

Ripon Select Foods Ltd
OCCUPATIONAL ASTHMA

INTRODUCTION

1. This guidance gives you practical advice on how to protect your employees from the ill effects of 'respiratory sensitisers'. Respiratory sensitisers can cause permanent damage to the nose, throat and lungs. Once sensitised further exposure to the sensitiser, sometimes to even tiny quantities, causes allergic symptoms. These range in severity from a runny nose and watery eyes to asthma which, on occasions, can kill.
2. HSE estimated that in 1992 there were over 1000 new cases of asthma caused by exposures at work. In addition, about 70,000 people in the UK believe that they have asthma caused, or made worse by, substances breathed in at work. This makes respiratory sensitisers a major cause of occupational ill health. For many people development of respiratory sensitisation results in permanent lung damage; breathing difficulties continue long after exposure to the sensitiser has ended.
3. Many different kinds of substances may be respiratory sensitisers – chemicals, metals, and natural substances of animal or plant origin.

THE PROBLEM OF OCCUPATIONAL ASTHMA

HOW DOES IT DEVELOP AND WHAT ARE THE SYMPTOMS?

4. Sensitisation is a result of changes to the immune system which normally protect the body from the harmful effects of contaminants in the air we breathe (for example, microbes or 'bugs', dust). It is different from many other forms of toxic effect because it is 'all or nothing' (the person either becomes sensitised to the substance or does not). Sensitisation is:
 - substance-specific - symptoms initially occur only in response to that substance;
 - unpredictable - only some individuals at risk will become sensitised, typically 5 – 25%;
 - latent - sensitisation may occur after months or even years of exposure;
 - irreversible - although symptoms disappear when exposure stops, they may reappear if exposure occurs again, even after several years;
 - but sensitisation will not occur once exposure has stopped.
5. When a worker is sensitised, allergic symptoms may develop on any re-exposure. The symptoms are:

Asthma – periodic attacks of wheezing, chest tightness and breathlessness resulting from constriction of the airways;

Rhinitis and conjunctivitis – runny or stuffy nose and watery or prickly eyes, typical of hay fever.

Rhinitis, conjunctivitis (and sometimes dry coughs) are the most common effects of sensitisation and may lead to asthma if further exposure to the sensitiser is not stopped.

6. The symptoms either occur immediately on exposure or after several hours. If delayed, they are often most severe in the evening or during the night, so workers may not realise that it is work that is causing the problems. However, if they get better during the weekends and holidays they may begin to suspect.
7. Symptoms develop at much lower levels of the substance than those which first caused sensitisation and well below levels which cause other harmful effects.

LONG-TERM EFFECTS OF SENSITISATION

8. If exposure continues, symptoms are likely to become increasingly severe.
 - People with rhinitis may go on to develop asthma.
 - Attacks of asthma are likely to become worse. Once asthma is established attacks may also be triggered by other things, such as tobacco smoke, cold air and exercise. Such attacks often continue for years after exposure to the sensitiser has ended.
9. Some people who develop occupational asthma become so disabled that they cannot work again. Most have to change to a job where they are not exposed to the sensitiser. They may no longer be able to use their specialist skills and may face a cut in pay. A few people die from slow deterioration of health caused by occupational asthma. Occasionally, a sudden severe asthma attack results in death.

WHAT CAUSES SENSITISATION?

10. Extent and pattern of exposure
11. The main thing seems to be the overall amount of exposure to the sensitiser. High exposures over short periods and long-term exposures to lower concentrations may cause sensitisation. No one can predict if one sort of exposure sensitises quicker than another. Most people who become sensitised do so during the first two years of exposure, often in the first few months, but sometimes it occurs after years or even decades of exposure.

Activity of the sensitiser

10. Different substances do, however, sensitise at different concentrations. Some will sensitise below one millionth of a gram per cubic metre (equivalent to a few specks of dust in London's Royal Albert Hall). For other sensitisers the level needed is considerably higher.

11. It is difficult to find out how much exposure is needed to cause sensitisation. To do that you need to know:
12. how many workers have been sensitised
 - which substances have caused the sensitisation and
 - the extent and pattern of exposures of the workers to the sensitisers, over say, the previous five years.

A good deal of research is going on to answer these questions (some of it funded by HSE). But it will be some time before we have the data to show what is a 'safe' level of exposure for the main sensitising substances.

EXISTING RESPIRATORY DISEASES OR ALLERGIES

13. If workers have respiratory disease or breathing difficulties their chances of becoming sensitised may increase and their symptoms may become more severe.
14. About a third of the UK population are estimated to be sensitised to common environmental sensitisers, such as grass pollens, house dust mite and animal dusts. Such people are said to be atopic. Only some of them show allergic symptoms, such as hay fever. Atopic people may be more readily sensitised to natural products but this difference is not evident with manufactured chemicals.
15. Since atopic and non-atopic people can become sensitised, the existence of atopy cannot be used as a basis for excluding people from employment in jobs where respiratory sensitisers are used.

EXTENT OF RESPIRATORY SENSITISATION

16. The Labour Force Survey estimated that 20,000 people believe they have asthma caused by substances breathed in at work. A further 50,000 believe their asthma is made worse by work.
17. Studies in industries with a recognised risk of sensitisation revealed that up to 30% of workers had occupational asthma. However, some studies did not take into account those with asthma who were no longer exposed and so underestimate the numbers of people affected by overlooking those who had to change their jobs because of their asthma.
18. HSE are sponsoring researchers to run a scheme known as SWORD (Surveillance of Work-related and Occupational Respiratory Disease) which collects information on new occurrences of occupational asthma. The scheme gives an estimate of over 1,000 people developing occupational asthma each year. As the scheme only includes asthma sufferers examined by participating occupational health or chest physicians it is likely to underestimate the true incidence of disease.