

## Correction: *Incident CTS in a large pooled cohort study: associations obtained by a Job Exposure Matrix versus associations obtained from observed exposures*

Dale AM, Ekenge CC, Buckner-Petty S, *et al.* Incident CTS in a large pooled cohort study: associations obtained by a Job Exposure Matrix versus associations obtained from observed exposures. *Occup Environ Med* 2018;75:501–6.

There are incorrect values reported in the results section, and in tables 2 and 3 of this paper. The corrected values are slight and do not affect the implications of the results in the study. Below are the specific corrections to the text as well as the corrected tables.

### DISTRIBUTION OF PHYSICAL EXPOSURES

Table 2 shows the distribution of time-weighted exposures among study participants. The median for the O\*NET-derived strength variables indicated modest levels of job requirement for *dynamic strength* (median = 2.12; Interquartile range (IQR) = 0.37 on a 0–7 point scale) with an anchor of “use pruning shears to trim a bush” and *static strength* (median = 2.50; IQR = 0.50 on a 0–7 point scale) with a score of 1 meaning “push an empty shopping cart” and 4 meaning “pull a 40-pound [18.2 kg] sack of fertilizer across the lawn.” The median value for *time spent making repetitive motions* was 4.14 (IQR = 1.07 on a 0–5 point scale), equivalent to “more than half of the time”. The median value for *handling and moving objects* was similar to “load boxes on an assembly line” (median = 5.47; IQR = 0.50 on a 0–7 point scale), and the median value for *time spent using your hands to handle, control, or feel objects* was 4.66 (IQR = 0.70 on a 1–5 point scale).

Peak force values for the individually observed values were measured on the Borg scale (median=3.00 on a 0–10 point scale). Observed repetition was assessed by the HAL (median=4.94 on a 0–10 point scale). Forceful exertion was measured by the % forceful exertions (median=19.83) and Repetitions/Min of forceful exertions (median=5.00).

### PHYSICAL EXPOSURES AND INCIDENT CTS

Hazard ratios (HRs), 95% CIs, and standard errors (SE) for incident CTS are shown in table 3. For both JEM derived and observed exposures variables, continuous models showed statistically meaningful associations for all exposure variables except for observed Hand Activity Level (HAL). Dichotomous models showed HR in the range of 1.2–1.78 when using JEM exposure variables, and 1.28–1.74 when using individually observed values. The JEM variables of static strength and time spent using hands to handle and control objects did not attain statistical significance, nor did the observed values of HAL and repetitions per minute of forceful exertion. Models using tertiles of exposure showed dose effects between the upper and middle tertiles for most exposure variables. HR for the highest vs. the lowest tertile of exposure ranged from 1.30 to 1.81 for JEM exposures and 1.32–2.10 for observed values.

Table 2 Distribution of time-weighted exposures by assessment method

Type	Assessment method	Exposure	Scale	Min	Q1	Median*	Q3	Max
Force intensity	Observed	Observer peak Borg	0-10	0.00	1.75	3.00	4.00	10.00
	O*NET	Dynamic strength	0-7	0.00	1.75	2.12	2.12	3.00
	O*NET	Static strength	0-7	0.00	2.50	2.50	3.00	3.88
HAL repetition rate	Observed	Observer HAL	0-10	0.00	4.00	4.94	6.00	10.00
	O*NET	Time spent making repetitive motions	0-5	1.79	3.67	4.14	4.74	4.87
	O*NET	Time spent using your hands to handle, control, or feel objects	1-5	1.70	4.21	4.66	4.91	4.96
Forceful exertions	Observed	% forceful exertions	0-100	0.00	6.30	19.83	37.96	100.00
	Observed	Reps/Min forceful exertions	cont	0.00	1.40	5.00	12.80	95.72
	O*NET	Handling and moving objects	0-7	0.15	4.97	5.47	5.47	6.42

\*Higher scores indicates higher exposure level.  
O\*NET- Occupational Network, HAL- hand activity level, JEM- Job Exposure Matrix.

Table 3 Hazard Ratios\* (HRs), and 95% CI for incident carpal tunnel syndrome

Type	Assessment method	Exposure	HR (95% CI)			
			Continuous exposure Per 1-unit increase	Dichotomous exposure† (High vs Low)	Trichotomous exposure‡ (Medium vs Low)	
Force intensity	Observed	Observer peak Borg	1.16 (1.09 to 1.25)	1.38 (1.06 to 1.80)	2.10 (1.47 to 3.00)	1.75 (1.30 to 2.35)
	O*NET	Dynamic strength	1.60 (1.28 to 1.99)	1.64 (1.20 to 2.24)	1.71 (1.05 to 2.78)	1.53 (1.05 to 2.23)
	O*NET	Static strength	1.38 (1.17, to1.63)	1.20 (0.78 to 1.83)	1.30 (0.87 to 1.94)	1.29 (0.77 to 2.15)
Repetition	Observed	Observer HAL	1.08 (0.96, to1.22)	1.28 (0.90 to 1.83)	1.32 (0.88 to 2.00)	1.42 (0.96 to 2.11)
	O*NET	Time spent making repetitive motions	1.58 (1.24 to 2.00)	1.42 (1.02 to 1.97)	1.62 (1.12 to 2.36)	1.30 (0.84 to 2.01)
	O*NET	Time spent using your hands to handle to control, or feel objects	1.78 (1.41 to 2.24)	1.36 (0.99 to 1.87)	1.81 (1.24 to 2.64)	1.51 (1.06 to 2.13)
Forceful exertions (duration/rate)	Observed	% duration forceful exertions	1.01 (1.01 to 1.02)	1.74 (1.38 to 2.20)	1.80 (1.33 to 2.43)	1.47 (1.12 to 1.93)
	Observed	Reps/Min forceful exertions	1.02 (1.01 to 1.02)	1.38 (0.98 to 1.95)	1.90 (1.31 to 2.75)	1.15 (0.75 to 1.77)
	O*NET	Handling and moving objects	1.29 (1.13 to 1.48)	1.78 (1.37 to 2.31)	1.70 (1.17 to 2.46)	1.85 (1.38 to 2.50)

\*Cox proportional hazard regression models with robust sandwich estimators, adjusted for age, gender, body mass index, and study site.

†Exposures are dichotomized at the median.

‡Exposures are trichotomized at 33rd and 67th percentiles.

JEM, Job Exposure Matrix; O\*NET, Occupational Network; HAL, Hand activity level; LL, lower limit; UL, upper limit.



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*Occup Environ Med* 2018;**75**:761–762. doi:10.1136/oemed-2017-104744corr1

