Attributable risk of carpal tunnel syndrome according to industry and occupation in a general population.

Yves Roquelaure, Catherine Ha, Guillaume Nicolas, Marie-Christine Pélié-Cady, Camille Mariot, Alexis Descatha, Annette Leclerc, Guy Raimbeau, Marcel Goldberg, Ellen Imbernon

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<table>
<thead>
<tr>
<th>Age (yrs)</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Incidence*</td>
</tr>
<tr>
<td>20-24</td>
<td>20</td>
<td>0.24</td>
</tr>
<tr>
<td>25-29</td>
<td>38</td>
<td>0.50</td>
</tr>
<tr>
<td>30-34</td>
<td>68</td>
<td>0.91</td>
</tr>
<tr>
<td>35-39</td>
<td>111</td>
<td>1.42</td>
</tr>
<tr>
<td>40-44</td>
<td>124</td>
<td>1.60</td>
</tr>
<tr>
<td>45-49</td>
<td>142</td>
<td>1.86</td>
</tr>
<tr>
<td>50-54</td>
<td>174</td>
<td>2.47</td>
</tr>
<tr>
<td>55-59</td>
<td>138</td>
<td>2.90</td>
</tr>
<tr>
<td>Altogether</td>
<td>815</td>
<td>1.40</td>
</tr>
</tbody>
</table>

* Data represent number (n) and mean population-based annual incidence rate of CTS per 1,000 person-years.

** incidence computed with the 815 females and 320 males having completed the questionnaire.
<table>
<thead>
<tr>
<th>Industry (NAC code)</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture (NAC 1)</td>
<td>4.0</td>
<td>8.5</td>
</tr>
<tr>
<td>Stone and sand quarrying (NAC 14)</td>
<td>0.0</td>
<td>0.3</td>
</tr>
<tr>
<td>Manufacture of food products and beverages (NAC 15)</td>
<td>2.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Manufacture of leather and rubber products (NAC 17-18)</td>
<td>1.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Manufacture of wood and products of wood (except furniture) (NAC 20)</td>
<td>0.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Manufacture of pulp, paper and products (NAC 21)</td>
<td>0.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Publishing, printing and reproduction of recorded media (NAC 22)</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Manufacture of rubber and plastic products (NAC 25)</td>
<td>0.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Manufacture of basic metals and fabricated metal products (NAC 27-28)</td>
<td>0.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Manufacture of machinery and equipment (NAC 29-30)</td>
<td>0.5</td>
<td>2.7</td>
</tr>
<tr>
<td>M. of electrical, radio, television, medical, precision instruments (NAC 31-33)</td>
<td>1.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Manufacture of transport equipment (NAC 34)</td>
<td>0.3</td>
<td>0.9</td>
</tr>
<tr>
<td>Manufacture of furniture (NAC 36)</td>
<td>0.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Electricity, gas and water supply (NAC 40-41)</td>
<td>0.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Construction (NAC 45)</td>
<td>0.7</td>
<td>8.2</td>
</tr>
<tr>
<td>Sale, maintenance and repair of motor vehicles (NAC 50)</td>
<td>0.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Wholesale trade and commission trade (NAC 51)</td>
<td>1.8</td>
<td>4.4</td>
</tr>
<tr>
<td>Retail trade (NAC 52)</td>
<td>5.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Hotels and restaurants (NAC 55)</td>
<td>2.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Transport and storage and communication (NAC 60-63)</td>
<td>0.6</td>
<td>3.2</td>
</tr>
<tr>
<td>Communication (NAC 64)</td>
<td>0.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Insurance and pension funds, financial intermediation (NAC 65-66)</td>
<td>1.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Real estate activities (NAC 70)</td>
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<td>0.7</td>
</tr>
<tr>
<td>Labour recruitment, provision of personnel, industrial cleaning (NAC 74)</td>
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<td>5.8</td>
</tr>
<tr>
<td>Public administration and defence, compulsory social security (NAC 75)</td>
<td>5.6</td>
<td>5.6</td>
</tr>
<tr>
<td>Education (NAC 80)</td>
<td>7.5</td>
<td>4.1</td>
</tr>
<tr>
<td>Human health and social activities (NAC 85)</td>
<td>33.3</td>
<td>3.6</td>
</tr>
<tr>
<td>Recreational, cultural and sporting activities (NAC 92)</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Personal service activities (NAC 93)</td>
<td>1.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Private households with employed persons (NAC 95)</td>
<td>1.5</td>
<td>0.0</td>
</tr>
</tbody>
</table>

# Persons employed during the last five years (315 women, 310 men); P (\%) percentage of the general population of the region in this occupation; N (%) number and percentage of CTS incident cases; CI95%: 95% confidence interval; Reference group: whole sample of subjects professionally active or not during the last 5 years. RR and AFE measures were computed when at least five cases were diagnosed. RR was computed when at least five cases were diagnosed. Rows not presented forestry, manufacture of tobacco products, recycling, sanitation, supporting and auxiliary transport activities, renting of machinery and equipment without operator, computer and related activities, research and development, activities of membership organizations. Unspecified sector: 7 for women (1.0%) and 5 for men (1.6%).
<table>
<thead>
<tr>
<th>Occupation (PCS code)</th>
<th>WOMEN</th>
<th></th>
<th></th>
<th>MEN</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers (PCS 11-13)</td>
<td>1.9</td>
<td>19 (2.6)</td>
<td>1.0 (0.6-1.5)</td>
<td>-</td>
<td>4.8</td>
</tr>
<tr>
<td>Craftsmen, salesmen, small self employers (PCS 21,22,23,3,1)</td>
<td>2.8</td>
<td>12 (1.6)</td>
<td>0.5 (0.3-0.9)</td>
<td>-</td>
<td>7.4</td>
</tr>
<tr>
<td>Professionals (administrative, managerial &amp; technical occupations) (PCS 33-38)</td>
<td>3.8</td>
<td>21 (2.9)</td>
<td>0.8 (0.5-1.2)</td>
<td>-</td>
<td>8.0</td>
</tr>
<tr>
<td>Teaching associate professionals (PCS 42)</td>
<td>3.6</td>
<td>8 (1.1)</td>
<td>0.3 (0.2-0.7)</td>
<td>-</td>
<td>2.0</td>
</tr>
<tr>
<td>Intermediate occupations (caring, health and social activities) (PCS 43)</td>
<td>4.3</td>
<td>29 (3.9)</td>
<td>1.1 (0.7-1.5)</td>
<td>-</td>
<td>1.3</td>
</tr>
<tr>
<td>Administrative intermediate occupations of public companies (PCS 45)</td>
<td>1.1</td>
<td>6 (0.8)</td>
<td>0.8 (0.4-1.8)</td>
<td>-</td>
<td>1.1</td>
</tr>
<tr>
<td>Administrative intermediate occupations of private companies (PCS 46)</td>
<td>4.1</td>
<td>17 (2.3)</td>
<td>0.8 (0.5-1.2)</td>
<td>-</td>
<td>4.8</td>
</tr>
<tr>
<td>Technicians and associate professionals (PCS 47)</td>
<td>0.7</td>
<td>1 (0.1)</td>
<td>-</td>
<td>-</td>
<td>4.7</td>
</tr>
<tr>
<td>Supervisors (PCS 48)</td>
<td>0.3</td>
<td>2 (0.3)</td>
<td>-</td>
<td>-</td>
<td>2.8</td>
</tr>
<tr>
<td>Government and public service employees (PCS 52)</td>
<td>1.0</td>
<td>141 (19.2)</td>
<td>1.7 (1.4-2.1)</td>
<td>42.5</td>
<td>30 (9.52.1)</td>
</tr>
<tr>
<td>Police and armed forces (PCS 53)</td>
<td>0.2</td>
<td>1 (0.1)</td>
<td>-</td>
<td>-</td>
<td>1.7</td>
</tr>
<tr>
<td>Employees of corporate administrative services (PCS54)</td>
<td>8.5</td>
<td>65 (8.8)</td>
<td>1.2 (1.0-1.6)</td>
<td>-</td>
<td>1.6</td>
</tr>
<tr>
<td>Trade and commerce employees (PCS 55)</td>
<td>3.7</td>
<td>61 (8.3)</td>
<td>3.0 (2.3-4.0)</td>
<td>62.0</td>
<td>57 (1-7.47)</td>
</tr>
<tr>
<td>Personal services employees (PCS 56)</td>
<td>7.5</td>
<td>117 (15.9)</td>
<td>1.9 (1.5-2.3)</td>
<td>46.6</td>
<td>35 (0.56.2)</td>
</tr>
<tr>
<td>Skilled industrial blue-collar workers (PCS 62)</td>
<td>2.7</td>
<td>13 (1.9)</td>
<td>0.8 (0.4-1.3)</td>
<td>-</td>
<td>8.4</td>
</tr>
<tr>
<td>Skilled dipl blue-collar workers (PCS 63)</td>
<td>0.7</td>
<td>7 (1.0)</td>
<td>2.5 (1.2-5.4)</td>
<td>60.7</td>
<td>14 (8.81.5)</td>
</tr>
<tr>
<td>Drivers (PCS 64)</td>
<td>0.2</td>
<td>3 (0.4)</td>
<td>-</td>
<td>-</td>
<td>3.5</td>
</tr>
<tr>
<td>Material handlers and related equipment workers (PCS 65)</td>
<td>0.2</td>
<td>11 (1.5)</td>
<td>8.6 (4.7-15.5)</td>
<td>88.3</td>
<td>78 (9-93.6)</td>
</tr>
<tr>
<td>Unskilled industrial blue-collar workers (PCS 67)</td>
<td>5.4</td>
<td>129 (17.6)</td>
<td>3.5 (2.9-4.2)</td>
<td>71.2</td>
<td>65 (2.7-61)</td>
</tr>
<tr>
<td>Unskilled cnd blue-collar workers (PCS 68)</td>
<td>1.5</td>
<td>23 (3.1)</td>
<td>2.0 (1.3-3.0)</td>
<td>49.6</td>
<td>23 (8.66.7)</td>
</tr>
<tr>
<td>Unskilled agricultural blue-collar workers (PCS 69)</td>
<td>1.6</td>
<td>48 (6.3)</td>
<td>4.3 (2.3-5.7)</td>
<td>76.4</td>
<td>68 (8.42.4)</td>
</tr>
</tbody>
</table>

# persons employed during the last five years (735 women, 310 men); Pe (%): percentage of the general population of the region in this occupation; N (%): number and percentage of CTS incident cases; CI 95%: 95% confidence interval; Reference group: whole sample of subjects professionally active or not during the last 5 years. RR were computed when at least five cases were diagnosed; AFE: This range was computed using the lower and higher limits of the confidence interval of the RR of CTS in the formula (1).
<table>
<thead>
<tr>
<th>Occupation category</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government and public service employees (PCS 52)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-grade government tax and excise clerks (PCS 5213)</td>
<td>0.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Government administrative secretaries (PCS 5214)</td>
<td>2.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Low-grade government clerks (PCS 5215)</td>
<td>0.4</td>
<td>0.0</td>
</tr>
<tr>
<td>School clerks and related clerks (PCS 5216)</td>
<td>1.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Public services careworkers and cleaners (PCS 5217)</td>
<td>0.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Nurses’ aides and personal care workers (PCS 5221)</td>
<td>2.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Hospital cleaners (PCS 5222)</td>
<td>2.2</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Trade and commerce employees (PCS 55)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salespersons in food shops (PCS 5512)</td>
<td>0.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Salespersons in equipment shops (PCS 5514)</td>
<td>0.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Employers of self-service stores (PCS 5516)</td>
<td>0.8</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Personal services employees (PCS 56)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waiters and bartenders (PCS 5611)</td>
<td>0.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Hairdressers (PCS 5622)</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Nursery school assistants and child care workers (PCS 5631)</td>
<td>4.2</td>
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<tr>
<td>Housekeepers (PCS 5632)</td>
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<td>0.0</td>
</tr>
<tr>
<td><strong>Skilled craft blue-collar workers (PCS 63)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gardeners, horticultural and nursery workers (PCS 6301)</td>
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<td>0.0</td>
</tr>
<tr>
<td>Bricklayers and stonemasons (PCS 6341)</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Plumbers and pipe fitters (PCS 6344)</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cooks (PCS 6354)</td>
<td>0.3</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Material handlers and related equipment workers (PCS 65)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forklift truck operators (PCS 6514)</td>
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<td>0.0</td>
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<tr>
<td>Storekeepers (PCS 6515)</td>
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<td>0.0</td>
</tr>
<tr>
<td><strong>Unskilled industrial blue-collar workers (PCS 67)</strong></td>
<td></td>
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</tr>
<tr>
<td>Electrical and electronic equipment assemblers (PCS 6711)</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Mechanical assemblers (PCS 6723)</td>
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<td>0.0</td>
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<tr>
<td>Chemicals, rubber and plastic-product assemblers (PCS 6731)</td>
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<tr>
<td>Meat and food processing machine operators (PCS 6754)</td>
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<tr>
<td>Textile product machine operators (PCS 6772)</td>
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<tr>
<td>Shoemaking- and related machine operators (PCS 6773)</td>
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<tr>
<td>Packers and related operatives (PCS 6793)</td>
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<td>0.0</td>
</tr>
<tr>
<td><strong>Unskilled craft blue-collar workers (PCS 68)</strong></td>
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<td></td>
</tr>
<tr>
<td>Building construction laborers (PCS 6841)</td>
<td>0.0</td>
<td>0.0</td>
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<tr>
<td>Construction and finishing laborers (PCS 6842)</td>
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<td>0.0</td>
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<tr>
<td>Cleaners (PCS 6891)</td>
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<td>0.0</td>
</tr>
<tr>
<td><strong>Unskilled agricultural blue-collar workers (PCS 69)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal producers and related laborers (PCS 6912)</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Gardening and horticultural laborers (PCS 6913)</td>
<td>0.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Orchard and vineyard laborers (PCS 6914)</td>
<td>0.3</td>
<td>0.0</td>
</tr>
</tbody>
</table>

# Persons employed during the last five years (735 women, 310 men); Pe (%): percentage of the general population of the region in this occupation; N (%): number and percentage of CTS incident cases; CI95 %: 95% confidence interval; Reference group: whole sample of subjects, professionally active or not during the last 5 years. RR were computed when at least five cases were diagnosed (i.e.: this range was computed using the lower and higher limits of the confidence interval of the RR of CTS in the formula (i)).