

*A Leclerc et al. Scandinavian Journal of Work, Environment and Health. August (2001) Vol.27 #4 p 268.*

A longitudinal study of a proposed association between exposure to repetitious work and, injury outcomes.

598 workers took part in the study. Inclusion criterion = repetitive work. Occupational variables included: postures and biomechanics and were assessed by recording specific actions e.g. screwing. Job control, overload, social support, job satisfaction were recorded at the outset of the study.

Each worker was examined by an experienced occupational physician for any of an extensive list of upper limb disorders including carpal tunnel syndrome (CTS), lateral epicondylitis (LE) and wrist tendinitis (WT).

3 year follow-up period, to detect any change in injury status.

Personal variables included: gender, age, duration at post, smoking, body mass index (BMI), change of weight, somatic symptoms (sleep disorder etc), depressive symptoms were recorded at the outset.

22% had CTS at the outset. Of the 467 without, 57 (12%) got it for the first time during the study.

12 % had LE at the outset; 12% got it for the first time during the 3 years.

11% had WT at the outset and 5% got it for the first time during the study.

There was no report of the numbers who were initially diagnosed and later found to be injury free at the follow-up time (i.e. had recovered).

Those who were diagnosed at baseline were then excluded from analysis of prospective risk factors.

Typical symptoms (not diagnoses) were associated with physical causes, only the statistically significant ones are reported here:

#### *Carpal Tunnel Syndrome Symptoms*

Male "tighten with force" OR = 4.09 (95% CI = 1.43 to 11.7)

Male "Hold in position" OR = 3.59 (95% CI = 1.06 to 12.1)

Female "increased BMI" OR = 2.38 (95% CI = 1.04 to 5.47)

#### *Lateral Epicondylitis Symptoms*

age  $\geq$  40 OR = 3.4 ( 95% CI = 1.24 to 9.32)

equal to, or more than 3 other diagnoses OR = 2.94 (95% CI = 1.33 to 6.52)

"turn and screw" OR = 2.07 (95% CI = 1.16 to 3.7)

#### *Tendinitis Symptoms*

"wrist somatic problems" OR = 3.78 (95% CI = 1.63 to 8.75)

Psychosocial factors were not significant in final model of symptoms.

However when using real diagnoses; the OR for female CTS = 2.87 (95% CI = 1.13 to 7.29) for low job satisfaction.

In general, associations between all physical and psychosocial factors and outcomes were weakened when limited to cases of diagnosed injury.

#### Comment

The rate of conversion from "typical symptoms" to firm diagnosis over three years, is low.

Associations between typical symptoms and diagnoses and, work types, are not convincing (very wide confidence limits).

This was a relatively powerful study. To some extent it counts against the view that increasing comfort will be protective against diagnosable injury. The value of ergonomic interventions in increasing comfort should not be underplayed, but the relationship between these interventions and the duty of care remains unclear.

