

Reducing Asbestos-related Lung Cancer on Wirral

GP BRIEFING PAPER

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INTRODUCTION

Asbestos was called the “magic mineral” because its unique chemical composition coupled with its physical properties made it so versatile. It was suitable for use in thousands of products ranging from floor tiles to fireproof doors, from pipe insulation to brake and clutch linings. Asbestos fibres can withstand fierce heat but are so soft and flexible that they can be spun and woven as easily as cotton. The term asbestos is derived from a Greek word meaning “inextinguishable, unquenchable or unconsumable”. Asbestos is naturally occurring fibrous silicates, which are mined in areas of the world such as, Canada, South Africa and Australia.

Asbestos Imports and use

Total UK imports up to 1985 were about 4 million tonnes of chrysolite, 600,000 tonnes of amosite and 153,000 tonnes of crocidolite (Howie, unpublished). Peak asbestos imports occurred during the 1960s and 1970s. Locally, in 1975, Liverpool Docks imported 25,300 tonnes of asbestos.

However, the rise in asbestos-related diseases and deaths led to a voluntary ban of blue asbestos imports in 1970 and a similar ban of brown asbestos in 1980, with the total banning of all asbestos imports in 1999.

Occupation groups that have used and/or been exposed to asbestos include:

- ship- builders
- garage works
- joiners
- carpenters
- electricians (power station workers)
- building workers
- dockers
- plumbers
- heating engineers (ladders/thermal insulation engineers)
- and others.

Types of Asbestos

There are three main types of asbestos:

CHRYSOLITE	–	Also known as white asbestos
CROCIDOLITE	–	Also known as blue asbestos
AMOSITE	–	Also known as brown asbestos

Experts think blue and brown asbestos are more dangerous than white asbestos. But all forms of asbestos are dangerous, and in practice it is difficult to know which type of asbestos a worker has been exposed to.

ASBESTOS RELATED DISEASES

Asbestos related diseases are predicted to rise to about 10,000 deaths a year in Britain (Wikeley, 1998). There is usually a long delay between first exposure to asbestos and the onset of asbestos-related diseases. In addition, there are many stages that individuals may or may not pass through, with or without symptoms. The latency period can be from 15 to 60 years before symptoms occur. Asbestos exposure can result in any one of the following diseases or conditions dependent upon certain risk factors and the amount of exposure.

Pleural Plaques

This is the least serious form of asbestos disease. Plaques are raised areas of thickened pleura, visible on x-ray, but in most cases symptoms don't develop. Plaques are a *marker of asbestos exposure*.

In themselves, plaques are not dangerous, but because they show an exposure to asbestos, there is a risk of more serious illness in the future. While pleural plaques do not have medical significance they do not have legal significance.

Pleural Fibrosis or Thickening

Benign diffuse pleural thickening often begins with pleural effusion, which then heals by gradual thickening of the pleura. This is more serious than plaques, because symptoms can include pain and breathlessness.

There are risks of developing asbestosis, lung cancer or mesothelioma.

Asbestosis

Asbestosis is a form of fibrosis within the lung tissue. Asbestos fibres become stuck in the lungs, causing inflammation and scarring, affecting the efficiency of the lungs. Breathlessness, cough and other symptoms are typical of asbestosis.

Victims must have breathed in quite a lot of asbestos dust over at least several months to get asbestosis. In addition, asbestosis tends to develop 20 years or more after first contact with asbestos dust. The condition develops slowly and incapacitates the victim over a long period of time. It cannot be cured. It is sometimes, but not always, progressive.

Asbestosis is identified by x-ray, or CAT/CT scan, by work history, clinical examination and lung function tests.

Sufferers of asbestosis are at a much higher risk of developing asbestos-related lung cancer (Buchanan, 1965).

Asbestos-related lung cancer

Lung cancer occurring with asbestosis has been known since 1935 (Lynch and Smith, 1935) but the incidence has increased greatly, so that nowadays over half the patients with asbestosis die from lung cancer (Buchanan, 1965).

The latency period for the development of lung cancer is up to 20 years following first exposure (Merler et al., 1997).

Some doctors believe that to get lung cancer from asbestos victims must first develop asbestosis. However, studies in America on large numbers of insulation workers, suggest that the incidence of lung cancer in asbestos workers who do not have asbestosis is far higher than the incidence in an unexposed population (Selikoff et al., 1973; Hammond and Selikoff, 1973). However, the higher rate of lung cancer is dependent upon the worker being a cigarette smoker (Hammond et al., 1979).

The conflicting evidence makes asbestos-related lung cancer difficult to diagnose if asbestosis has not already developed. However, tests to determine the quantity of asbestos fibres inhaled help support the link. Such tests can only be done from a good pleural biopsy during lifetime, or, more often, after post mortem.

Mesothelioma

Mesothelioma is almost exclusively caused by exposure to asbestos dust. It is a tumour of the lining of the lung (pleura) or sometimes the lining around the abdomen (the peritoneum).

The latency period between first exposure to asbestos and the development and diagnosis of mesothelioma is seldom less than 15 years and can be as long as 60 years (Merler et al., 1997).

Symptoms usually begin with back or chest pain caused by a pleural build up of fluid around the lung. Progressive thickening and obliteration of the pleural space results in the contraction of the hemithorax with restriction of movement and lung expansion and consequent breathlessness.

Victims usually die within 18 months or 2 years of getting it.

PERSONAL RISK ASSESSMENT

The first findings of an asbestos-related disease came in 1906. However, a complete ban of the import of asbestos did not come into effect until 1999. Those at greatest risk of suffering from an asbestos-related disease are men born between 1940 and 1950, who started their working lives in the 1960 and 1970s, particularly plumbers, gas fitters, carpenters and electricians (Peto et al., 1995). However, most of the asbestos imported to the UK between 1960 and 1980 is still in place in buildings, and carpenters, plumbers, electricians and other workers involved in building renovation, maintenance and demolition may still suffer unsuspected exposure (Peto et al., 1995).

Absolute Risk

Although asbestosis and mesothelioma are relatively simple to diagnose, it is very difficult to distinguish a lung cancer caused by asbestos from one caused by smoking. Therefore the absolute risk for asbestos-related lung cancers are under-reported. Each year on Wirral about 300 people die of lung cancer – or very roughly about 5 per practice. The number of mesothelioma deaths for the Wirral between 1986-95 were 89 males and 3 females - which was one of the highest in the UK, and highest in the North West (HSE, 1996).

It is assumed in official publications that there are between one and two excess lung cancers per mesothelioma (HSE, 1992; HSC, 1996, 1997, 1998).

However, a meta-analysis of the research to date has indicated that the mesothelioma to asbestos-related lung cancers ratio is much higher, with 9 asbestos-related lung cancer deaths to every mesothelioma death (Howie, unpublished). If this was the case the asbestos related lung cancer deaths between 1986-95 for the Wirral area could have been about 800. If the trend of asbestos related lung cancer deaths on the Wirral is projected to follow the same pattern as that from 1986-1995 as many as 1602 further deaths could occur up to 2020.

Relative Risks

Research has shown that certain factors may enhance the risk of suffering from an asbestos-related disease. In particular, exposure to asbestos and smoking may synergistically increase lung cancer risk more than to 50-60 times, compared to being an unexposed never smoker (Hammond et al., 1979) (Table 1).

Reducing the risk

Tobacco abstinence for 10-15 years reduces the risk of cancer among asbestos-exposed subjects by 60-70%, compared to continuing the habit (Hammond et al., 1979; Waage et al., 1993). If 29% of those at risk smoke, there is potential to reduce the personal risk significantly. For example, if an intervention was successful at altering the smoking behaviour of 50% of those who smoke this could reduce the number of deaths by 155 (10%).

Therefore, early identification of those at greatest risk through quantification will have greatest impact on mortality reduction by focusing smoking cessation interventions where the mortality and morbidity risks are the greatest.

Table 1 Lifetime Risk of Lung Cancer by Risk Group*

Risk Group	Risk Factor	Relative Risk	Lifetime Risk
Baseline	None	1.0	1/1000 (0.1%)
Borderline	Ex-Smoker	5	5/1000 (0.5%)
Borderline	Asbestos Exposed	7	7/1000 (0.7%)
Moderate	Current Smoker	13	1/100 (1.3%)
Moderate	Ex-Smoker Asbestos Exposed	22	1/50 (2.2%)
High	Current Smoker Asbestos Exposed	64	3/50 (6.4%)

*Data modified from Hilt et al. (1986).

LEGAL SITUATION

The LAW

As with all injuries or occupational disease an asbestos victim must establish that their condition has been caused by their work and is due to fault on the part of their employers.

Time Limits

Legal advice should be sought as soon as victims are diagnosed as suffering from an asbestos-related disease.

There are strict time limits within which legal proceeding must be commenced. Legal proceedings must be commenced within three years of the date when a victim finds out they are suffering from an asbestos-related disease. But courts will sometimes allow late claims, so always seek legal advice.

If victims breathed in asbestos dust at work during the past 35 years, the employer will be at fault. If it was more than 35 years ago victims still have a good case if they were exposed to a substantial dust.

Compensation: Final settlement or provisional damages

Sufferers with severe conditions will usually have their case dealt with by an award of lump sum compensation as a once and for all settlement. The compensation is for the pain and suffering and disability, past and future.

Compensation includes past and future financial losses:

- loss of wages
- interest on loss of wages
- loss of earning capacity
- medical expenses
- nursing care expenses
- psychological distress to patient and families (especially in mesothelioma cases)

The widow or other dependants can still pursue a claim where victims have died.

Mesothelioma is always dealt with by way of a final settlement.

An award of provisional damages for less serious cases pays some compensation now and allows the victim to make a further claim in the future if their condition deteriorates or they develop other asbestos-related conditions.

Defunct employers

In the cases where it is not possible to pursue a claim against the employers or their insurers, a claim may lie to the Government under the provisions of the Pneumoconiosis (Workers Compensation) Act 1979. This payment is claimed from the **Department of the Environment, Transport and the Regions (DETR)**. It is always worth applying for such a payment, but it will be deducted from any compensation later awarded by the courts.

BENEFITS

Independently of any claim for compensation from the employers or their insurers, sufferers of some asbestos-related conditions will be entitled to **Disablement Benefit and other benefits from the Department of Social Security.**

A person suffering from asbestos-related pneumoconiosis, diffuse mesothelioma, carcinoma of the lung, or bi-lateral pleural thickening is entitled to apply for **Industrial Injuries Disablement Benefit**. The amount of benefit is dependent upon the level of disablement (defined as a percentage) and subject to a medical examination. Victims need to apply for Industrial Injuries Disablement Benefit before making a Pneumoconiosis Act 1979 application, but need not wait for the result before making a Pneumoconiosis Act 1979 application.

Persons exposed prior to 5th July 1948 cannot apply for Industrial Injuries Disablement Benefit. However, they are entitled to a payment under the **Workmen's Compensation (Supplementation) Scheme or the pneumoconiosis, byssinosis and miscellaneous diseases benefit scheme.**

Where to get help and advice

More information and leaflets can be obtained from any local **social security office.**
Or **Merseyside Asbestos Victims Support Group (overleaf)**

Ill or disabled because of a disease or deafness caused by work –

Leaflet SD2

Workmen's Compensation Scheme – Leaflet WS1

Pneumoconiosis, Byssinosis and Miscellaneous Diseases Benefit Scheme – Leaflet PN1

A confidential telephone service for people with disabilities and their carers:

Benefits Enquiry Line (BEL) on 0800 88 22 00

Speech or hearing problems on 0800 24 33 55 (Textphone)

SUPPORT GROUPS

Merseyside Asbestos Victims Support Group

Is a voluntary organisation set up in 1993 by sufferers of asbestos-related diseases and the families of people who had died from an asbestos disease.

The service offers confidential services to victims of Asbestos Related Disease and their families, including:

- DSS and other state benefits associated with Asbestos related illnesses
- Practical assistance in the completion of all appropriate paperwork
- Representation at DSS tribunals
- Counselling by trained personnel for victims and their families
- Leaflets with asbestos information, details and advice

Merseyside Asbestos Victims Support Group

Unit 3, Oriol Close, Water Street, Liverpool L2 8UQ

Office Hours: Monday to Thursday 9am – 5pm

0151 236 1895

OEDA (Occupational and Environmental Diseases Association)

Mitre House

66 Abbey Road

Bush Hill Park

Enfield

Middlesex

EN1 2QH

MacMillan Cancer Relief Mesothelioma Information Project

Helpline 0113 206 6466 – Mavis Robinson offers advice and support

References

Buchanan, W.D. (1965). Asbestosis and primary intrathoracic neoplasms. *Annals of New York Academy of Science*, 132, 507-518. In Whitewell et al. (1977). Relationship between occupations and asbestos fibre content of the lungs in patients with pleural mesothelioma, lung cancer, and other diseases, *Thorax*, 377-386.

Hammond, E.C., Selikoff, I.J., & Seidmann, H. (1979). Asbestos exposure, cigarette smoking and death rates. *Annals of New York Academy of Science*, 330, 473-490.

Hammond, E.C. & Selikoff, I.J. (1973). Relation of cigarette smoking to risk of death of asbestos associated disease among insulation workers in the United States. In Bogovski P. (eds.), *Biological Effects of Asbestos*, pp 312-317. The International Agency for Research on Cancer, Lyons.

Health and Safety Commission (1996). *Health and Safety Statistics 1995/96*. London: Health and Safety Commission.

Health and Safety Commission (1997). *Health and Safety Statistics 1996/97* London: Health and Safety Commission.

Health and Safety Commission (1998). *Health and Safety Statistics 1997/98*. London: Health and Safety Commission.

Health and Safety Executive (1992). *Employment Gazette, Occupational Supplement No. 3. Health and Safety Statistics 1990-1991*. London: Health and Safety Executive.

Health and Safety Executive (1996). *Review of fibre toxicology. EH 65/30*. Health and Safety Executive, London. ISBN 0 7176 1205 8.

Hilt, B., Langard, S., Lund-Larsen, M.D & Lien, J.T. (1986). Previous asbestos exposure and smoking habits in the county of Telemark, Norway – A cross-sectional population study. *Scandinavian Journal of Environmental Health*, 12, 561-566.

Howie, R., & Associates (2000, unpublished). *The reality of UK Asbestos-related deaths*.

Lynch, K.M. and Smith, W.A. (1935). Pulmonary asbestosis III. Carcinoma of the lung in asbesto-silicosis. *American Journal of Cancer*, 24, 56-64. In Whitewell et al. (1977). Relationship between occupations and asbestos fibre content of the lungs in patients with pleural mesothelioma, lung cancer, and other diseases, *Thorax*, 377-386.

Merler E, Buiatti E, Vainio H, (1997). Surveillance and intervention studies on respiratory cancers in asbestos-exposed workers, *Scand J Work Environ Health*; 23:83-92.

Peto J, Hodgson JT, Matthews FE, Jones JR, 1995 Continuing increase in mesothelioma mortality in Britain, *The Lancet* Vol 345:535-539

Selikoff, I.J., Hammond, E.C., & Seidman, H. (1973). Cancer risk of insulation workers in the United States. In Bogovski P. (eds.), *Biological Effects of Asbestos*, pp 209-216. The International Agency for Research on Cancer, Lyons.

Waage, H.P., Langard, S., & Andersen, A. (1993). The incidence of asbestos related cancer in a population cross section: Eight years of follow-up. *Journal of Occupational Medicine and Toxicology*, Vol 2, No 1, 1-16.

Wikeley, N. (1998). *The Victim and the law. Problems in Social Security Adjudication.* Paper given at the National Asbestos Conference, Glasgow.

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