



Lung Disease Fact Sheet



**MOBILE
SCREENING**

phone 1300 84 84 80 visit mobilescreening.com.au

Prepared by Mobile Screening using information sourced from Safe Work Australia

Lung Disease Fact Sheet

15-20% Of asthma in adults is caused by occupational exposure.*

Source: Lung Foundation Australia

Health and safety obligations of employers

By law, under the *Work Health and Safety Act 2011*, employers must provide and maintain a working environment that is safe and free of risks to health, so far as is reasonably practicable.

Under the Division 7 (49) of the model Work Health and Safety Regulations published by the Parliamentary Counsel's Committee and released by Safe Work Australia WHS Regulations, an employer must ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the exposure standard for the substance or mixture.

What is occupational lung disease?

Occupational lung diseases are conditions of the respiratory system that have occupational exposure as a risk factor for developing the disease.

These diseases may be acute, sub-acute or chronic, and malignant, non-malignant or infectious in nature.

Occupational lung diseases include:

- **Aluminosis** – pneumoconiosis caused by the presence of dust containing aluminium in the lung tissue.
- **Asbestosis** – asbestosis induced carcinoma, mesothelioma – diseases caused by inhalation of asbestos.
- **Asthma** – a condition in which a person's airways become inflamed, narrow and swell and produce extra mucus, which makes it difficult to breathe.
- **Berylliosis** (chronic beryllium disease) – pneumoconiosis caused by inhalation of dusts (or vapours) containing beryllium.
- **Byssinosis** – a respiratory disease caused by inhalation of cotton dust.
- **Coal workers' pneumoconiosis** (CWP) – pneumoconiosis caused by exposure to respirable coal dust.
- **Hard metal pneumoconiosis** (hard metal lung disease or HMLD) – fibrotic pneumoconiosis caused by respirable dusts of hard metals such as tungsten, tungsten carbide and cobalt.
- **Silicosis** – fibrotic lung disease caused by exposure to respirable crystalline silica, may lead to lung cancer.
- **Talcosis** – pneumoconiosis caused by exposure to respirable talc dust.

There are a range of tests which are used to identify and diagnose occupational lung disease, including spirometry.

What is spirometry?

Spirometry measures the flow and volume of air entering and leaving the lungs. It provides three valuable measurements:

- **Forced vital capacity** (FVC) is the maximal volume of air that can be forcibly expelled from the lungs from a position of maximal inhalation. It indicates lung volume.
- **Forced expiratory volume in one second** (FEV1) is the maximal volume of air exhaled in the first second of an FVC manoeuvre. In individuals with normal lung function this is 75-80% of FVC. FEV1 reflects the mechanical properties of the large and medium sized airways.
- **Forced expiratory ratio** (FEV1/FVC or FER%) is the ratio of FEV1 to FVC, expressed as a percentage.

During a spirometry test, employees will be sitting upright or in standing position, and with their lips sealed tightly around a spirometer mouthpiece attached to a small machine (spirometer). They will be asked to exhale as hard and as fast as they can after taking a full breath until they cannot blow out anymore. This will be repeated multiple times to check that the readings are consistent.

After the test employees can return to normal activities, although some people find it hard to do the test, so they may feel tired afterwards.

Approaches to prevention of occupational respiratory disease

Prevention of occupational respiratory disease at the workplace requires the identification of exposure and assessment of risk from airborne substances known to cause such diseases. Elimination or minimisation of workers' exposure can be achieved by substitution with a less hazardous substance whenever possible, or exposure reduction, based on the hierarchy of controls. The use of personal protective equipment can be effective if it is used in conjunction with other recognised control measures.

As occupational respiratory diseases can be difficult to identify and control, their prevention is likely to be more effective by implementing complementary actions such as education of employers, workers and physicians, research to identify new hazards and their impact on workers' health and review of workplace safety and standards on an ongoing basis.

More information

Silicosis: <https://www.safeworkaustralia.gov.au/silica>

Asbestosis: <https://www.asbestosassociation.com.au/about-asbestos/asbestosis/>

CWP: <https://www.dnrme.qld.gov.au/miners-health-matters/what-is-cwp>

Asthma: <https://www.nationalasthma.org.au/understanding-asthma/what-is-asthma>