

Scientific advances in lung cancer in 2015 highlighted by IASLC

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Capturing and summarizing the remarkable progress in lung cancer prevention, diagnosis, staging, and treatment in 2015, the International Association for the Study of Lung Cancer (IASLC) announces the inaugural publication of "Scientific Advances in Lung Cancer 2015" in the May 2016 issue of the IASLC's *Journal of Thoracic Oncology (JTO)*.

Drawing on more than 34 multidisciplinary experts from around the globe, in different areas of lung cancer research and management, the IASLC introduces another valuable educational resource in order to keep busy practitioners, scientists, and others interested in lung cancer up-to-date, with the primary focus on non-small cell lung cancer (NSCLC).

"Lung cancer serves as a role model for precision cancer medicine worldwide," said Fred R. Hirsch, MD, PhD, the article's corresponding author, Professor of Medicine and Pathology at the University of Colorado Cancer Center and School of Medicine, and CEO of the IASLC. Dr. Hirsch also noted that, "2015 ushered in major achievements in immunotherapy for lung cancer and in the coming year the IASLC will be critically involved in research on improved ways to select patients for immunotherapy."

This comprehensive article is divided into the following major categories:

- Prevention and Early Detection: Tobacco control is essential to preventing lung cancer and improving patient outcomes. In

countries with stronger [tobacco control](#) laws, a reduction in smoking prevalence leads to lower lung cancer incidence and mortality rates, but worldwide tobacco control is highly variable. Furthermore, early detection of lung cancer with low dose computed tomography (LDCT) screening of patients with a smoking history is a proven method of reducing mortality. Ongoing studies also use risk-prediction models to select screening participants.

- Stage I-III NSCLC:
 - Pathology: In 2015, the World Health Organization published the fourth edition of the Classification of Tumours of the Lung, Pleura, and Thymus which included several important changes: (1) classification applied to small biopsy and cytologic samples, (2) molecular testing for treatment selection, (3) inclusion of IHC markers for more precise classification of NSCLC, (4) changes in the classification of squamous carcinoma and adenocarcinoma, and (5) new genomic information for various types of lung cancers.
 - Staging: The seventh edition of the tumor, node, and metastasis (TNM) classification for staging was revised according to new analyses of the new IASLC database. The new eighth edition includes retrospective data from 73,251 patients and prospective data from 3,905 in whom lung cancer was diagnosed from 1999 to 2010 and registered in 35 data sources in 16 countries around the world.
 - Role of Surgery: LDCT screening and management of screen-detected small nodules were dominant themes in 2015, but the role of surgery remains important in the management of early, locally advanced, and oligometastatic lung cancer. Ongoing research will refine screening algorithms and the role of surgery in screen-

detected nodules.

- Role of Adjuvant Chemotherapy: Cisplatin-based [adjuvant chemotherapy](#) is the standard of care for patients with large tumors (>4 cm) and lymph node-positive NSCLC after surgical resection. Adjuvant chemotherapy results in an absolute improvement in the 5-year survival rate of approximately 5% to 15%. The next generation of clinical trials in the adjuvant setting can be broadly categorized into three major thematic areas: (1) integration of targeted therapy, (2) customization of chemotherapy on the basis of tumor characteristics, and (3) immunotherapy.
- Advanced Stage NSCLC: New research continues to evolve our understanding of NSCLC from a single entity to a disease comprised of genetically and clinically distinct subgroups. Additionally, the transition from empiric to mechanism-based biomarker-driven therapeutic decisions has had a profound impact on patient clinical outcomes. Activation of the immune system to treat cancer has long been investigated and after decades of disappointment, the tide has undoubtedly changed in 2015 with the incredible success of recent clinical trials.
- Specific Future Perspectives: The high cost of recently-approved drugs for lung cancer heightens the importance of considering value in treatment decisions and has placed lung cancer at the center of emerging and evolving paradigms of care delivery. As a result, the IASLC formed a quality and value taskforce and partnered with the American Society of Clinical Oncology to jointly develop lung cancer quality measures. The IASLC will continue to lead transformative efforts in the management of lung cancer as we look to achieve value-based health care in both the U.S. and internationally. The research community, along with government and patient advocates, has risen to the challenge to create "Master Protocols" that can screen large numbers of

patients and then simultaneously test multiple new drugs or combinations, with resultant efficiencies in patient recruitment and regulatory appeal.

"This article is written to cover the highlights in the field of lung cancer in 2015 and to include the necessary references for further study," said the editors Harvey I. Pass, MD, Department of Cardiothoracic Surgery, Director, General Thoracic Surgery, NYU Langone Medical Center, New York, and Anne S. Tsao, MD, Department of Thoracic/Head & Neck Medical Oncology, University of Texas M.D. Anderson Cancer Center, Houston, TX. "We are grateful to all of the contributors who provided superlative commentary and we envision that this new annual series will serve to help in the management of patients, stimulate provocative questions in the laboratory, and document each year's progress in the fight against lung cancer."

"The JTO is proud to publish this important review of the progress we made in the fight against [lung cancer](#) over the past year. It's important for us to recognize what we have achieved because it gives us a clear idea of where we need to go in the future and I look forward to this annual publication in the JTO," said Alex A. Adjei, MD, PhD, FACP, Editor-in-Chief of the JTO.

More information: To read the full article online, visit:
[www.jto.org/article/S1556-0864\(16\)30022-3/fulltext](http://www.jto.org/article/S1556-0864(16)30022-3/fulltext)

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