

A Modified Tibial Tubercle Osteotomy for Patellar Maltracking

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Overall: The effectiveness of a tibial tubercle osteotomy on patellar instability and maltracking.

- Aim of the experiment = to identify whether a tibial tubercle osteotomy is a satisfactory procedure to treat patients with patellar instability.
- Background Info:
 - A good indication of whether a patient with symptoms of patellar maltracking needs surgery or not is the distance of the tibial tubercle-trochlear groove. 15 mm or more is considered a good indication.
 - Tibial Tubercle-Trochlear Groove:
- Two groups of 30 patients each
 - Purpose of the two groups was so examiners could compare relief from pain in the two groups
 - Patients were required to have symptoms for over a year and a tibial tubercle-trochlear groove distance of at least 15mm.
 - Group 1: experienced painful lateral tracking of the patella
 - Group 2: patellar instability
- Physical Examination - patients underwent physical examinations including but not limited to radiological assessments, a CT, the patellar apprehension test, and an assessment of range of movement.
- The results of the experiment were measured using:
 - Lysholm Scale, Kujala Score, and a visual analogue of pain score -- all of which are knee pain questionnaires based on that specific patient.
- Results:
 - In group 2, only 1 patient experienced no improvement or further subluxation.
 - In both groups, every patient noted that their pain had decreased.
 - One major complication from the tibial tubercle osteotomy was the screws that were screwed into the tibia.
 - 29 total patients had symptoms from these screws, but this is an easy fix because they can be removed.
 - The tibial tubercle osteotomy is better at treating patients with anatomical abnormalities (the tibial tubercle-trochlear groove distance) rather than pain.
 - After having the surgery, patients are still at risk of developing osteoarthritis (protective cartilage around the knee wears down) in patients with patellar instability.