

## Guest editorials

# Full treatment spectrum for hip fractures: Operation and rehabilitation

Current orthopedic problems are dominated by the demands from the elderly and the community, to live an independent, mobile and painfree life. Fractures in the elderly, particularly hip fractures, constitute one of the major problems. The increasing number of elderly persons during the next few decades in the western world, as well as an increasing age-specific incidence, give extra importance to this already large problem (Johnell et al. 1992, Thorngren 1994, Cummings et al. 1995). It is estimated that 1.7 million hip fractures occurred worldwide in 1990 (WHO Study Group 1994). In Sweden, with a population close to 9 million, around 60 000 persons acquire some type of fragility fracture each year of which 18 000 are hip fractures. It is estimated that every other woman in Sweden at age 50 years runs a risk of sustaining a fracture some time during her remaining lifetime. The risk for men is about half of that.

Hip fractures have increased dramatically in Scandinavia and in other western countries during the last three decades. This increase will continue because of an increase in the number of elderly persons in the population and an increase in the risk of hip fractures, particularly in the oldest persons, those above 80 years. This constitutes a threat to health care resources. Such patients also have other diseases and a hip fracture often initiates a series of treatments at different levels of care, so-called treatment chains. However, the prognosis for the individual patient has improved markedly during recent years due to better treatment methods, including better osteosynthesis and active rehabilitation. The goal is that most hip fracture patients should return quickly to their own home and achieve the same level of function as before the fracture (Jarnlo et al. 1984, Borgqvist et al. 1991a, 1992, Thorngren 1994).

Orthopedic surgeons and traumatologists have mainly been concerned with improvements in the operation to allow early weight bearing. However, it is important to realize that the treatment of a hip fracture is not complete until the patient is rehabilitated to as near the pre-fracture functional level as soon as possible. This requires full weight bearing starting on the day after the operation, daily training in hospital with walking aids and training to manage basal activ-

ities of daily living. After return to their own home, they continue the rehabilitation process there. By performing everyday activities of daily living, as well as lighter household activities, the best motivated rehabilitation is achieved. Based on the pre-fracture functional level of the patient, including other concomitant diseases, a prognosis for rehabilitation can be made (Thorngren et al. 1993).

Different principles for operation of cervical (femoral neck) fractures are to be found around the world. It is the task of the surgeon to stabilize the fracture in such a way that full weight-bearing and walking training can commence immediately. In Scandinavia, particularly in Sweden and Norway, almost all cervical fractures are operated on with primary osteosynthesis, consisting of parallel hook pins or screws. In many countries, in Europe and in America, a primary hip arthroplasty (usually a hemi-arthroplasty) is preferred. For trochanteric fractures, most countries use some modification of a sliding screw plate. Irrespective of the type of operation, the main goal must be immediate weight bearing. Furthermore, the operation has to be performed as soon as possible (Parker and Pryor 1993).

Too few studies have described the full treatment panorama of hip fracture patients, including the functional outcome and comparisons of the cost. The costs for hip fractures are considerable (Holmberg and Thorngren 1985, 1988, Borgqvist et al. 1991b, Thorngren 1994). In Sweden, during the first year after a hip fracture, they have been calculated at around 3 billion SEK (around 420 million USD), (SBU report 1995). A national registration of the outcome after hip fractures in the elderly was started in 1988 in Sweden, called RIKSHÖFT, to compare different methods of surgery, mobilization and rehabilitation. Data concerning the hospital stay are prospectively registered and a patient inquiry gives follow-up functional parameters at 4 months after the operation. Follow-up of reoperations is done continuously (Thorngren 1993). Based on this registration, the total yearly cost during the first 4 months after a fracture was calculated at 1.3 billion SEK. In USA, the annual cost of treating hip fractures is nearly 10 billion dollars. The high number of patients with frac-

tures and the tremendous treatment cost have, during the last few years, resulted in an increased awareness of the magnitude of the hip fracture problem. Increased interest has been focused on background factors and possibilities for preventing fractures while optimizing the operative treatment and rehabilitation.

Two papers in this issue of *Acta Orthopaedica Scandinavica* (Strömberg et al. pp 6-12, and Zethraeus et al. pp 13-17) give recent data about the full treatment spectrum of the patients, as well as the cost. They focus on the importance of following all types of treatment after the hip fracture until complete rehabilitation of the patient. Only by going to sources in the community was the full cost effect of a rehabilitation reform in Sweden revealed. By using only ordinary official registers for the calculation, large costs were hidden, giving the false impression of a cost reduction. Instead, there was a shift of treatment days and thereby costs from the acute hospital to the community-based rehabilitation centers. This has recently also been shown in several cities in Sweden (Thorngren et al. 1994). The detailed cost calculation now presented is of importance. The most difficult cost to determine is that generated by treatment in the patient's own home after discharge from various institutions. This must be followed in detail (Borgquist et al. 1991b).

With increased knowledge about the epidemiology and treatment outcome of hip fractures, hopefully this resource-consuming group of elderly persons will get better care and, in the future, prevention. Worldwide registration of basic data, such as in the Swedish national hip fracture register, would greatly facilitate this and increase awareness of the problem (Thorngren 1993). The Swedish registration of hip fractures has made possible comparisons of various operation and rehabilitation systems (Jalovaara et al. 1992, Thorngren et al. 1994, Berglund-Rödén et al. 1994). It is important to be able to evaluate the large-scale results of everyday work in different hospitals in a country. Several orthopedic departments worldwide have begun to participate in this hip fracture register and through the European Commission a concerted action project (Standardization of hip fracture audit in Europe, SAHFE) has started as its extension. With standardized parameters, it will become possible to compare different regions and countries. Hospitals wishing to participate in these international comparisons are welcome to contact me at the address below.

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