

**Maghsoudipour M, Moghimi S, et al. Association of Occupational and Non-occupational Risk Factor with the Prevalence of Work-Related Carpal Tunnel Syndrome. J Occup Rehabil 2008;18:152-156.**

Design: Cross-sectional study

Population/sample size/setting:

- 395 workers (304 men, 91 women, mean age 28) in three automobile factories in Iran, selected randomly from more than 34,000 auto workers

Main outcome measures

- All subjects had a history and physical examination of the upper extremities by a physician
- All subjects completed a questionnaire about occupational and non-occupational risk factors for CTS
- Workers who had suspicious histories, Katz hand diagrams, and physical examinations underwent nerve conduction testing for median motor nerve latency and median-ulnar sensory latency difference; 47 workers were diagnosed with CTS
- There were some large unadjusted odds ratios for variables associated with CTS: male sex (OR=7.73); force exertion >1 kg (OR=13.31); cigarette smoking (OR=7.29); rapid hand movement (OR=3.17); wrist bending/twisting (OR=18.62); and vibrating tool use (OR=6.74)
- The odds ratios were appreciably different in a logistic regression model in which the risk factors were adjusted for one another; the OR for male sex was 0.27; force exertion >1 kg (OR=6.38); cigarette smoking (OR=4.68); rapid hand movement (OR=4.44); wrist bending (OR=5.62); and vibrating tool use (OR=3.23); only force exertion, rapid hand movement, and vibrating tool use were statistically significant
- BMI, rheumatologic disease, and endocrine disease were not associated with CTS

Authors' conclusions:

- Force, high speed manual work, and vibrating tool use are associated with CTS
- Male workers may engage in more risky occupations than women, accounting for the gender association in the unadjusted data

Comments:

- Very large differences between odds ratios in unadjusted and multivariable adjusted models point to some strong confounding, probably by gender
- This association would not need to be a matter of speculation of the gender associations with the work exposures were reported in a separate table
- The industrial plant setting makes it likely that 6 hours of work exposure were common in the study population

- Even when adjusted for one another, the exposure odds ratios for force and hand bending are larger than are commonly seen in other studies

Assessment: Adequate for association of CTS with force, rapid hand movement, and vibrating tool use