

## What is a Pulmonary Nodule?

Pulmonary (lung) nodule(s) are small 'spots' or areas of rounded shadowing in the lung, typically 3cm or smaller. It is one of the functions of the CT scan in a Targeted Lung Health Check to look for these nodules. Lung nodule(s) do not usually give any symptoms.

## Why do Pulmonary Nodules occur?

Pulmonary nodules are common. They are found in approximately one in four (25%) of older people who smoke or who have smoked in the past. People who have never smoked may also have pulmonary nodules.

Most pulmonary nodules are benign (non-cancerous) and may be due to scarring from previous lung infection. They are very common in conditions like rheumatoid arthritis or where there is a history of previous infections like TB (tuberculosis).

In a small number of people, a pulmonary nodule could represent a very early lung cancer or occasionally a cancer that has spread from elsewhere in the body.

## How are Pulmonary Nodules diagnosed?

Sometimes pulmonary nodule(s) are seen on a chest X-ray but mostly they are too small and are only visible on a CT scan, and this is one of the main reasons to have a Targeted Lung Health Check.

It is often not possible to know the cause of the pulmonary nodule(s) from the CT scan alone. They are often too small and it isn't easy to get a biopsy (procedure performed to obtain a piece of the pulmonary nodule for examination). The best way is to monitor them by repeating the CT scan after a time interval to see whether they grow or change in appearance. Benign (non-cancerous) nodules occasionally get bigger but mostly remain the same.

Malignant (cancerous) nodules will eventually grow but very slowly to begin with. This can be monitored by repeating the CT scan over months to years. Due to very slow growth, repeating a scan too soon will not usually help show up this increase in size.

The time interval between scans and total duration of monitoring is worked out by studying the appearance of the pulmonary nodule(s) and whether there has been

any change on repeat CT scans. If there is any change in shape or size of the pulmonary nodule found after a repeat scan organised by the Targeted Lung Health Check Team, you will be referred to a chest consultant at the hospital who may organise further tests and you will be invited to attend clinic to discuss this further. This process has been established by experts studying the growth of these nodules in large populations of patients having body scans.

## What happens next?

Your CT scan will be looked at by a radiologist (X-Ray specialist) and then by your chest specialist. In some cases, your chest specialist will discuss your information at a team meeting (MDT) with other specialist doctors and nurses.

If a repeat CT is required, it will be arranged following nationally agreed guidelines. Usually, the scan is performed either in three- or 12-months' time. Some pulmonary nodule(s) may not need a repeat scan at all. In all instances, you will be contacted by letter.

You may need to have several CT scans over a number of years. This will depend on:

- Your age
- Your smoking history
- Whether you have other known cancer
- Your general health
- Your other medical conditions
- Whether you have family history of lung cancer
- Your own wishes regarding further investigations

You and your GP will receive a letter explaining the results of your CT scan and whether a repeat scan is needed. It is expected that you will receive this information within four weeks of your CT scan. If the pulmonary nodule(s) remain stable (no noticeable changes) for a recommended period of time, then we will inform you and discharge you from the pulmonary nodule pathway.

If you have any of the following symptoms between your scans, then you should inform your GP without delay who may wish to contact your chest consultant for advice:

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