

Introduction: While minimally invasive approaches to total knee replacement (TKR) have demonstrated short-term advantages, no technique has shown clear long-term superiority. Adequate exposure of the joint with minimal soft-tissue disruption remains a key challenge in optimizing surgical outcomes.

Methods: We propose the **Sagittal Patellar Osteotomy (SPO) approach**—which employs a standard midline skin incision followed by a longitudinal midline split of the quadriceps and patellar tendons, connected through a sagittal osteotomy of the patella. This configuration provides direct access to the joint while preserving critical vascular and soft-tissue structures.

Results: The SPO approach offers several potential advantages, including improved visualization of the joint, reduced soft-tissue dissection, and preservation of the medial and lateral patellar arterial anastomotic rings and the patellar fat pad blood supply, potentially decreasing the risk of patellar osteonecrosis. It also allows performing optional sagittal wedge osteotomy of the patella to address preoperative maltracking which has been associated with poor outcomes in total knee replacement.

Conclusions: The SPO approach represents a promising alternative exposure technique for TKR. Further clinical evaluation is necessary to assess its safety, reproducibility, and long-term benefits.