

vein surgery, and a minibus was preferred. Analgesia should be provided in all cases.

The high incidence of patients seeking advice from the general practitioner or district nurse after their return home was worrying and is not a problem of which we are aware in our normal practice. Complications perceived by patients may not necessarily be regarded as complications by a surgeon but, nevertheless, we were unhappy to discover potential infection rates of around 15% after inguinal hernia and varicose vein surgery. Patients having this type of surgery remain in hospital for only a day or so. Inflammatory and infective sequelae are likely to have resolved and may be forgotten by the patient by the time of the surgical outpatient review at two or three months. We intend to survey our patients treated locally to see if the trend can be confirmed.

Transient testicular swelling in three patients after inguinal hernia repair was attributable to one surgeon whose practice was probably to overtighten the internal inguinal ring. Personal technique has been modified.

An unexpected finding highlighting the cost of waiting lists was that 13 patients (11.5%) awaiting routine elective surgery claimed that they were unable to work.

Though patients rated the scheme highly, the scheme was not without difficulties. Nevertheless, the apparent success of the scheme challenges the traditional approach of initial assessment, operation, and follow up being performed by the same surgical team. Problems might be expected in matters of contentious management and certainly some patients had slightly different operations from those recommended by the referring surgeon. The preoperative ward round must therefore be conducted with the importance and the duration of the outpatient consultation.

When complications occur they are best dealt with by the operating surgeon and may not be appreciated when review is carried out elsewhere.

Patients were generally allocated for transfer to Wroughton by availability and geographical clustering

rather than by the nature of the operation and expected duration of the procedure. Problems were therefore encountered with the content and duration of some operating lists. It is crucial for the efficient use of theatre time and the appropriate allocation of surgical staff that case selection should be made by the operating consultant surgeon and not by administrative personnel.

Selection of patients with regard to their fitness for an anaesthetic before transfer is important to spare patients disappointment and a wasted journey. Four patients in our series were returned home without an operation despite prior assessment at the review clinic. An ideal scheme should include advice from the anaesthetic department of the receiving hospital of local criteria and thresholds for deferring operation in the presence of conditions such as hypertension or glycosuria.

With regard to overall surgical performance it is not possible to get something for nothing. The rate limiting step in surgical performance in this military hospital is operating time rather than bed space, and as a result of operating on 112 patients from another region the same number of local NHS patients in Wiltshire were deferred.

From the operating team's point of view there was no training benefit. The type of routine, repetitive surgery transferred was that which will inevitably be found at low priority on all surgical waiting lists and which we see regularly from day to day. The hospital gained because the Crewe Health Authority contributed £36 per patient per day based on recovery of minimal costs. This amount might seem to undersell the services offered but compared favourably with the existing arrangements of non-sponsorship of local NHS patients. If similar financial arrangements were to be negotiated with health authorities in the local area then there would be no reason to receive elective surgical patients from far away.

1 Warden J. Service hospitals. *Br Med J* 1989;299:10-1.

2 Johnson M, Donaldson LJ. Northern Regional Health Authority and Gateshead Health Authority report: national waiting list initiative with the Duchess of Kent's Military Hospital, Caterick. 1988. (Circulated to all military hospitals by assistant surgeon general (service hospitals).)

## Trends in admissions for hip fracture in England and Wales, 1968-85

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Evidence from several countries indicates that the age specific incidence of hip fracture has increased over the past three decades.<sup>1</sup> This and the increasing numbers of elderly people have led to predictions of a doubling of the number of hip fractures before the end of the century in most countries. Previous reports from the United Kingdom have confirmed these trends from the mid-1950s to the mid-1970s.<sup>2</sup> We analysed data on fractured neck of femur obtained in the Hospital In-Patient Enquiry for England and Wales from 1968 until 1985 (the last year of the inquiry).

### Methods and results

We obtained data on 64 511 patients who died in or were discharged from hospital after sustaining a fractured neck of femur (ICD 820) during 1968-85 and used them as a proxy for admissions, assuming that they were a consistent sample of Hospital Activity

Analysis data. Analysis started at 1968 to avoid early problems of the Hospital In-Patient Enquiry. Data for Wales were not collected after 1982, and we therefore estimated rates accordingly. We calculated standardised admission ratios for men and women aged over 44, using the age specific rates in 1968 as the reference (=100). The rates increased steadily in women by 61% up to 1978 and in men by 73% until 1979 (figure). No further increases occurred in either sex, suggesting that the rates levelled off. The ratio of women to men with hip fracture remained stable at about 4:1 over the period. Correspondingly, the rates for men varied more from year to year owing to the smaller numbers of cases.

### Comment

These data suggest that the dramatic increase in the number of hip fractures over recent decades has begun to tail off. The accuracy of data obtained in the Hospital In-Patient Enquiry as an estimate of incidence and regional variations in incidence has been questioned, though any biases probably operated continuously over the 17 years for the whole country. If the data are accepted as reliable they seem to confirm earlier reports of an increase in cases in the United Kingdom since 1958.<sup>3</sup> The reasons for this increase are, however, unclear, and many hypotheses have

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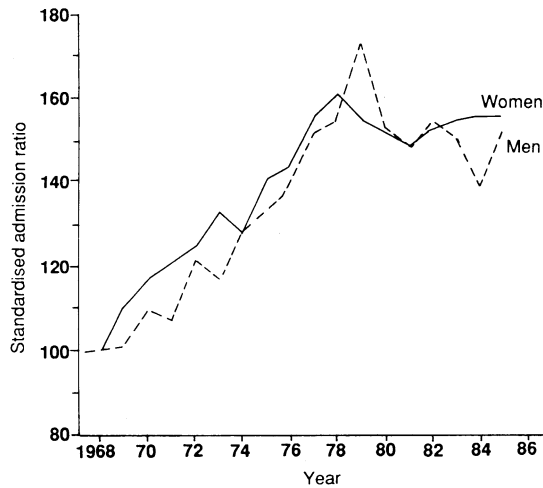
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been proposed, including changes in diet, sunlight, reproductive and gynaecological factors, use of oestrogens and sedatives, and increased life expectancy.



Ratio of observed to expected numbers of patients aged over 45 admitted to hospital with hip fracture in England and Wales, 1968-85. (Data obtained from Hospital In-Patient Enquiry and standardised for age on basis of age specific rates in 1968)

All these, however, need to account for the parallel changes in men and women and the worldwide increase in incidence. Although several factors may have operated the most likely single factor is change in activity. Physical activity is related to both bone density and the risk of the elderly falling. Disuse is strongly related to rapid bone loss in most age groups. Moreover, musculoskeletal strength related to activity is probably the most important factor influencing hip

fractures in the over 75s, among whom most such fractures occur.<sup>4</sup>

The only major study showing a levelling off of the incidence of hip fracture showed a fall in the rate of increase in women in Rochester, Minnesota, in the mid-1950s.<sup>5</sup> Rates in men continued to rise, and the authors were unable to explain these findings on the basis of environmental factors. Possible reasons for the changes in the United Kingdom remain speculative. In most developed countries since the second world war work has become less physically arduous and people walk less. Increases in social services, transport, and retirement homes may have reduced physical activity in the elderly. The age at which activity has a maximal beneficial effect is uncertain. Our data might be explained by activity having fallen dramatically from the 1950s to the 1970s and then stabilised either in middle life or in old age; alternatively, there may be a threshold beyond which a further reduction in activity has no added effect on skeletal state. Further work is needed to confirm these findings and to understand the mechanisms entailed.

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## Reversible cardiomyopathy induced by interferon

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Clinical trials with interferon have been carried out principally with patients with advanced non-treatable cancer. The best results have been achieved in patients with hairy cell leukaemia.<sup>1</sup> Side effects are generally mild, are usually dose dependent, and disappear after treatment is stopped.

A case of cardiomyopathy due to interferon and confirmed at necropsy was reported recently.<sup>2</sup> We report a case of severe cardiomyopathy induced by interferon in a patient who had a complete clinical recovery after interferon treatment was withdrawn.

### Case report

A 74 year old man with no history of heart disease was admitted to hospital with congestive heart failure. Eight months earlier hairy cell leukaemia had been diagnosed. Splenectomy was recommended, but the patient preferred conservative treatment and was given daily injections of  $3 \times 10^6$  units of recombinant interferon alfa 2.

After seven months of treatment he was readmitted with severe congestive heart failure. Electrocardiography showed T wave flattening in leads V4-V6. Radiography showed cardiomegaly with pulmonary congestion and large pleural effusions shown to be transudate. Echocardiography showed severe global hypokinesia with mild aortic stenosis, and radionuclide imaging showed a left ventricular ejection fraction of 18% with severe diffuse hypokinesia. The patient received frusemide with spironolactone and gradually improved. Treatment with diuretics and interferon was continued. Three months later he was readmitted

with progressive dyspnoea and radiological signs of pulmonary congestion. Electrocardiography showed T wave changes in V4-V6, and radionuclide angiography showed severe diffuse hypokinesia with an ejection fraction in the left ventricle of 13% and 18% in the right ventricle. He was given digoxin, frusemide, and spironolactone and gradually improved, but repeated radionuclide angiography and echocardiography showed no changes in cardiac function. Because we found no other obvious causes of myocardial failure we thought that interferon might be playing a part, and treatment was stopped. Six weeks later the patient's condition noticeably improved. A further radionuclide angiogram showed an ejection fraction of 42% in the left ventricle and 50% in the right ventricle. Diuretic treatment was tapered off. Three months later he had no symptoms and was taking frusemide 40 mg every second day. Radionuclide angiography showed normal wall motion with an ejection fraction of 50% on the left and 62% on the right. Echocardiography showed nearly normal wall motion.

### Comment

It was first suggested that interferon might be cardiotoxic in humans after four deaths from myocardial infarction in patients treated with interferon.<sup>3</sup> In 11 reports on 35 patients the effect of interferon consisted primarily of arrhythmias, though atrioventricular block and sudden death were also reported. In 1988 Cohen *et al* reported on a patient with interferon related cardiomyopathy who developed cardiac symptoms after one week of treatment with interferon.<sup>2</sup> Heart failure in our patient occurred after six months of treatment and was clearly unrelated to coronary artery disease. Myocarditis was excluded clinically and by negative viral titres. His heart failure resolved completely with left ventricular ejection fraction improving to over 50% two months after interferon treatment was stopped.