

HEALTH-RELATED QUALITY OF LIFE IN TOTAL HIP AND TOTAL KNEE ARTHROPLASTY

A QUALITATIVE AND SYSTEMATIC REVIEW OF THE LITERATURE

BY OLIVIER ETHGEN, PHD, OLIVIER BRUYÈRE, MSC, FLORENT RICHY, MSC,
CHARLES DARDENNES, MD, AND JEAN-YVES REGINSTER, MD

Investigation performed at the WHO Collaborating Center for Public Health Aspects of Osteoarticular Diseases, Department of Public Health, Epidemiology, and Health Economics, and Bone and Cartilage Research Unit, University of Liège, Belgium

Background: Total hip and total knee arthroplasties are well accepted as reliable and suitable surgical procedures to return patients to function. Health-related quality-of-life instruments have been used to document outcomes in order to optimize the allocation of resources. The objective of this study was to review the literature regarding the outcomes of total hip and knee arthroplasties as evaluated by health-related quality-of-life instruments.

Methods: The Medline and EMBASE medical literature databases were searched, from January 1980 to June 2003, to identify relevant studies. Studies were eligible for review if they met the following criteria: (1) the language was English or French, (2) at least one well-validated and self-reported health-related quality of life instrument was used, and (3) a prospective cohort study design was used.

Results: Of the seventy-four studies selected for the review, thirty-two investigated both total hip and total knee arthroplasties, twenty-six focused on total hip arthroplasty, and sixteen focused on total knee arthroplasty exclusively. The most common diagnosis was osteoarthritis. The duration of follow-up ranged from seven days to seven years, with the majority of studies describing results at six to twelve months. The Short Form-36 and the Western Ontario and McMaster University Osteoarthritis Index, the most frequently used instruments, were employed in forty and twenty-eight studies, respectively. Seventeen studies used a utility index. Overall, total hip and total knee arthroplasties were found to be quite effective in terms of improvement in health-related quality-of-life dimensions, with the occasional exception of the social dimension. Age was not found to be an obstacle to effective surgery, and men seemed to benefit more from the intervention than did women. When improvement was found to be modest, the role of comorbidities was highlighted. Total hip arthroplasty appears to return patients to function to a greater extent than do knee procedures, and primary surgery offers greater improvement than does revision. Patients who had poorer preoperative health-related quality of life were more likely to experience greater improvement.

Conclusions: Health-related quality-of-life data are valuable, can provide relevant health-status information to health professionals, and should be used as a rationale for the implementation of the most adequate standard of care. Additional knowledge and scientific dissemination of surgery outcomes should help to ensure better management of patients undergoing total hip or total knee arthroplasty and to optimize the use of these procedures.

Level of Evidence: Therapeutic study, Level III-3 (systematic review of Level-III studies). See Instructions to Authors for a complete description of levels of evidence.

Since the publication of the initial studies on total joint replacement by Sir John Charnley in the 1960s, both total hip and total knee arthroplasty have evolved into reliable and suitable surgical procedures to return patients to function^{1,2}. Total hip and total knee arthroplasty are indicated for patients with intractable pain and substantial functional disabilities who have not had acceptable relief and functional

improvement after conservative treatment and who are not candidates for other, nonablative reconstructive procedures such as arthroscopy^{3,4}. Patients with end-stage joint deterioration due to osteoarthritis or rheumatoid arthritis constitute the largest group of patients for whom surgery is considered.

Aging of the population is driving an increase in the