



## Audit

# Expect the best, prepare for the worst: surgeon and patient expectation of the outcome of primary total hip and knee replacement

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A cross-sectional study of 100 surgeons and 370 patients awaiting primary total hip or knee replacement was carried out. Oxford hip or knee score questionnaires were sent to the surgeons and patients. They were asked to predict the level of symptoms expected 6 months following surgery. The Oxford scores derive a value of 12–60, with a greater score indicating worsening symptoms. The mean pre-operative score was 45.12 for the hip patients and 42.96 for the knee patients, and the patients expected this to drop to 23.70 and 25.66, respectively, 6 months' postoperatively. This was a significant difference for both groups. The surgeons expected the patients to have a mean postoperative score of 20.91 for the hip group and 22.19 for the knee group. The surgeons' scores were significantly lower than those from the patients. There was a significant difference between the patients' and surgeons' expectations of the results of total knee and hip replacement surgery. The surgeons expected better results than the patients. We believe that this is the first study that directly compares surgeon and patient expectations of lower limb arthroplasty.

*Key words:* Arthroplasty – Expectation – Hip – Knee

It is well established that patient and surgeon may differ in their assessment of the level of symptoms a patient has and what a good outcome from surgery is.<sup>1,2</sup> The overall outcome will be affected by many factors, including the expectations each group have of the benefits of surgery. It is important that the surgeon can communicate the expected benefits to the patient and, in turn, understands what the patient considers to be an acceptable result. If both patient and surgeon have similar expectations of the role of surgery, it would seem reasonable to assume that patient satisfaction will be

greater than if patient and surgeon have differing ideas regarding the possible advantages of joint replacement.

### Patients and Methods

A list of all patients on the waiting list for primary total hip or knee replacement surgery was generated. These patients were under the care of 4 consultants at a regional teaching hospital and 370 patients were sent two questionnaires. The first was a standard Oxford hip or knee score questionnaire (as appropriate), which asked

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about their current level of symptoms. The second was an Oxford hip or knee questionnaire that asked them to indicate the level of symptoms they expected 6 months following joint replacement surgery.

The Oxford knee and hip scores are widely used in the assessment of patients before and after joint replacement surgery.<sup>3,4</sup> The patient completes the questionnaire by answering 12 questions that are scored from 1 to 5. A total score of 12–60 is produced. A higher value indicates more severe symptoms. They are simple to fill in and have excellent completion rates.<sup>5,6</sup>

An additional 100 questionnaires were sent to orthopaedic specialist registrars and consultant surgeons in the region. Each was sent an Oxford hip and knee score and they were asked to indicate the level of symptoms they expected patients to have 6 months following joint replacement.

Statistical analysis was carried out using the SPSS computer statistics package. Paired *t*-tests were used to analyse the patient data pre- and postoperatively. Independent *t*-tests were used to compare the patients' data with that of the surgeons.

**Results**

Of the 370 patients, 217 questionnaires were returned (59%); 12 were not suitable for inclusion (4 sent to post-operative patients and 8 incomplete). The mean age of patients in this study was 67 years (range, 31–89 years). Of respondents, 59% were woman and 41% men. In all, 40 patients had undergone a previous joint replacement (19%), 43% of patients were to undergo total hip replacement and 57% total knee replacement.

Out of the 100 questionnaires sent, 76 were returned by orthopaedic surgeons; 4 were not completed because the surgeons stated that they did not perform lower limb arthroplasty.

For the patients, the mean pre-operative Oxford hip and knee scores were 45.12 and 42.96, respectively. The patients expected these to have dropped to 23.70 and 25.66 at 6 months' postoperatively (Table 1). The difference between the pre- and postoperative scores was statistically significant (*P* < 0.0001). The mean score for the 40 patients who had a previous joint replacement was 42.65 pre-operatively and their expected postoperative

score was 25.49. This was not statistically different to the patients who had not undergone a previous joint replacement (*P* = 0.679).

The surgeons expected the patients to have scores of 20.91 for the hip and 22.19 for the knee at 6 months following joint replacement. There was a statistically significant difference between the surgeons' and patients' expectations of the outcome of total knee or hip replacement at 6 months, as judged by the Oxford hip and knee scores (*P* = 0.002 for knee, *P* = 0.015 for hip).

**Discussion**

All patients had been seen in the out-patient department prior to being placed on the waiting list for lower limb arthroplasty. We surveyed consultant and specialist registrar (resident) orthopaedic surgeons as these two groups were responsible for listing all of the patients for joint replacement. The patients have typical demographic data for the population undergoing joint replacement, with a mean age of 67 years and 59% being women. The previously published pre- and postoperative values for the Oxford hip score are 44.61 and 24.31.<sup>4</sup> For the Oxford knee score they are 43.60 and 29.33.<sup>3</sup> These values were similar to our results (Table 1).

The expected results from patients that had previously undergone total hip or knee replacement were similar to those patients that had no personal experience of this form of surgery. This indicates that the patients have a realistic view of the life they can expect after joint replacement.

Many factors combine to represent how a patient views the benefits and risks of surgery. Patient expectations may be formed by the information provided by their surgeon or general practitioner. Since lower limb arthroplasty is a commonly performed operation, many of the patients will also have friends that have been through hip or knee replacement. There is also considerable information available through the press and Internet. We may hope that a patient's expectations represent thorough counselling in clinic prior to listing for surgery, although the likelihood is that this is just one element of the way in which expectations are formed.

Surgeon's expectations of the benefits of surgery may

Table 1 Oxford hip and knee scores

	Oxford hip score (12–60)	Oxford knee score (12–60)
Surgeons	20.91 ± 4.42	22.19 ± 4.43
Patients postoperative	23.70 ± 8.29	25.66 ± 9.34
Patients pre-operative	45.12 ± 9.09	42.96 ± 7.40

Values are mean ± SD.

appear to be formed by more empirical means. They have, after all, seen many hundreds of patients at varying stages of the process of joint replacement. They are at a disadvantage, however, in that the vast majority of surgeons will not have had severe arthritis or have been through joint replacement themselves. This study shows that surgeons expect better results than their patients. The difference in expectations were found to be statistically significant, although the overall mean values appear quite closely matched (Table 1).

If we consider the patient's expectations to be a correct reflection of the outcome of surgery, the surgeon's appear over optimistic. However, if the surgeon's expectations reflect the true state of affairs, then the patient seems unduly pessimistic. It is important to understand the expectations of a patient in order to counsel them correctly in their treatment options to avoid disappointment after surgery. With increasing litigation in medicine, the emphasis on pre-operative counselling seems to be on a detailed description of the risks of surgery. This study suggests that the pendulum may have swung too far in this direction and that the good results of the majority of patients should also be stressed. Given that patients in the UK on average wait for 12 months or longer for their surgery, much unnecessary anxiety could be avoided. Second, a case could be made for the idea that expectations predict outcome. If a patient expects a poor outcome, this may well negatively influence the final

result. In the end, it is perhaps less important whose expectations we consider to be 'correct', rather that both groups agree on the expected outcome of a particular operation.

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