Fact Sheet 3:

Indoor Quality & Asthma

- Allergic disorders, such as asthma, already affect 3 million people in Britain, and the trend is rising.
- Only 15% of smoke produced by a cigarette is inhaled by the smoker. Cigarette smoke can cause trigger attacks in 83% of people with asthma.
- The average person spends around 90% of their lives indoors and inhales and exhales some 20,000 litres of air daily.
- Research revealed 2 million cases of sick building syndrome in Germany every year, leading to 24 million lost working days. The situation is thought to be similar in the UK.

Until recently, if the average citizen gave pollution and air quality any thought at all, they were convinced that if they couldn't see it, smell it or taste it, it either didn't exist or couldn't harm them. Asthma sufferers know a different tale: their lives directly governed by the air that surrounds them, for them pure air is not a luxury but a necessity. Like clean water, clean air in our living and working environments should be an unspoken guarantee - but when we have to do without it, the problem for asthma sufferers is especially acute.

Azein, the Greek word for 'to breathe hard', is the root of the word that has come increasingly used to describe one of the most debilitating drawbacks of living in an industrialised society. We cannot avoid the fact that our changing environment is affecting and aggravating this disorder.

What is asthma?

Asthma is basically a physiological disorder of the respiratory system. The air passages of an asthmatic are already irritable; these passages then narrow down and become more inflamed in response to one or several 'trigger factors', or 'respiratory sensitisers' - substances in the air that trigger allergic reactions. As their airways become narrower, asthmatics experience chest tightness, breathlessness, wheezing, and coughing. The emotional stress and fear experienced as a result of these symptoms can actually aggravate the asthma attack, making the initial symptoms worse. For some sufferers an asthma attack is inconvenient but bearable, for others the reaction may result in death, or near death.

What causes asthma?

The causes of asthma are just about as numerous as the sufferers affected. According to the National Asthma Campaign, no two sufferers are alike, and the triggers can vary enormously. Some of the more common triggers include:

- Cigarette smoke
- Pollen
- Dust mites
- Fumes
- Chemicals
- Car fumes
- Furry or Feathered pets
- Changes in weather conditions
- Vigorous exercise

Who is at risk from developing asthma?

It is estimated that 1500-2000 new cases of asthma are reported each year in the UK, and that one in five new asthma cases develops at work often in people with no other allergies or previous sensitivities. In general people exposed to the common triggers outlined above for long periods of time, and people in badly air-conditioned and air-filtered environments seem to be particularly at risk .

What asthma related hazards are present in the workplace?

Smoke in the workplace seems to be one of the main hazards, according to the National Asthma Campaign. Asthma suffers are also particularly vulnerable to many of the active factors that cause, what is commonly known as Sick Building Syndrome (SBS). These may include inadequate fresh air ventilation, uncontrolled temperature or relative humidity, emissions from office equipment and fluorescent lights, chemical pollutants, painted surfaces and synthetic furnishings. Other, less obvious, factors include tedious work schedules, noise, stress, management, and the arrangement of work areas. Other well-known allergens in the workplace include dust and dust mites from carpets and office furnishings, and also dusts from wood, grains, leaves and other substances in a factory or shopfloor environment as a result of the manufacturing process, and also allergens carried into the workplace by other employees .

What work-related problems do asthma sufferers face?

Trigger substances turn the working day into an obstacle course for those who suffer from asthma - an obstacle course to be negotiated with as little discomfort and lost productivity as possible. Occupational asthma can be a serious and disabling disease, affecting career choice, career development, earnings potential, and ultimately long-term health.

What can employers do to help asthma sufferers, and prevent the onset of asthma in others?

The two most important steps are to **prevent exposure** of people **to the sensitisers** (e.g. dust) and to **prevent** the asthma sufferers from **exposure to the triggers** (e.g. cigarette smoke).

- Some positive actions to help reduce the problem include:
- Implement a **No-Smoking policy**.

- Introduce Hydroculture plants (plants potted in soil), which do a good job of removing interior air pollutants.
- **Control the temperature** and **humidity** within the accepted comfort zone.
- Installation of a **good quality ventilation system** that can extract pollutants and circulate both indoor and fresh outdoor air.
- Ensuring ventilation system **air filters** are frequently checked and cleaned and the system is regularly maintained.
- Thorough and regular **cleaning of all office upholstery** and carpets to reduce dust mites.
- Arrange for office cleaning to take place in the evenings to reduce the chance of dust and chemicals being present when the workers arrive in the morning.
- For employees whose jobs involve them in daily exposure to hazardous substances, special attention should be given to extra protective clothing, the use of respirators, and regular medical monitoring. Chemicals that are known sensitisers can often be replaced by an alternative substance.

What are the benefits to employers from taking action on this issue?

Improving the quality of indoor air in the workplace means improved well being and better health not just for asthma sufferers, but for everyone in the office environment. It has been established that people in properly air-conditioned or air-filtered environments rarely suffer from asthma or hay fever; the filtration system acts to eliminate the particles that would normally pervade the workplace.

From reduced staff efficiency, longer breaks and increased absenteeism to far-reaching legal ramifications of more serious complaints, occupational asthma and its causes cannot be dismissed. On the other hand, maintaining an acceptable level of indoor air quality is a simple and straightforward business decision.

Are there any current legal regulations in relation to asthma and the workplace?

Yes, by law, chemicals containing known sensitisers must be labelled. There are now over 200 known respiratory sensitisers and the list is growing. The National Asthma Campaign recommends a new and improved code of practise for employers, which should be mandatory and legally binding rather than voluntary, to supplement the Control of Substances Hazardous to Health regulations .

Further Reading

Sensitisers: These are substances in the air that when inhaled can cause you to get asthma even if you have never had it before. The main sensitisers include:
Dust from insects, animals.
Dust from tea, beans and wood
Dust from flour, grain and hay.
Glues, resins, solder fumes and chemicals especially isocynates.

Triggers: These are substances that irritate the lungs in people who already suffer from asthma and trigger an attack. The most common triggers include: Cigarette smoke, Cold, dry air, Dust, pollen, Stress and viral infections such as the Flu or colds.

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