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FACT SHEET

Media:	Charlotte Arnold	(650) 467-6800
Advocacy:	Jen Mills	(415) 971-2409
Investor:	Karl Mahler	011 41 61 687 8503
	Thomas Kudsk Larsen	(650) 467-2016

Non-Small Cell Lung Cancer (NSCLC)

According to the American Cancer Society, lung cancer is the second most commonly diagnosed cancer in both men and women in the United States and the leading cause of cancer deaths. An estimated 222,520 Americans were diagnosed in 2010, and approximately 157,000 died from the disease. Each year, more people die from lung cancer than breast, colon and prostate cancers combined.[1]

Lung cancer is the uncontrolled growth of cancerous cells in the lungs and is divided into two major types, non-small cell and small cell, which originate in different cells in the lungs and are treated differently.[1]

Non-small cell lung cancer (NSCLC) accounts for 85 percent of all lung cancers.[1] This form of the disease can be further classified based on the kind of cell the cancer started from and how it looks under a microscope, commonly called "histology."[2,3]

Based on histology, NSCLC tumors are first classified as either squamous or non-squamous. Non-squamous NSCLC is then further classified as adenocarcinoma, large-cell carcinoma or other.[2]

Researchers are also investigating whether it is clinically useful to additionally classify NSCLC tumors based on certain molecular characteristics, known as "biomarkers."[4] These biomarkers may be changes in the sequence of a gene, the number of copies of a gene that are present, or the amount of a protein that is expressed in cancer cells.

Risk Factors and Symptoms

- **Age** – lung cancer is more prevalent in people over the age of 45[5]
- **Gender** – lung cancer occurs in men more often than women[1]
- **Risk factors** – cigarette smoking is the primary risk factor for lung cancer. Along with second-hand exposure to cigarette smoke, smoking accounts for 90 percent of all cases of the disease[6]
  - Lung cancer, however, is not only a smokers' disease; approximately 10 percent of lung cancer cases occur in non-smokers[6]
  - Other risk factors include history of tuberculosis, family history of lung cancer, and exposure to arsenic, radon, benzene, asbestos or radiation[1]

- **Symptoms** – persistent cough, coughing up mucus with blood, chest pain, or multiple bouts of pneumonia or bronchitis[1]

Prognosis and Survival

- The five-year survival rate for lung cancer is just 16 percent. Many people have no symptoms until the disease has advanced into late stages when the tumor cannot be surgically removed or has spread to other parts of the body[1,7]
- The prognosis for people with NSCLC worsens depending on how advanced their disease is at the time of diagnosis

Stage	Description	5-Year Survival Rate[8,9]
0	Cancer is only in the top layers of cells lining the air passages and has not invaded deeper into other lung tissues or spread to lymph nodes or distant sites	*
IA	Tumor ≤3 centimeters (cm) across that has not spread within the lung	49 percent
IB	Tumor that is between 3 and 5 cm across, involves a main bronchus, has grown into the membranes surrounding the lungs and/or is partially clogging airways	45 percent
IIA	Tumor up to 5 cm across that has spread to nearby lymph nodes or tumor between 5 and 7 cm that has not spread to nearby lymph nodes. Tumor may involve a main bronchus, have grown into the membranes surrounding the lungs and/or partially clog airways	30 percent
IIB	Tumor between 5 and 7 cm across that has spread to nearby lymph nodes or tumor more than 7 cm across that has not spread to nearby lymph nodes. Tumor may have grown into other tissues within the lungs or chest and/or clog airways. Two or more separate tumor nodules may be present in the same lobe of a lung	31 percent
IIIA	Tumor of more than 7 cm across that has spread to nearby lymph nodes and possibly other tissues within the chest, or tumor of any size with extensive spread into lymph nodes and/or other tissues within the chest. Two or more separate tumor nodules may be present in the same lobe of a lung. Airways may be clogged	14 percent
IIIB	Tumor of any size with extensive lymph node involvement that may involve side opposite of main tumor. Tumor may have grown into other tissues within the chest or clogged airways. Two or more separate tumor nodules may be present in different lobes of the same lung	5 percent
IV	Main tumor of any size that has spread to both lungs, the fluid around the lung and/or heart, or distant organs	1 percent

*Often cured through surgery, photodynamic therapy, laser therapy or brachytherapy[10]

Treatment

Standard treatments for NSCLC include surgery, radiation therapy, chemotherapy and targeted medicines. A doctor will assess the individual and use one or more of these treatments, depending on the type of lung cancer, stage of disease and overall health and age of the patient.[11]

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