

Low Lung Volume Among Construction Workers

Restrictive Spirometry Pattern Among Construction Trade Workers

Stella E Hines, John Dement, Marianne Cloeren, Kim Cranford, Patricia S Quinn, Knut Ringen. American Journal of Industrial Medicine, 2023.

Overview

Restrictive spirometry pattern (RSP), or low total lung volume, is relatively common in the general U.S. population. Individuals with RSP are likely to die prematurely from respiratory diseases, cardiovascular diseases, and lung cancer. Previous studies have found RSP to be associated with workplace exposures to asbestos, silica, coal mine dusts, and other organic and inorganic dusts. This study focused on determining if RSP is associated with work in construction trades and any association between RSP and increased mortality. The researchers studied a cohort of 18,145 workers participating in the Building Trades National Medical Screening Program (BTMed), which offers free screenings to former construction workers at U.S. Department of Energy (DOE) nuclear weapons facilities. The researchers have previously documented that construction trade workers are exposed to many substances that cause scarring of the lungs or have other effects associated with RSP.

Key Findings

- The prevalence of RSP among construction workers was found to be very high at 28.6%, suggesting that it is a serious concern.
- RSP was significantly associated with most construction trades, even after adjustment for other known risk factors, such as obesity, smoking, hypertension, diabetes, and cardiovascular disease.
- The trades with the highest prevalence of RSP were asbestos workers/insulators (35.3%), teamsters (32.9%), boilermakers (31.7%), and sheet metal workers (30.6%).
- RSP deserves greater attention in occupational medicine and epidemiology considering its association with increased mortality risk and its high prevalence among construction workers.
- The study's findings underscore the necessity for research and policy to focus on occupational health risks in the construction industry, as the basis for establishing comprehensive health monitoring and prevention programs to safeguard worker health and well-being.

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Read the abstract:

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