

## Primary Total Knee Arthroplasty in Patient with Previous Patellectomy

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### INTRODUCTION

Severely comminuted patella beyond reconstruction is an indication for patellectomy. Series of changes in biomechanics of knee post patellectomy that includes; alteration in center of rotation, reduction in lever arm of quadriceps and uneven loading due to antero-posterior instability will eventually leads to tibiofemoral osteoarthritis later in life.<sup>1</sup>

### REPORT

75 years old gentleman presented to our clinic with progressively worsening right knee pain for the past 3 years, not responding to non-operative treatment. He had a right sided patellectomy 40 years ago for a comminuted fracture patella. A well healed transverse scar noted over his knee with tenderness over joint line. Further examination noted active and passive ROM was 10 to 100 degree with non-correctible 10 degree varus deformity. Radiographs showed grade IV osteoarthritis (Kellgren-Lawrence) with absence of patella.

Patient had underwent primary total knee arthroplasty with posterior stabilised implant. Mid-vastus approached was used to avoid disturbance to the extensor mechanism. He was started on walking frame ambulation and quadriceps strengthening exercise post operatively.

He was followed-up at 2 weeks, 2 months and 5 months post-operatively. Previous varus deformity was corrected with ROM noted at 0 to 110 degrees. The Knee Society Score (KSS 2011) was 88 pre-operatively and 189 post-operatively.



Figure 1: Pre and post-operative x-ray



Figure 2: Knee alignment post-operatively

### CONCLUSION

Joshi et al<sup>2</sup> concluded higher complications rate post total knee replacement in 19 patients that had undergone prior patellectomy. 36% complication rates with 21% incomplete pain relief and 16% instability were reported.

Meanwhile, Paletta and Laskin<sup>3</sup> concluded similar outcome in patient post-patellectomy and patient with intact patella when posterior stabilized implant was used.

Posterior stabilized implant offers coronal and sagittal stability. Mid-vastus approach helps to prevent damage to extensor mechanism. Combination of these two considerations has contributed to a good functional outcome in this patient.

### REFERENCE

1. D. Alex Stroh et al. Total Knee Arthroplasty after Complete Patellectomy: A Review. *Journal of Long-Term Effects of Medical Implants*, 25(3): 163–170 (2015).
2. Joshi AB et al. Total knee arthroplasty after patellectomy. *J Bone Joint Surg. Br.* 1994 Nov;76(6):926-9.
3. Paletta GA Jr, Laskin RS. Total knee arthroplasty after a previous patellectomy. *J Bone Joint Surg. Am.* 1995 Nov;77(11):1708-12.