

### What is a Pulmonary Nodule?

A pulmonary nodule is an area of roundish shadowing or 'spot' usually 3cm (approximately 1 inch) or smaller in the lung. It does not usually cause any symptoms but can be seen on a CT scan (Computed Tomography) and sometimes on a chest x-ray. They do not usually cause any symptoms.

### Why do pulmonary nodules occur?

Pulmonary nodules are very common. Approximately 1 in 4 (25%) of older people who smoke or who are ex-smokers have nodules on a CT scan. People who have never smoked may also have nodules on a CT scan. Most nodules are benign (non-cancerous) and may be caused by scarring from previous lung infections. They are very common in people who have had TB (Tuberculosis), and can occur in people who have had other conditions such as Rheumatoid Arthritis. In a small number of people the nodule could be a very early lung cancer or occasionally a secondary cancer that has spread from elsewhere in the body.

### Diagnosing Pulmonary Nodules

Nodules are sometimes found on a chest x-ray but in most cases they are too small and are only seen when the person has a CT scan. Pulmonary nodules are often found when the person is having a CT scan for another reason.

It is not always possible to know what the cause of a nodule is from the CT scan alone. Because nodules are small, a biopsy (a test performed to get a piece of the nodule) may be very difficult. Instead, we often keep an eye on the nodule by repeating the CT scan after a certain amount of time to see whether it grows. Benign (non-cancerous) nodules grow very slowly, or may not grow at all. On the other hand, malignant (cancerous) nodules will eventually grow, though this can happen slowly.

We can check if the nodule is changing by repeating a Chest x-ray or CT scan over a period of months or years. Because nodules can change very slowly there is no point in doing chest x-rays or CT scans any sooner. If the nodule grows or changes in any way then your chest specialist (doctor) may arrange for you to have further tests.

### What happens next?

Your Chest Specialist will discuss your information at a team meeting with other specialist doctors and nurses. A repeat chest x-ray or CT scan will then be arranged. This is usually done 3-6 months after your first chest x-ray or CT scan, but it could be after 9-12 months in some cases. It may be necessary to have a

number of CT scans over a number of years. This will depend on many factors including:

- your age
- whether you have other symptoms or other known cancers
- whether you smoke or used to smoke
- your general health
- your other medical problems (including a history of previous cancer)
- your own wishes regarding further investigation

In some cases you may have another type of scan arranged called a PET -CT. Your Chest Specialist will discuss the results of the scan at a team meeting with other specialist doctors and nurses. You will then be informed of the scan results either by letter or at an outpatient appointment. This should be soon after your CT or PET scan.

Should you develop any of the following symptoms between your scans, then you should inform your GP or chest specialist as you may need to be seen sooner.

- Pain in your chest
- Shortness of breath
- Repeated chest infections
- Coughing up blood

If you have any questions or worries about your condition please contact

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