



## GUIDE TO ASBESTOS LUNG CANCER

### What Is Asbestos Lung Cancer?

Like tobacco smoking, **exposure to asbestos** can result in the development of **lung cancer**. Similarly, the risk of developing asbestos induced lung cancer increases with dose. It is thought that there are approximately between **1,400 and 2,000** asbestos induced **lung cancer incidences** in the **UK** per year.

Recent studies have found that **asbestos exposure** significantly multiplies the **risk of lung cancer** by a similar factor in both smokers and non-smokers. However, the **extent** to which **asbestos exposure** multiplies the **risk varies and depends** largely upon the **type of asbestos** as well as the **nature** and the **duration** of the **exposure**.

**Cancer** is a general term applied to a **malignant growth** called a tumor. There are

many types of lung cancer. Each **type** of **lung cancer** grows and spreads in **different ways** and is **treated differently**.

A **cancer** is an **abnormality** of the **cell** which results in an **uncontrolled division of cells**. These cells eventually form a lump known as a **tumor**.

The tumor cells can begin to grow elsewhere in the body, a process known as metastases.

**Lung cancer** can arise in **every part** of the **lung**. A large percentage of lung cancer is thought to arise from the epithelial or lining cells of the large and small airways and is sometimes called bronchogenic carcinomas.

Lung cancers are broadly classified into two types:

- Small cell lung cancer
- Non small cell lung cancer

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This classification is based on the microscopic appearance of the tumor cells.

## What are the symptoms of Asbestos Lung Cancer

Common symptoms include:

- a cough that does not go away and gets worse over time
- coughing up blood
- shortness of breath, wheezing or hoarseness
- repeated problems of pneumonia
- shoulder pain extending down the outside of the arm
- unexplained weight loss or loss of appetite
- constant chest pain
- fatigue
- psychological symptoms such as depression and mood changes are common

However up to **25% of people** with **lung cancer** have **no symptoms** and the tumor is detected only by a routine chest x-ray.

## Diagnosing asbestos lung cancer

You should consult a Doctor if you develop symptoms associated with lung cancer in particular if you have any of the following:

- a new persistent cough or worsening of an existing cough

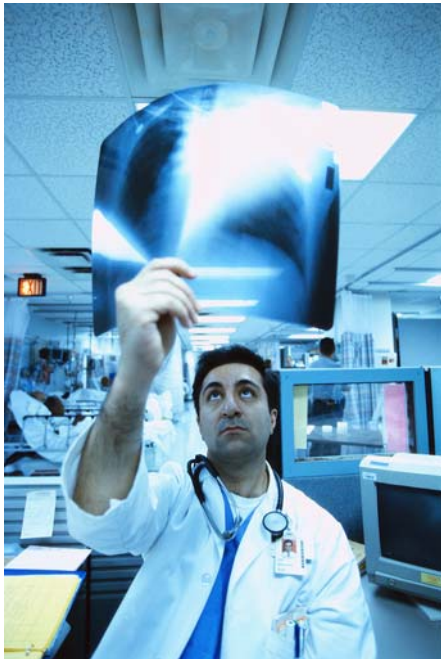
- blood in your sputum
- persistent chest infections
- chest pain
- unexplained weight loss and tiredness
- breathing difficulties such as shortness of breath or wheezing. Breathlessness is such a common symptom among patients with respiratory disease, that it is rarely specific enough to indicate cancer. However, it is true that many patients with large bronchial obstruction due to cancer have increasing breathlessness



Doctors use a number of tools to assist diagnosis of asbestos lung cancer including:

- A detailed history is taken of all known exposure to asbestos and smoking.
- A chest x-ray may reveal abnormalities in the lung. Further tests are usually necessary to determine whether the abnormalities are malignant or benign. In

particular the presence of nodules in the lung may be identified on a chest x ray and may signify malignancy.



- **Computerised Tomography Scan (CT scan)**

A CT scan is an image produced by an x-ray source which rotates around the patient. The high energy beams pass through the patient and are detected by sensors on the other side. The information is analysed by computer to generate a cross section view of the patient. A CT scan can detect abnormalities in tissue that would not be apparent on a plain x-ray.

- **Bronchoscopy**

A tube camera is inserted via the mouth or nose into the airway and may identify a

tumor or sample sections for laboratory analysis.

The procedure can be uncomfortable and the patient may need to be sedated.

When a tumor is identified a sample can be taken by syringe biopsy forceps. The sample can then be analysed.

- **Needle Biopsy**

Fine needle aspiration guided by radiological imaging (CT scan) enables a sample of suspected tumor to be removed via a syringe mechanism and analysed under the microscope.

Needle biopsies are particularly useful where the tumor is located at the edge of the lung and inaccessible by bronchoscopy (such as the mesothelioma).

A small risk of an air leak from the lungs (causing pneumothorax) occurs which is normally easily treated.

Radiotherapy is often applied to the site of the needle insertion.

- **Thoracentesis**

Samples of the fluids that can accumulate in the space between the lungs and chest wall may be required.

- **Positron Emission Tomography (PET scan)**

While CT scans and MRI scans look at anatomy, PET scans measure metabolic activity and functioning of tissue.

PET scans can show whether a tumor is actively growing.

In PET scanning the patient receives a short half-life radioactive drug and a dose of radiation that approximates to 2 chest x-rays. As it decays, the radioactive drug emits positively charged particles called positrons. When these positrons encounter negatively charged electrons energy is released in the form of gamma rays. The specialized PET scanner detects and records the gamma rays to build up an image of these reactions within the body.

For example, combining the radioactive drug with glucose shows where glucose is being used in a growing tumor.

- **Bone Scans**

A bone scan may be used to determine if a cancer has spread to the bones.

- **Sputum Cytology**

A Pathologist may examine slides of sputum under a microscope to identify cancerous cells. This procedure is rarely used these days, except in cases where the patient is too ill and not well enough for invasive tests.

- **Blood Test**

Blood test alone cannot diagnose lung cancer. Blood tests can identify abnormalities in the body that are suspicious of lung cancer such as raised calcium levels.

## Treatment of asbestos lung cancer

There are three main treatments offered:

- Surgery
- Radiotherapy
- Chemotherapy

### Surgery

Surgical removal of the tumor is the preferred treatment for non-small cell lung cancer, if the cancer is contained in the lung and has not spread to other areas of the body.

Surgery is not always possible if the cancer is situated close to the wind pipe for example.

Surgery will not be possible if the patient has other diseases such as heart disease which could be worsened by the procedure or if the patient is generally too weak.

The surgical procedure can vary from removal of the portion of the lung to removal of the entire lung. Sometimes lymph nodes are also removed.

The procedure will take place under general anaesthetic following hospital admission.

Surgical removal of a lung cancer tumor is a major procedure and normal risks following surgery apply.

## Radiation

Radiation treatment employs x-rays to kill dividing cancer cells.

The radiation may be offered to remove residual traces of tumor following surgery, to shrink an otherwise inoperable tumor with the aim of lessening pain or as a treatment to accompany chemotherapy. Radiation may be delivered externally via a machine or internally through placement of radioactive substances in field containers in the area of the tumor.

In 10-15% of patients radiation therapy leads to a long term remission of tumor growth.

Where radiation is applied externally the tumor must be accurately located using CT scans to identify the precise location where the treatment must be directed. This process can take up to 2 hours before treatment can proceed.

Side effects of radiotherapy can include tiredness, reduced white cell count, low blood platelet count, nausea or diarrhoea.

Radiation administered externally can irritate the skin.

## Chemotherapy

A variety of drugs are administered either as pills intravenously or in combination. The procedure can be performed in an out-patient clinic.

The combination of drugs vary according to the type of the tumor. A combination of drugs is given in a series of treatments (called cycles) with breaks in between.

Side effects include sickness, diarrhoea, hair loss, tiredness, mouth sores and susceptibility to infection.

## What causes Asbestos Lung Cancer?

Asbestos fibers can remain deeply embedded in lung tissues for many years after exposure to asbestos. The fibers will remain in the lung for the rest of the patient's life.

It is thought that the presence of asbestos fibers deep in the lung tissue leads to changes in the surrounding cells which over time can become cancerous.

## Recommendations

If you have been diagnosed with asbestos lung cancer or suspect that you may have asbestos lung cancer or any asbestos related disorder the following apply:

- stop smoking and avoid tobacco and pipe smoke including second hand
- attend your doctor regularly for monitoring and assessment
- consider vaccinations against influenza and pneumonia

## Asbestos Lung Cancer – legal issues

Despite many years of research, the relationship between asbestos exposure and lung cancer is not fully understood. Most asbestos associated lung cancer occurs in those who are also smokers. Recent studies indicate that the presence of asbestosis is not necessary to attribute lung cancer to asbestos exposure.

In cases where a patient has not smoked and has a significant history of asbestos exposure, whether occupationally or environmentally, asbestos must be considered as a likely cause of the cancer.

The presence of asbestosis, asbestos bodies in the lung, pleural plaques or asbestos pleural thickening would tend to strengthen

the diagnosis of asbestos lung cancer in such a patient.

There is a direct correlation between the extent and duration of the asbestos exposure with the likelihood that an ensuing lung cancer is caused by asbestos exposure.

Where a patient has also smoked, it becomes more difficult to differentiate between asbestos and smoking as causes of the lung cancer. However, once again, where exposure to asbestos has been prolonged and significant and where other asbestos changes are identified within the lung, such as pleural plaques, pleural thickening or asbestosis, then the diagnosis of asbestos lung cancer will be seriously considered.

The issue as to whether asbestos exposure has materially contributed to causation of lung cancer is one of expert evidence that must be addressed by a Consultant Chest Physician.

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**Emma Costin  
Partner  
Tel: 0844 858 3600  
Email: [emma.costin@simpsonmillar.co.uk](mailto:emma.costin@simpsonmillar.co.uk)**