively. It is often combined with an MPFL reconstruction. Jack Andrish has recently described a similar technique.

Incision

A 30–35 mm midline parapatellar incision is made. Medial and lateral full thickness flaps are elevated to fully expose the patellar tendon. The prepatellar bursa and paratenon are incised and the medial and lateral edges of the tendon are defined and it is measured (Fig. 32.1).

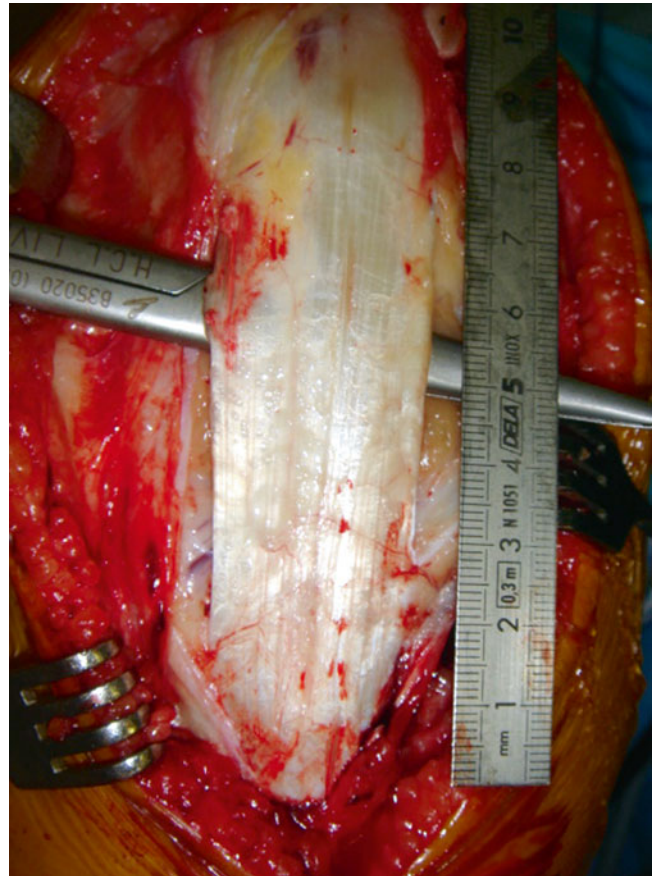


Fig. 32.1 Surgical exposure of the patellar tendon and measurement of its length

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Preparation of Tendon

The planned shortening is marked on the tendon at the level of the partial tenotomy (Fig. 32.2). In this example the tendon is to be shortened by 25 mm. The upper and lower boundaries are clearly marked. This tenotomy is performed in the central portion of the tendon (relative to its patellar and tibial insertions).

The tendon is cut horizontally along the distal line, perpendicular to the direction of its fibers. It is incised carefully

with a scalpel to a depth of 50 % of its thickness. A tendinous sheet is then progressively raised in the direction of the fibers over a length of 25 mm (Fig. 32.3).

To repair and shorten the tendon, a nonabsorbable suture, FiberWire[®], is used. Two to three sutures are passed from the proximal tendon to the distal tendon and then back into the proximal tendon under the raised 25 mm sheet of tendon.



Fig. 32.2 The planned amount of shortening

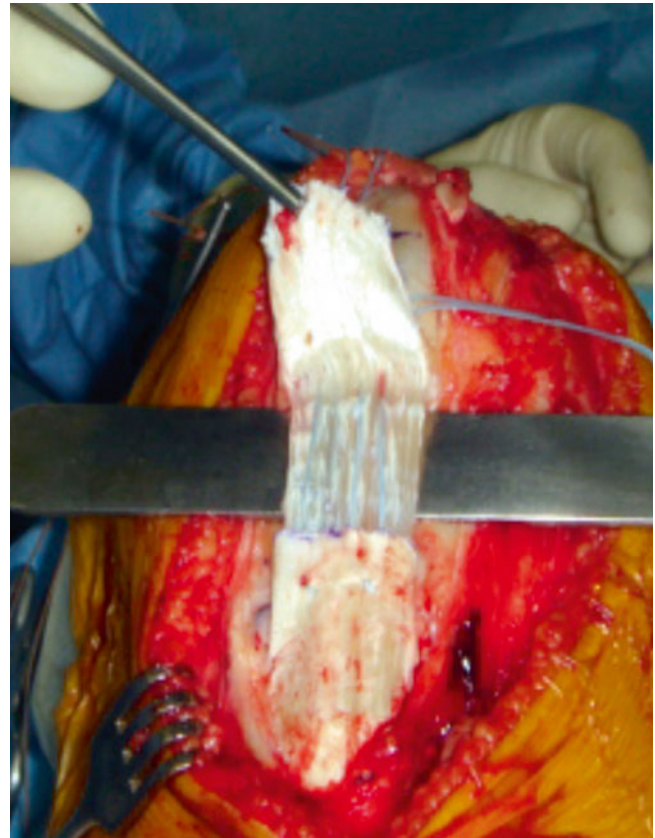


Fig. 32.3 Elevation of the sheet of patellar tendon

Shortening (Fig. 32.4)

To shorten the tendon, these sutures are pulled tight in the proximal part of the tendon and held with a Kocher (Fig. 32.5). The 25 mm raised sheet of tendon is then sutured onto the front of the distal surface of the tendon with at least three separate passes through the entire thickness of the tendon (Fig. 32.6). The sutures are tied at 90° of flexion to fix the shortening (Fig. 32.7). Patellar tracking is checked. The paratenon is closed with absorbable suture.

Postoperative

Full weight bearing is permitted in an extension brace for 21 days. Flexion is limited to 90° for 45 days.

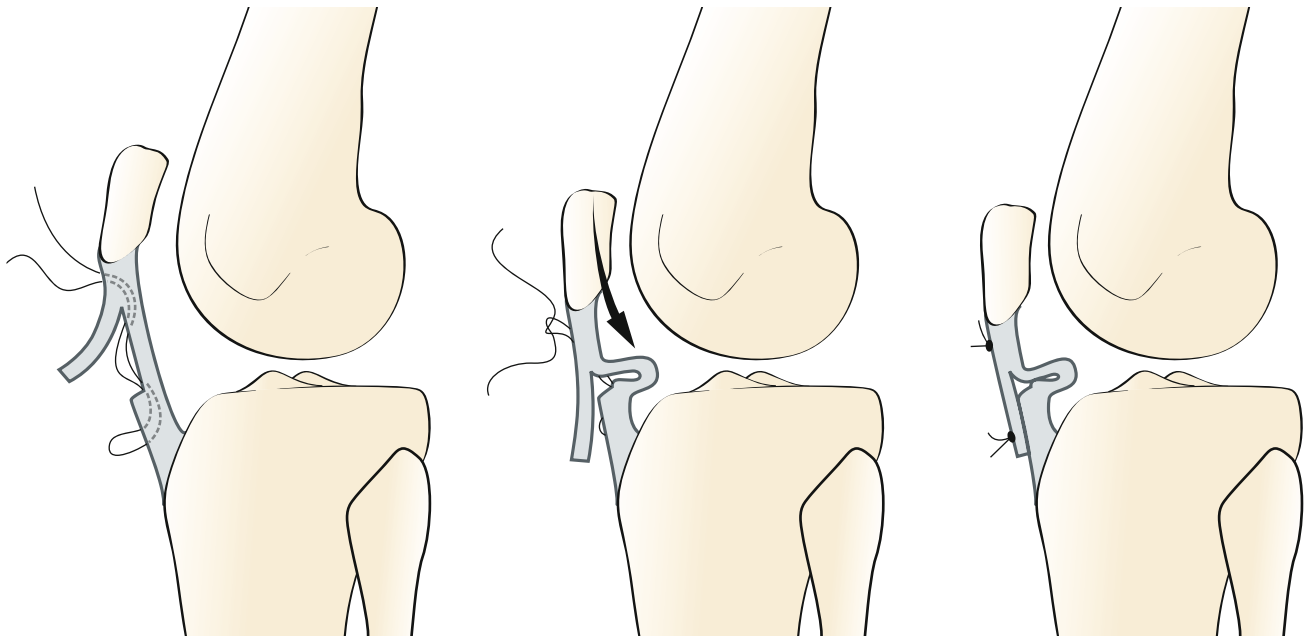


Fig. 32.4 The technique used to shorten the tendon

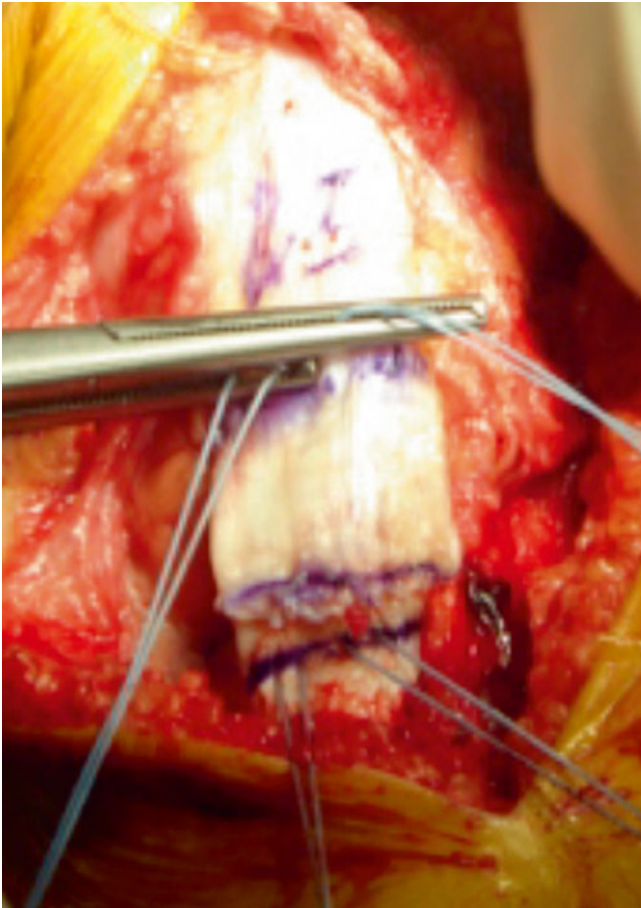


Fig. 32.5 Intraoperative shortening



Fig. 32.7 Suture fixation of the shortening

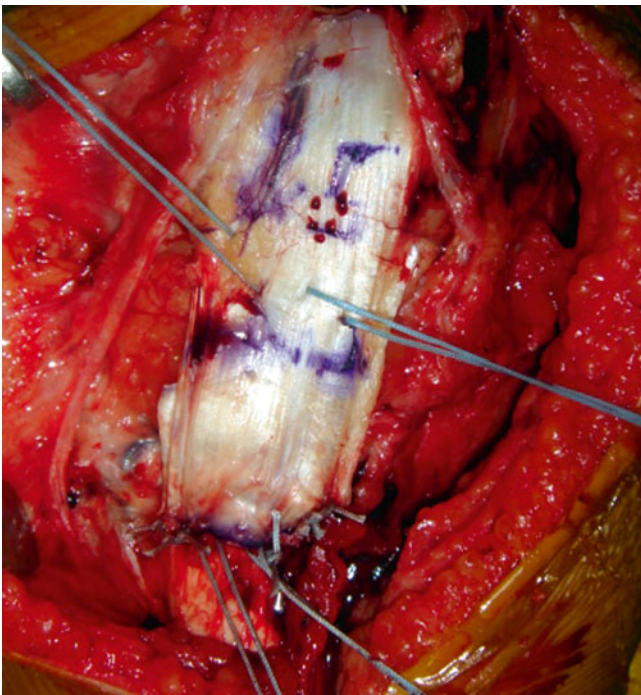


Fig. 32.6 The placement of the sutures