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Patellar button compatibility in the conversion of Patellofemoral Arthroplasty to a Total Knee Arthroplasty: A review of the contemporary literature

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Abstract

Background: Compared to total knee arthroplasty (TKA), patellofemoral arthroplasty (PFA) is a far less commonly performed operation. However, in carefully selected cohorts, PFA continues to be an appropriate treatment option for end-stage isolated patellofemoral joint osteoarthritis. In the later situation whereby a PFA is considered for conversion to a TKA – often due to disease progression – uncertainty remains regarding optimal management of the in situ patellar button. This review of the contemporary literature aimed to provide a summary of the current evidence to support surgeon decision-making, by evaluating the compatibility, efficacy, and survivorship of retained versus revised patellar buttons in PFA-to-TKA conversion. Specific focus was paid to implant design and technical considerations during revision, plus post-operative patient-reported outcomes and modes of secondary patellar component failure.

Methods: A review of the Embase, Cochrane and PubMed databases was performed following PRISMA search principles.

Results: This investigation highlights that the fate of patellar buttons in PFA-to-TKA conversion has previously been poorly studied, with scant publication data available. Most reports have been of singular cases or small cohort series. Larger formal RCTs and level 1 evidence are lacking.

Conclusion: The findings herein suggest that surgeons can confidently retain well-fixed, undamaged, dome-shaped all-polyethylene patellar buttons in the conversion of a PFA to TKA with the expectation of acceptable mid-term performance and survivorship, as long as congruent tracking with the new tibiofemoral components is achieved. This result is likely translatable to the majority of contemporary, all-polyethylene, dome-shaped patellar buttons, even with manufacturer mismatch.

Keywords

Patellofemoral, knee arthroplasty, PFA, patella revision, patellar button

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