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25<sup>th</sup>

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**September 4-7, 2016**

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**BOOK OF  
ABSTRACTS**

## THE RELATIONSHIP BETWEEN MEDIAN NERVE LATENCY, PAIN AND WORK disability FROM CARPAL TUNNEL SYNDROME

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**Background.** Carpal tunnel syndrome (CTS) is an important occupational health problem because its frequency and severity lead to more disability than most other upper extremity disorders and is an important driver of overall workers compensation costs (US Bureau of Labor & Statistics 2010; Foley 2007). Identifying individuals at risk for increased severity is an important aspect of secondary prevention programs. This analysis examined the relationship between median nerve latency, pain and work disability from CTS in a pooled prospective cohort.

**Methods.** 4321 workers were evaluated and followed up to 7 years with repeated symptom surveys and nerve conduction studies to identify prevalent and incident cases of CTS (N=318). CTS case criteria included symptoms in a median nerve distribution of the digits (1-3) and an abnormal electrodiagnostic study. Among those with CTS, work disability was defined as symptom driven: (1) change in work pace/quality, (2) lost time, or (3) job change, derived from SF12 and quickDASH questionnaires. Adjusted hazard ratios were estimated using Cox proportional hazards models.

**Results.** Of the 318 workers with prevalent or incident CTS, 57.5%(N=183) reported a work disability. The most common disability was a change in work pace/quality(n=124), followed by job change(n=71), and lost-time(n=56). Median sensory latency(HRupper=1.83; 95%CI:1.06-3.16) and pain(HRupper=1.64; 95%CI:1.03-2.62) were associated with increased changes in work pace/quality but were not associated with lost time or job change due to hand symptoms. Median motor latency at the time of diagnosis was not associated with any measures of CTS related work disability.

**Discussion.** These results indicate that median sensory latency and hand/wrist pain were associated with increased change in work pace/quality from CTS, but were not associated with other more severe measures of work disability such as lost time or job change.