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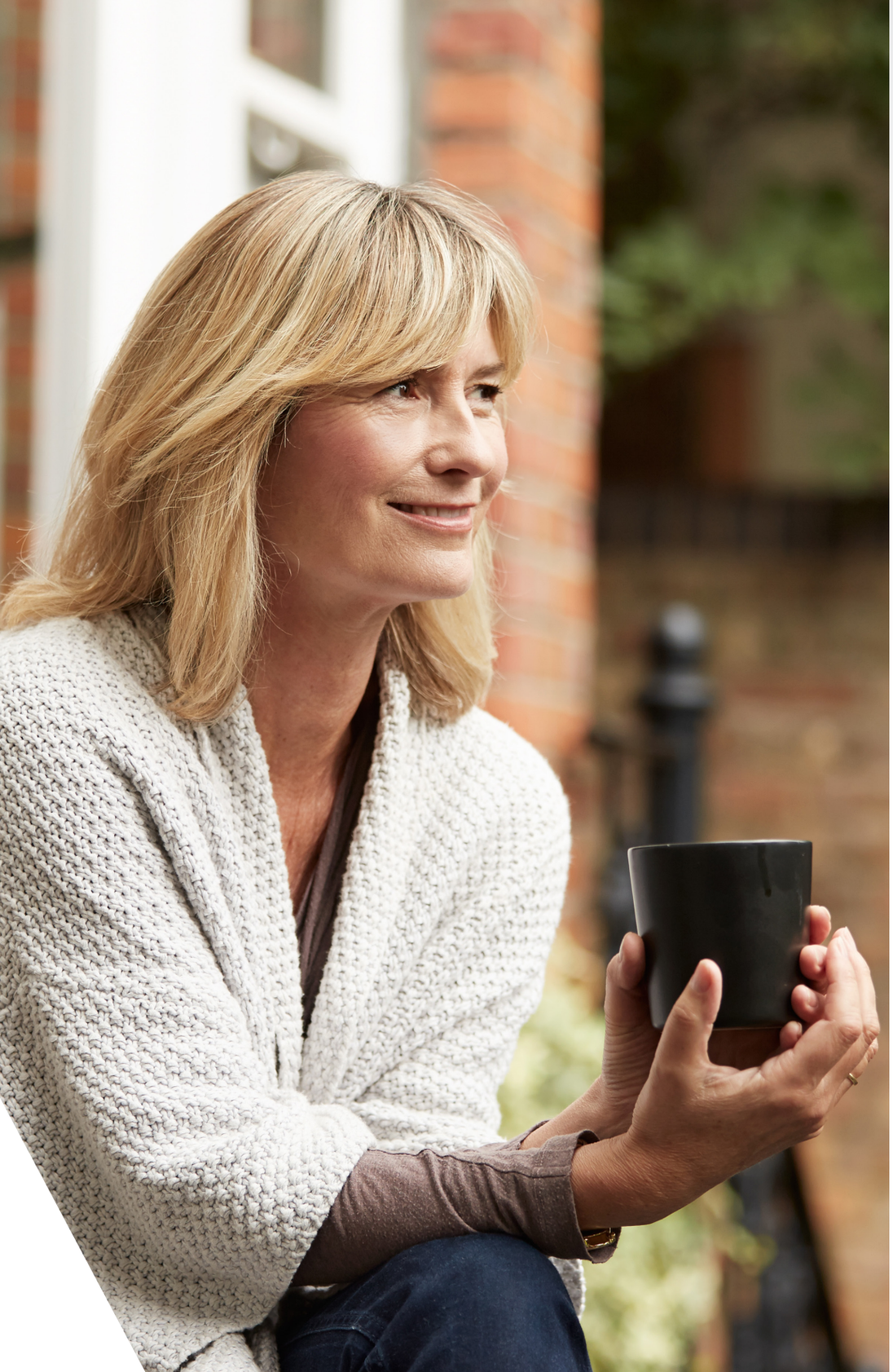
Understanding Lung Nodules



If lung nodules have been found

If your screening chest CT shows you have lung nodules, this brochure will help you understand:

- What they are
- Why they are important
- Their size, appearance and composition
- What follow-up care is needed
- What questions to ask your physician

What are lung nodules?

Lung nodules are small areas of abnormal tissue in the lungs. They may also be called spots on the lung, or lesions. These spots may be solitary (single) pulmonary nodules (SPNs) or multiple pulmonary nodules (MPNs).

Lung nodules are common. In fact, nearly half of all people have one (or more) by the time they are 50 years old. In the Chicagoland area, nodules are found in nearly 85% of people who are screened for lung cancer.

While most lung nodules are benign (not cancerous), almost all lung cancers do start out as nodules.

Many lung nodules are caused by infections. Infection causes inflammation, which leads to scarring that may heal in the form of small nodules. Other lung irritants may also cause lung nodules. Inhaling cigarette smoke, or chemicals or fibers at your place of work may lead to lung nodules that could be cancerous.

Screening for nodules

Many lung nodules can be seen on a chest X-ray, but small nodules are more easily seen on a chest CT. For this reason, low-dose chest CT (LDCT) is used to screen for lung cancer. Lung nodules are evaluated by their size, shape/borders and composition.

Size

Small

- Less than 6mm (less than 1/4 inch)
- Normally benign
- Follow-up care*: yearly LDCT depending on your personal risk factors

Medium

- 6 to 8mm (between 1/4 and 1/3 inch)
- Likely benign, but it depends on the nodule's appearance
- Follow-up care*: LDCT in 6 months to check for changes in the nodule

Large

- Greater than 8mm (larger than 1/3 inch)
- Likely benign, but because of the size and appearance, these may need more careful follow-up
- Follow-up care*: One or more of these may be recommended:
  - LDCT in 3 months
  - A PET/CT (or other scan)
  - A referral for further testing and evaluation, such as a biopsy

*The radiologist will report the results of your exam and recommend specific follow-up care to you and your physician. Follow-up care will be determined by nodule size, what it looks like and what it consists of.

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Shape

Benign nodules tend to have smooth or round margins (borders or edges). Cancerous nodules often have borders that are uneven, jagged or poorly defined. They may also be called spiculated, lobulated or irregular. Some nodules have a mix of different types of borders.

Composition

Nodules may be calcified or non-calcified.

Calcified nodules contain calcium and are easily seen because they are high in density. Most calcified nodules are not cancerous. Calcium deposits in nodules may occur after a lung infection. Sometimes a calcified nodule can be made of normal tissues that are in an abnormal location (hamartoma). These are usually benign. Small ones may not need treatment, but larger ones may need to be removed if they affect your health.

Non-calcified nodules are often caused by past infection or inflammation. These may appear as either solid or non-solid.

Solid. The radiologist may describe it as a "soft tissue density" or "soft tissue attenuation." On CT scans, these nodules are similar in density to muscle.

Non-solid. Non-solid nodules are further divided into 2 categories:

Ground glass opacity (GGO). GGO is a hazy area of faintly increased density. Think of it as a window with fingerprints on it. You can still see through, but everything is just a little fuzzy. These nodules tend to be benign, but they still need follow-up to watch for change. The radiologist may also call this "ground glass nodule," "ground glass attenuation," or "ground glass density."

Part solid. This type of nodule is a mix of solid density and ground glass density parts.

Questions to ask your physician

When you get your test results, you may wish to have a list of questions to ask your physician.

Consider asking:

How many nodules were there?

How large was the largest nodule?

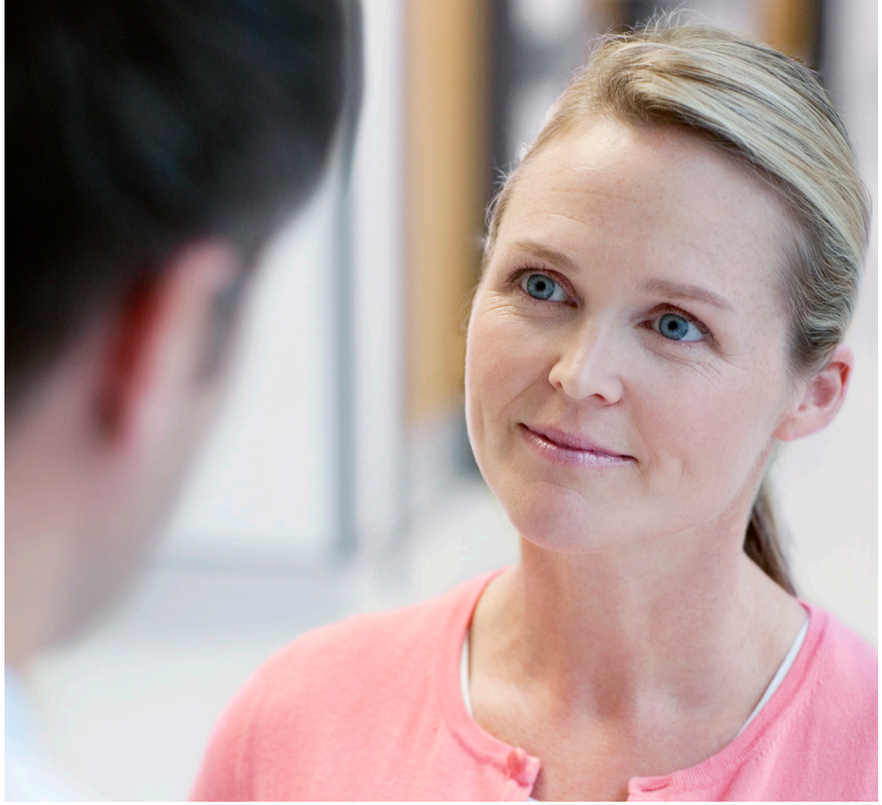
Where are the nodules located?

What does this mean for me?

What happens next?

What should I do?

Follow-up testing is needed if you have nodules. Be sure to follow your physician's recommendations based on your specific test results.



To learn more about lung cancer, contact:

The Lung Cancer Alliance
lungcanceralliance.org
support@lungcanceralliance.org
Helpline: 800.298.2436
Clinical trials: 800.698.0931

American Lung Association
lung.org/lung-health-and-diseases

If you have questions at any time, you can reach Northwestern Memorial Hospital Radiology at 312.926.9377 or Northwestern Medicine Lake Forest Radiology at 847.535.7442.