TARGET AUDIENCE
This activity is intended for medical oncologists and other healthcare providers involved in the treatment of acute myeloid leukemia (AML).

OVERVIEW OF ACTIVITY
AML is the most common form of leukemia among adults, and in 2016 an estimated 19,950 cases will be diagnosed and 10,430 individuals will die from this disease. Despite the frequency of AML and its associated morbidity and mortality, standard treatment algorithms for this disease have largely remained unchanged. Historically, front-line management has included induction chemotherapy with cytarabine and an anthracycline in an effort to reduce leukemic burden and induce disease remission followed by consolidation strategies using various doses and sequences of similar agents with or without stem cell transplantation depending on the patient’s ability to tolerate intensive therapy.

Much dismay has been expressed over the lack of progress in the management of this challenging disease, but in truth a number of recent scientific and therapeutic advances indicate that the future may be much brighter for patients with AML. Significantly, recent progress in molecular diagnostics has not only led to improvements in risk stratification but has also raised the potential hope that effective targeted therapeutic interventions may soon become available. Specifically, molecular diagnostics have led to the identification of several novel genetic markers, including FLT3-ITD, NPM1, CEBPA, c-KIT and others, the presence or absence of which appear to inform patient outcomes. As a result, a number of these have been incorporated into available risk stratification models and clinical practice Guidelines, including those developed by the National Comprehensive Cancer Network.

An array of other targeted and novel therapeutics are being investigated across a variety of AML subsets and clinical situations. These, in addition to the significant strides that have been made to date, provide reason for hope that new strategies can be safely and effectively integrated into current protocol and off-protocol treatment algorithms for patients with AML.

LEARNING OBJECTIVES
• Consider age, performance status and disease-related factors to guide the selection of appropriate patients for treatment with induction therapy and/or allogeneic stem cell transplantation.
• Appreciate the clinical and prognostic significance of specific cytogenetic and molecular abnormalities, and employ this information in treatment decision-making for patients with AML.
• Recognize the importance of genetic testing in the treatment of AML.
• Assess available research evidence with existing and emerging FLT3 inhibitors, and use these data to inform decisions concerning clinical care and protocol opportunities.
• Appreciate the recent FDA breakthrough designations for and available data with midostaurin and venetoclax in preparation for their potential availability in the clinic.

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CREDIT DESIGNATION STATEMENT
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AMERICAN BOARD OF INTERNAL MEDICINE (ABIM) — MAINTENANCE OF CERTIFICATION (MOC)
Successful completion of this CME activity enables the participant to earn up to 2.75 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.

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HOW TO USE THIS CME ACTIVITY
This CME activity consists of a video component. To receive credit, the participant should 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/MTPAML116/CME.

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:

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Consulting Agreements: Bristol-Myers Squibb Company, Daiichi Sankyo Inc, Novartis Pharmaceuticals Corporation, Pfizer Inc; Contracted Research: Astellas Pharma Global Development Inc, Boehringer Ingelheim Pharmaceuticals Inc, Bristol-Myers Squibb Company, Celgene Corporation, Daiichi Sankyo Inc, Novartis Pharmaceuticals Corporation, Pfizer Inc.

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COMMUNITY ONCOLOGISTS — The following community oncologists (and their spouses/partners) reported relevant conflicts of interest, which have been resolved through a conflict of interest resolution process:

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No relevant conflicts of interest to disclose.

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No relevant conflicts of interest to disclose.

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Speakers Bureau: Takeda Oncology.


RESEARCH TO PRACTICE STAFF AND EXTERNAL REVIEWERS — The scientific staff and reviewers for Research To Practice have no relevant conflicts of interest to disclose.

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**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:** March 2017

**Expiration date:** March 2018
A phase 3 open-label, multicenter, randomized study of ASP2215 versus salvage chemotherapy in patients with relapsed or refractory acute myeloid leukemia (AML) with FLT3 mutation. NCT02421939

A phase 3 open-label randomized study of quizartinib (AC220) monotherapy versus salvage chemotherapy in subjects with tyrosine kinase 3 - internal tandem duplication (FLT3-ITD) positive acute myeloid leukemia (AML) refractory to or relapsed after first-line treatment with or without hematopoietic stem cell transplantation (HSCT) consolidation. NCT02039726


Cortes JE et al. Final results of a phase 2 open-label, monotherapy efficacy and safety study of quizartinib (AC220) in patients ≥ 60 years of age with FLT3-ITD positive or negative relapsed/refractory acute myeloid leukemia. *Proc ASH* 2012;Abstract 48.


DiNardo C et al. A phase 1b study of venetoclax (ABT-199/GDC-0199) in combination with decitabine or azacitidine in treatment-naive patients with acute myelogenous leukemia who are ≥ to 65 years and not eligible for standard induction therapy. *Proc ASH* 2015;Abstract 327.


Marcucci G et al. Adding KIT inhibitor dasatinib (DAS) to chemotherapy overcomes the negative impact of KIT mutation/over-expression in core binding factor (CBF) acute myeloid leukemia (AML): Results from CALGB 10801 (Alliance). *Blood* 2014;124:8.


Stone RM et al. The multi-kinase inhibitor midostaurin (M) prolongs survival compared with placebo (P) in combination with daunorubicin (D)/cytarabine (C) induction (ind), high-dose C consolidation (consol), and as maintenance (maint) therapy in newly diagnosed acute myeloid leukemia (AML) patients (pts) age 18-60 with FLT3 mutations (muts): An international prospective randomized (rand) P-controlled double-blind trial (CALGB 10603/RATIFY [Alliance]). Proc ASH 2015;Abstract 6.

