



# Patient Information

## The Low-Down on Lung Cancer

**L**ung cancer starts when an abnormal cell in the lungs begins to reproduce itself uncontrollably. We call the accumulation of these cells a tumor. In the early stages, the tumor is small and confined to one area, but over time, the tumor can grow and the cancerous cells can spread to nearby organs, lymph nodes, and, eventually, distant parts of the body (such as the bones or brain). In most cases, this progression, called *metastasis* (meh-**tas**-tuh-sis), occurs gradually over many years.

Unfortunately, most cases of lung cancer are diagnosed in a late stage when they're more difficult to treat. The good news is that the majority of lung cancers are preventable.

### How do I know if I'm at risk?

Smoking is by far the biggest risk factor for lung cancer. And the risk increases the longer you smoke and the more you smoke per day. Even if you don't smoke, breathing in tobacco smoke from the air around you—known as secondhand smoke—on a regular basis puts you at risk.

In addition to tobacco smoke, other substances have been linked to lung cancer when people are exposed to them frequently. These *carcinogens* (kar-**sin**-oh-gens)—the name for any substance believed to cause cancer—include asbestos, radon, uranium, gasoline, and diesel exhaust. You also have a greater chance of developing lung cancer if you

have a sibling or parent who's had lung cancer or if your lung tissue has been damaged by a disease such as *tuberculosis* (too-bur-kya-**low**-sis).

### What are the warning signs?

Early-stage lung cancer often doesn't cause symptoms. When it does, the most common signs are a cough that doesn't go away and worsens over time, constant chest pain that tends to be aggravated by deep breathing or coughing, shortness of breath, wheezing, hoarseness, loss of appetite, weight loss, coughing up blood, and recurring infections such as *bronchitis* (brawn-**kite**-us) or *pneumonia* (new-**mow**-nya). If lung cancer has spread to other organs, it can cause bone pain, weakness or numbness of a limb, dizziness, yellow coloring of the skin and eyes, or lumps that appear underneath the skin of the neck or upper shoulders.

### What tests do I need?

If your doctor suspects lung cancer, he or she will ask you questions about your health, your family's medical history, and your exposure to carcinogens. Your doctor also will perform a physical exam and probably will take a chest X-ray. If the results suggest a tumor, the doctor will need to examine a sample of cells from your lungs for cancer.

Several procedures are used to collect sample cells from the lungs. Sometimes,

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you just need to cough up some *phlegm* (**flem**). Or, you may need a *bronchoscopy* (brahn-**ka**hs-ka-pee), in which the doctor places a thin, lighted tube down your throat into your breathing passages. If you have a needle biopsy, the doctor will insert a needle through your chest into the tumor. A *thoracentesis* (thor-uh-sen-**tee**-sis) uses a needle to collect a sample of the fluid that surrounds your lungs.

If lung cancer is found, additional tests will be performed to find out what kind of cancer it is and what stage it's in (meaning how large it is and whether it has spread to other parts of your body).

### How can I avoid the problem?

By not smoking and by avoiding second-hand smoke, you reduce your lung cancer risk dramatically. When a smoker quits, the damaged lung tissue begins healing immediately. After 10 smoke free years, the risk of lung cancer is reduced by 60%.

It's also important to avoid other carcinogens. Over the past few decades, the government and industry have taken steps to protect people from exposure to these substances at home and at work, but individuals still need to be careful. For example, while many uses of asbestos have been banned, older homes and buildings may still have asbestos-containing products. This is only dangerous if the fibers are released into the air, which can happen during renovation. Before remodeling your home, have an expert check for asbestos. And remember, asbestos should be removed only by a trained professional.

Radon, a gas produced when the element uranium breaks down naturally in the

soil, can be present in your home. Since radon can't be seen, tasted, or smelled, it can be detected only through special testing. Call your local or state Environmental Protection Agency office to find a reliable company in your area that performs radon testing.

Finally, include plenty of fruits and vegetables in your diet. More and more evidence suggests that these foods may provide protection against lung cancer.

### How is it treated?

The three main options for treating lung cancer are surgery, which involves removing all or part of the affected lung; radiation therapy, which uses high energy rays to kill cancer cells; and *chemotherapy* (key-mo-**ther**-uh-pee), in which drugs are either swallowed or injected into a vein to stop the cancer from growing. Depending on the type and stage of your cancer and your general health, your doctor will recommend one or more of these therapies.

Radiation therapy and chemotherapy can be used alone or in combination to try and shrink a tumor before surgery, to kill remaining tumor cells after surgery, or instead of surgery when surgery isn't an option. Since both of these treatments can have unwanted effects, your doctor should clearly explain the risks and benefits of each before you make any decisions.

More information on lung cancer is available at the web sites of the National Cancer Institute ([www.cancer.gov](http://www.cancer.gov)) and the American Cancer Society ([www.cancer.org](http://www.cancer.org)). For help with quitting smoking, visit [www.smokefree.gov](http://www.smokefree.gov) or call 800-QUIT-NOW (800-784-8669). ●

