

New lung cancer staging system revealed

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For the first time in more than 10 years, the universally accepted lung cancer staging system has been revised to more accurately reflect the prognosis for patients with non-small cell lung cancer (NSCLC).

A new report in the July issue of *Chest*, the peer-reviewed journal of the American College of Chest Physicians (ACCP), reviews the development and final recommendations of the International Staging Committee of the International Association for the Study of [Lung Cancer](#) (IASLC) for the staging of NSCLC. The new staging system for lung cancer is an unprecedented effort, based on the largest database of any cancer type and the most extensive statistical analysis that included rigorous internal and external validation. The revised staging system provides a detailed common nomenclature and more clearly defines the prognosis for patients with NSCLC through the addition of many new patient subgroups and reclassification of some previous subgroups.

"The development of the NSCLC database represents a tremendous amount of work. The size of the database and the extent of statistical analysis has not been duplicated for any other cancer type," said Frank Detterbeck, MD, FCCP, Chief of Thoracic Surgery at Yale University, Associate Director of the Yale Cancer Center, New Haven, CT, and author of the new report. "The new staging classification system also underscores the level of detail and complexity that characterizes the management of patients with lung cancer in the current era. The explosion of knowledge and the complexity of the disease make it harder to practice anything less than a sophisticated approach to lung cancer management."

The new IASLC staging system is based on the original TNM staging system adopted by the American Joint Committee on Cancer (AJCC) in 1973 and by the Union Internationale Contre le Cancer (UICC) in 1974, the official bodies that define, review, and refine the staging classification system. The original system relied heavily on intuition, making recommendations based on a limited database of 2,155 patients from one US medical institution. The last revision to the system in 1997 used an expanded database, but with only 5,319 patients, it still remained fairly limited.

In 1999, the IASLC International Staging Committee took the initiative to develop a scientifically robust classification system for lung cancer. Ten years later, the new IASLC staging system includes a database of more than 100,000 patients from 45 sources and 20 countries and allows researchers to discern an increasing number of details and differences in patients' conditions. The increased level of detail combined with extensive analysis and internal and external validation have led to a more complex system, but one that more accurately describes the extent of the cancer, the location and spread of the tumor, and the prognosis for patient subgroups.

"The original system and database laid the strong foundation for lung cancer staging as we know it today; however, the staging system had limitations. Due to the small and very narrow database, the staging system was guided by intuition rather than evidence," said Dr. Detterbeck. "The revised IASLC staging system marks a shift to a more scientifically based, data-driven approach to lung cancer staging."

The extensive data resulted in the addition of subgroups and the reclassification of select patient subgroups based on patient prognosis or overall survival rate. The staging committee required a high degree of consistency and robustness to underlay all staging definitions, only adopting those shown to be statistically distinct. Furthermore, each

analysis within the TNM staging descriptors underwent an extensive internal and external validation process.

Although the staging classification system provides a common language to define the extent of cancer within a subgroup and the corresponding prognosis, the system does not define the process of determining a patient's stage, ie, which diagnostic tests should be used, nor does it provide recommendations on treatment.

"In addition, the selection of treatment is dependent on many factors beyond the stage grouping. Therefore, one cannot assume that treatment of a subgroup of patients should change because the new classification has placed them into a different grouping," said Dr. Detterbeck. "The stage classification system is designed to be a nomenclature tool and a tool to define prognosis, and it is an inappropriate oversimplification to use it as an algorithm to select treatment."

The new IASLC staging system was accepted by the AJCC and UICC and is scheduled to appear in the UICC staging manual in November 2009.

"There have been significant advances in the way of diagnosis and therapy for lung cancer since the last revision of the staging system," said W. Michael Alberts, MD, FCCP, Past President of the American College of Chest Physicians and Chair of the ACCP Lung Cancer Guidelines. "The old system served us well. However, the new system has been eagerly awaited and will be used in the third edition of the ACCP Lung Cancer Guidelines."

Source: American College of Chest Physicians

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