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Occupational and individual risk factors for shoulder-neck complaints: Part II – The scientific basis (literature review) for the guide

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1. Problem description

Disorders in the neck and upper limbs were pointed out as an occupational disease as early as the beginning of the 18th century (Ramazzini, 1713). In the 1950's the complaints were recognized as an increasing problem in Japan, but it was only discussed in relevant orthopedic diagnoses; little attention was paid to a possible work-related pathogenesis. In 1973 a committee under the Japanese Association of Industrial Health proposed to call the syndrome 'Occupational Cervicobrachial Disorder' (OCD), which now has become a widely used expression. In addition, 'Repetitive Strain Injury' (RSI), 'Cumulative Trauma Disorder' (CTD) and 'Upper Limb Disorder' (ULD) are commonly used terms in Australia, US and England respectively.

However, not until the 1970's were these complaints emphasized in the international scientific literature as potentially work-related (e.g. Ferguson, 1971). In 1979 a whole issue of the *Scandinavian Journal of Work, Environment & Health* dealt with the problem of OCD (1979). At the beginning of the 1980's OCD gained further international attention by the 'International workshop on occupational neck and upper limb disorder due to constrained work' in Japan (Aoyama et al., 1982). Since then the scientific literature has increased dramatically; for references see the fol-

lowing review papers: Hagberg, 1987; Wallace and Buckle, 1987; Gleerup Madsen, 1990; Stock, 1991.

Reports from all over the world describe complaints in the locomotor system as a dominating health problem in working life (e.g. Grazier et al., 1984; National Occupational Health and Safety Commission, Australia, 1986; Rasmussen et al., 1988; Statistics Sweden, 1991; Socialstyrelsen redivisar, 1987). Despite the widespread documentation of the international importance of OCD in terms of prevalence and economy, its etiology still remains highly controversial. Thus, Hadler (1990) recently stated that "... science is having difficulty demonstrating the damage that is to be feared according to the CTD concept". There are several reasons for the confusion in the scientific literature; one is the lack of pathophysiological explanations linking exposure to disorder in the locomotor system; another may be the low quality of most studies (e.g. Hadler, 1989).

However, in a meta-analysis of previous published studies Hagberg and Wegman (1987) calculated aetiological fractions (proportion of exposed cases attributable to exposure) of 0.5–0.9 for shoulder-neck disorders in a variety of jobs. This suggests that ergonomic interventions often may be effective. In contrast, a prevalent viewpoint in many countries is that musculoskeletal disorders are mainly 'epidemic hysteria' (Sirois, 1974) and 'mass psychogenic illness in organizations' (Colligan and Murphy, 1979). (For further references see Molin and Nilsson, 1990).

OCD comprises the shoulder-neck as well as the arm/hand. The prevalent occupational expo-

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