

LETTERS TO THE EDITOR

Prevalence of total hip replacement: how much demand has been met?

SIR - In their recent study, Williams *et al*¹ found a substantial increase in the prevalence of total hip replacement compared with earlier years, and concluded that there was a greater level of satisfied demand. Before becoming complacent and basing policy decisions on this conclusion, however, cash-strapped purchasing authorities, struggling to meet the demand for total hip replacement in the UK, need to consider several other factors which are likely to increase demand still further.

Firstly, the study of Williams *et al* was confined to people ≥ 65 years of age and one of the main contributory factors to the increased demand for total hip replacement is its application to younger patients. In our recent population based study of total hip replacement in Olmsted County, Minnesota (characterised inaccurately by Williams *et al* as an elective case series), people aged under 65 comprised 48% of all primary total hip procedures in men and 30% in women between 1987 and 1990.² Moreover, though the average age at surgery has remained relatively constant through the years, the range has increased. For example, the age range of women in 1969 was 62-82 (mean 69) years and in 1990 it was 29-91 (mean 70) years. This substantial use of total hip replacement in younger people is a strain on resources, a fact that is underemphasized by Williams *et al*. It also entails a substantial liability for revision surgery since the average life expectancy of these younger, more active people may exceed the expected useful life of the implants.³

Secondly, and following from above, the size of the elderly population is growing rapidly and their composition within the broad age groups that were studied (for example ≥ 75 years) is changing: this has implications for provision for total hip replacement. Recent analysis of the data from 400 hospitals in the United States showed that while the number of people aged 85 years and over increased by 28%, the proportion within that age group who received total hip replacement increased from 1.4 per thousand to 3.1 per thousand between 1980 and 1987.⁴ It would therefore be interesting to see a finer breakdown in ages and an assessment of the increased number of total hip replacement that might be needed in the future, even at current per capita surgery rates, solely because of the demographic changes in the UK.

Finally, with technological and medical advances, the indications for total hip replacement have increased. Primary degenerative joint disease in our study accounted for only 63% of the primary procedures, and not 76% as quoted by Williams *et al*. The other major category was hip fractures. Even though only a small proportion of hip fractures are treated with total

hip replacement, these operations still accounted for nearly 20% of the total.² With continued aging of the population, the number of people with hip fractures needing surgery will increase further.⁵ In addition, people with serious co-morbidities such as cancer and cardiovascular disease who may not have been considered good candidates for total hip replacement in the past are now being offered the procedure.⁴

The need for total hip replacement, or any other medical intervention, is a complex interplay of population demographics, patient and surgeons' attitudes, and economic and sociopolitical factors. We do not believe that the plateau for total hip replacement has been reached yet and support the call for further research into the needs... but for all age groups and for all indications.

RAJAN MADHOK
DAVID G LEWALLEN
L JOSEPH MELTON, III
Departments of Health Sciences Research and
Orthopedic Surgery,
Mayo Clinic and Foundation,
Rochester, MN 55905, USA

- Williams MH, Newton JN, Frankel SJ, Braddon F, Barclay E, Gray JAM. Prevalence of total hip replacement: how much need has already been met? *J Epidemiol Community Health* 1994; 48:188-91.
- Madhok R, Lewallen DG, Wallrichs SL, Ilstrup DM, Kurland RL, Melton LJ III. Trends in the utilization of primary total hip arthroplasty 1969 through 1990: a population-based study in Olmsted County, Minnesota. *Mayo Clin Proc* 1993;68:11-18.
- Harris WH, Sledge CB. Total hip and total knee replacements. (First of two parts). *N Engl J Med* 1990;323:725-31.
- Friedman B, Elixhauser A. Increased use of an expensive, elective procedure: total hip replacements in the 1980s. *Med Care* 1993;31:581-99.
- Hoffenberg R, James OFW, Brocklehurst JC, *et al*. Fractured neck of femur: prevention and management. *JR Coll Phys Lond* 1989;23:8-12.

Aetiology of peptic ulcer in Norway

SIR - Johnsen *et al*¹ report an increased risk of duodenal ulcer in men with a high milk consumption. This factor was independent of age, cigarette smoking, and inheritance and the authors suggest that milk might increase duodenal ulcer risk by stimulating acid secretion through its calcium content.

In our analysis of the association between duodenal ulcer and calcium intake we found that the risk of duodenal ulceration increased with increasing intake of calcium in a dose-response manner.² In contrast to Johnsen's report this relationship was observed irrespective of sex. There was no correlation between calcium or milk intake and the duration of dyspeptic symptoms and none of the subjects reported a change in consumption of dairy products because of dyspepsia. These results make it less likely that increased milk consumption was a consequence of dyspepsia.

In summary, the findings of Johnsen's study and our own support a causal relationship between milk or calcium intake and duodenal ulcer risk.

B. BREUER-KATSCHINSKI,
Zentrum für Innere Medizin,
Universitätsklinikum Essen,
Hufelandsstr 55,
4300 Essen 1, Germany

R F A LOGAN
Department of Public Health Medicine
and Epidemiology,
University Hospital,
Queen's Medical Centre,
Nottingham NG7 2UH

- Johnsen R, Førde OH, Straume B, Burhol PG. Aetiology of peptic ulcer: a prospective population study in Norway. *J Epidemiol Community Health* 1994;48:156-60.
- Katschinski BD, Logan RFA, Edmond M, Langman MJS. Duodenal ulcer and calcium intake: a case-control study. *Eur J Gastroenterol Hepatol* 1992;4:897-901.

Corrigendum

Estimating confidence limits on a standardised mortality ratio when the expected number is not error free. 1994;48:313-7.

The author wishes to correct some minor errors in the above article.

Firstly, in table 3 the numbers in the body of the table should be as follows:

	0.2	0.1	$q = 0.05$	0	Exact
Lower 95% limit	0.602	0.572	0.559	0.546	0.546
Upper 95% limit	2.840	2.987	3.059	3.131	2.925

Secondly, the quadratic equation which must be solved for R in the appendix has a plus sign where there should be a minus sign, and should be:

$$R^2.E.(E - X^2) - R.(2.D.E. - 2.D.q.X^2) + D.(D - X^2) = 0$$

NOTICE

Conference '95 - Canadian Society for Epidemiology and Biostatistics will be held on August 16-19, 1995 at St John's, Newfoundland. For information regarding registration and submission of abstracts, contact the conference office:

CSEB - Conference '95 Office, c/o Health Research Unit, PO Box 23068, St John's, Newfoundland, Canada A1B 4J6. Tel: 709 737-6720. Fax: 709 737-7382.