

Bi-compartmental Arthroplasty with a One-Pieced Customized Device: Early Experience and Patient Outcomes

Tim Bryant, RN, Andreas H. Gomoll, MD

Presented at the proceedings of the 2015 British Association for Surgery of the Knee (BASK) Annual Meeting, Abstract #152

INTRODUCTION

Bi-compartmental osteoarthritis (OA) of the knee is common, especially in young arthritics. TKA surgery has been the standard of care to date, but recently, bi-compartmental arthroplasty with dual implants (UKA+PFJ) or a single-piece, off-the-shelf implant have been performed with mixed results. Early failures as high as 30% from tibial loosening and patellar clunk have occurred in these devices. Another alternative is a customized, individually made, bi-compartmental system (medial-patellofemoral and lateral-patellofemoral), that has been developed to deal with this challenging patient population (iDuo, ConforMIS, Inc., MA-USA) (Figure 1). The objective of this study was to determine the early outcomes for patients implanted with this device.

METHODS

Since 2010, 31 patients (34 knees), consisting of 21 females and 10 males, were operated at an average age of 47 years. The cohort consisted of 26 medial and eight lateral iDuo implants. Patient satisfaction testing, pain assessment, and survival analysis was conducted on the patients at 30 months mean follow-up.

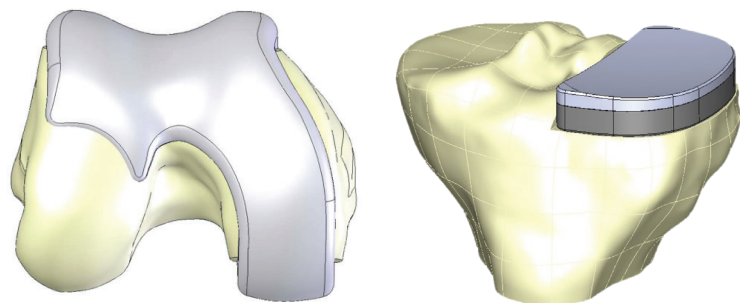


Figure 1: iDuo patient-specific fit and positioning.

RESULTS

At a mean of 30 months follow-up, all 34 knees are well functioning with zero failures. 97% rated their knee better post-op, including 91% patients who rated their results as good or excellent. Additionally, if given the choice to undergo the procedure again, 97% of patients indicated that they would have opted to do so (Figure 2). 82% patients reported a pain level between 0 and 3 on the Visual Analog Scale (VAS) scale.

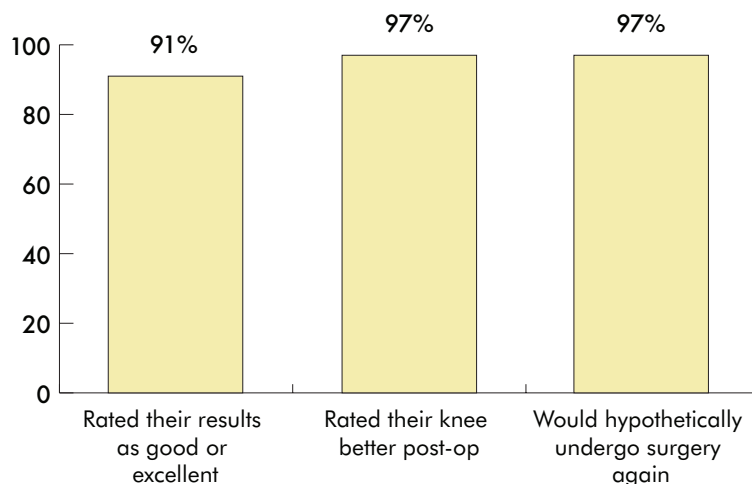


Figure 2: Patient outcomes at 30 months post iDuo surgery.

DISCUSSION

This study presents the early experience and patient outcomes of a customized, individually made bi-compartmental arthroplasty. Results suggest that patients implanted with this device are highly satisfied post-op. This technology provides a new treatment approach for patients exhibiting bi-compartmental OA of the knee.