

## POPULATION ATTRIBUTABLE RISK OF LUMBAR DISC SURGERY ACCORDING TO OCCUPATION: A STUDY IN A FRENCH GENERAL POPULATION

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### Aims:

Disc-related sciatica represents one of the most significant and costly health problems occurring in the working population. The aim of this study was to assess the work-related population attributable fraction (PAF) of lumbar disc surgery (LDS) for disc-related sciatica in occupational categories at high risk in the general population.

### Methods:

Patients living in a French region in 2003 and discharged from a large University Hospital following LDS were compared with demographic and socioeconomic data from the population census. Medical and occupational histories from 75 women and 71 men were gathered using a mailed questionnaire. The age-adjusted relative risks and PAF of CTS were calculated according to occupational categories.

### Results:

The PAFs of lumbar disc surgery was 37% [19-54] for the male blue-collar workers suggesting that about 37% of the cases occurring in this category of workers could be avoided if the excess risk of LDS could be eliminated. The PAF value for male and female lower-grade white collar workers and female intermediate occupations were 18%, 33% and 13%, respectively.

**Table. Age-adjusted relative risks and population attributable risk fractions of lumbar disc surgery (PAF) according to occupation category in the general population #**

	Pe (%)	n	Age-adjusted RR [CI95%] <sup>α</sup>	PAF (%) [range] <sup>β</sup>
<b>Women</b>				
1. Farmers	1.1	0	-	-
2. Craftswomen, saleswomen and managers	2.4	0	-	-
3. Professionals	5.3	7	1.9 [0.9-4.1]	-
4. Technicians, associate professionals <sup>§</sup>	15.7	16	2.6 [1.5-4.8]	13 [1-28]
43. Intermediate occupations in health and social work	4.5	7	2.9 [1.3-6.5]	66 [58-72]
46. Intermediate occupations in administrative and commercial companies	5.0	5	4.6 [1.5-14.2]	78 [73-82]
5. Lower-grade white-collar workers	32.5	42	2.5 [1.5-4.0]	33 [15-50]
52. Employees of government and public services	11.1	17	2.9 [1.7-5.2]	66 [58-73]
55. Trade and commerce employees	4.1	6	3.9 [1.6-9.1]	74 [68-79]
56. Personal service employees	7.9	11	2.5 [1.3-4.8]	60 [51-67]
6. Blue-collar workers	6.5	7	2.0 [0.9-4.5]	-
<b>Men</b>				
1. Farmers	2.5	0	-	-
2. Craftswomen, saleswomen and managers	6.2	6	2.4 [1.0-5.8]	-
3. Professionals	11.8	7	1.1 [0.5-2.5]	-
4. Technicians, associate professionals <sup>§</sup>	18.8	7	0.6 [0.3-1.4]	-
5. Lower-grade white-collar workers	8.3	8	3.6 [1.6-8.5]	18 [5-38]
6. Blue-collar workers	30.5	39	2.9 [1.8-4.9]	37 [19-54]
62. Skilled manufacturing workers	8.8	11	2.2 [1.1-4.3]	55 [45-63]
63. Skilled small-scale workers	7.8	5	2.8 [1.1-7.5]	65 [57-71]
64. Drivers	3.4	8	4.8 [2.3-10.3]	79 [74-84]
67. Unskilled manufacturing workers	5.1	9	5.0 [2.2-11.4]	80 [75-84]

# Patients employed during the five last years before lumbar disc surgery (72 women and 67 men); Pe (%): percentage of the general population of the region in this occupation; <sup>α</sup> RRs were computed when at least five cases were diagnosed, with the whole sample of subjects professionally active or not during the year before lumbar disc surgery as reference group; 95% confidence interval; <sup>β</sup> This range was computed using the lower and higher limits of the confidence interval of the RR of CTS in the equation; <sup>§</sup> Technicians and associate professionals perform mostly technical and related tasks and teach at certain educational levels. Most occupations in this group require skills at the third ISCO level (education which begins at the age of 17 or 18 years and leads to an award not equivalent to a first university degree).

### Conclusion:

The study suggested that 13–37% of LDS for disc-related sciatica might be avoided in the whole population if totally effective intervention programs were implemented in specific occupational categories or industries. However, these preliminary findings must be confirmed by a larger study conducted in the whole region to assess more accurately the proportion of avoidable cases of LDS in the population.

**Keywords:** Surveillance, Epidemiology, Back, low back

