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### Título

*Risk assessment of silicosis and lung cancer among construction workers exposed to respirable quartz.*  
(Evaluación de riesgos de silicosis y cáncer de pulmón entre trabajadores de la construcción expuestos a cuarzo respirable)

### Autores

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### Abstract

**OBJECTIVES:**  
The aim of this study was to assess the magnitude of the silicosis and cancer risk among construction workers.

**METHODS:**  
In 1998, 1335 of 4173 invited construction workers with expected high cumulative exposure to quartz were studied for early signs of silicosis. In 2002 the study was repeated for 96 persons. Exposure measurements were performed among 34 construction workers. Silicosis risk was assessed by converting study results to the whole group of construction workers and by risk analysis based on exposure data combined with documented exposure response relations. Excess risk for cancer was also calculated from available exposure measures.

**RESULTS:**  
The initial study among construction workers revealed a prevalence of 0.8% of workers with rounded opacities on chest X-rays. The follow-up showed a much higher percentage (12%) of persons with rounded opacities on X-rays. The results were confirmed by high-resolution computed tomography. It was estimated that roughly 9% of the population initially studied (N = 1335) would have been observed with rounded opacities at follow-up. On the basis of the exposure data, a lifetime risk of silicosis above 5% is expected for workers exposed to levels above the occupational exposure limits. An excess lifetime risk for lung cancer is expected when workers are exposed to quartz levels above the occupational exposure limit. Due to the scarcity of exposure data, an estimation of the size of the group at risk is not yet possible.

**CONCLUSIONS:**  
All available data indicate that construction workers exposed to quartz levels above occupational exposure limits are clearly at elevated risk of silicosis and other respiratory diseases.

### Enlace