

Understanding chronic myeloid leukemia (CML)

CML is a cancer that occurs when the blood-forming cells of the bone marrow make too many white blood cells.

CML statistics



1.2 to 1.5 million
people are currently living with CML worldwide¹.



15%
Of adult cases
of leukemia are due to CML².

64

Average age at diagnosis³
CML is rarely seen in children³.



Slightly more common in men
The reasons for this are unknown³.

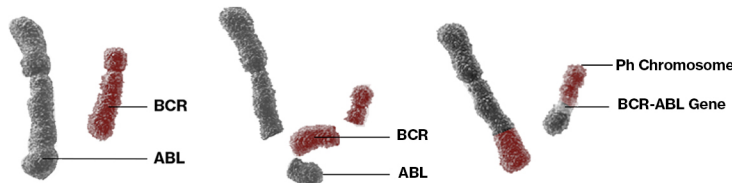
The Ph chromosome

CML is linked to a genetic mutation, the Philadelphia (Ph) chromosome

The Ph chromosome carries a defective gene called BCR-ABL, which produces a protein of the same name that triggers bone marrow to keep making abnormal white blood cells. When the Ph chromosome is present, CML is classified as Philadelphia chromosome-positive (Ph+)⁴.



95%
Of CML cases
are classified as Ph+ CML. In these cases, pieces of chromosomes 9 and 22 have broken off and switched places, producing the Ph chromosome⁴.



Treating CML

The introduction of BCR-ABL tyrosine kinase inhibitor (TKI) therapy more than 15 years ago helped transform Ph+ CML from a life-threatening disease to, in most cases, a chronic condition by reducing the level of leukemia cells⁵.

Advances in treatment

Advances in treatment have led to more patients living with CML, although the number of patients diagnosed each year stays relatively constant - in fact, in the past decade, CML survival rates have almost doubled in the US⁶.



31%
SURVIVAL RATE IN THE EARLY 1990'S

31% of CML patients in the US diagnosed in the early 1990's were expected to survive for at least five years⁷.



63%
SURVIVAL RATE IN 2005-2011

63% of CML patients in the US diagnosed between 2005 and 2011 were expected to survive for at least five years⁸.

Ph+ CML can be managed by:

Working with a physician to establish proper treatment and goals.

Monitoring BCR-ABL levels with a sensitive blood test, the polymerase chain reaction (PCR) test².

Routine PCR monitoring

Routine PCR monitoring can detect early and deep response to treatment and is fundamental to the management of Ph+ CML².

Treatment milestones

Meet the CML milestones that matter

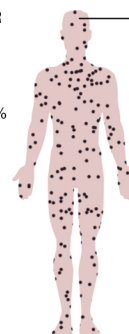
This is a simplified way to understand CML treatment milestones. Think of the dots shown in the body as the amount of leukemic cells in the blood. With each treatment milestone, the amount of leukemia in the body is reduced.



AT DIAGNOSIS
The level of BCR-ABL gene in the body is different for every patient at diagnosis, as measured on the International Scale (IS)⁷.



EARLY MOLECULAR RESPONSE (EMR)
An early molecular response means that the level of BCR-ABL gene in the blood is $\leq 10\%$ when measured on the IS⁷.



COMPLETE CYTOGENETIC RESPONSE (CCyR)
A complete cytogenetic response means that the level of BCR-ABL gene in the blood is equivalent to 1% when measured on the IS⁷.



MAJOR MOLECULAR RESPONSE (MMR)
An MMR (or molecular response of 3.0) means that the level of BCR-ABL gene in the blood is $\leq 0.1\%$ when measured on the IS⁷.

References: 1. Kantarjian, H., et al. The price of drugs for chronic myeloid leukemia (CML) is a reflection of the unsustainable prices of cancer drugs: from the perspective of a large group of CML experts. *Blood*. 30 May 2013; 121(22):4439-4442. 2. Central European Leukemia Study Group. About CML. 2007. Available at <http://www.cml-info.com/de/healthcare-professionals/about-cml.html>. Accessed April 2017. 3. American Cancer Society. Chronic Myeloid Leukemia (CML): About Chronic Myeloid Leukemia. 22 February 2016. Available at: <https://www.cancer.org/content/dam/CRC/PDF/Public/8684.00.pdf>. Accessed March 2017. 4. National Cancer Institute. General Information About Chronic Myelogenous Leukemia (PDQ). 20 January 2017. Available at: <https://www.cancer.gov/types/leukemia/hp/cml-treatment-pdq>. Accessed March 2017. 5. Rea, D., et al. Curing Chronic Myeloid Leukemia. *Curr Hematol Malign Rep*. 2012; 7:103-108. 6. Cancer.Net Leukemia - Chronic Myeloid - CML: Statistics. November 2016. Available at: <http://www.cancer.net/cancer-types/leukemia-chronic-myeloid-cml/statistics>. Accessed March 2017. 7. Hehlmann, R., et al. *J Clin Oncol*. 10 February 2014; 32(5):415-423.