

**Additional file 1**

Title of paper: Occupational cold exposure and symptoms of carpal tunnel syndrome – a population-based study

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**Table 4** Gender-stratified symptom-based case definition for carpal tunnel syndrome

<b>Variable</b>	<b>Male</b> N (%)	<b>Female</b> N (%)
Having tingling or numbness in the thumb, index and middle finger	291 (12.8%)	367 (13.8%)
Having nocturnal numbness in the hands	328 (14.4%)	560 (21.0%)
Positive answers to both items above (case definition)	180 (8.0%)	273 (10.3%)

**Table 5** Gender-stratified logistic regression for occupational cold exposure in relation to reporting symptoms of carpal tunnel syndrome

Gender	Exposure variable	Exposure level (Proportion of working hours)	Carpal tunnel syndrome N (%)	References	Simple analyses	Multiple analyses <sup>a</sup>
				N (%)	Crude OR (95% CI)	Adjusted OR (95% CI)
Male	Contact cooling	Never	65 (40.6)	1,151 (61.2)	Reference	Reference
		One tenth	43 (26.9)	440 (23.4)	<b>1.73 (1.16–2.58)</b>	1.28 (0.81–2.03)
		One quarter	20 (12.5)	140 (7.4)	<b>2.53 (1.49–4.30)</b>	1.66 (0.90–3.07)
		Half	10 (6.3)	67 (3.6)	<b>2.64 (1.30–5.38)</b>	1.89 (0.86–4.14)
		Three quarters	12 (7.5)	51 (2.7)	<b>4.17 (2.12–8.20)</b>	<b>2.63 (1.22–5.64)</b>
		Almost always	10 (6.3)	31 (1.6)	<b>5.71 (2.68–12.16)</b>	<b>3.86 (1.69–8.82)</b>
		Ambient cooling	Never	59 (36.9)	961 (51.3)	Reference
	One tenth	42 (26.3)	471 (25.1)	1.45 (0.96–2.19)	1.12 (0.71–1.77)	
	One quarter	26 (16.3)	205 (10.9)	<b>2.07 (1.27–3.36)</b>	1.44 (0.83–2.49)	
	Half	11 (6.9)	131 (7.0)	1.37 (0.70–2.67)	0.94 (0.45–1.94)	
	Three quarters	12 (7.5)	51 (2.7)	<b>3.83 (1.94–7.58)</b>	<b>2.70 (1.29–5.69)</b>	
	Almost always	10 (6.3)	55 (2.9)	<b>2.96 (1.44–6.10)</b>	1.90 (0.86–4.20)	
	Severe ambient cooling	Never	59 (37.1)	1,092 (58.2)	Reference	Reference
	One tenth	44 (27.7)	493 (26.3)	<b>1.65 (1.10–2.48)</b>	1.39 (0.89–2.17)	
	One quarter	23 (14.5)	137 (7.3)	<b>3.11 (1.86–5.19)</b>	<b>2.23 (1.26–3.96)</b>	
	Half	15 (9.4)	83 (4.4)	<b>3.35 (1.82–6.15)</b>	<b>2.34 (1.19–4.63)</b>	
	Three quarters	8 (5.0)	43 (2.3)	<b>3.44 (1.55–7.66)</b>	<b>2.53 (1.08–5.97)</b>	
	Almost always	10 (6.3)	29 (1.5)	<b>6.38 (2.97–13.72)</b>	<b>4.55 (1.99–10.39)</b>	
Female	Contact cooling	Never	189 (78.4)	1,718 (85.8)	Reference	Reference
		One tenth	31 (12.9)	205 (10.2)	1.38 (0.92–2.06)	1.13 (0.73–1.76)
		One quarter	8 (3.3)	42 (2.1)	1.73 (0.80–3.74)	1.60 (0.71–3.60)
		Half	6 (2.5)	15 (0.7)	<b>3.64 (1.39–9.48)</b>	2.30 (0.78–6.82)
		Three quarters	3 (1.2)	11 (0.5)	2.48 (0.69–8.97)	2.09 (0.53–8.23)
		Almost always	4 (1.7)	11 (0.5)	<b>3.31 (1.04–10.48)</b>	2.19 (0.57–8.37)
		Ambient cooling	Never	168 (68.9)	1,509 (75.1)	Reference
	One tenth	40 (16.4)	295 (14.7)	1.22 (0.84–1.76)	1.14 (0.76–1.69)	
	One quarter	22 (9.0)	124 (6.2)	1.59 (0.99–2.58)	<b>1.78 (1.07–2.96)</b>	
	Half	10 (4.1)	56 (2.8)	1.60 (0.80–3.20)	1.44 (0.68–3.08)	
	Three quarters	1 (0.4)	17 (0.8)	0.53 (0.07–4.00)	0.55 (0.07–4.25)	
	Almost always	3 (1.2)	9 (0.4)	2.99 (0.80–11.17)	2.25 (0.57–8.93)	
	Severe ambient cooling	Never	172 (70.8)	1,631 (81.4)	Reference	Reference
	One tenth	37 (15.2)	247 (12.3)	1.42 (0.97–2.08)	1.35 (0.90–2.03)	
	One quarter	18 (7.4)	61 (3.0)	<b>2.80 (1.62–4.84)</b>	<b>2.98 (1.68–5.26)</b>	
	Half	7 (2.9)	36 (1.8)	1.84 (0.81–4.21)	1.58 (0.63–3.96)	
	Three quarters	2 (0.8)	14 (0.7)	1.36 (0.31–6.01)	1.33 (0.29–6.02)	
	Almost always	7 (2.9)	14 (0.7)	<b>4.74 (1.89–11.91)</b>	<b>3.27 (1.05–10.16)</b>	

OR odds ratio, NRS numerical rating scale, 95% CI ninety-five percent confidence interval

<sup>a</sup> Adjusted for age, gender, body mass index, current daily smoking, diabetes mellitus, joint disease, and hand-arm vibration exposure

Bold values are significant at the 0.05 level

**Table 6** Interaction between occupational cold and hand-arm vibration exposures in relation to symptoms of carpal tunnel syndrome

<b>Exposure variables</b>		<b>Carpal tunnel syndrome/Total</b>	<b>Simple analyses</b>	<b>Multiple analyses <sup>a</sup></b>	<b>Relative excess risk</b>
Proportion of working hours		N	OR (95% CI)	OR (95% CI)	<b>due to interaction <sup>b</sup></b>
<u>Contact cooling</u>	<u>Hand-arm vibration</u>				
Never	Never	230/2,970	Reference	Reference	
Never	Every day	0/10	1.0 (-)	1.0 (-)	
Half the time or more	Never	8/53	2.09 (0.97–4.48)	1.51 (0.64–3.54)	
Half the time or more	Every day	7/27	<b>4.33 (1.80–10.40)</b>	<b>4.93 (1.76–13.83)</b>	3.42
<u>Ambient cooling</u>	<u>Hand-arm vibration</u>				
Never	Never	198/2,559	Reference	Reference	
Never	Every day	1/13	0.98 (0.13–7.56)	1.35 (0.16–10.99)	
Half the time or more	Never	11/147	0.95 (0.51–1.78)	0.86 (0.43–1.69)	
Half the time or more	Every day	5/24	<b>3.26 (1.20–8.87)</b>	<b>3.90 (1.29–11.82)</b>	2.69
<u>Severe ambient cooling</u>	<u>Hand-arm vibration</u>				
Never	Never	191/2,610	Reference	Reference	
Never	Every day	1/9	1.56 (0.19–12.52)	2.13 (0.22–20.78)	
Half the time or more	Never	21/172	<b>1.77 (1.09–2.86)</b>	1.65 (0.96–2.84)	
Half the time or more	Every day	3/9	<b>6.23 (1.55–25.12)</b>	<b>9.36 (2.11–41.47)</b>	6.58

<sup>a</sup> Adjusted for age, gender, body mass index, current daily smoking, diabetes mellitus, joint disease, and heavy manual handling

<sup>b</sup> Calculated based on odds ratios from multiple analyses, where a value >0 indicate a positive additive interaction effect

Bold values are significant at the 0.05 level