

NJR 2019 REPORT - UK MIDTERM OUTCOMES OF LOGIC PS (FIXED BEARING) TKR

INTRODUCTION

The National Joint Registry for England, Wales and Northern Ireland was established in 2003 to collect information on all hip, knee, ankle, elbow and shoulder replacement operations, to monitor the performance of joint replacement implants and the effectiveness of different types of surgery, improving clinical standards and benefiting patients, clinicians and the orthopedics sector as a whole.

This report summarizes the mid-term (average 5.4 years) outcomes of the Logic PS (fixed bearing) primary knee implanted in the UK.

PATIENTS AND METHODS

This is a prospective follow up of the patients registered in the NJR. It includes four hundred and thirty-nine Logic PS (Fixed Bearing) TKAs performed in the UK between August 2011 and December 2019 by 14 surgeons in 11 different hospitals. (Table 1).

The mean implantation time is 5.4 years.

The NHS patient-reported outcome measures (PROMs) program introduced in April 2009 is a significant development in the routine collection and use of patient-reported outcome information. Data, including the EQ-5D and condition-specific measures, are collected from all National

Health Service (NHS) patients in England undergoing elective surgical procedures, both before and after surgery. Clinical data in this report were collected prospectively. The outcome instruments collected included Oxford Knee Score, EuroQol-visual analogue scales (EQ-VAS) and the EQ-5D Index for self-reported global health.

The EQ-5D has two parts. The EQ-5D self-classifier asks patients to describe their health in terms of the level of problems (“no”, “some” or “extreme”) on each of five dimensions, giving a health “profile”. The EQ-VAS is a vertical visual analogue scale that takes values between 100 (best imaginable health) and 0 (worst imaginable health), on which patients provide a global assessment of their health.

Incidence of revision for any reason was identified and analyzed, and Survivorship analysis was performed. In the case of analyses which estimate implant failure, death events are also censored, specifically they are considered non-informative censoring events. This assumes that death is unrelated to a failing implant and can be safely ignored whilst estimating implant failure (revision).

Revision Surgery linked to Primary on same patient as it requires valid data. Linkage was evaluated at 95.9% in this Report.

Total Recorded in NJR	Logic PS (Fixed Bearing)
Procedures	439
Patients	374
Centres	11
Consultants	13
Implanting Surgeons	14
% Male Patients	43.1%
Osteoarthritis	98.18%
BMI	30
ASA P2	80%

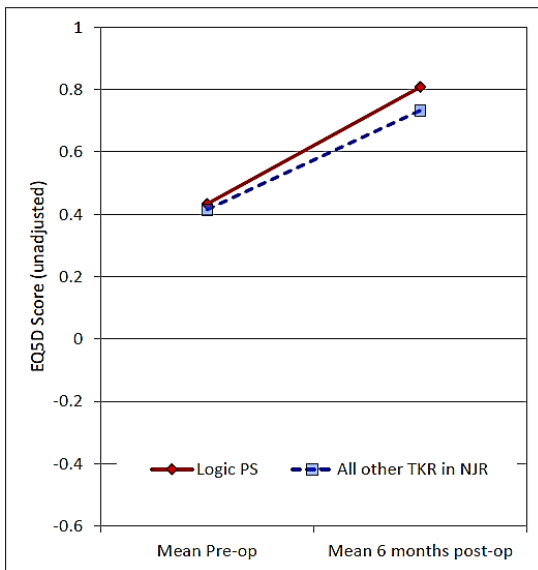
Table 1. Implant Usage and Demographics

CLINICAL RESULTS

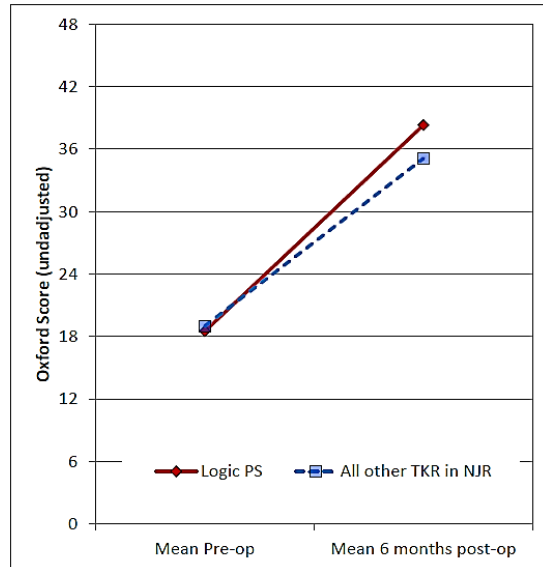
Summaries of Oxford Knee Score and the EQ-5D Index are provided in graphs 2, 3 and 4.

When using a Logic PS (Fixed Bearing) knee prosthesis, the Oxford and EQ5D scores show an improvement of respectively 98.5% and 86.6% compared to Pre-op scores. These improvements are statistically significantly better than improvement observed with all other systems in the NJR ($p=0.003$ and $p=0.044$ respectively)

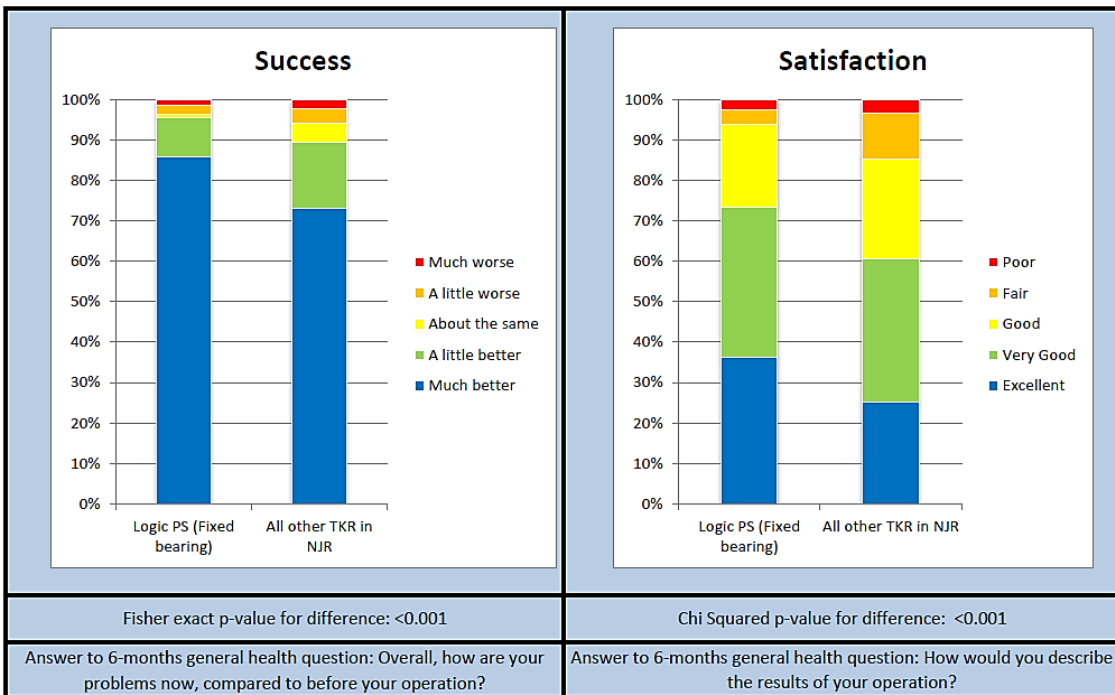
Patient Reported Outcomes (Graph 4) show a more favorable rate of success and satisfaction for patients implanted with a Logic PS (Fixed Bearing) compared to other systems. Again, this is statistically significant ($p<0001$)



Graph 2. EQ5D Score



Graph 3. Oxford Score

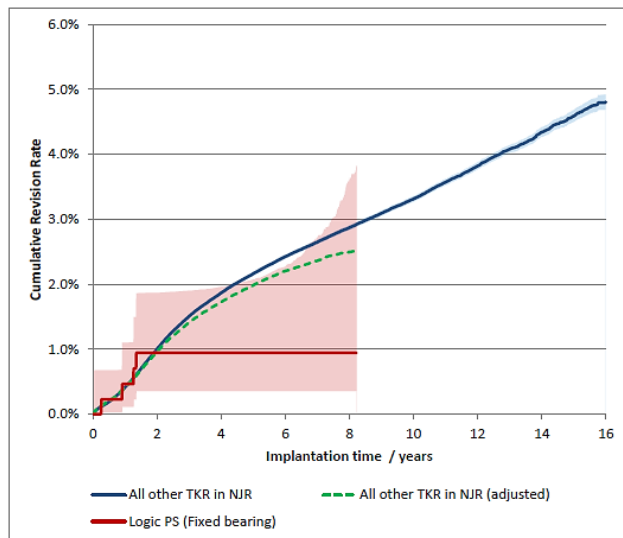


Graph 4. Success and Satisfaction Scores

SURVIVORSHIP

The Kaplan-Meier survival statistics revealed a very low cumulative revision rate at a mean of 5.4 years. The survival rate with revision for aseptic loosening as an end point was 100%. 4 implantations needed to be revised out of 439 cases in a mean period of 5.4 years. 399 cases had their patella resurfaced. The reasons for revision are:

- 2 Cases for Infection
- 1 case due to peri-prosthetic Fx
- 1 cases for progressing arthritis remaining
- None of the cases are implant related
- No revision for Poly Wear or Lysis observed



CONCLUSIONS

This mid-term (5.4 years average follow-up) study reported excellent results for the Optetrak Logic PS (Fixed Bearing) Knee System

The Survivorship is excellent with less than 1% overall revision rate and no implant-related revisions. Good clinical outcomes with significant improvement in patient satisfaction and success rates with 94% and 96% respectively, which are significantly better than those observed with other systems in the NJR.