

# Updates in Non-Small Cell Lung Cancer

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Lung cancer is the leading cause of cancer death in both men and women. Non-small cell lung cancer (NSCLC) is the most common type of lung cancer, representing more than 80% of lung cancer diagnoses. Five-year survival remains at 15%, but new strategies for prevention, early detection, and treatment may improve survival rates. This article provides an overview of updates in NSCLC, with an emphasis on advances in treatment strategies. Newer targeted therapies, as well as advances in genetic blueprinting, will be discussed. Nurses play a pivotal role in the assessment and management of patients with NSCLC and, therefore, must remain abreast of the most current prevention, screening, and treatment options.

**L**ung cancer is the leading cause of cancer death for both men and women, with an estimated 161,840 individuals expected to succumb to the disease in 2008 (Jemal et al., 2008). The overall five-year survival rate is 15% (National Cancer Institute [NCI], 2007).

A variety of treatment options have been developed since the mid-1990s that will hopefully result in improved survival rates. The general background information on lung cancer provided in this article is partially based on Walker (2003).

Lung cancer is divided into two major histologic types: non-small cell lung cancer (NSCLC) and small cell lung cancer. NSCLC is the most prevalent type, accounting for more than 80% of cases (NCI, 2007). NSCLC is further characterized by histology as adenocarcinoma, squamous cell carcinoma, or large cell carcinoma, with almost 20% of cases in the NCI SEER database (1975–2004) classified as not otherwise specified. Adenocarcinomas are the most prevalent NSCLC cases, representing about 40% (NCI) and typically present in the lung periphery and may metastasize rapidly to the liver, adrenal glands, bones, or brain (see Figure 1). Bronchioalveolar carcinoma is a form of adenocarcinoma which typically presents in a multifocal inflammatory pattern. Squamous cell carcinomas, accounting for about 20% of NSCLCs (NCI, 2007), typically are more centrally located, often resulting in endobronchial obstruction and hemoptysis. Squamous cell carcinomas tend to be more indolent (Schrumpp et al., 2005). Large cell carcinomas account for about 5% of all cases (NCI, 2007), but have declined in frequency, most likely from better diagnostic techniques, which may categorize them as adenocarcinoma or squamous cell carcinoma (Schrumpp et al.).

## Etiology

Smoke from tobacco use accounts for about 80% of all deaths from lung cancer (Schrumpp et al., 2005). Most diagnoses are from active smoking, although chronic inhalation

### At a Glance

- ◆ Treatment of non-small cell lung cancer is stage dependent and may include surgery, radiation therapy, chemotherapy, or targeted therapies.
- ◆ Patients with lung cancer experience a significant amount of symptom distress requiring nursing intervention.
- ◆ Targeted therapies and genetic blueprinting may provide opportunities for improvements in outcomes as well as minimizing toxicity.

of passive secondhand smoke has been implicated in some cases. The U.S. Environmental Protection Agency (2007) has estimated that about 3,000 deaths from lung cancer per year are a result of secondhand smoke. Individuals with a history of chronic obstructive pulmonary disease also have an increased risk of developing lung cancer. The lower the forced expiratory volume in one second, the greater the risk of lung cancer (Wasswa-Kintu, Gan, Man, Pare, & Sin, 2005). Dietary deficiencies also may play a role, particularly diets low in fruits and vegetables (Alberg & Samet, 2003). Other contributing factors may include exposure to radon, asbestos, arsenic, chromium, nickel, air pollution, and family history (Alberg & Samet).

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