

P81 **IMPAIRMENT FOLLOWING SILICA DUST EXPOSURE, SILICOSIS AND PULMONARY TUBERCULOSIS**Rodney Ehrlich *University of Cape Town, Cape Town, South Africa*

10.1136/oemed-2011-100382.295

Objectives and

Methods With the decline of silicosis and tuberculosis in developed countries, “simple” chronic silicosis has sometimes been referred to as a radiological disease without impairment. The availability of effective treatment for pulmonary tuberculosis was believed to reduce the impact of this complication of silicosis. Recent studies of South African goldminers have been able to test these conceptions, given the significant silica exposures and triple epidemic of silicosis, tuberculosis and HIV infection in this population.

Results Silicosis, tuberculosis and dust exposure have independent effects on lung function decline. The mean loss in FEV1 due to silicosis is of the order of 250 ml, that due to previous tuberculosis 350 ml, and that due to total respirable dust 40 ml p.a. Radiological clearing despite successful bacteriological treatment for tuberculosis is uncommon in goldminers, with 65% of a treated cohort showing pulmonary fibrosis post treatment. Treated tuberculosis also triggers or accelerates silicosis-like nodulation on the chest radiograph.

Conclusions Based on South African goldminer experience, silicosis needs to be seen as part of a spectrum of lung disease which includes the impact of total dust exposure and a two way relationship with pulmonary tuberculosis. These complex interrelationships have growing relevance in the light of high silicosis burdens described in countries such as China and India which also have high tuberculosis rates. It can be predicted that the rapid spread of mining into new countries in the pursuit of mineral resources will add to this global burden.