

# Lung Cancer Update

## *Volume 1, Issue 1 (Video Program)*

### CME Information

#### TARGET AUDIENCE

This activity is intended for medical oncologists, radiation oncologists and other healthcare providers involved in the treatment of lung cancer.

#### OVERVIEW OF ACTIVITY

Traditional chemotherapy, surgery and radiation therapy have had a modest effect on long-term outcomes for patients with lung cancer. However, the advent of biologic and immunotherapeutic agents has led to recent improvements in disease-free and overall survival in select populations. In order to offer optimal patient care — including the option of clinical trial participation — clinicians must be well informed of these advances. Featuring information on the latest research developments, this program is designed to assist medical and radiation oncologists with the formulation of up-to-date strategies for the care of patients with lung cancer.

#### LEARNING OBJECTIVES

- Review recent FDA approvals and available research data documenting the safety and efficacy of pembrolizumab alone or in combination with carboplatin/pemetrexed for patients with previously untreated metastatic non-small cell lung cancer (NSCLC), and use this information to appropriately integrate the use of pembrolizumab into this setting.
- Consider age, performance status and other patient- or disease-related factors to guide the selection of first-line therapy for patients with newly diagnosed metastatic squamous and nonsquamous NSCLC without an identifiable driver mutation.
- Educate patients about the side effects associated with recently approved novel agents and immunotherapeutic approaches, and provide preventive strategies to reduce or ameliorate these toxicities.
- Consider published safety and efficacy data with available and emerging therapeutic strategies, and appropriately incorporate targeted therapies into the care of patients with identified tumor driver mutations or alterations.
- Recall the scientific rationale for ongoing investigation of novel agents or therapeutic approaches in NSCLC, and counsel appropriately selected patients about study participation.

#### ACCREDITATION STATEMENT

Research To Practice is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

#### CREDIT DESIGNATION STATEMENT

Research To Practice designates this enduring material for a maximum of 2.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

#### AMERICAN BOARD OF INTERNAL MEDICINE (ABIM) — MAINTENANCE OF CERTIFICATION (MOC)

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 2.5 Medical Knowledge MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Please note, this program has been specifically designed for the following ABIM specialty: **medical oncology**.

Personal information and data sharing: Research To Practice aggregates deidentified user data for program-use analysis, program development, activity planning and site improvement. We may provide aggregate and deidentified data to third parties, including commercial supporters. We do not share or sell personally identifiable information to any unaffiliated third parties or commercial supporters. Please see our privacy policy at [ResearchToPractice.com/Privacy-Policy](https://ResearchToPractice.com/Privacy-Policy) for more information.

#### HOW TO USE THIS CME ACTIVITY

This CME activity consists of a video component. To receive credit, the participant should review the CME information, watch the video, complete the Post-test with a score of 80% or better and fill out the Educational Assessment and Credit Form located at [ResearchToPractice.com/LCU117/Video/CME](https://ResearchToPractice.com/LCU117/Video/CME). The corresponding audio program is available as an alternative at [ResearchToPractice.com/LCU117](https://ResearchToPractice.com/LCU117).

## CONTENT VALIDATION AND DISCLOSURES

Research To Practice (RTP) is committed to providing its participants with high-quality, unbiased and state-of-the-art education. We assess conflicts of interest with faculty, planners and managers of CME activities. Conflicts of interest are identified and resolved through a conflict of interest resolution process. In addition, all activity content is reviewed by both a member of the RTP scientific staff and an external, independent physician reviewer for fair balance, scientific objectivity of studies referenced and patient care recommendations.

**FACULTY** — The following faculty (and their spouses/partners) reported relevant conflicts of interest, which have been resolved through a conflict of interest resolution process:

### **D Ross Camidge, MD, PhD**

Professor of Medicine/Oncology  
Joyce Zeff Chair in Lung Cancer Research  
University of Colorado Cancer Center  
Aurora, Colorado

**Consulting Agreements:** AbbVie Inc, Ariad Pharmaceuticals Inc, Array BioPharma Inc, Celgene Corporation, Clovis Oncology, G1 Therapeutics, Lilly, Novartis, Orion Corporation.

### **Heather Wakelee, MD**

Professor of Medicine  
Division of Oncology  
Stanford University School of Medicine  
Stanford Cancer Institute  
Stanford, California

**Consulting Agreements:** ACEA Biosciences Inc, Genentech BioOncology, Helsinn Group, Peregrine Pharmaceuticals Inc, Pfizer Inc; **Contracted Research:** AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company, Celgene Corporation, Clovis Oncology, Exelixis Inc, Genentech BioOncology, Gilead Sciences Inc, Lilly, Novartis, Pfizer Inc, Pharmacyclics LLC, an AbbVie Company, Roche Laboratories Inc, Xcovery; **Grants:** Clovis Oncology, Exelixis Inc, Gilead Sciences Inc, Pharmacyclics LLC, an AbbVie Company, Xcovery.

**EDITOR** — **Dr Love** is president and CEO of Research To Practice, which receives funds in the form of educational grants to develop CME activities from the following commercial interests: AbbVie Inc, Acerta Pharma, Adaptive Biotechnologies, Agendia Inc, Agios Pharmaceuticals Inc, Amgen Inc, Ariad Pharmaceuticals Inc, Array BioPharma Inc, Astellas Pharma Global Development Inc, AstraZeneca Pharmaceuticals LP, Baxalta Inc, Bayer HealthCare Pharmaceuticals, Bodesix Inc, bioTheragnostics Inc, Boehringer Ingelheim

Pharmaceuticals Inc, Boston Biomedical Pharma Inc, Bristol-Myers Squibb Company, Celgene Corporation, Clovis Oncology, CTI BioPharma Corp, Dendreon Pharmaceuticals Inc, Eisai Inc, Exelixis Inc, Foundation Medicine, Genentech BioOncology, Genomic Health Inc, Gilead Sciences Inc, Halozyme Inc, ImmunoGen Inc, Incyte Corporation, Infinity Pharmaceuticals Inc, Ipsen Biopharmaceuticals Inc, Janssen Biotech Inc, administered by Janssen Scientific Affairs LLC, Jazz Pharmaceuticals Inc, Kite Pharma Inc, Lexicon Pharmaceuticals Inc, Lilly, Medivation Inc, a Pfizer Company, Merck, Merrimack Pharmaceuticals Inc, Myriad Genetic Laboratories Inc, NanoString Technologies, Natera Inc, Novartis, Novocure, Onyx Pharmaceuticals, an Amgen subsidiary, Pharmacyclics LLC, an AbbVie Company, Prometheus Laboratories Inc, Puma Biotechnology Inc, Regeneron Pharmaceuticals Inc, Sanofi Genzyme, Seattle Genetics, Sigma-Tau Pharmaceuticals Inc, Sirtex Medical Ltd, Spectrum Pharmaceuticals Inc, Taiho Oncology Inc, Takeda Oncology, Tesaro Inc, Teva Oncology and Tokai Pharmaceuticals Inc.

## RESEARCH TO PRACTICE STAFF AND EXTERNAL

**REVIEWERS** — The scientific staff and reviewers for Research To Practice have no relevant conflicts of interest to disclose.

*This educational activity contains discussion of published and/or investigational uses of agents that are not indicated by the Food and Drug Administration. Research To Practice does not recommend the use of any agent outside of the labeled indications. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications and warnings. The opinions expressed are those of the presenters and are not to be construed as those of the publisher or grantors.*

This activity is supported by educational grants from AbbVie Inc, AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company, Celgene Corporation, Genentech BioOncology, Lilly, Merck, Novartis and Takeda Oncology.

### **Hardware/Software Requirements:**

A high-speed Internet connection  
A monitor set to 1280 x 1024 pixels or more  
Internet Explorer 7 or later, Firefox 3.0 or later, Chrome, Safari 3.0 or later  
Adobe Flash Player 10.2 plug-in or later  
Adobe Acrobat Reader  
(Optional) Sound card and speakers for audio

**Last review date:** September 2017

**Expiration date:** September 2018

## Select Publications

- A phase II study of lorlatinib (PF-06463922) in advanced anaplastic lymphoma kinase (ALK) and ROS proto-oncogene 1 (ROS1) rearranged non-small cell lung cancer (NSCLC) with central nervous system (CNS) metastasis in the absence of measurable extracranial lesions. NCT02927340
- A phase III, randomised, double-blind, placebo-controlled, multi-centre, international study of MEDI4736 as sequential therapy in patients with locally advanced, unresectable non-small cell lung cancer (stage III) who have not progressed following definitive, platinum-based, concurrent chemoradiation therapy (PACIFIC). NCT02125461
- Adjuvant lung cancer enrichment marker identification and sequencing trial (ALCHEMIST). NCT02194738
- An open-label, single-arm, phase 2 study evaluating the efficacy, safety and pharmacokinetics of rovalpituzumab tesirine (SC16LD6.5) for third-line and later treatment of subjects with relapsed or refractory delta-like protein 3-expressing small cell lung cancer (TRINITY). NCT02674568
- Camidge DR. **Drinking not drowning: How to deal with the deluge of potential predictive biomarker approaches in non-small-cell lung cancer.** *J Oncol Pract* 2017;13(4):229-30.
- Forde P et al. **Neoadjuvant anti-PD1, nivolumab, in early resectable non-small-cell lung cancer.** *Proc ESMO* 2016;Abstract LBA41\_PR.
- Gadgeel SM et al. **Clinical activity of osimertinib in EGFR mutation positive non-small cell lung cancer (NSCLC) patients (pts) previously treated with rociletinib.** *Proc IASLC* 2016;Abstract P3.02b-115.
- Gandara DR et al. **Atezolizumab treatment beyond disease progression in advanced NSCLC: Results from the randomized Ph III OAK study.** *Proc ASCO* 2017;Abstract 9001.
- Hann CL et al. **A study of rovalpituzumab tesirine in frontline treatment of patients with DLL3 expressing extensive small cell lung cancer.** *Proc ASCO* 2017;Abstract TPS2598.
- Hellmann MD et al. **Nivolumab (nivo) ± ipilimumab (ipi) in advanced small-cell lung cancer (SCLC): First report of a randomized expansion cohort from CheckMate 032.** *Proc ASCO* 2017;Abstract 8503.
- Hyman DM et al. **The efficacy of larotrectinib (LOXO-101), a selective tropomyosin receptor kinase (TRK) inhibitor, in adult and pediatric TRK fusion cancers.** *Proc ASCO* 2017;Abstract LBA2501.
- Katayama R et al. **Cabozantinib overcomes crizotinib resistance in ROS1 fusion-positive cancer.** *Clin Cancer Res* 2015;21(1):166-74.
- Laetsch TW et al. **A pediatric phase I study of larotrectinib, a highly selective inhibitor of the tropomyosin receptor kinase (TRK) family.** *Proc ASCO* 2017;Abstract 10510.
- Li BT et al. **Ado-trastuzumab emtansine in patients with HER2 mutant lung cancers: Results from a phase II basket trial.** *Proc ASCO* 2017;Abstract 8510.
- Mok T et al. **CNS response to osimertinib in patients (pts) with T790M-positive advanced NSCLC: Data from a randomized phase III trial (AURA3).** *Proc ASCO* 2017;Abstract 9005.
- Riess JW et al. **A case series of lengthy progression-free survival with pemetrexed-containing therapy in metastatic non-small-cell lung cancer patients harboring ROS1 gene rearrangements.** *Clin Lung Cancer* 2013;14(5):592-5.
- Sabari JK et al. **PD-L1 expression and response to immunotherapy in patients with MET exon 14-altered non-small cell lung cancers (NSCLC).** *Proc ASCO* 2017;Abstract 8512.
- Scherpereel A et al. **Second- or third-line nivolumab (nivo) versus nivo plus ipilimumab (ipi) in malignant pleural mesothelioma (MPM) patients: Results of the IFCT-1501 MAPS2 randomized phase II trial.** *Proc ASCO* 2017;Abstract LBA8507.
- Shaw AT et al. **Efficacy and safety of lorlatinib in patients (pts) with ALK+ non-small cell lung cancer (NSCLC) with one or more prior ALK tyrosine kinase inhibitor (TKI): A phase I/II study.** *Proc ASCO* 2017;Abstract 9006.
- Stinchcombe T et al. **Efficacy, safety, and biomarker results of trastuzumab emtansine (T-DM1) in patients (pts) with previously treated HER2-overexpressing locally advanced or metastatic non-small cell lung cancer (mNSCLC).** *Proc ASCO* 2017;Abstract 8509.
- Wakelee HA et al. **E1505: Adjuvant chemotherapy +/- bevacizumab for early stage NSCLC — Outcomes based on chemotherapy subsets.** *Proc ASCO* 2016;Abstract 8507.
- Wu YL et al. **Gefitinib (G) versus vinorelbine + cisplatin (VP) as adjuvant treatment in stage II-IIIa (N1-N2) non-small-cell lung cancer (NSCLC) with EGFR-activating mutation (ADJUVANT): A randomized, phase III trial (CTONG 1104).** *Proc ASCO* 2017;Abstract 8500.