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**Title:** Six-year lung function observation and impact of smoking ban in healthy miners at high altitude (4000 meters)

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**Body:** The aim of this study was to assess annual lung function change in 109 newly employed healthy subjects (age  $31.8 \pm 6.7$  years) exposed to chronic intermittent hypoxia during six years of continuous employment at a gold mine. The first four of these years included exposure to smoking at the work place. We assumed that lung function would decrease more steeply over time before the implementation of a workplace smoking ban in 2009. We performed spirometry in all study subjects annually, as part of annual routine screening, during a six-year period between August 2005 and August 2011. We analysed differences in lung function changes before and after the workplace smoking ban. The mean FEV1 (litres) in the period before the smoking ban declined from a mean of 4.17 (95% CI 4.05 to 4.3 L) to 3.78 (95% CI 3.66;3.91). In smokers (N=54) FEV1 decreased from  $4.37 \pm 0.62$  to  $4.03 \pm 0.48$  litres, while in non-smokers (N=55) from  $4.01 \pm 0.79$  to  $3.75 \pm 0.91$  litres. Institution of a workplace smoking ban in high-altitude mining companies may be beneficial in terms of lung function decline both for non-smoking and smoking workers.