

# Asthma in the Workplace

## How can work affect your breathing?

Most people with asthma have irritable, swollen air passages, partly blocked with too much sticky mucus. This narrowing of the air passages leads to the symptoms of wheeze, breathlessness and cough.

Factors both at work and away from work can cause this narrowing or make it worse. Such factors include:

- Dusts and fumes (both at work and at home, including cigarette smoke).
- Exercise.
- Cold air.

People with asthma in the workplace may notice a number of symptoms including:

- Cough (either a dry cough or one that produces sputum. Often people whose asthma is caused by work or whose asthma is made worse by work will notice the cough predominantly at night).
- Shortness of breath or chest tightness.
- Wheezing.

All of these symptoms may improve when the person isn't at work.

When asthma is caused by work, it can be on the basis of an allergic reaction to a substance such as TDI (toluene diisocyanate), or western red cedar that is part of the work process. The person has become "sensitised" to the substance and this can

occur after weeks, months or even years of being exposed without any ill effect. Sometimes the allergic reaction (and therefore the symptoms) can take some hours after the exposure to develop. This can make the workplace factor difficult to identify.

Other people develop their asthma for the first time after a very heavy exposure in the workplace to an airways irritant such as welding fumes or a gaseous vapour such as sulphur dioxide.

Pre-existing asthma may also be made worse by factors in the workplace. Such factors may be dusts or fumes and the symptoms tend to follow the exposure closely. The worker will often be very aware of the area of the worksite or of the substance which makes their problem worse.

## What can you do if you suspect something at work is causing you to develop asthma or is making your asthma worse?

Talk about the problem with your doctor or the occupational health nurse if one visits your workplace. The doctor will:

1. Ask you to note what substances or processes you are exposed to in your work;
2. Ask you to note if your symptoms worsen during each shift or over the shift period;
3. Ask you to note if there is any improvement away from work;

4. Teach you how to measure and record a peak flow measurement. (This is a measurement of the amount of irritability of the air passages in your lungs. It is best done 4 times a day over a 2-week period. This period should cover time at work and time away from work.)

In New Zealand many substances or processes are recognised as causing asthma problems. The most common exposures include:

- Working with **chemicals** such as **isocyanates** (TDI, MDI, two-pot paints and glues, foam manufacture, etc.) or **epoxy resins**. Common industries include spray painting, and boat building.
- Working with **wood dusts**. Problem dusts include western red cedar and some particle boards (building and joinery industries).
- Being exposed to **metal fumes or dusts** (aluminium smelting, welding).
- Being exposed to dusts from **organic materials** such as flour (bakers) animals (veterinary workers) and insects.

If a workplace process or substance is causing asthma or making your asthma worse, there are several steps that you can explore with your employer to lessen the problem. They are:

- **Can the process be changed to something less harmful?**
  - , One electronics firm, for example, changed its process to eliminate soldering by riveting components to circuit boards.

- **Can the substance or process be isolated to a special place in the factory or time of day when most people will not be exposed?**

A manufacturer making playground rubber mats only made the mats in batches at the end of the day when most of the staff were off work. By the time the staff returned the next day, the fumes had dissipated.

- **Can the equipment be improved to reduce the exposure?**

A joinery factory improved its ventilation and extraction equipment to reduce dust levels. This is always a better method than relying on masks for protection.

### **What can you or your employer do if you are not sure if there is a problem at work?**

The Occupational Safety and Health Service of the Department of Labour (OSH) can be contacted under **L** (Labour, Department of) in the telephone book for advice. They have the resources to provide information and advice about workplace hazards, and the best and most practicable means of controlling these problems if they exist.

### **Further Information**

Further information may be obtained from the OSH publication *A Guide to the Management of Occupational Asthma* (\$10.00 incl. GST).

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