

Resurfacing Patella in 140 TKA Patients

Dear Editor,

Total knee arthroplasty (TKA) is a well-established procedure and has proven to be durable and effective for the treatment of advanced arthritis of the knee joint.¹ The incorporation of patellar resurfacing during TKA reduces anterior knee pain but introduces new complications such as component failure, instability, fracture, tendon rupture and soft tissue impingement.²

The main reasons for resurfacing the patella are reduced anterior knee pain, reduced reoperation rate and deterioration, better results in patients with rheumatoid arthritis, better long-term functional outcome, poor results of resurfacing as a revision for previously non-resurfaced knees, poor correlation between intra-operative patellar cartilage and later anterior knee pain (AKP), better results in bilateral cases with one side resurfaced.^{1,2} The rate of complications after resurfacing the patella is still less than the rate of reoperation for AKP in non-resurfaced patella knees (NRS). The result of resurfacing for AKP in NRS knee is inferior to that of primary resurfacing.^{1,2} We aimed to evaluate the effectiveness of this technique through an evaluation of the current literature.

In our study, 140 cases that underwent primary TKA in the past 4 years in Iranian Hospital, Dubai, UAE were enrolled. All patients received the same total knee prosthetic components (Scorpio-Styker). During our first 105 cases, for only 2 cases we selected to perform patellar resurfacing, one of whom was a Tanzanian lady with valgus knee and subluxated patella and the other one, a Nigerian man who underwent TKA in another medical centre but referred to us after two years with shattered and dislocated patella. In the latter case, we did not only resurfaced the patella (Figure 1 and 2) but we performed lateral release and tibial tuberosity transfer (Figure 3 and 4).

After our initial 105 cases and in an effort to reduce the complaints on anterior knee pain, instead of selective RS, we carried out routine RS in all recent 35 cases. With the number of available cases, in only 15% of our NRS cases, the patients complained of anterior knee pain in early postoperative period. The follow-up of NRS cases was about 22 months which was longer than the follow-up of RS cases (Average 6 months). Although the range of motion did not change significantly, but there were less complain of anterior knee pain.

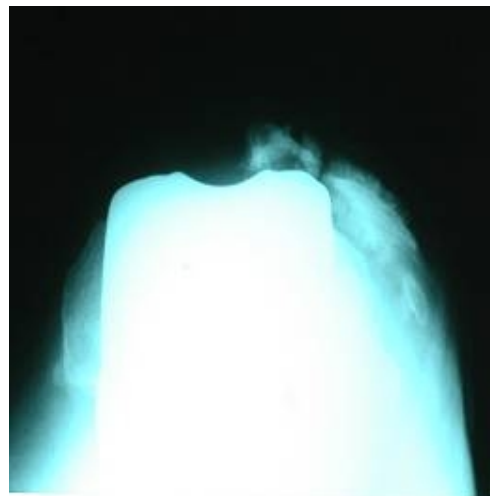


Fig. 1: Shattered, broken, and dislocated patella after primary TKA



Fig. 2: Postoperative X-ray after tibial tuberosity transfer and lateral release and patellar resurfacing

Although the bulk of evidences are in favour of resurfacing but routine patellar resurfacing in TKA cannot be justified when a patella-friendly femoral component is used.³⁻⁵ Emilios *et al.*⁶ showed that patella resurfacing significantly reduced the risk of reoperation and anterior knee pain after TKA. Kordelle *et al.*⁷ found out that the patients with patella resurfacing had better functional results. Berti *et al.*⁸



Fig. 3: Merchant view of the fixed and resurfaced patella

demonstrated better clinical scores in kinematic and kinetic data while ascending the stairs. Bourne *et al.*⁴ concluded that patella resurfacing seems reasonable in most total knee replacements.

Campbell *et al.*⁹ and Burnett *et al.*¹⁰ found no sig-

nificant functionally and clinically difference between the two groups of patients. They did not recommend routine patella resurfacing.

Matsuda *et al.*¹¹ observed a mild anterior knee pain in approximately 10% of the cases with un-resurfaced patella.

Calvisi *et al.*¹² suggested that patellar resurfacing would reduce the risk of anterior knee pain as well as the risk of patella related reoperation. Hurson *et al.*¹³ found no significant complications. The most conflicting study is from the University of Western Australia¹⁴ showed that patients who underwent patellar resurfacing had superior clinical results in term of anterior knee pain and stair descent. In another different study, they with a new design of femoral component (profix) did not notice any advantage for TKA with patellar resurfacing in comparison to absence of resurfacing with respect to any of the measured outcomes.³

As the bulk of evidences and experiences are in the favor of patellar resurfacing, we have revised our practice and started to resurface the patella as indicated. Patellar resurfacing only added a few minutes to the time of surgery and provided less concern for future complains of anterior knee pain. The results of long-term randomized controlled trials can improve the understanding of this complex issue in the future.

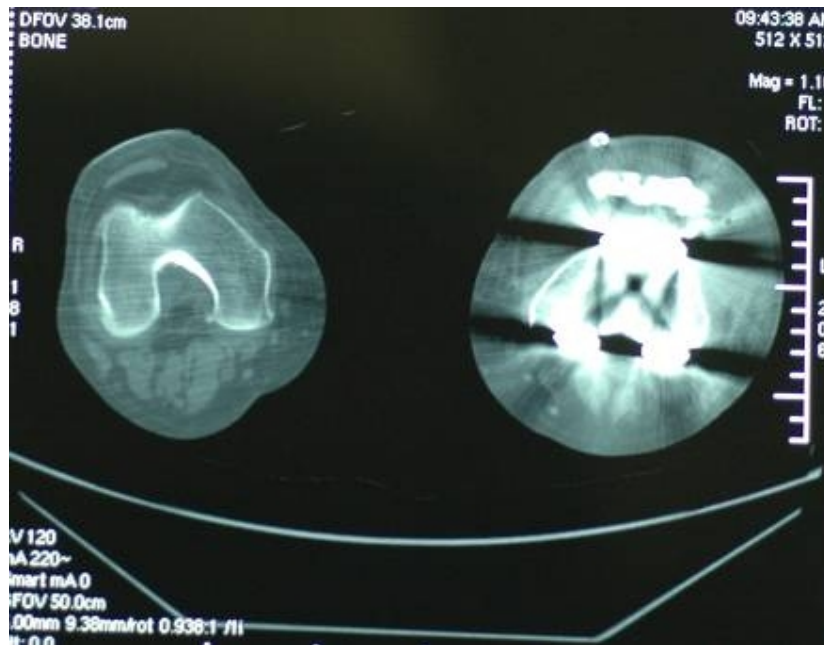


Fig. 4: CT-scan of aligned and resurfaced patella

Keywords: Total knee arthroplasty; Resurfacing patella; Patello-femoral kinematics

Conflict of interest: None declared.

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