Melbourne Respiratory & Sleep Services

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OCCUPATIONAL ASTHMA

What is Asthma?

Asthma is a long-term disease. It can be controlled with proper long-term treatment. Unfortunately it cannot be cured. It affects as many as 1 in 5 children and 1 in 10 adults in Australia. It is the cause of many lost school days and a lot of time off work.

People with asthma have episodes of shortness of breath which may be brought on or made worse by certain trigger factors. Shortness of breath is due to narrowing of the small airways within the lungs as a result of inflammation and muscle spasm.

How do the lungs work?

Every breath you take draws air into the windpipe or trachea. The windpipe splits into two further tubes called the bronchi, which then divide into smaller and smaller airways called bronchioles, eventually leading to small air sacs called alveoli. It is here in the alveoli that oxygen in the air passes into the bloodstream. At the same time, carbon dioxide produced in the tissues of the body moves from the blood into the air sacs and then out of the body.

What happens during an asthma attack?

Asthma is a special type of inflammation of the small airways which then become 'twitchy' and oversensitive to any environmental changes. The basic cause of asthma is unknown.

Asthma can vary in severity from mild chest tightness with cough and wheeze during exertion, to a life-threatening attack of severe breathlessness requiring urgent medical attention.

During an asthma attack breathing becomes harder, even at rest. There may be a cough or wheezing, which is a musical noise when you breathe. Asthma can also occur at night during sleep.

These problems occur because the airways leading to the alveoli within the lungs become narrower. The muscles surrounding the airways tighten. The lining of the airways becomes swollen. The airways also become blocked with sticky mucus. These factors can all make the airways narrower. The air moving in and out of the narrowed airways then makes the wheezing sound, and air is more likely to be trapped inside the lungs.

What is occupational asthma?

Occupational asthma is asthma which is caused by exposure to a dust or irritant gas in the workplace. It is the commonest occupational lung disease seen today in Australia.

Individuals with pre-existing asthma may also notice that their symptoms are worse after exposure to any one of a large number of substances they meet in their workplace.

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What causes occupational asthma?

Occupational asthma may occur in any workplace. It is, however, much more likely to occur where workers are exposed to fine dusts of an organic nature such as flour, sawdust, grain dust, and proteins from small animals. Many chemicals can also cause asthma. These are found in the making and handling of various plastics and resins and the use of fluxes in soldering and in various smelters. The list is growing each day. Employers should have details of all materials to which workers are exposed. This information comes in Material Safety Data Sheets (MSDS) which you should ask for and take copies to your doctor if a work-related chemical is suspected.

What are the symptoms?

The symptoms are those of asthma no matter what the cause. They include difficulty in breathing, tightness across the chest, wheezing and cough. These symptoms may occur at work, in which case the diagnosis of occupational asthma is easily made. However, and very importantly, symptoms may not occur at work but develop later that night or the next morning. Where this occurs, the diagnosis is often missed. Usually the symptoms improve over a long weekend and when on holidays.

What tests are necessary?

Workers are often asked to record their breathing tests, usually peak flow measurements, whilst at work and then away from work over two weeks. In this way, abnormal patterns of breathing can be identified and related to specific work exposures or jobs. In some cases, tests of the severity of asthma are made using histamine or methacholine challenges in lung function laboratories. Occasionally, skin tests and blood tests may be indicated.

What can be done about it?

Once occupational asthma is diagnosed, it is invariably necessary to move to another job or another area to avoid exposure to the causative agent. Workers who continue to be exposed and have symptoms are less likely to recover fully and may be left with permanent lifelong asthma symptoms with significant disability.

Workers' compensation may be available for the time a worker is moved off site to allow recovery.

Whilst treatment may be indicated to reduce the severity of asthma, it is important that treatment is not used to enable a worker to stay in the area which caused the asthma in the first place. This may lead to further deterioration in the asthma and reduce the chance of full recovery.

Summary

Asthma symptoms caused by or made worse by occupational exposure need a high level of suspicion by employer, employee and doctor. In an ideal situation, all three participants need to work together to produce a successful outcome.

Further Information

For more information about occupational asthma, talk to your doctor, your pharmacist or local Asthma Foundation.

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Please Note: This information is intended by The Australian Lung Foundation to be used as a guide only and is not an authoritative statement. Please consult your family doctor or specialist respiratory physician if you have further questions relating to the information provided here.