# Redefining Success: Innovative Treatment of Patella Baja in Total Knee Replacement

**[1]Hanif CM; [1]MR Ahmad Mohd Zain, [1]Amran AS, [1]Shaifuzain AR**

[1] Department of Orthopaedics, School of Medical Sciences, Univeriti Sains Malaysia Kubang Kerian.Kota Bharu,Malaysia

## INTRODUCTION:

Patella baja, defined by an Insall-Salvati index below 0.8, may arise from several factors.

## REPORT:

A 45-year-old female with one-year history of mechanical anterior left knee pain, previously underwent multiple arthroscopic knee procedures for meniscus and cartilage injury, presented limited ROM with extension lag and positive patella grinding. Radiologically, it showed features of osteoarthritis with patella baja. Following unsuccessful physiotherapy, she underwent left total knee arthroplasty with partial proximalization of tibial tubercle, partial patella tendon lengthening and quadriceps plication.Intra-operatively, after performing TKR through medial parapatellar approach, we proceeded with partial transposition of the tibial tubercle and patella lengthening. The peritenon was precisely incised along its midline, creating flaps. The tendon was then split into two equal-width halves along the coronal plane. The lateral half was released proximally from the inferior pole of the patella, detaching the patellar periosteum while preserving its insertion at the tibial tuberosity. Meanwhile, the medial half was released from its distal insertion, obtaining a bone block approximately 2 cm long and maintaining its insertion at the inferior pole of the patella. The medial band was moved proximally, and the lateral one was shifted distally by the same distance. The bone block of the medial band was secured with two 3.5 mm cortical screws. The medial and lateral bands are both secured with the knee at a 90 degrees,a meticulous alignment is achieved at the tendon's center using interrupted Vicryl 2-0 sutures to unite the two bands.After surgery, the left knee was immobilized in a brace for 1 weeks, followed by rehabilitation exercises; reaching 0-60 degrees flexion in 4 weeks and 100 degrees of flexion after 8 weeks. Various surgical methods for addressing patella baja during total knee arthroplasty (TKA) include repositioning the patella component proximally, lowering the knee joint line with distal femoral augmentation, and cutting the proximal tibia. Our technique combines tendon lengthening and transposition for a solid, well-vascularized construct, enabling immediate knee movement and load bearing while maintaining the crucial Q angle for patellofemoral tracking, avoiding complications associated with complete osteotomy of the anterior tibial tubercle and eliminating the need for autografts, utilizing only a simple, cost-effective screw for tendon fixation.


**Figure 1: Pre-Operative**


**Figure 2: Post-Operative**


**Figure 3: Proximalization Tibia Tubucle**

## CONCLUSION:

The goal of the surgical procedure is to restore the patella to its normal position. This method enables the surgeon to accurately determine the necessary proximalization during the operation, facilitating the restoration of patellofemoral tracking and knee range of motion.

## REFERENCES:

1. Insall J, Salvati E. Patella position in the normal knee joint. Radiology 1971; 101:101-104.