CARING FOR YOURSELF
DURING TREATMENT

- Get plenty of rest during treatment, and don't be afraid to ask for help.
- Follow your doctor's orders. In many cases, your doctor may ask you to call if you develop a fever of 101° F or higher.
- Ask if you are unsure about anything.
- Tell your doctor about any medications or vitamins you are taking to make sure they are safe to use during radiation therapy.
- Eat a balanced diet. Radiation to the chest should not upset your stomach, so tell your doctor or dietitian if food tastes funny or if you're having trouble eating. They might be able to help you change the way you eat.
- Treat the skin exposed to radiation with special care. Wear a shirt when you're in the sun, avoid hot or cold packs, only use lotions and ointments after checking with your doctor or nurse, and clean the area with warm water and mild soap.
- Coping with cancer is tough. Support groups and friends may be able to help.
- 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.

HELPFUL WEB SITES ON
LUNG CANCER

American Lung Association
www.lung.org

Lungcancer.org
www.lungcancer.org

Lung Cancer Alliance
www.lungcanceralliance.org

Lung Cancer Online
www.lungcanceronline.org

LEARNING ABOUT
CLINICAL TRIALS

The radiation oncology team is always looking for new ways to treat and cure cancer through studies called clinical trials. Today's lung cancer radiation therapy treatments are the result of clinical trials completed in the past proving that radiation therapy kills cancer cells and is safe long term. For more information on clinical trials, ask your doctor or visit:

National Cancer Institute
www.cancer.gov/clinicaltrials

Radiation Therapy Answers
www.rtanswers.org

ABOUT THE
RADIATION ONCOLOGY TEAM

Radiation oncologists are cancer doctors who also oversee the care of each patient undergoing radiation treatment. Other members of the radiation oncology team include radiation therapists, radiation oncology nurses, medical physicists, dosimetrists, social workers and nutritionists. To locate a radiation oncologist in your area, visit **www.rtanswers.org**.

ABOUT
ASTRO

The American Society for Radiation Oncology is the largest radiation oncology society in the world with 10,000 members who specialize in treating cancer with radiation therapy. ASTRO's mission is to advance the practice of radiation oncology by promoting excellence in patient care, promoting research and disseminating research results. Visit **www.astro.org** for more information.

CARING FOR YOURSELF
NOTES/QUESTIONS FOR YOUR DOCTOR

AMERICAN SOCIETY FOR RADIATION ONCOLOGY
8280 Willow Oaks Corporate Drive, Suite 500, Fairfax, VA 22031
Phone: 1-800-962-7876 • 703-502-1550 • Fax: 703-502-7852
www.astro.org • www.rtanswers.org

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RADIATION THERAPY FOR
LUNG CANCER

Facts to Help Patients Make an Informed Decision

ASTRO®
TARGETING CANCER CARE
AMERICAN SOCIETY FOR RADIATION ONCOLOGY

FACTS ABOUT
LUNG CANCER

- Lung cancer is the second most common 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, 226,160 Americans will be diagnosed with lung cancer in 2012.
- 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:

- **Adenocarcinoma** - a cancer that forms in the outer parts of the lung.
- **Squamous cell carcinoma** - a cancer that forms from a cell lining the airway.
- **Large cell carcinoma** - a kind of non-small cell lung cancer but the cell it starts from is less clear.

Small cell lung cancer is less common and accounts for 10 percent of cases. Although the cells are small, they multiply quickly and can form large tumors that may spread throughout the body. This type of lung cancer is almost always due to smoking.

TREATING
LUNG CANCER

Lung cancer treatment depends on several factors, including the type and stage of the lung cancer and your overall health.

Radiation Therapy

Radiation is a high-energy X-ray that can be used to treat lung cancer noninvasively. Radiation therapy works within cancer cells by damaging their ability to multiply. When these cells die, the body naturally eliminates them. It passes through the chest to treat lung cancer and can be combined with surgery, chemotherapy or both depending upon the circumstances.

In early-stage lung cancer, surgery has been standard. However, in patients medically not able to tolerate surgery, focused radiation, called **stereotactic body radiation therapy**, is a good treatment option. In more advanced tumors, radiation may replace surgery as the main localized treatment, often combined with chemotherapy.

Medical Therapy

Medical oncologists specialize in treating lung cancer using various drugs. **Chemotherapy** means 'drug treatment', but there are many different kinds of drugs that can be used to treat lung cancer. New research is helping oncologists learn which drugs may be most effective, and the side effects differ for each one. Often, chemotherapy is combined with radiation therapy to make the radiation more effective. However, such combined treatment (chemoradiation) can also increase the side effects of treatment. For more details about these drug or newer medications, ask your medical oncologist about what drugs may be best for you.

Surgery

Surgery is often a key part of lung cancer care. Even before treatment, surgery may be helpful in diagnosis and or finding whether the cancer has spread to lymph nodes in the chest. This type of surgery is part of cancer staging, or understand how advanced the tumor may be.

In early stage tumors, surgery by itself can be curative. Your surgeon may remove part of the lung around the cancer, and the amount of lung removed will vary based upon location, your health or other factors. If there are no signs of spread, often no additional treatment is needed.

In more advanced tumors, sometimes surgery is replaced by radiation and chemotherapy or can be combined with these treatments. Ask your surgeon or other doctors whether your tumor is early or advanced and whether surgery will be helpful for you

EXTERNAL BEAM
RADIATION THERAPY

External beam radiation therapy is the safe delivery of high-energy X-rays to your cancer. 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. In small cell lung cancer, sometimes two treatments are given each day to be more effective. The full course of treatment varies but can be over three to seven weeks. Each treatment take several minutes, like a long X-ray, but are painless.

Before beginning treatment, you will be scheduled for a planning session to map out the area your radiation oncologist wishes to treat. This procedure is called a **simulation**. Simulation involves having a **CT scan** to design your treatment, with small tattoos on the skin to make sure your treatments are accurate.

Different techniques can be used to give radiation for lung cancer. **Three-dimensional conformal radiotherapy (3-D 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. **Stereotactic body radiation therapy (SBRT)** is a specialized form of 3-D CRT that delivers high doses of radiation to small and very precisely defined targets over a shortened course of therapy, usually in five treatments or less.

Intensity modulated radiation therapy (IMRT) is a specialized form of 3-D CRT that modifies the radiation by varying the intensity of each radiation beam. IMRT is still being studied for lung cancer. Doctors are also studying a type of external beam radiation therapy that uses proton beams rather than X-rays, which can give less radiation to normal tissue. **Proton beam therapy** is only available at a few clinics in the U.S. and currently is still being studied.

INTERNAL
RADIATION

Internal radiation, or **brachytherapy**, is the placement of radioactive material into or near your tumor. Sometimes combined with surgery or to relieve symptoms from lung cancer, this type of radiation is used infrequently but may be helpful to deliver radiation in a different way from external beam radiation therapy. Ask your radiation oncologist if there is any role for this kind of radiation.

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 will likely lose hair on your chest, but not the hair on your head. Chest radiation will not affect your ability to have children.