



# Biomechanical constraints remain major risk factors for low back pain. Results from a prospective cohort study in French male employees

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**BACKGROUND CONTEXT:** Low back pain (LBP) is a major public health problem, with a considerable impact on workers.

**PURPOSE:** To model the risk of LBP in the male general working population.

**STUDY DESIGN/SETTING:** Repeated cross-sectional surveys in a wide occupational setting.

**PATIENT SAMPLE:** A random sample of 2,161 men working in various occupations in a French region participated in a first survey in 2002, and 1,313 of these (60.8%) participated in a second survey in 2007.

**OUTCOME MEASURE:** The self-reported prevalence of LBP during the previous week in the second survey.

**METHODS:** Twenty-one biomechanical, organizational, psychosocial, and individual factors were assessed in the first survey. The association between these potential risk factors and the prevalence of later LBP (in the second survey) was studied, using multistep logistic regression models.

**RESULTS:** Three hundred ninety-four men reported LBP in the second survey (prevalence 30.0%). The final multivariate model highlighted four risk factors: frequent bending (odds ratio [OR], 1.45, 95% confidence interval [CI], 1.07-1.97 for bending forward only; and OR, 2.13, 95% CI, 1.52-3.00 for bending both forward and sideways), driving industrial vehicles (OR, 1.35; 95% CI, 1.00-1.81), working more hours than officially planned (OR, 1.38; 95% CI, 1.05-1.81), and reported low support from supervisors (OR, 1.35; 95% CI, 1.02-1.79).

**CONCLUSIONS:** These results emphasize that biomechanical factors remain worth considering, even when psychosocial factors are taken into account, and provide a significant contribution to preventive strategies.

Résumé en anglais

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