Coal workers’ pneumoconiosis

Overview
Coal workers’ pneumoconiosis (or black lung), is an occupational lung disease caused by prolonged exposure to respirable coal dust.

If a worker is exposed to high concentrations of coal dust over several years, the dust collects in the alveoli (air sacs) of the lungs causing a reaction that results in scarring of lung tissue, reducing the elasticity of the lung. If enough scar tissue forms, lung function can be seriously reduced.

Coal workers’ pneumoconiosis has a long latency period between first exposure and identification of the disease.

There are two types of coal worker’s pneumoconiosis:

- simple (early stage) coal workers’ pneumoconiosis; and
- complicated coal workers’ pneumoconiosis, also known as progressive massive fibrosis (PMF).

Complicated coal workers’ pneumoconiosis
Progression to complicated coal workers' pneumoconiosis or PMF may occur in some workers if they remain exposed to high concentrations of respirable coal dust over a long period of time.

Smoking and other lung conditions can contribute to the disease progressing. In complicated coal workers’ pneumoconiosis there are large masses of dense fibrosis (scar tissue) in the lungs. Workers with complicated coal workers’ pneumoconiosis will have significantly decreased lung function, and the condition can be fatal.

What are the symptoms?
Simple coal workers’ pneumoconiosis
- There may be no symptoms
- Shortness of breath
- Chronic cough

Complicated coal workers’ pneumoconiosis
- Shortness of breath
- Chronic cough
- Black sputum
- Lung dysfunction
- Pulmonary hypertension
- Heart problems

How is it diagnosed?
The symptoms of coal workers’ pneumoconiosis are similar to those of other lung diseases, which can make it difficult to detect. Coal workers’ pneumoconiosis is detected by a chest X-ray and by testing lung function (spirometry test). CT scans and/or lung biopsies are sometimes required to assist a diagnosis.
What is the ILO standard for reading chest X-rays?
The International Labour Organisation (ILO) Classification of Radiographs of Pneumoconioses is the accepted international standard to describe abnormalities in chest X-rays that indicate pneumoconiosis. The system includes guidelines and a set of 22 standard X-ray images. The radiologist compares the patient's X-ray with the 22 standard X-ray images in the set which show different abnormalities (sizes and shapes of nodules) in patients with pneumoconiosis. The radiologist compares the images to describe the extent and features of pneumoconiosis in the patient.

What should I do if I am diagnosed?
If a worker is diagnosed with simple coal workers' pneumoconiosis, the individual should avoid exposure to harmful dust and have their respiratory health monitored on an ongoing basis by a specialist physician.

How do I prevent it?
Coal workers' pneumoconiosis is prevented by limiting exposure to high levels of coal dust. This requires control of the level of dust the miner is exposed to and, when required, the use of personal protective equipment to prevent inhalation of dusts.

What is the treatment?
There is no specific treatment for coal workers' pneumoconiosis aside from managing the symptoms. The scarring of the lungs cannot be reversed. Workers diagnosed with the disease should avoid further exposure to high concentrations of coal dust. As smoking can contribute to the condition, it is strongly advised that the individual stops smoking.

More information
- 13 QGOV (13 74 68)
- www.qld.gov.au