

Incidence of elbow dislocation

Totally, 178 elbow dislocations – with and without concomitant fracture – that had occurred in the city of Malmö in the course of 12 years were studied. There was some preponderance of left-sided injury, but no significant sex difference. The dislocations were most frequent in the very young and occurred most often in conjunction with sports activities.

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Several investigators (Grözinger et al. 1963, Linscheid & Wheeler 1965, Neviasser & Wickstrom 1977) have presented the distribution of age, sex, side, and associated fractures in dislocations of the elbow joint. In none of these studies, however, was the population at risk known and therefore the incidence could not be calculated.

We calculated the age- and sex-specific incidence of dislocations of the elbow joint in the city of Malmö.

Patients and methods

In the city of Malmö virtually all fractures and dislocations are seen in the emergency room of the Department of Orthopedics. Persons that had received primary treatment outside the city were included when they attended our department for follow-up examination. Nonresidents with 21 dislocations were excluded. The diagnosis of elbow dislocation was based on clinical and/or radiographic examination; in 95/198 cases the elbow joint had been reduced before the radiographic examination.

The population of the city of Malmö (approximately 245,000 persons) has remained stable during the period of time – 1971-1982 – covered by this study. Also, the population can be defined with respect to age and sex on the basis of the annual census data.

Results

The total number of dislocations during the 12 years was 178 and the median age at the time of the injury 30 (7-96) years (Figure 1). The ratio men/women was 93/85. One hundred and four dislocations were left-sided and 74 right-sided. Totally, 112 dislocations were dorsal or dorsoradial, 9 were radial, 1 anterior, and 56 were not specified.

Annual incidence per 100 000

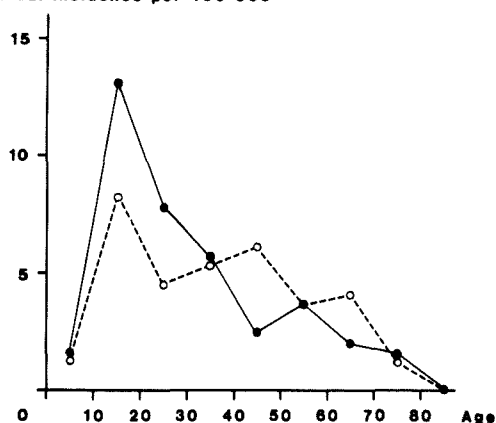


Figure 1. Age- and sex-specific incidence of elbow dislocations in Malmö: ●—● men, ○---○ women.

A fall at the same level was the cause of dislocation in 51 persons, with a median age of 52 years. A fall from a higher level or at the same level with additional impact energy had occurred in 127 persons, with a median age of 22 years.

Sports accidents were frequent; three quarters of the dislocations in patients aged under 30 years occurred during sports activities (Table 1). Forty-seven of the dislocations had

Table 1. The distribution of elbow dislocations according to circumstances and age at injury.

	N	Median age (range)
Sport	56	16 (9-45)
Playing	20	13 (7-49)
Traffic	18	24 (10-76)
Other known	57	44 (9-72)
Unknown	27	50 (17-96)
Total	178	30 (7-96)

Table 2. Distribution of 56 elbow fractures in 47 dislocated elbows combined with fracture.

	N	Median age (range)
Medial epicondyle	22	13 (9-76)
Lateral epicondyle	5	37 (12-58)
Radial head	17	33 (20-76)
Coronoid process	6	68 (37-76)
Capitellum	4	51 (10-68)
Olecranon	2	27 (21-32)
Total	56	32 (9-76)

associated fractures; usually one but sometimes four (Table 2). Fracture of the elbow in conjunction with dislocation was most common in children and in the elderly. There was no significant seasonal variation.

Discussion

The structure of the Malmö health care system provides a captive population from which very few cases can escape. Therefore, the data are as complete as can possibly be attained. Because there are no other data on the incidence of elbow dislocations, only limited comparisons may be made with other studies. Approximate frequencies are, however, similar in several other studies – elbow dislocation is predominantly an injury in the young (Grözinger et al. 1963, Linschied & Wheeler 1965, Roberts 1969, Neviasser & Wickstrom 1977). Also, left-sided dislocation has been observed more frequently (Linscheid & Wheeler 1965, Roberts 1969, Neviasser & Wickstrom 1977). The proportion of dislocations with concomitant fractures is larger in many studies (Grözinger et al. 1963, Linscheid & Wheeler 1965, Roberts 1969, Mouterede et al. 1975, & Neviasser Wick-

strom 1977). However, the age distribution of the population at risk may be the explanation of these differences.

In our study, the high frequency of concomitant fracture in the very young is in agreement with the pattern in several other fractures (Landin 1983). The decreasing frequency may simply reflect changes in behavior – less severe trauma with increasing age, whereas the increase from middle age on is similar to the fracture pattern in the forearm and the upper end of the humerus (Alffram & Bauer 1962, Horak & Nilsson 1975).

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