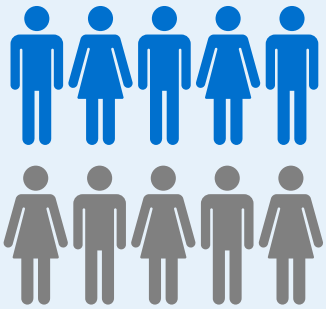
AFTER ACHIEVING COMPLETE REMISSION (CR) IN ADULT B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA (ALL)[1-3]

Go deeper by measuring minimal residual disease (MRD)

MRD IS A PROGNOSTIC TOOL FOR INDICATING POTENTIAL RELAPSE[4]

Up to 50% of adult patients with ALL who achieve CR after chemotherapy may relapse[5,6]



Relapse after frontline therapy generally leads to poor long-term outcomes and fewer treatment options[7]

CR

MRD

Bone marrow microscopy cannot identify the presence of leukemic cells if there are fewer than 5% in the total cell population[1,2]

Over a 10 year period, patients who achieved MRD negativity had a greater chance of survival vs patients who remained MRD+[4,*]

*According to a meta-analysis of 5 studies evaluating 806 adult patients with ALL.

Sensitivity of cancer cell detection in 3 testing methods

FLOW CYTOMETRY
1 in 10,000 normal cells[8]

POLYMERASE CHAIN REACTION
1 in 100,000 normal cells[8]

NEXT-GENERATION SEQUENCING
1 in 1,000,000 normal cells[9]

2017 NCCN Clinical Practice Guidelines In Oncology (NCCN Guidelines®) for ALL recommends MRD assessment upon completion of initial induction therapy and states:[3]

"MRD is an essential component of patient evaluation over the course of sequential therapy."

To learn more about MRD visit www.amgenoncology.com

Guidelines say to test and monitor MRD as early as postinduction for your ALL patients[3]

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1. Campana D. Minimal residual disease studies in acute leukemia. *Am J Clin Pathol.* 2004;122(suppl 1):S47-S57. **2.** Gökbuget N, Kneba M, Raff T, et al. Adult patients with acute lymphoblastic leukemia and molecular failure display a poor prognosis and are candidates for stem cell transplantation and targeted therapies. *Blood.* 2012;120:1868-1876. **3.** Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Acute Lymphoblastic Leukemia V.5.2017. ©National Comprehensive Cancer Network, Inc. 2017. All rights reserved. Accessed January 9, 2018. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way. **4.** Berry DA, Zhou S, Higley H, et al. Association of minimal residual disease with clinical outcome in pediatric and adult acute lymphoblastic leukemia: a meta-analysis. *JAMA Oncol.* 2017;3:e170580. **5.** Hoelzer D. Monitoring and managing minimal residual disease in acute lymphoblastic leukemia. *Am Soc Clin Oncol Educ Book.* 2013;33:290-293. **6.** Jain N, Gurbuxani S, Rhee C, Stock W. Acute lymphoblastic leukemia in adults. In: Hoffman R, Benz EJ, Silberstein LE, Heslop H, Weitz J, Anastasi J, eds. *Hematology: Basic Principles and Practice*. 6th ed. Philadelphia, PA: Saunders-Elsevier; 2013:960-980. **7.** Gökbuget N, Dombret H, Ribera JM, et al. International reference analysis of outcomes in adults with B-precursor Ph-negative relapsed/refractory acute lymphoblastic leukemia. *Haematologica.* 2016;101:1524-1533. **8.** Campana D. Minimal residual disease in acute lymphoblastic leukemia. *Semin Hematol.* 2009;46:100-106. **9.** Ladetto M, Brüggemann M, Monitillo L, et al. Next-generation sequencing and real-time quantitative PCR for minimal residual disease detection in B-cell disorders. *Leukemia.* 2014;28:1299-1307.

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