

FACTS ABOUT LUNG CANCER

- Lung cancer is the second most diagnosed cancer in men and women, but it is the number one cause of death from cancer each year in both men and women.
- According to the American Cancer Society, around 215,020 Americans will be diagnosed with lung cancer in 2008.
- Cigarette smoking is the most common cause of lung cancer. Exposure to asbestos, radon, environmental factors and secondhand smoke can also cause lung cancer.

TYPES OF LUNG CANCER

There are two main types of lung cancer, non-small cell lung cancer and small cell lung cancer. These names refer to how a cancer looks under the microscope.

- **Non-small cell lung cancer** is the most common type of lung cancer, and accounts for 80 percent of cases. There are different types of non-small cell lung cancer, including squamous cell carcinoma, adenocarcinoma, bronchioalveolar carcinoma and large cell undifferentiated carcinoma.
- **Small cell lung cancer** is less common and accounts for 20 percent of cases. Although the cells are small, they multiply quickly and can form large tumors that may readily spread throughout the body. This type of lung cancer is almost always due to smoking.



TREATMENT OF LUNG CANCER

Lung cancer treatment depends on several factors, including the type and stage of the lung cancer and the patient's overall health. The main treatment options are surgery, radiation therapy and chemotherapy. New treatments are also showing promise.

- Non-small cell lung cancer is usually treated with surgery, radiation therapy and chemotherapy.
- Small cell lung cancer is treated with radiation therapy and chemotherapy.

Many different healthcare professionals will be involved in your care. Some of them are:

- A **thoracic surgeon** uses surgery to remove cancerous tumors and tissue from the chest. This doctor has had specialized training in cancer surgery.
- A **medical oncologist** is a physician who specializes in treating cancer using various chemotherapy drugs.
- A **radiation oncologist** is a physician who specializes in using radiation to treat cancer.

UNDERSTANDING RADIATION THERAPY

- **Radiation therapy**, sometimes called **radiotherapy**, is the use of high-energy x-rays to safely and effectively kill cancer cells.
- Radiation oncologists use radiation therapy to try to cure cancer, to control tumor growth or to relieve symptoms, such as pain.
- Radiation therapy works within cancer cells by damaging their ability to multiply. When these cells die, the body naturally eliminates them.
- Healthy cells are also affected by radiation, but they are able to repair themselves in a way cancer cells cannot.

EXTERNAL BEAM RADIATION THERAPY

External beam radiation therapy is the delivery of high-energy X-rays from a machine. A radiation-delivery machine (called a **linear accelerator**) focuses the radiation beam to a precise location in your body for an exact period of time. Radiation is given in a series of daily treatments, Monday through Friday, for several weeks. Treatments are painless and last less than 30 minutes.

- Conventional radiation therapy uses multiple radiation fields to deliver high doses of radiation to the cancer while minimizing the radiation received by surrounding healthy cells.
- **3-dimensional conformal radiotherapy (3D-CRT)** combines multiple radiation treatment fields to deliver precise doses of radiation to the lung tumor. Radiation oncologists are able to tailor each of the radiation beams to focus on the tumor while protecting nearby healthy tissue.
- **Intensity modulated radiation therapy (IMRT)** is a specialized form of 3D-CRT that modifies the radiation by varying the intensity of each radiation beam. IMRT is still being studied for lung cancer.
- **Stereotactic body radiation therapy (SBRT)** is a specialized form of 3D-CRT that delivers high doses of radiation over a period of five to eight days. It is currently being evaluated for the treatment of lung cancer. This type of treatment is available at only a few centers around the country.
- In a few clinics, doctors are evaluating **proton beam therapy** to treat lung cancer. Proton therapy is a form of external beam radiation that uses protons rather than X-rays to treat cancer cells. Proton therapy is precise like IMRT but it uses a different kind of radiation.



INTERNAL RADIATION

- Internal radiation or **brachytherapy** is the placement of radioactive material into or near your tumor.
- Before treatment, your doctor will place one or two thin plastic tubes or catheters into your nose and into the airways of the lung, where the tumor is located.
- Those tube or tubes are then connected to a brachytherapy machine. The tube serves as a channel to deliver a dose of radiation by briefly placing a tiny radioactive source near the lung tumor.
- After the treatment, the tubes are removed. These tubes may be reinserted if you need more treatment at a later date.

POSSIBLE SIDE EFFECTS

- Side effects are different for everyone. Some patients feel fine during treatment while others may feel uncomfortable.
- Possible problems may include skin irritation (redness, tanning, dryness), difficulty or pain when swallowing, and fatigue.
- Lung radiation may cause shortness of breath. This may be temporary or permanent depending on your cancer and its treatment.
- With radiation therapy to the chest, you should not lose the hair on your head or have an upset stomach. Chest radiation will not affect your ability to have children.
- Talk to your doctor about any discomfort or pain you may feel. He or she can provide treatments or medications to help.
- Everyone responds differently to the stress of cancer and treatment. Doctors, nurses, social workers and support groups are available to help.