
Lung Cancer

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Lung cancer is the most common cause of cancer-related death and the second most common cancer, claiming more than 160,000 American lives each year. The two main types are small cell lung cancer and non-small cell lung cancer.

- One in fourteen Americans will be diagnosed with lung cancer during their lifetime.
- 219,440 men and women in the United States were diagnosed with lung cancer in 2008. Only 16% are likely to survive the next five years.
- In 2008, lung cancer took an average of 437 lives per day.

Thanks to cancer research, the relationship between smoking and lung cancer is no longer in doubt, and several treatment options are now available for a disease once thought untreatable.

Our Achievements in Lung Cancer Research

Damon Runyon scientists have been on the forefront of lung cancer research since the 1940s. Our scientists:

- ✓ were the first to scientifically confirm the correlation between lung cancer and cigarette smoking.
- ✓ discovered a mutation that predicts the response of lung cancer patients to the drug Iressa.
- ✓ defined a panel of genes that can be used to improve lung cancer diagnosis through a non-invasive blood test. These genes may indicate new pathways involved in lung cancer development that can be targeted for early detection and prevention.
- ✓ identified genes that predict patient response to Avastin and other agents that inhibit angiogenesis, the process by which blood vessels grow and provide nutrients to tumors.
- ✓ discovered the genetic underpinnings of lung cancer metastasis, that is, how precisely lung cancer spreads to the brain and bones.

Current Lung Cancer Research Projects

Damon Runyon is currently funding many scientists that are researching ways to better diagnose, treat and cure lung cancer. These researchers are:

- studying the mechanisms of drug addiction in order to develop non-addictive pain medication for cancer patients. This research may also be applied to eradicating the addiction associated with cancer-causing substances like tobacco.
- characterizing drug-resistant lung cancer cells to determine what is required for their survival and ability to spread. The ultimate goal of this research is to therapeutically target these drug-resistant cancer cells in lung cancer and other cancer types.

**Most Statistics adapted from the SEER Cancer Statistics Review, 1975-2006*