



Waiting time for primary hip replacement – a matter of priority

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ABSTRACT

INTRODUCTION Government reformers often allocate priority to patients based on the time spent on a waiting list. This may conflict with the surgeon's agenda of priority based upon clinical need.

METHODS We reviewed 125 consecutive patients who were awaiting total hip replacement on one consultant's surgical waiting list. We assessed hip pain and function by using a modified Harris Hip Score, which was calculated at the time of addition to the surgical waiting list, at pre-operative assessment and at 6 months' follow-up.

RESULTS: Analysis showed that although many patients (31.2%) deteriorate on a surgical waiting list, not all do so. Some stay clinically the same (53.8%) and some improve (15%) while awaiting surgery.

CONCLUSION Patients should not be prioritised solely on the length of time they have spent on a surgical waiting list. Waiting lists should be continually reviewed.

KEYWORDS

Total hip replacement – Waiting list – Priorities

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Total hip replacement (THR) is one of the commonest elective operations performed in the UK. About 50,000 THRs are performed annually and the number is anticipated to rise in an ageing population. Although THR is highly successful in relieving pain and improving function, many patients are expected to wait many months for surgery.

*The Patients' Charter*¹ in the UK stated that no patient should wait more than 18 months for surgery. Since the introduction of the Charter, the permitted waiting period has been reduced still further. This is based upon the opinion that the length of time on a surgical waiting list is important and that prolonged delay is harmful to a patient's well-being and may allow further progression of the underlying pathology. This conflicts with the surgeon's agenda, which allocates priority on the basis of the greatest clinical need. There are three waiting lists in modern healthcare. The first is the wait to see a primary care physician, the second is the wait to see a specialist and the third is the wait for surgery after a patient has been added to a surgical waiting list. The aim of our study was to investigate, with the aid of a modified Harris Hip Scoring system, whether it is possible to predict those patients who are likely to deteriorate after they are put on a waiting list for a THR. Can one better

allocate priority on the basis of clinical need rather than the time spent on a waiting list?

Patients and Methods

We reviewed 125 consecutive patients who had been added to the NHS waiting list for a THR by one consultant orthopaedic surgeon at our hospital. The surgeon had a special interest in hip surgery. A subjective, patient-orientated questionnaire was used to collect the data. This was based on a modified Harris Hip Scoring system (44 points allocated for pain, 47 points for function, deformity not included) and was undertaken when the patients were added to the surgical waiting list (waiting list entry subset), at the pre-operative assessment clinic 2 weeks before surgery (pre-operative subset) and at the 6-month follow-up out-patient appointment (follow-up subset). This study was undertaken before UK Government targets for waiting lists were introduced. We received completed questionnaires from all 125 patients when they were added to the waiting list, 94 patients from the pre-operative assessment clinic and 53 patients from the 6-month follow-up clinic. These three groups of patients formed the three subsets of the study.

Table 1 Mean (SD) score change between addition to the surgical waiting list and the pre-operative assessment clinic

Variable	Change in score between addition to the surgical waiting list and pre-operative assessment		Odds ratio	P-value
	Same/better	Worse		
Age (years)	66.3 (12.56)	63.0 (12.83)	0.98	0.21
Sex (% male)	45.7	51.1	1.24	0.60
Modified Harris Hip score				
Q1. How would you describe your hip pain? (max. 44 pts)	11.1 (11.20)	15.4 (10.19)	1.04	0.061
Q2. How would you describe your walking? (max. 11 pts)	3.1 (3.35)	3.3 (3.37)	1.02	0.76
Q3. What support do you need for walking? (max. 11 pts)	4.5 (4.17)	5.0 (3.22)	1.04	0.51
Q4. How far can you walk? (max. 11 pts)	4.0 (2.36)	4.6 (2.41)	1.13	0.17
Q5. How would you describe your ability to climb stairs? (max. 4 pts)	1.2 (0.77)	1.4 (0.80)	1.47	0.16
Q6. How do you put on your shoes and socks/stockings? (max. 4 pts)	1.9 (1.07)	2.0 (0.88)	1.20	0.39
Q7. How do you feel when you are sitting down? (max. 5 pts)	3.1 (1.97)	3.7 (1.49)	1.21	0.12
Q8. Are you able to use public transport? (max. 1 pnt)	0.5 (0.51)	0.6 (0.50)	1.14	0.79
Total score (max. 91 pts)	29.3 (20.59)	36.0 (14.94)	1.02	0.079

Odds ratios are calculated from a logistic regression model with outcome (same/better or worse) as the dependent variable.

Max. = maximum, pts = points

Possible total scores ranged from 0 to 91, where 0 represented maximum pain and minimum function.

Statistical analysis

Patients were separated into those who became better, became worse or stayed the same between their addition to the surgical waiting list and the pre-operative assessment clinic. Box plots were constructed to see if any of the eight parameters of the modified Harris Hip Score (Table 1), or age, predicted whether a patient would improve or deteriorate while on a waiting list. Logistic regression was used to see what parameter significantly predicted change.

The modified Harris Hip Scoring questionnaire, which comprised eight questions (Table 1), was then separated into pain (one question) and function (seven questions) scores. Histograms were plotted for the changes in these scores. Spearman's rank correlation and scatter plots were used to see if there was an association between the scores when a patient was placed on the waiting list and the scores at the pre-operative assessment clinic. Analyses were performed in SPSS v. 11.0 (SPSS Inc., Chicago, IL, USA). The level of statistical significance was set at $P < 0.05$.

Results

The mean score for hip pain in the waiting list entry subset was 12.6 ± 11.1 , pre-operative subset 11.1 ± 11.8 and the

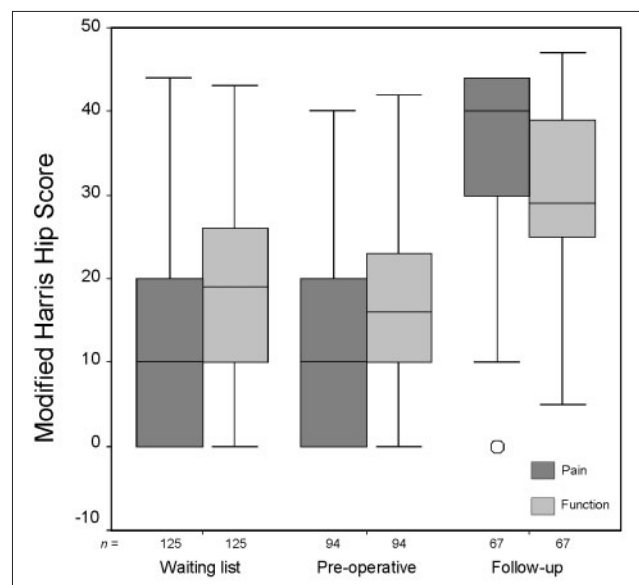


Figure 1 Modified Harris Hip Scores for pain and function at the time of addition to the surgical waiting list, the pre-operative assessment clinic and at the follow-up assessment clinic. The grey boxes represent the interquartile range. The top of the box is the upper quartile, the bottom is the lower quartile and the black line is the median value. The whiskers extend to the range of the data. The circle is an outlying value, which is more than 1.5 interquartile ranges from the lower quartile.

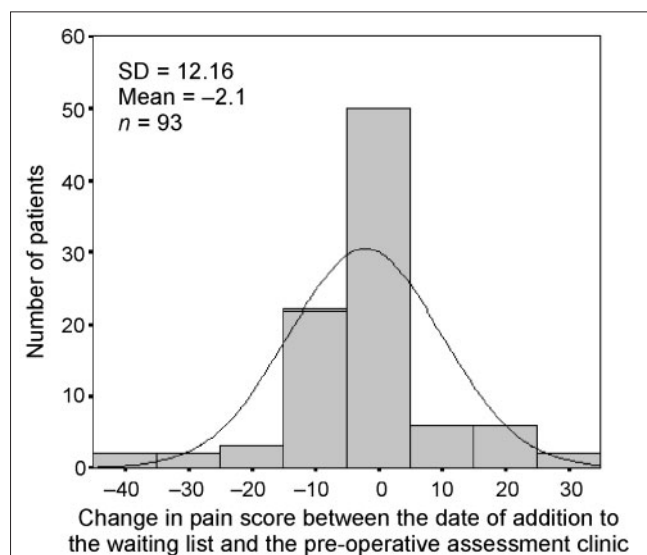


Figure 2 Histogram of the change in the pain score between the time of addition to the surgical waiting list and the pre-operative assessment clinic.

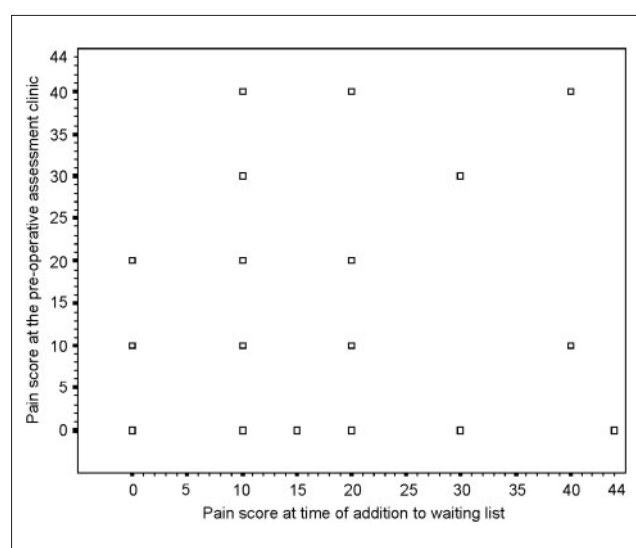


Figure 3 Scatterplot of the pain score at the time of addition to the surgical waiting list against that found at the pre-operative assessment clinic. There is a moderate correlation, $r = 0.46$.

follow-up subset 34.5 ± 12.6 . The mean score for hip function in the waiting list entry subset was 18.7 ± 10.0 , pre-operative subset 17.4 ± 9.8 and the follow-up subset 30.6 ± 10.0 (Fig. 1).

The changes in pain score between the date of addition to the surgical waiting list and the date of the pre-operative assessment clinic suggest that 31.2% of patients became worse while on the waiting list, 53.8% stayed the same and 15% improved (Figs 2 & 3). The changes in function score between the date of addition to the waiting list and the date

of the pre-operative assessment clinic suggest that 47.3% of patients became worse while on the waiting list, 18.3% stayed the same and 34.4% improved (Figs 4 & 5).

The changes in the pain score between the pre-operative assessment clinic and the 6-month follow-up showed that 1.9% of patients became worse, 6.5% stayed the same and 91.9% improved. The changes in function score between the pre-operative assessment clinic and the 6-month follow-up showed that 4.8% of patients became worse, 1.6% stayed the same and 93.6% improved.

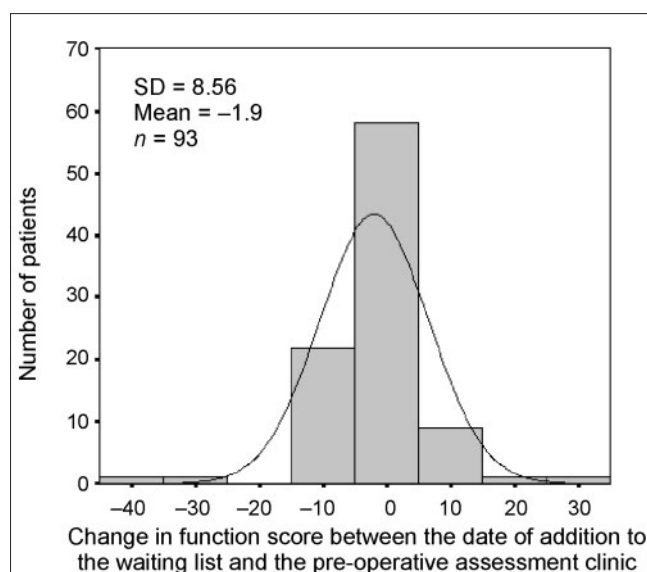


Figure 4 Histogram of change in function score between the time of addition to the waiting list and the pre-operative assessment clinic.

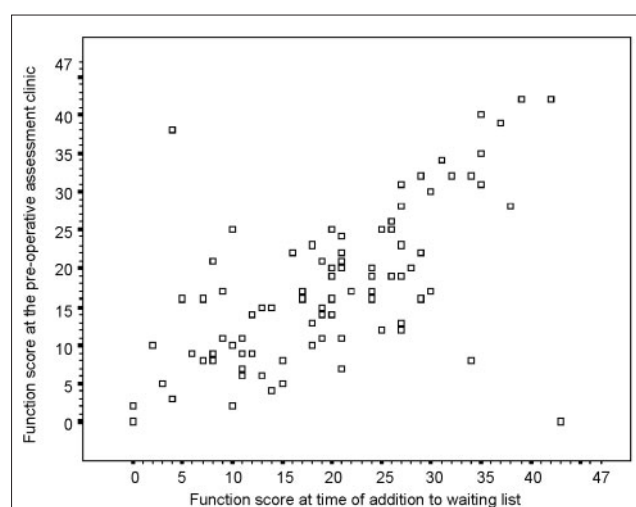


Figure 5 Scatterplot of the function score at the time of addition to the surgical waiting list against that found at the pre-operative assessment clinic. There is a strong correlation, $r = 0.64$.

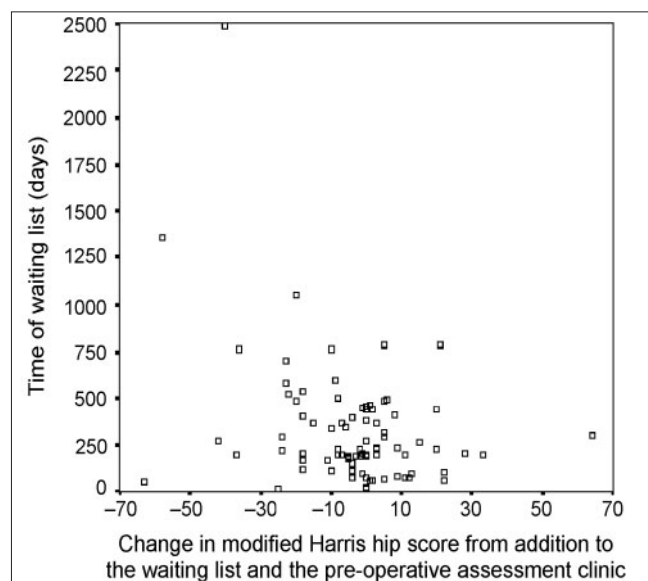


Figure 6 Scatterplot of the change in modified Harris Hip Score between addition to the surgical waiting list and the pre-operative assessment clinic against the number of days on the waiting list. The Spearman's correlation coefficient is -0.35 , which is a weak negative correlation.

An analysis of the scores on the questionnaire for the different variables could not predict a change in pain nor in functional outcome. Those who became worse while on a surgical waiting list tended to have higher overall scores on addition to the waiting list and were younger than those who stayed the same or improved.

The median number of days on the waiting list was 225.0 (range, 13–2486 days).

Discussion

THR is a very common elective orthopaedic operation and its role in reducing pain and functional limitations is of undoubted value. In some countries, however, patients have to wait for several months on a surgical waiting list for their operation. These patients are not usually clinically reviewed after being placed on the waiting list until they are admitted for surgery. There is also a lack of standardised priority assessment criteria for elective surgical procedures in the UK. A system that incorporates both clinical and social factors is in practice in some countries, such as New Zealand and Canada.^{2–10}

Some clinicians may favour inclusion of a factor such as 'time spent on a surgical waiting list' on the grounds that the simple act of waiting should warrant some consideration. This concern should be balanced by the fact that, if waiting time is incorporated, the inevitable result is that some less impaired patients may have their operation

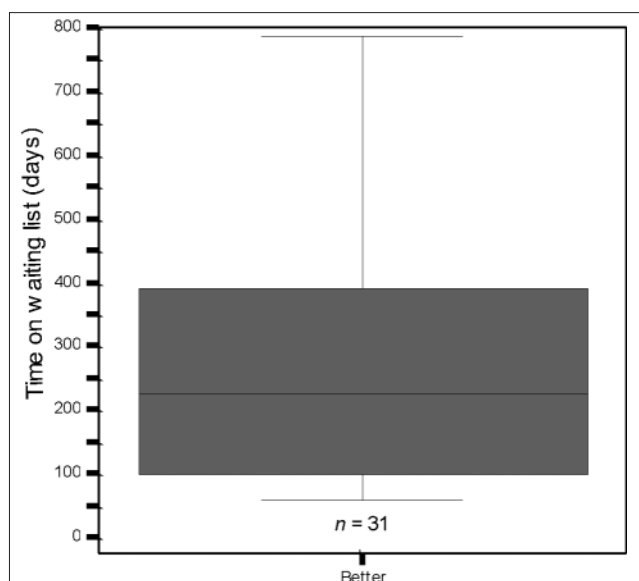


Figure 7 This is a plot of those who improved on the waiting list against the amount of time on the waiting list. The grey box is the interquartile range, the black bar the median and the whiskers extend to the range of the data.

before the more impaired ones. This calls for a practice of monitoring and re-ordering the queue in response to changing clinical circumstances.

Having reviewed 125 consecutive patients who had been placed on the surgical waiting list for a THR, and assessing their clinical status based on a modified Harris Hip Scoring system, we found that patients do not always deteriorate on a waiting list but can actually improve while waiting for their operation (Fig. 6, Table 1). This change, however, was not related to the time they waited on the list (Fig. 7). Furthermore, it is not possible to predict accurately changes in either pain or function simply from an initial assessment and scoring. It would thus seem unreasonable to prioritise any patient solely upon the length of time spent on a surgical waiting list. We recommend that patients are regularly reviewed clinically while awaiting surgery and that they are reprioritised regularly according to clinical need.

In the UK, the combination of a patients' charter, Government guidelines, management and clinical effort has shown that the number of patients who wait longer than 18 months for surgery has plummeted or disappeared. This did not occur without a price. The evidence suggests that patients with more urgent needs may actually wait longer.¹¹ Piecemeal solutions imposed by non-clinicians may thus compromise the integrity, fairness and clinical effectiveness of the waiting list system.

A good waiting list information system must identify patients who are at risk because of potentially excessive waits. It should also ensure that patients are re-assessed

when their circumstances change and are removed from the waiting list if: (i) their clinical condition improves; (ii) they decide to forgo the procedure; or (iii) they die. It was a surprise to us that 15% of patients showed an improvement in their pain and 34% showed an improvement in function while awaiting surgery. This was despite being seen and assessed by a specialist hip surgeon at the time of their addition to the surgical waiting list. This suggests that the surgeon was either being unduly lenient with his patients when offering a THR or, perhaps, that patients can indeed become better while awaiting surgery. Not all patients deteriorate while on a surgical waiting list, although some authors might claim otherwise.¹² This finding has further persuaded us that a mechanism of continuous waiting list clinical review is essential and that operating on a patient based solely on the length of wait is ill advised, unfair and ethically dubious.

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