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|  **Exposure to occupational dusts and lung diffusion capacity** |
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| **Introduction/Aim:** Exposure to occupational dusts is associated with lung function decline and chronic lung disease. However, few studies have assessed this impact of exposure to occupational dust on gas exchange, and those that exist have focussed on job specific cohorts. The aim of this study therefore was to the assess the association between occupational exposures to silica dust, coal dust and diesel particles on lung diffusion capacity in a community cohort.  **Methods:** A subset of the Tasmanian Longitudinal Health Study (TAHS) was used in this study, consisting of 1405 participants (51.2% male and 48.8% female) of an average age of 42.8 (± 0.8) with lung function measurements and lifetime occupational data. Pulmonary gas exchange was assessed using the diffusing capacity of the lungs for carbon monoxide (DLCO). A job exposure matrix was used to calculate occupational exposures to silica, coal, and diesel. Associations between occupational exposures and lung function were studied using linear regression analysis with adjustment for covariates identified a priori. **Results:** Of the 1405 participants assessed, no significant association was found between lung diffusion capacity (DLCO) and exposure to silica (*p* = 0.91), coal (*p* = 0.48), or diesel (*p* = 0.71). **Conclusion:** There were no detectable impacts of silica, coal, or diesel exposure on pulmonary gas exchange. However, these findings could be ascribed to the possibility that DLCO might not serve as a responsive indicator of pulmonary health effects during middle age, or due to the generally low levels of silica and diesel exposure observed in this cohort. **Grant Support:** N/A |