

**Table 2a: Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region                           | Country                    | Author(s) of published data | Observation period | Incidence per million population per year  | Neurological level of injury |              |
|----------------------------------|----------------------------|-----------------------------|--------------------|--|------------------------------|--------------|
|                                  |                            |                             |                    |  | Tetraplegia %                | Paraplegia % |
| <b>Asia Pacific, High Income</b> |                            |                             |                    |  |                              |              |
|                                  | Japan                      | Shingu <sup>1</sup>         | 1990–1992          | 40.2<br>(Estimated number 9,752; Males, n=7,843, Females, n=1909)  | 75%                          | 25%          |
|                                  | Japan (Okayama Prefecture) | Ide <sup>2</sup>            | 1988-1989          | 28.6 (n=55; Males, n=45, Females, n=10)  | 69%                          | 31%          |
| <b>Asia, East</b>                |                            |                             |                    |  |                              |              |
|                                  | China                      | Zhao <sup>3</sup>           | 1983 and 1985      | n/r*   | 31.4%-38.9%                  | 68.6%        |
|                                  | Taiwan                     | Yeh <sup>4</sup>            | 1977-1989          | 250 cases annually**<br>(total cases n=1,617 ; Males, n=1,295, Females n=322)  | 41.3%                        | 58.7%        |
|                                  | Taiwan                     | Chen <sup>5</sup>           | 1992–1996          | 18.8 (n=1,232 ; Males, n=958, Females, n=274)  | 42.8                         | 57.2%        |
|                                  | Taiwan                     | Chen <sup>5</sup>           | 1992–1996          | 47.5 (Geriatric population, n=297 ; Males, n=186, Females, n=111)  | 54.1%                        | 45.3%        |
|                                  | Taiwan                     | Yang <sup>6</sup>           | 2000-2003          | 73.0 (n=6455) ; Males, n=3058, Females*, n=3397)<br>*ICD9 806.X (Fractured vertebra with SCI and assuming male to female ratio 0.9 | n/r                          | n/r          |
|                                  | Taiwan (Taipei)            | Chen <sup>7</sup>           | 1978-1981          | 14.6 (n=560 ; Males, n=465, Females, n=95)   | 47%                          | 53%          |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region                 | Country                 | Author(s) of published data | Observation period | Incidence per million population per year  | Neurological level of injury |              |
|------------------------|-------------------------|-----------------------------|--------------------|--|------------------------------|--------------|
|                        |                         |                             |                    |  | Tetraplegia %                | Paraplegia % |
|                        | Taiwan (Hualien County) | Lan <sup>8</sup>            | 1986-1990          | 56.1(n=99 ; Males, n=79, Females, n=20)  | 69.7%                        | 30.3%        |
| <b>Asia, South</b>     | Bangladesh              | Hoque <sup>9</sup>          | 1994-1995          | n/r (n=179; Males, n=158, Females, n=21)   | 40%                          | 60%          |
|                        | Nepal                   | Mukhida <sup>10</sup>       | 2001-2004          | 5 cases annually (Estimate, ages <19 years)(n=14 during study period ; Males, n=9, Females, n=5) | 35%                          | 65%          |
|                        | Nepal (East)            | Lakhey <sup>11</sup>        | 1997-2001          | n/r (n=233 ; Males, n=169, Females, n=64)  | 37.8%                        | 62.2%        |
|                        | Pakistan                | Raja <sup>12</sup>          | 1995-1999          | 5.1* (n=2,654 ; Males, n=1,922, Females, n=732) *  | 68%                          | 32%          |
|                        | Pakistan                | Masood <sup>13</sup>        | 2003-2007          | n/r (n=214 ; Males, n=189, Females, n=25)  | 47.2%                        | 52.8%        |
|                        | Pakistan                | Rathore <sup>14</sup>       | 2006               | n/r (n=83 ; Males, n=68, Females 15)   | 26.5%                        | 71.1%        |
| <b>Asia, Southeast</b> | Thailand (Chiang Mai)   | Kovindha <sup>15</sup>      | 1985-1991          | 23 (n=398; Males, n=365, Females, n=33)  | 53%                          | 47%          |
|                        | Thailand (Bangkok)      | Parajareya <sup>16</sup>    | 1989-1994          | 5.8 (Estimate based on 1992 population of 6,250,000; n=219; Males, n=186, Females, n=33)         | 50.2%                        | 49.8%        |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region                 | Country                | Author(s) of published data | Observation period | Incidence per million population per year   | Neurological level of injury |              |
|------------------------|------------------------|-----------------------------|--------------------|---|------------------------------|--------------|
|                        |                        |                             |                    |   | Tetraplegia %                | Paraplegia % |
|                        | Viet Nam               | Weerts <sup>17, 18</sup>    | 2006-2007          | 13.9 (Estimate based on 2008 population of 86,116,560; n=247)   | n/r                          | n/r          |
| <b>Australasia</b>     |                        |                             |                    |   |                              |              |
|                        | Australia              | O'Connor <sup>19</sup>      | 1998-1999          | 14.5 (Age-standardised, n=265; Males, n=201, Females, n=64)   | 57%                          | 43%          |
|                        | Australia              | Cripps <sup>20</sup>        | 2006-2007          | 14.9 (Age-standardised, n=272; Males, n=226, Females, n=46)   | 50%                          | 50%          |
|                        | Australia (Victoria)   | Cheshire <sup>21</sup>      | 1959-1966          | 11.6 (Based on Victorian population of 4 million ; n=390 ; Males, n=328, Females, n=62)                                 | 53%                          | 47%          |
|                        | Australia (Queensland) | Sutton <sup>22</sup>        | 1962-1971          | 16.6 (cases >9 years of age ; estimated incidence based on 1.75 million population, n=232 ; Males, n=202, Females n=30) | 55%                          | 45%          |
|                        | Australia (Victoria)   | Burke <sup>23</sup>         | 1978-1982          | 325 cases during reporting period, Males, n=254, Females, n=71  | 51.8%                        | 48.2%        |
|                        | New Zealand            | Dixon <sup>24</sup>         | 1988               | 49.1 (n=164 ; Males, n=120, Females, n=44)  | 52%                          | 48%          |
| <b>Europe, Central</b> |                        |                             |                    |   |                              |              |
|                        | Poland (Poznan)        | Jankowski <sup>25</sup>     | 1979-1992          | n/r (n=511 ; Males, n=449, Females, n=62)   | 50.3%                        | 49.7%        |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region          | Country                   | Author(s) of published data    | Observation period | Incidence per million population per year  | Neurological level of injury                  |              |
|-----------------|---------------------------|--------------------------------|--------------------|--|---|--------------|
|                 |                           |                                |                    |  | Tetraplegia %                                 | Paraplegia % |
| Europe, Eastern | Romania (Bucharest)       | Soopramanien <sup>26</sup>     | 1975-1992          | 28.5 (n=400/yr approx ; Male, n=317, Females, n=95)  | 60%   | 40%          |
|                 | Estonia                   | Sabre <sup>27</sup>            | 2003-2007          | 27.9 (n=191; Males, n=159, Females, n=32)  | 50.2%   | 49.8%        |
|                 | Russia (Novosibirsk)      | Silberstein <sup>28</sup>      | 1989-1993          | 29.7 (n=196 over period 5 yrs ; Males, n=153, Females, n=43)   | 49%   | 51%          |
| Europe, Western | Russia (Saint Petersburg) | Kondakov <sup>29</sup>         | 1994-1996          | 44 (n=105; Males, n=68, Females, n=37).  | 37% (neurological level not reported for 23%) | 33%          |
|                 | Denmark                   | Biering-Sorensen <sup>30</sup> | 1975-1984          | 9.2 (n=360 over this period ; Males, n=262, Females=98)  | 51%   | 49%          |
|                 | Finland                   | Kannus <sup>31</sup>           | 1970-1995          | 50 (Fall-related SCI in 50 years and above in 1970) ; 270 (Fall-related SCI in 50 years and above in 1995) | n/r   | n/r          |
|                 | Finland (Helsinki)        | Dahlberg <sup>32</sup>         | 1978-1997          | 13-15 (n=55 cases per year ; Males 76%, Females 24%)   | 46%   | 54%          |
|                 | Finland                   | Ahoniemi <sup>33</sup>         | 1976-2005          | 13.8 (n=1,647 >16yrs ; Males, n=1,362, Females, n=285)   | 51%   | 49%          |
|                 | France                    | Albert <sup>34</sup>           | 2000               | 19.4 (n=934 Ages>15 years)   | n/r   | n/r          |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region | Country                          | Author(s) of published data | Observation period | Incidence per million population per year   | Neurological level of injury |              |
|--------|----------------------------------|-----------------------------|--------------------|---|------------------------------|--------------|
|        |                                  |                             |                    |   | Tetraplegia %                | Paraplegia % |
|        | France (Rhone-Alpes Region)      | Minaire <sup>10</sup>       | 1970-1975          | 12.7 (n=351 ; Males, n=276, Females, n=75)  | 28%                          | 72%          |
|        | Germany                          | Exner <sup>35</sup>         | 1976-1996          | 10.7 (Based on 1985 pop of 77,685,000; n=16,559 over the reporting period ; Males, n=11,827, Females, n=4,732)*** | 38%                          | 62%          |
|        | Germany                          | Koning <sup>36</sup>        | 1983               | 36 (n=2,213)  | n/r                          | n/r          |
|        | Greece (Thessaloniki)            | Divanoglou <sup>37</sup>    | 2006-2007          | 33.6 (n=87 >15 yrs ; Males, n=77, females, n=10)  | 48%                          | 52%          |
|        | Greenland                        | Pedersen <sup>38</sup>      | 1965-1986          | 26 (n=27 ; Males, n=20, Females, n=7)   | 33.3%                        | 66.7%        |
|        | Iceland                          | Knutsdottir <sup>39</sup>   | 1973-1989          | 24 (1973-82) ; 18 (1983-89) (n=79) ; Males, n=43, Females, n=16 were living)                                      | 55.6%                        | 44.4%        |
|        | Ireland                          | O'Connor <sup>40</sup>      | 2000               | 13.1 (n=46 ; Males, n=40, Females, n=6)   | 50%                          | 50%          |
|        | Ireland (West Ireland)           | Roche <sup>41</sup>         | 4-year study       | 195.4 <b>check</b> (n=285 ; Males, n=175, Females, n=111)   | 43%                          | 57%          |
|        | Israel                           | Catz <sup>42</sup>          | 1959-1992          | 15.9 (n=250 consecutive patients; Males, n=189, Females, n=61) (Based on 1989 pop)***                             | 36.4%                        | 63.6%        |
|        | Israel                           | Ohry <sup>43</sup>          | 1974-1984          | 1 (Approx., paediatric SCI. n=23; Males, n=15, Females, n=8)  | 52%                          | 48%          |
|        | Italy (7 Rehabilitation Centres) | Celani <sup>44</sup>        | 1989-1994          | 2.3 (n=642; Males, n=509, Females, n=133) (Based on 1990 population)***   | 35.7%                        | 64.3%        |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region | Country                            | Author(s) of published data | Observation period | Incidence per million population per year                                  | Neurological level of injury |              |
|--------|------------------------------------|-----------------------------|--------------------|--|------------------------------|--------------|
|        |                                    |                             |                    |  | Tetraplegia %                | Paraplegia % |
|        | Italy                              | Pagliacci <sup>45</sup>     | 1997-1999          | Estimated to be 18-20 (n=684; Males, n=548, Females, n=136)                | 39.9%                        | 56.6%        |
|        | Italy (Veneto)                     | Caldana <sup>46</sup>       | 1994-1995          | 14.3 (n=127; Males, n=106, Females, n=21)                                  | 48.8%                        | 48.0%        |
|        | Netherlands                        | Schonherr <sup>47</sup>     | 1982-1993          | 7.7 (n=142; Males, n=109, Females, n=33)                                   | 46%                          | 54%          |
|        | Netherlands                        | van Asbeck <sup>48</sup>    | 1994               | 7.5 (n=113; Males, n=87, Females, n=26)                                    | 57.5%                        | 42.5         |
|        | Netherlands and Belgium (Flanders) | Osterthun <sup>49</sup>     | 2002-2007          | n/r (n=503; Males, n=371, Females, n=132)                                  | 49.6%                        | 50.4%        |
|        | Norway                             | Lidal <sup>50</sup>         | 1961-1982          | 4.5 approx (n=387; Males, n=321, Females, n=66)                            | 47%                          | 53%          |
|        | Norway                             | Gjone <sup>51</sup>         | 1974-1975          | 16.5 (n=131; Males, n=109, Females, n=22)                                  | 53%                          | 47%          |
|        | Norway                             | Augutis <sup>52</sup>       | 2002-2004          | 1.5 (Paediatric SCI aged 0-15 yrs, n=42)                                   | n/r                          | n/r          |
|        | Norway (Western)                   | Hagen <sup>53</sup>         | 1952-2001          | 26.3 (Annual incidence in 1997-2001; n=71; Males, n=277, Females, n=59)    | 52.4%                        | 47.6%        |
|        | Portugal (Coimbra)                 | Martins <sup>54</sup>       | 1989-1992          | 57.8 (Survivors plus those who died, n=398 ; Males, n=306, Females, n=92)) | 51.2%                        | 48.8%        |
|        | Portugal                           | Augutis <sup>52</sup>       | 2002-2004          | 27 (Paediatric SCI aged 0-14 yrs, n=138)                                   | n/r                          | n/r          |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region                  | Country   | Author(s) of published data   | Observation period | Incidence per million population per year  | Neurological level of injury |              |
|-------------------------|---|-------------------------------|--------------------|--|------------------------------|--------------|
|                         |   |                               |                    |  | Tetraplegia %                | Paraplegia % |
|                         | Spain   | Herruzo-Cabrera <sup>55</sup> | 1984-1985          | 8.1*** (n=208)   | n/r                          | n/r          |
|                         | Sweden  | Augutis <sup>52</sup>         | 2002-2004          | 4.6 (Paediatric SCI aged 0-15 yrs, n=21)   | n/r                          | n/r          |
|                         | Sweden (Stockholm)                                | Divanoglou <sup>37</sup>      | 2006-2007          | 19.6 (n=49; Males, n=36, Females, n=11 [consenting cases])                                   | 45%                          | 55%          |
|                         | Sweden  | Augutis <sup>56</sup>         | 1985-1996          | 4.6 (Paediatric SCI aged 0-15 yrs, n=92; Males, n=47, Females, n=45)                         | 43%                          | 57%          |
|                         | Switzerland                                       | Gehrig <sup>57</sup>          | 1960-1967          | 15 (n=584; Males, n=461, Females, n=123)   | 33%                          | 66%          |
|                         | UK  | Augutis <sup>52</sup>         | 2002-2004          | 5.2 (Paediatric SCI aged 0-14 yrs, n=180)  | n/r                          | n/r          |
|                         | UK (Midlands, Nth Wales, Mid Wales, South Mersey) | Aung <sup>58</sup>            | 1985-1988          | 7.3 (n=219; Males, n=173, Females, n=46)   | 53%                          | 47%          |
| Latin America, Tropical | Brazil  | Brasil <sup>59</sup>          | 1986-1995          | n/r (n=164; Males, n=134, Females, n=30)   | 52%                          | 48%          |
|                         | Brazil  | Greve <sup>60</sup>           | 1986-2007          | Estimated 17.3*** (n=3,289; Males, n=2,741, Females, n=548)                                  | n/r                          | n/r          |
|                         | Brazil (San Paulo)                                | Barros <sup>61</sup>          | 1982-1987          | 10.1 (Estimated using 1981 population of San Paulo)**** (n=428; Males, n=404, Females, n=24) | 49.8%                        | 50.2%        |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region                     | Country                       | Author(s) of published data            | Observation period | Incidence per million population per year  | Neurological level of injury |              |
|----------------------------|-------------------------------|--|--------------------|--|------------------------------|--------------|
|                            |                               |  |                    |  | Tetraplegia %                | Paraplegia % |
| North Africa/Middle East   | Brazil (7 Brazilian capitals) | Campos da Paz <sup>62</sup>            | 1988               | n/r (n=108; Males, n=87, Females, n=21)  | 35.1%                        | 64.9%        |
|                            | Jordan                        | Otom <sup>63</sup>                     | 1988-1993          | 18 (n=151; Males, n=129, Females, n=22)  | 31.8%                        | 68.2%        |
|                            | Saudi Arabia                  | Alshahri <sup>64</sup>                 | 2003-2008          | 2.1 (based on a population of 24 million ; n=307 over the 6-year period ; Males 271, Females 36) | 52%                          | 48%          |
|                            | Turkey                        | Dincer <sup>65</sup>                   | 1974-1985          | n/r (n=1,694 ; Males, n=1,282, Females, n=412)   | 92%                          | 8%           |
|                            | Turkey                        | Karacan <sup>66</sup>                  | 1992               | 12.7 (n=581 ; Males, n=415, Females, n=166)  | 32.2%                        | 67.8%        |
|                            | Turkey (SE Anatolia)          | Gur <sup>67</sup>                      | 1990-1999          | 12.06 (Average incidence) (n=539 ; Males, n=416, Females, n=123)                                 | 28%                          | 72%          |
|                            | Turkey (Istanbul)             | Karamehmetoglu <sup>68</sup>           | 1992               | 21.1 (n=152 ; Males, n=114, Females, n=38)   | 33%                          | 67%          |
|                            | Turkey (Rural areas)          | Karamehmetoglu <sup>69</sup>           | 1994               | 16.9 (n=75; Males, n=64, Females, n=11)  | 41.3%                        | 58.7%        |
| North America, High Income | Canada                        | Rick Hansen SCI Register <sup>70</sup> | 2001-2002          | 35 (n=1,050; Males, n=840, Females, n=210)   | 50%                          | 50%          |
|                            | Canada (Toronto)              | Tator <sup>71</sup>                    | 1947-1973          | 2.3 (n=351; Males, n=287, Females, n=64)   | 56.7%                        | 43.3%        |

*continued*



**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region | Country                    | Author(s) of published data | Observation period | Incidence per million population per year   | Neurological level of injury |              |
|--------|----------------------------|-----------------------------|--------------------|---|------------------------------|--------------|
|        |                            |                             |                    |   | Tetraplegia %                | Paraplegia % |
|        | Canada (Quebec)            | Barss <sup>72</sup>         | 1961-2004          | 0.64 (Diving related SCI, n=171) Males, n=82, Females 7, based on 89 survivors  | 100% (n=171)                 | n/r          |
|        | Canada (British Columbia)  | Andrews <sup>73</sup>       | 1964-1977          | 0.66 (Paediatric cases, n=15; Males, n=9, Females, n=6)   | 6.6%                         | 93.4%        |
|        | Canada (Toronto)           | Tator <sup>71</sup>         | 1974-1981          | 3.6 (n=201; Males, n=160, Females, n=41)  | 63.2                         | 36.8%        |
|        | Canada (Alberta)           | Hamilton <sup>74</sup>      | 1975-1988          | 9.9 (Paediatric cases 17 yrs and below, based on 1988 population of 1.25 million; n=174, Males, n=115, Females, n=59) | 42%                          | 58%          |
|        | Canada (Manitoba)          | Hu <sup>75</sup>            | 1981-1984          | 290 (n=944; Males, n=570, Females, n=374)   | 33%                          | 67%          |
|        | Canada (Ontario)           | Pickett <sup>76</sup>       | 1994-1999          | From 37.2-46.2 age standardised rates (n=2,385; Males, n=1,632, Females, n=753)                                       | n/r                          | n/r          |
|        | Canada (Alberta)           | Dryden <sup>77</sup>        | 1997-2000          | 52.5 (n=450 ; Males, n=322, Females, n=128)   | 52%                          | 48%          |
|        | Canada (Southwest Ontario) | Pickett <sup>78</sup>       | 1997-2001          | 40.8 ( n=151; Males, n=112, Females, n=39)  | 75%                          | 25%          |
|        | USA                        | Samsa <sup>79</sup>         | 1940-1987          | n/r (n=5,545 ; Male veterans)   | 38%                          | 62%          |
|        | USA                        | Bracken <sup>80</sup>       | 1970-1977          | 40.1 (8-year incidence)   | n/r                          | n/r          |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region | Country | Author(s) of published data | Observation period       | Incidence per million population per year                                       | Neurological level of injury |              |
|--------|---------|-----------------------------|--------------------------|---|------------------------------|--------------|
|        |         |                             |                          |   | Tetraplegia %                | Paraplegia % |
|        | USA     | Nobunaga <sup>81</sup>      | 1973-1998                | n/r (n=25,054 ; Males, n=20,419, Females, n=4,635)                              | 54%                          | 46%          |
|        | USA     | Jackson <sup>82</sup>       | 1973-2003                | 40 (n=30,532 ; Males, n=24,426, Females, n=6,106)                               | 54%                          | 46%          |
|        | USA     | Kalsbeek <sup>83</sup>      | 1974                     | 50 (estimated n=10,000 ; Males, n=5,000, Females, n=5,000)                      | n/r                          | n/r          |
|        | USA     | Burney <sup>84</sup>        | 1982-1989                | n/r (n=2,741 ; Males, n=2,165, Females, n=576)                                  | 55%                          | 45%          |
|        | USA     | Stover <sup>85</sup>        | 1984                     | 30.0 (n=10,000+ ; Males, n=8,000, Females, n=2,000)                             | 52%                          | 48%          |
|        | USA     | Harvey <sup>86</sup>        | October 1988 to May 1989 | n/r (n=758 ; Males, n=538, Females, n=220)                                      | 44%                          | 56%          |
|        | USA     | Ditunno <sup>87</sup>       | 1993                     | 38.8 (Estimated)  | n/r                          | n/r          |
|        | USA     | Lasfargues <sup>88</sup>    | 1994                     | 38 (n=11,500 estimated ; Males, n=8,015, Females, n=3,485)                      | n/r                          | n/r          |
|        | USA     | Vitale <sup>89</sup>        | 1997-2000                | 19.9 (Paediatric SCI, ages 0-18 years; n=2,909; Males, n=2,088, Females, n=821) | n/r                          | n/r          |
|        | USA     | Ho <sup>90</sup>            | 2000-2003                | n/r   | 53%                          | 47%          |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region | Country                         | Author(s) of published data | Observation period | Incidence per million population per year   | Neurological level of injury |                 |
|--------|---------------------------------|-----------------------------|--------------------|---|------------------------------|-----------------|
|        |                                 |                             |                    |   | Tetraplegia %                | Paraplegia %    |
|        | USA                             | NSCISC <sup>91</sup>        | 2005               | 40 (n=11,000 approx. ; Males, n=8,756, Females, n=2,244)                                    | 53%                          | 47%             |
|        | USA (Olmsted County, Minnesota) | Griffin <sup>92</sup>       | 1935-1981          | 54.8 (age-standardised rate ; n=154 ; Males, n=111, Females, n=43)                          | 51% (1950-1981)              | 49% (1950-1981) |
|        | USA (California)                | Kraus <sup>93</sup>         | 1970-1971          | 53.4 (n=619 ; Males, n=457, Females, n=162)   | 38%                          | 62%             |
|        | USA (Arkansas)                  | Acton <sup>94</sup>         | 1980-1989          | 28.5 (age-adjusted incidence ; n=644 ; Males, n=518, Females, n=126)                        | 43.9%                        | 56.1%           |
|        | USA (New York)                  | MMWR <sup>95</sup>          | 1982-1988          | 43 (n=5,384)  | n/r                          | n/r             |
|        | USA (Hawaii)                    | Goebert <sup>96</sup>       | 1987-1989          | 23.7 (Based on 1989 population of 1,245,600 ; n=59 ; Males, n=50, Females, n=9)             | 62.1%                        | 37.9            |
|        | USA (Oklahoma)                  | Price <sup>97</sup>         | 1988-1990          | 40 (n=376 ; Males, n=300, Females, n=76)  | 57%                          | 43%             |
|        | USA (Utah)                      | Thurman <sup>98</sup>       | 1989-1991          | 43 (47 cases per million, age adjusted to 1980 US pop ; n=223, Males, n=169, Females, n=54) | 57%                          | 43%             |
|        | USA (Alaska)                    | Warren <sup>99</sup>        | 1991-1993          | 83 (n=139 ; Males, n=116, Females, n=23)  | 39.4%                        | 60.6%           |
|        | USA (Mississippi)               | Surkin <sup>100</sup>       | 1992-1994          | 77 (n=395 ; Males, n=316, Females, n=79)  | 52.3%                        | 47.7%           |
|        | USA (Colorado)                  | Johnson <sup>101</sup>      | 1994               | 45.1-46.3 (n=165-169)   | n/r                          | n/r             |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region                              | Country                            | Author(s) of published data | Observation period | Incidence per million population per year  | Neurological level of injury |              |
|-------------------------------------|------------------------------------|-----------------------------|--------------------|--|------------------------------|--------------|
|                                     |                                    |                             |                    |  | Tetraplegia %                | Paraplegia % |
|                                     | USA (Kentucky, Indiana)            | Burke <sup>102</sup>        | 1993-1998          | 27.1 (n=161; Males, n=121, Females, n=40)  | 49.7%                        | 50.3%        |
|                                     | USA (Rhode Island)                 | Buechner <sup>103</sup>     | 1994-1998          | 56 (n=277; Males, n=185, Females, n=92)  | n/r                          | n/r          |
|                                     | USA (Dade County)                  | Calancie <sup>104</sup>     | 1997-2000          | n/r (n=229; Males, n=175, Females, n=54)   | 62%                          | 38%          |
| <b>Oceania</b>                      |                                    |                             |                    |  |                              |              |
|                                     | Fiji Islands                       | Maharaj <sup>105</sup>      | 1985-1994          | 10.0 (n=75; Males, n=65, Females, n=10)  | 53%                          | 47%          |
| <b>Sub-Saharan Africa, Southern</b> |                                    |                             |                    |  |                              |              |
|                                     | South Africa (Cape Province)       | Key <sup>106</sup>          | 1963-1967          | n/r (n=300; Males, n=270, Females, n=30)   | 45%                          | 55%          |
|                                     | South Africa (Johannesburg)        | Velmahos <sup>107</sup>     | 1988-1992          | 48.5 (Median based on 1990 population of 2,554,726; n=551; Males, n=428, Females, n=123) | 10%                          | 90%          |
|                                     | South African (Southern Transvaal) | Hart <sup>108</sup>         | 1988-1993          | n/r (n=546; Males, n=437, Females, n=109)  | 25%                          | 75%          |
|                                     | Zimbabwe                           | Levy <sup>109</sup>         | 1988-1994          | 11.7 (Based on estimated population of 11.6 million; n=136; Males, n=121, Females, n=15) | 51%                          | 49%          |
| <b>Sub-Saharan Africa, West</b>     |                                    |                             |                    |  |                              |              |
|                                     | Nigeria (Zaria)                    | Iwegbu <sup>110</sup>       | 1973-1982          | n/r (n=48; Males, n=42, Females, n=6)  | 15.8%                        | 84.2%        |

*continued*

**Table 2a (continued): Incidence and neurological level of traumatic spinal cord injury by Region and Author(s) of published data**

| Region | Country                 | Author(s) of published data | Observation period  | Incidence per million population per year                 | Neurological level of injury |              |
|--------|-------------------------|-----------------------------|---------------------|---|------------------------------|--------------|
|        |                         |                             |                     |   | Tetraplegia %                | Paraplegia % |
|        | Nigeria (Plateau State) | Igun <sup>111</sup>         | 1984-1997           | <i>5 cases per year (n=68; Males, n=62, Females, n=6)</i> | 63%                          | 37%          |
|        | Nigeria (Lagos)         | Obalum <sup>112</sup>       | 1992-2006           | n/r (n=468; Males, n=328, Females, n=140)                 | 30.3%                        | 69.7%        |
|        | Nigeria (Ilorin)        | Solagberu <sup>113</sup>    | 1995-1999           | n/r (n=39; Males, n=36, Females, n=3)                     | 46%                          | 54%          |
|        | Nigeria (Enugu)         | Nwankwo <sup>114</sup>      | 1996-2000           | n/r (n=74)  | 51.4%                        | 48.6%        |
|        | Nigeria (Enugu)         | Nwadinigwe <sup>115</sup>   | 1996-2001           | n/r (n=104; Males, n=88, Females, n=16)                   | 67%                          | 33%          |
|        | Nigeria (Ile-Ife)       | Olasode <sup>116</sup>      | Estimate: 2004-2006 | n/r (n=71; Males, n=47, Females, n=24)                    | 59.1%                        | 19.7%        |
|        | Senegal                 | Seye <sup>117</sup>         |                     |   |                              |              |
|        | Sierra Leone            | Gosselin <sup>118</sup>     | 2002-2004           | 3.4*** (n=24; Males, n=22, Females, n=2)                  | 42%                          | 58%          |

\* n/r: Not reported

\*\* Figures in italics indicate 'Incidence per million population per year' was not available

\*\*\* Source/: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, /World Population Prospects: The 2008 Revision/, <http://esa.un.org/unpp>

\*\*\*\* Source: [http://en.wikipedia.org/wiki/S%C3%A3o\\_Paulo#Population\\_growth](http://en.wikipedia.org/wiki/S%C3%A3o_Paulo#Population_growth)

\*\*\*\*\* Estimated incidence based on 1986-2007 case counts (3,289) and 2007 Brazilian population of 190,010,647.

\*\*\*\*\* Source: People and Place. Volume 12, No. 1, 2004, pg 7

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