

Acute Leukemias™

U P D A T E

Conversations with Oncology Investigators
Bridging the Gap between Research and Patient Care

FACULTY INTERVIEWS

Daniel J DeAngelo, MD, PhD

Amir T Fathi, MD

EDITOR

Neil Love, MD



Acute Leukemias™

U P D A T E

Editor	Neil Love, MD
Director, Clinical Content and CPD/CME	Kathryn Ault Ziel, PhD
Scientific Director	Richard Kaderman, PhD
Editorial	Clayton Campbell Marilyn Fernandez, PhD Adam P Hustad Gloria Kelly, PhD Kemi Obajimi, PhD Margaret Peng
Creative Manager	Fernando Rendina
Graphic Designers	Jessica Benitez Tamara Dabney Silvana Izquierdo
Senior Manager, Special Projects	Kirsten Miller
Senior Production Editor	Aura Herrmann
Copy Editors	Rosemary Hulce Pat Morrissey/Havlin Alexis Oneca Kyriaki Tsaganis
Production Manager	Tracy Potter
Audio Production	Frank Cesarano
Web Master	John Ribeiro
Faculty Relations Manager	Stephanie Bodanyi, CMP
Continuing Education Administrator for Nursing	Karen Gabel Speroni, BSN, MHSA, PhD, RN
Contact Information	Neil Love, MD Research To Practice One Biscayne Tower 2 South Biscayne Boulevard, Suite 3600 Miami, FL 33131 Fax: (305) 377-9998 Email: DrNeilLove@ResearchToPractice.com
For CME/CNE Information	Email: CE@ResearchToPractice.com

Copyright © 2017 Research To Practice. All rights reserved.

The compact disc, Internet content and accompanying printed material are protected by copyright. No part of this program may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or utilizing any information storage and retrieval system, without written permission from the copyright owner.

The opinions expressed are those of the presenters and are not to be construed as those of the publisher or grantors.

Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their

own professional development. The information presented in this activity is not meant to serve as a guideline for patient management.

Any procedures, medications or other courses of diagnosis or treatment discussed or suggested in this activity should not be used by clinicians without evaluation of their patients' conditions and possible contraindications or dangers in use, review of any applicable manufacturer's product information and comparison with recommendations of other authorities.

Acute Leukemias Update

A Continuing Medical Education Audio Series

OVERVIEW OF ACTIVITY

The treatment of acute leukemias remains a challenge for many healthcare professionals and patients despite recent gains made in the management of this group of diseases. Determining which treatment approach is most appropriate requires careful consideration of patient-specific characteristics, physician expertise and available health-system resources. Published results from ongoing trials continually lead to the emergence of new therapeutic targets and regimens, thereby altering management algorithms. In order to offer optimal patient care, including the option of clinical trial participation, the practicing medical oncologist must be well informed of these advances. To bridge the gap between research and patient care, this issue of *Acute Leukemias Update* features one-on-one discussions with leading hematology-oncology investigators. By providing information on the latest clinical developments in the context of expert perspectives, this CME activity assists medical oncologists, hematologists and hematology-oncology fellows with the formulation of evidence-based and current therapeutic strategies.

LEARNING OBJECTIVES

- Appraise data on recent therapeutic advances and changing practice standards, including FDA approvals, in acute forms of leukemia, and integrate this information into current clinical care.
- Recognize the clinical and prognostic significance of specific cytogenetic and molecular abnormalities, and use this information in treatment decision-making for patients with acute forms of leukemia.
- Consider age, performance status and other disease-related factors in the identification of patients with acute lymphoblastic leukemia who are appropriate for targeted agents or chemotherapy.
- Counsel patients regarding the incidence and manifestation of side effects and toxicities associated with newly approved and investigational agents and regimens in the treatment of acute forms of leukemia.
- Identify the proposed mechanisms of action of and recall new data with investigational agents demonstrating promising activity in acute forms of leukemia, and refer appropriate patients for participation in ongoing trials evaluating these approaches.

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://www.researchtopractice.com/Privacy-Policy) for more information.

HOW TO USE THIS CME ACTIVITY

This CME activity contains an audio component. To receive credit, the participant should review the CME information, listen to the audio tracks, complete the Post-test with a score of 80% or better and fill out the Educational Assessment and Credit Form located in the back of this booklet or on our website at [ResearchToPractice.com/AcuteLeukemiasUpdate117/CME](https://www.researchtopractice.com/AcuteLeukemiasUpdate117/CME). The corresponding video program is available as an alternative at [ResearchToPractice.com/AcuteLeukemiasUpdate117/Video](https://www.researchtopractice.com/AcuteLeukemiasUpdate117/Video).

This activity is supported by educational grants from AbbVie Inc, Agios Pharmaceuticals Inc, Amgen Inc, Astellas Pharma Global Development Inc, Celgene Corporation, Jazz Pharmaceuticals Inc, Novartis and Pfizer Inc.

Release date: November 2017; Expiration date: November 2018

CME INFORMATION

FACULTY AFFILIATIONS



Daniel J DeAngelo, MD, PhD

Director of Clinical and Translational Research, Adult Leukemia Institute Physician
Associate Professor of Medicine
Harvard Medical School
Dana-Farber Cancer Institute
Boston, Massachusetts



Amir T Fathi, MD

Assistant Professor of Medicine
Harvard Medical School
Massachusetts General Hospital
Boston, Massachusetts

EDITOR



Neil Love, MD

Research To Practice
Miami, Florida

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: **Dr DeAngelo** — Consulting Agreements: Amgen Inc, Daiichi Sankyo Inc, Incyte Corporation, Novartis, Pfizer Inc, Shire, Takeda Oncology. **Dr Fathi** — Advisory Committee: Agios Pharmaceuticals Inc, Celgene Corporation, Pfizer Inc; Consulting Agreements: Amgen Inc, Celgene Corporation, MedImmune Inc, Seattle Genetics; Contracted Research: Celgene Corporation, Exelixis Inc, Seattle Genetics, Takeda Oncology.

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, bioTherapeutics 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, Pfizer Inc, 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.

If you would like to discontinue your complimentary subscription to *Acute Leukemias Update*, please email us at Info@ResearchToPractice.com, call us at (800) 648-8654 or fax us at (305) 377-9998. Please include your full name and address, and we will remove you from the mailing list.

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.

Interview with Daniel J DeAngelo, MD, PhD

Tracks 1-22

Track 1	Case: A 21-year-old woman presents with Philadelphia chromosome-negative B-cell acute lymphoblastic leukemia (ALL) and is found to have an E2A-Pbx1 translocation	Track 12	Anticipated role of CAR-T therapy in clinical practice and potential integration into treatment algorithms for ALL
Track 2	Biologic rationale for the use of pediatric regimens for young adult patients with ALL	Track 13	Limitations of current diagnostic technology for ALL in the community setting
Track 3	Importance of Philadelphia chromosome status and Philadelphia-like signature in prognosis and treatment approach	Track 14	Case: A 35-year-old man presents with fatigue, fever and chills and is diagnosed with FLT3-ITD-negative acute myeloid leukemia (AML)
Track 4	Cooperative care of patients with ALL between community practices and tertiary centers	Track 15	Mechanism of action and efficacy of midostaurin for patients with FLT3 mutation-positive AML
Track 5	Treatment selection strategy for patients with ALL	Track 16	Investigational FLT3 inhibitors in AML
Track 6	Comparison of treatment strategies for young adults with ALL	Track 17	Liposomal cytarabine/daunorubicin (CPX-351) for secondary AML
Track 7	Evolution of multiagent regimens in pediatric ALL	Track 18	IDH1/2 inhibitors for AML
Track 8	Asparaginase preparations for ALL	Track 19	Efficacy of venetoclax alone and in combination with hypomethylating agents for AML
Track 9	Activity and tolerability of inotuzumab ozogamicin	Track 20	Early data with the use of hedgehog inhibitors for AML
Track 10	Recognition and management of immune-related side effects of blinatumomab	Track 21	Voluntary market removal of gemtuzumab ozogamicin and the potential for reintroduction
Track 11	Cytokine release syndrome and neurotoxicity with chimeric antigen receptor T-cell (CAR-T) therapy	Track 22	Side effects and toxicities of the antibody-drug conjugate vadastuximab talirine in patients with AML

Interview with Amir T Fathi, MD

Tracks 1-20

Track 1	Overview of new agents for AML	Track 7	Phase III RATIFY study: Midostaurin with daunorubicin/cytarabine induction therapy, with high-dose cytarabine consolidation and as maintenance therapy for newly diagnosed FLT3 mutation-positive AML
Track 2	Cytogenetic evolution between AML diagnosis and relapse and effects on reinduction therapy outcomes	Track 8	Recognition and management of differentiation syndromes in patients with AML treated with IDH or FLT3 inhibitors
Track 3	FLT3 inhibitors for relapsed/refractory AML	Track 9	Biologic rationale for targeting IDH1/2 mutations
Track 4	Hypomethylating agents in older patients with AML		
Track 5	Therapeutic options after treatment with hypomethylating agents for older patients with AML		
Track 6	Specificity and toxicity of various FLT3 inhibitors		

Interview with Dr Fathi (continued)

- Track 10** Efficacy and tolerability of the IDH inhibitors enasidenib and ivosidenib in patients with IDH mutations
- Track 11** CPX-351 and venetoclax in AML
- Track 12** Current status of the investigational hedgehog inhibitor glasdegib and the antibody-drug conjugate gemtuzumab ozogamicin
- Track 13** CAR-T therapy and the aurora A kinase inhibitor alisertib for AML
- Track 14** **Case:** A 50-year-old man with FLT3 wild-type myelodysplastic syndrome experiences disease transformation to FLT3-ITD mutation-positive AML
- Track 15** **Case:** A 56-year-old man with heavily pretreated AML and a FLT3-ITD mutation receives sorafenib
- Track 16** Conventional treatments and emerging therapies for ALL
- Track 17** **Case:** A 55-year-old woman with relapsed Philadelphia chromosome-negative B-cell ALL receives blinatumomab
- Track 18** Neurologic toxicities with blinatumomab in the treatment of ALL
- Track 19** Toxicity with different preparations of asparaginase in older patients with ALL
- Track 20** **Case:** A 45-year-old man with low-risk acute promyelocytic leukemia initially treated with all-trans retinoic acid and arsenic trioxide develops differentiation symptoms

Video Program

View the corresponding video interviews with (from left) Drs DeAngelo and Fathi by Dr Love at www.ResearchToPractice.com/AcuteLeukemiasUpdate117/Video



Have Questions or Cases You Would Like Us to Pose to the Faculty?



Submit them to us via Facebook or Twitter and we will do our best to get them answered for you

 [Facebook.com/ResearchToPractice](https://www.facebook.com/ResearchToPractice) or  [@DrNeilLove](https://twitter.com/DrNeilLove)

SELECT PUBLICATIONS

- A phase II study of the aurora A kinase inhibitor alisertib in combination with 7 + 3 induction chemotherapy in patients with high-risk acute myeloid leukemia. [NCT02560025](#)
- A phase III randomized trial of blinatumomab for newly diagnosed BCR-ABL-negative B lineage acute lymphoblastic leukemia in adults. [NCT02003222](#)
- A phase III trial to evaluate the efficacy of the addition of inotuzumab ozogamicin (a conjugated anti-CD22 monoclonal antibody) to frontline therapy in young adults (ages 18-39 years) with newly diagnosed precursor B-cell ALL. [NCT03150693](#)
- 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](#)
- Altman JK et al. Deep molecular response to gilteritinib to improve survival in FLT3 mutation-positive relapsed/refractory acute myeloid leukemia. *Proc ASCO* 2017;[Abstract 7003](#).
- Brunner AM et al. Cytogenetic evolution between diagnosis and relapse and impact on acute myeloid leukemia (AML) reinduction outcomes. *Proc ASCO* 2017;[Abstract 18509](#).
- Castaigne S et al; Acute Leukemia French Association. Effect of gemtuzumab ozogamicin on survival of adult patients with de-novo acute myeloid leukaemia (ALFA-0701): A randomised, open-label, phase 3 study. *Lancet* 2012;379(9825):1508-16.
- Cortes J et al. A phase 2 randomized study of low dose Ara-C with or without glasdegib (PF-04449913) in untreated patients with acute myeloid leukemia or high-risk myelodysplastic syndrome. *Proc ASH* 2016;[Abstract 99](#).
- DeAngelo DJ et al. Evolving therapies in acute myeloid leukemia: Progress at last? *Am Soc Clin Oncol Educ Book* 2016;35:e302-12.
- Fathi AT et al. Phase I study of the aurora A kinase inhibitor alisertib with induction chemotherapy in patients with acute myeloid leukemia. *Haematologica* 2017;102(4):719-27.
- Fedorov VD et al. The approach to acute lymphoblastic leukemia in older patients: Conventional treatments and emerging therapies. *Curr Hematol Malig Rep* 2016;11(3):165-74.
- Kantarjian HM et al. Inotuzumab ozogamicin versus standard therapy for acute lymphoblastic leukemia. *N Engl J Med* 2016;375(8):740-53.
- Lancet J et al. Final results of a phase III randomized trial of CPX-351 versus 7 + 3 in older patients with newly diagnosed high risk (secondary) AML. *Proc ASCO* 2016;[Abstract 7000](#).
- Levis MJ et al. Final results of a phase 2 open-label monotherapy efficacy and safety study of quizartinib (AC220) in patients with FLT3-ITD positive or negative relapsed/refractory acute myeloid leukemia after second-line chemotherapy or hematopoietic stem cell transplantation. *Proc ASH* 2012;[Abstract 673](#).
- Medeiros BC et al. Isocitrate dehydrogenase mutations in myeloid malignancies. *Leukemia* 2017;31(2):272-81.
- Ravandi F et al. Phase 2 study of azacytidine plus sorafenib in patients with acute myeloid leukemia and FLT-3 internal tandem duplication mutation. *Blood* 2013;121(23):4655-62.
- Stock W et al. What determines the outcomes for adolescents and young adults with acute lymphoblastic leukemia treated on cooperative group protocols? A comparison of Children's Cancer Group and Cancer and Leukemia Group B studies. *Blood* 2008;112(5):1646-54.
- Stone RM et al. Midostaurin plus chemotherapy for acute myeloid leukemia with a FLT3 mutation. *N Engl J Med* 2017;377(5):454-64.
- 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](#).
- Vrooman et al. Postinduction dexamethasone and individualized dosing of escherichia coli L-asparaginase each improve outcome of children and adolescents with newly diagnosed acute lymphoblastic leukemia: Results from a randomized study—Dana-Farber Cancer Institute ALL Consortium Protocol 00-01. *J Clin Oncol* 2013;31(9):1202-10.
- Wang ES et al. CASCADE: A phase 3, randomized, double-blind study of vadastuximab talirine (33A) versus placebo in combination with azacitidine or decitabine in the treatment of older patients with newly diagnosed acute myeloid leukemia (AML). *Proc ASCO* 2017;[Abstract TPS7066](#).

QUESTIONS (PLEASE CIRCLE ANSWER):

1. **Patients who present with FLT3 mutation-positive AML _____.**
 - a. Are less likely to experience relapse after standard consolidation chemotherapy than are patients with FLT3 wild-type AML
 - b. Have a 50% to 55% chance of cure after treatment with midostaurin in combination with standard induction and consolidation chemotherapy and stem cell transplant
 - c. Are likely to respond to midostaurin monotherapy
2. **The mechanism of action of blinatumomab involves _____.**
 - a. Binding to CD19 on tumor cells and CD3 on T cells
 - b. Binding to FLT3
 - c. Binding to IDH1
3. **Which of the following conclusions can be drawn regarding the use of CPX-351, the liposomal encapsulation of cytarabine and daunorubicin, for AML?**
 - a. Phase III data demonstrated a survival benefit with CPX-351 for patients with primary AML
 - b. The incidence of oral mucosal toxicity is higher for patients who receive CPX-351 than for those who receive the standard formulation
 - c. Elderly patients who may be unable to tolerate the standard formulation are more likely to tolerate CPX-351
4. **The cytokine release syndrome and neurotoxicity associated with blinatumomab and CAR-T therapy in patients with ALL can be managed with early steroids and tocilizumab.**
 - a. True
 - b. False
5. **The mechanism of action of inotuzumab ozogamicin involves _____.**
 - a. Binding to FLT3
 - b. Binding to CD22
 - c. Inhibiting IDH2
6. **The mechanism of action of the investigational agents quizartinib, gilteritinib and crenolanib besylate is to _____.**
 - a. Inhibit FLT3
 - b. Inhibit IDH1/2
 - c. Inhibit Bcl-2
7. **Philadelphia chromosome status or Philadelphia-like signature is important in selecting front-line therapy for patients with ALL.**
 - a. True
 - b. False
8. **According to current clinical data, venetoclax _____.**
 - a. Has no potential role in the treatment of AML because AML is Bcl-2 independent
 - b. Has demonstrated remission rates as high as 70% as a single agent for AML
 - c. Has demonstrated remission rates as high as 70% in combination with hypomethylating agents for older patients with AML
9. **In a Phase III study evaluating azacitidine or decitabine with or without vadastuximab talirine for older patients with newly diagnosed AML, higher rates of severe toxicities were observed among patients receiving vadastuximab talirine.**
 - a. True
 - b. False
10. **Which of the following statements is true about IDH mutations in patients with AML?**
 - a. Patients with an IDH mutation are also likely to have a TET mutation
 - b. IDH2 mutations are less common than IDH1 mutations in patients with myeloid cancers
 - c. The response rate with IDH inhibitors is about 40% for patients with an IDH mutation

EDUCATIONAL ASSESSMENT AND CREDIT FORM

Acute Leukemias Update — Volume 1, Issue 1

Research To Practice is committed to providing valuable continuing education for oncology clinicians, and your input is critical to helping us achieve this important goal. Please take the time to assess the activity you just completed, with the assurance that your answers and suggestions are strictly confidential.

PART 1 — Please tell us about your experience with this educational activity

How would you characterize your level of knowledge on the following topics?

4 = Excellent 3 = Good 2 = Adequate 1 = Suboptimal

	BEFORE	AFTER
Results of the RATIFY Phase III study of midostaurin in combination with daunorubicin/cytarabine induction therapy, with high-dose cytarabine consolidation and as maintenance therapy for patients with newly diagnosed FLT3 mutation-positive AML	4 3 2 1	4 3 2 1
Biologic rationale for and efficacy and tolerability of the recently approved IDH2 inhibitor enasidenib for AML	4 3 2 1	4 3 2 1
Risk-benefit ratio with CAR-T therapy for patients with aggressive leukemias	4 3 2 1	4 3 2 1
Efficacy and tolerability of the FDA-approved agent blinatumomab for relapsed/refractory ALL	4 3 2 1	4 3 2 1
Proposed rationale for the increased activity/delivery of the recently approved liposome-encapsulated formulation of cytarabine and daunorubicin (CPX-351)	4 3 2 1	4 3 2 1

Practice Setting:

- Academic center/medical school Community cancer center/hospital Group practice
 Solo practice Government (eg, VA) Other (please specify).....

Approximately how many new patients with the following do you see per year?

ALL..... AML..... APL.....

Was the activity evidence based, fair, balanced and free from commercial bias?

- Yes No If no, please explain:

Please identify how you will change your practice as a result of completing this activity (select all that apply).

- This activity validated my current practice
 Create/revise protocols, policies and/or procedures
 Change the management and/or treatment of my patients
 Other (please explain):

If you intend to implement any changes in your practice, please provide 1 or more examples:

.....

The content of this activity matched my current (or potential) scope of practice.

- Yes No If no, please explain:

Please respond to the following learning objectives (LOs) by circling the appropriate selection:

4 = Yes 3 = Will consider 2 = No 1 = Already doing N/M = LO not met N/A = Not applicable

As a result of this activity, I will be able to:

- Appraise data on recent therapeutic advances and changing practice standards, including FDA approvals, in acute forms of leukemia, and integrate this information into current clinical care. 4 3 2 1 N/M N/A
- Recognize the clinical and prognostic significance of specific cytogenetic and molecular abnormalities, and use this information in treatment decision-making for patients with acute forms of leukemia. 4 3 2 1 N/M N/A
- Consider age, performance status and other disease-related factors in the identification of patients with acute lymphoblastic leukemia who are appropriate for targeted agents or chemotherapy. 4 3 2 1 N/M N/A

EDUCATIONAL ASSESSMENT AND CREDIT FORM (continued)

As a result of this activity, I will be able to:

- Counsel patients regarding the incidence and manifestation of side effects and toxicities associated with newly approved and investigational agents and regimens in the treatment of acute forms of leukemia. 4 3 2 1 N/M N/A
- Identify the proposed mechanisms of action of and recall new data with investigational agents demonstrating promising activity in acute forms of leukemia, and refer appropriate patients for participation in ongoing trials evaluating these approaches. 4 3 2 1 N/M N/A

Please describe any clinical situations that you find difficult to manage or resolve that you would like to see addressed in future educational activities:

.....

Would you recommend this activity to a colleague?

Yes No If no, please explain:

Additional comments about this activity:

.....

PART 2 — Please tell us about the faculty and editor for this educational activity

4 = Excellent 3 = Good 2 = Adequate 1 = Suboptimal

Faculty	Knowledge of subject matter				Effectiveness as an educator			
Daniel J DeAngelo, MD, PhD	4	3	2	1	4	3	2	1
Amir T Fathi, MD	4	3	2	1	4	3	2	1
Editor	Knowledge of subject matter				Effectiveness as an educator			
Neil Love, MD	4	3	2	1	4	3	2	1

REQUEST FOR CREDIT — Please print clearly

Name: Specialty:

Professional Designation:

MD DO PharmD NP RN PA Other

Street Address: Box/Suite:

City, State, Zip:

Telephone: Fax:

Email:

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.

I certify my actual time spent to complete this educational activity to be _____ hour(s).

Signature: Date:

I would like Research To Practice to submit my CME credits to the ABIM to count toward my MOC points. I understand that because I am requesting MOC credit, Research To Practice will be required to share personally identifiable information with the ACCME and ABIM.

Additional information for MOC credit (required):

Date of Birth (Month and Day Only): ___/___/___ ABIM 6-Digit ID Number:

If you are not sure of your ABIM ID, please visit <http://www.abim.org/online/findcand.aspx>.

QID 1816

The expiration date for this activity is November 2018. To obtain a certificate of completion and receive credit for this activity, please complete the Post-test, fill out the Educational Assessment and Credit Form and fax both to (800) 447-4310, or mail both to Research To Practice, One Biscayne Tower, 2 South Biscayne Boulevard, Suite 3600, Miami, FL 33131. You may also complete the Post-test and Educational Assessment online at www.ResearchToPractice.com/AcuteLeukemiasUpdate117/CME.

Acute Leukemias[™]

U P D A T E

Neil Love, MD
Research To Practice
One Biscayne Tower
2 South Biscayne Boulevard, Suite 3600
Miami, FL 33131

Copyright © 2017 Research To Practice.

This activity is supported by educational grants from AbbVie Inc, Agios Pharmaceuticals Inc, Amgen Inc, Astellas Pharma Global Development Inc, Celgene Corporation, Jazz Pharmaceuticals Inc, Novartis and Pfizer Inc.

Research
To Practice®

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

Release date: November 2017
Expiration date: November 2018
Estimated time to complete: 2.5 hours

PRSRT STD
U.S. POSTAGE
PAID
MIAMI FL
PERMIT #1317