

Smoking

R Chen et al. Occupational and Environmental Medicine. Sept (2001) Vol.58 #9 p 563.

Reduced lung function is a common symptom of lung disease. However, reduced lung function on its own cannot be described as a diagnosis, it is a sign. Causes of reduced lung function therefore do not immediately qualify as causes of compensable injury.

Some compensation systems adopt a less clear distinction between injury and reduced functional capacity.

This study examines a proposed association between exposure to environmental tobacco smoke (ETS) and changes in lung function.

301 never smokers, who were at work, took part in the study.

Exposure to ETS was assessed by questionnaire. Range from 3 to 12.

Physical exam for lung function: Forced Expiratory Volume 1 second FEV₁ and Forced Vital Capacity FVC and, blood tests for serum cotinine. Cotinine has become established as a marker for the amount of exposure to tobacco smoke among smokers.

A dose response relationship was found.

For the highest exposure categories (as assessed by questionnaire): reduction in FEV₁ = 254ml (95% CI = 84 to 420) and FVC loss = 273ml (95% CI = 60 to 480). Losses were statistically significant.

Association with serum cotinine was much less certain.

In general:

FEV₁ (men) = 4.413×height – 0.01374×age – 3.355

FVC (men) = 5.667×height - .008639×age – 5.209

FEV₁ (women) = 3.142×height – 0.02531×age – 1.328 FVC (women) = 4.031×height – 0.02547×age – 2.402

Comment

Cotinine results for non-smokers could be more sensitive to the relative timing of exposure and measurement and could be affected by physical activity. Both should be controlled for in subsequent experiments.

The formulae for typical lung function could be used as a baseline for measurement of loss of function in general, in much the same way as loss of hearing is often assessed in a formulaic way. There was no comment on the duration of loss of lung function or its effects on activities of daily living. Temporary reduction of lung function would, at present, be difficult to compensate in the UK.

Other News

The World Health Organisation (WHO) has recently published a set of evidence based guidelines for assisting smokers to reduce their dependency.

Copies available on request.

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