Abstract

Survivorship following modern total knee arthroplasty (TKA) is good with revision rates generally lower than for total hip arthroplasty (THA). Our experience in Belfast supports that fact with original component survivorship of 99% for the low contact stress rotating platform TKA, which is better than our THA survivorship. It is important to discriminate between survivorship and patient satisfaction. In Belfast, as well as the more familiar outcome scores, we also use a very simple 4-point satisfaction questionnaire: “How would you best describe your satisfaction with your new joint” where 1=very happy, 2=happy, 3=OK but not perfect, and 4=I have never been happy. We applied this questionnaire to our 10-year THA and TKA patients. When we looked specifically at the numbers of patients who were either “very happy” or “never happy,” the results were very different. The very happy percentage for hips was much higher than for knees (54% vs 4%) and conversely, the number of never happy knees was much higher than for hips (7% vs 1%). These results are not unique to Belfast. As surgeons, we often think that the knee implant that we use is the best but at present, the implant is no longer the most critical factor. We need to increase the number of very happy patients and decrease the number of never happy ones. In my opinion the two key factors that we should focus on are patient expectation and surgeon education.

The reported long-term results for cruciate-sacrificing,\(^1\)\(^2\) posterior-stabilized,\(^3\)\(^4\) cruciate-retaining,\(^5\)\(^6\) and mobile-bearing\(^7\)\(^8\) total knees show good to excellent results and excellent survival with long term follow-up.

My own total knee arthroplasty (TKA) results have also been excellent. We performed a series of 600 consecutive cemented low-contact stress rotating-platform TKAs with a minimum follow-up of 10 years. We know the fate of every implant. At the time of 10-year review, in 135 knees (22.5%), the patient was deceased, thus leaving 465 knees to be reviewed at the clinic or by phone. Most patients (99.3%) still had their original components either at the time of death or at 10 years. Of the 4 revisions, 1 was for a collapsed lateral femoral condyle, 1 for a collapsed tibial condyle, 1 for infection, and 1 for unexplained pain. The latter patient had the same level of pain following revision. There has been no apparent osteolysis and no evidence of wear.

These results seem almost too good to be true. For some time in Belfast, it had been our impression that although survivorship was excellent following TKA, the patients were not as
happy as those undergoing total hip arthroplasty (THA). We put this hypothesis to the test by developing a simple 4-point score:

1. Very happy—patient will feel they have a “forgotten joint” that feels normal;
2. Happy;
3. OK but not perfect; or
4. Never happy—frequently worse than preoperatively.

The questionnaire was given to our cohort of 440 TKA patients at the time of their 10-year review (these patients underwent surgery between 1993 and 1997). For comparison, we gave the same questionnaire at the same time to a cohort of 565 THA patients who had surgery between 1992 and 1996. When we looked at the answers to questions 1 and 4, very happy and never happy, the differences between the total knees and total hips were staggering. As shown in the Table, for TKA patients, 4% were very happy and 7% were never happy. Unfortunately, there were more unhappy knees than very happy ones. In contrast, in the THA patients, 55% were very happy compared to only 1% who were never happy. In essence, patients who underwent THA under my care 10 years ago were almost 14 times more likely to be very happy, when compared to a patient who underwent TKA under my care at that time. Conversely, a TKA was 7 times more likely to be never happy. Could this apparent lack of satisfaction following TKA be a general finding?

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<tr>
<th>Table</th>
<th>Patient Satisfaction at 10 Years</th>
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<tr>
<td></td>
<td>Very Happy</td>
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<tr>
<td>TKA</td>
<td>4</td>
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<td>THA</td>
<td>55</td>
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Abbreviations: THA, total hip arthroplasty; TKA, total knee arthroplasty.

Baker et al\(^8\) looked at 10,000 patients from the National Joint Registry for England and Wales. These patients were at least 12 months postoperative TKA. The questions they addressed among others, were patient satisfaction and the Oxford Knee Score.\(^9\) In this publication,\(^10\) the best possible Oxford score was 12 and the worst possible was 60.

With respect to satisfaction, they had >8000 valid responses. Almost 82% were satisfied. Eleven percent were unsure, and 7% were not satisfied, which compares well with my 7% “never happy”. Predictably the Oxford Scores matched the levels of satisfaction, with the satisfied patients having an average Oxford score of 22, the unsure 35, and the not satisfied a high or worse score of 41.

Obviously these factors do not help us much with patient selection, but they could help us with patient education and expectation.

With respect to Oxford Scores, there were >7000 valid responses with a mean score of 25. Four percent had a perfect score of 12, which is similar to my 4% of “very happy” knees.
Therefore, the number of really excellent TKAs is not impressive from the patient’s perspective. In fact there are more unhappy knees, 7% versus 4%. The equivalent results for total hips are different with only 1% never happy and 55% very happy.

Numerous factors are known or thought to influence outcome and satisfaction following TKA, and some of them are shown in Figure 1. In the past, choice of implant was considered the most important factor, whereas today, implant choice would come well down the list. This view is supported by good long-term results.\textsuperscript{1-8}

![Figure 1: Illustration of some of the many factors that may influence outcome and patient satisfaction following TKA.](image)

There are 2 areas that are the most important. The first is patient education because this can alter patient expectation as shown by Mancuso et al.\textsuperscript{11} The second is surgeon education, as many early failures are a result of surgical error as discussed by Sharkey et al.\textsuperscript{12}

If we look again at our cohort of 440 patients at 10 years in Figure 2, four percent were very happy, 81% were happy, and when taken together, 85% were either happy or very happy. Over the past 10 years, we have made a greater effort to educate our patients preoperatively and therefore, create more realistic expectations, increase the number of very happy patients, and decrease the number of never happy.
Figure 2: The level of patient satisfaction following TKA when comparing TKAs that had surgery 10 years ago with a more recent cohort just 1 year from surgery.

We have repeated the same questions on a new cohort of 100 TKA patients at their 1-year review, who had surgery between 2007 and 2008. Although the 2 patient cohorts were 10 years apart with respect to their surgery, the actual questions were asked by the same nursing staff over a continuous 4-year period. Thus, there should be no obvious bias in how the questions were asked. As can be seen, the number of very happy patients has risen dramatically from 4% to 54%, although the number of very happy and happy patients taken together has dropped from 85% to 78%. At the other end of the scale, there was a modest decrease in the number of never happy patients from 7% to 3%, but with the number of “ok not perfect” responses increasing from 8% to 19%.

Patient satisfaction following THA is better than TKA. It is also important to realize that excellent survivorship does not always equal patient satisfaction. We must strive for improved patient satisfaction after TKA. One of the most important factors is patient education. We also need more understanding about what pre-operative factors influence satisfaction so we can try to modify their influence and better inform our patients. We need to continue to focus on surgeon education.

References


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