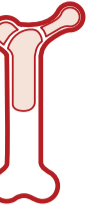


# LEUKEMIA

CANCER OF THE **WHITE BLOOD CELLS** IN BONE MARROW



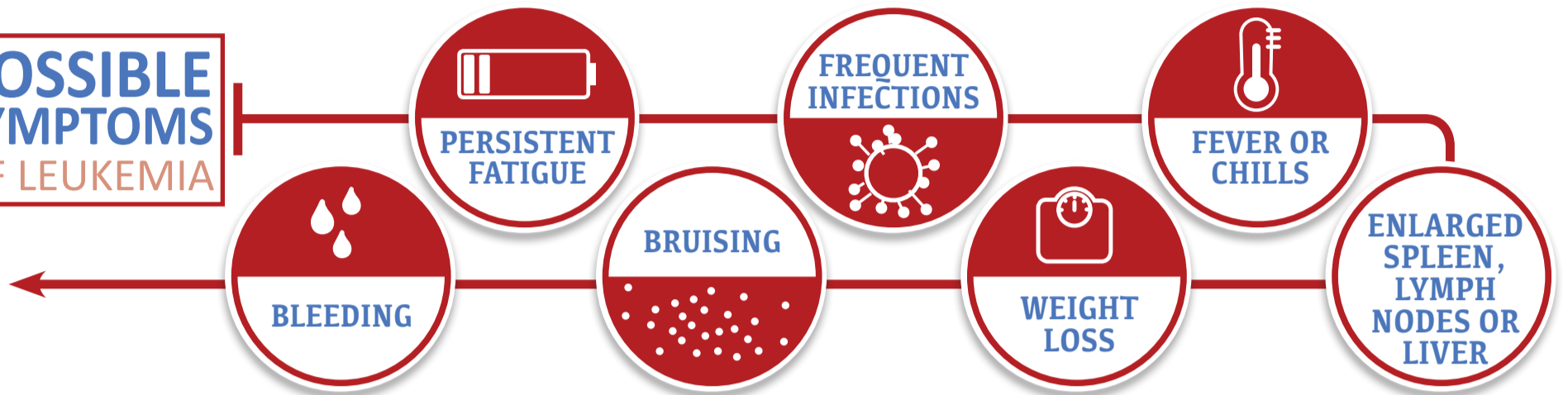
**2.3**  
MILLION



PEOPLE WORLDWIDE  
HAVE LEUKEMIA<sup>1</sup>

LEUKEMIA OCCURS MOST OFTEN IN ADULTS OLDER THAN 55<sup>2</sup>  
MORE **♂** MEN ARE DIAGNOSED THAN **♀** WOMEN<sup>3</sup>

## POSSIBLE SYMPTOMS OF LEUKEMIA



THE DIAGNOSIS IS CONFIRMED BY BLOOD TESTS OR BIOPSY OF BONE MARROW



**90%**  
TREATABLE WITH MEDICATION

## RISK FACTORS

SMOKING, FAMILY HISTORY, PRIOR CHEMOTHERAPY, EXPOSURE TO CERTAIN CHEMICALS OR IONIZING RADIATIONS, DOWN SYNDROME

## THE MOST COMMON TREATMENTS ARE

- CHEMOTHERAPY** DRUGS USED TO KILL ALL RAPIDLY-GROWING CELLS, INCLUDING CANCER CELLS
- RADIATION THERAPY** HIGH-ENERGY WAVES (E.G. X-RAYS) USED TO DESTROY OR DAMAGE CANCER CELLS
- BONE MARROW TRANSPLANT** HEALTHY BONE MARROW CELLS REPLACE THE DAMAGED ONES
- TARGETED THERAPY** DRUGS THAT WORK ON ONE OR MORE SPECIFIC PATHWAYS OF THE CANCER

PROGNOSIS<sup>4</sup>  
5 YEAR SURVIVAL RATE IS ABOUT  
**61%**

## TYPES OF LEUKEMIA

ACUTE LEUKEMIA = FAST-GROWING  
CHRONIC LEUKEMIA = SLOW-GROWING

LEUKEMIA IS THE 10TH MOST COMMON CAUSE OF CANCER-RELATED DEATH, REPRESENTING 3% OF ALL CANCER-RELATED DEATHS<sup>5</sup>

### ALL

ACUTE LYMPHOCYTIC (OR LYMPHOBLASTIC) LEUKEMIA

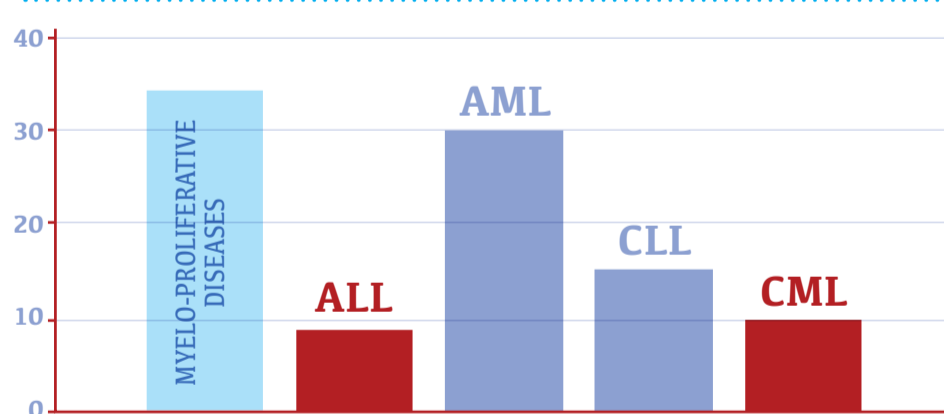
MOST COMMON TYPE IN CHILDREN

REPRESENTS ABOUT **9%** OF LEUKEMIAS<sup>6</sup>

### AML

ACUTE MYELOID (OR MYELOGENOUS) LEUKEMIA

MOST COMMON TYPE



### CLL

CHRONIC LYMPHOCYTIC LEUKEMIA

EVENTUALLY SPREADS IN THE BODY

### CML

CHRONIC MYELOID (OR MYELOGENOUS) LEUKEMIA

CAN SPREAD TO LIVER/SPLEEN

REPRESENTS ABOUT **10%** OF LEUKEMIAS<sup>6</sup>

## ALL ACUTE LYMPHOCYTIC LEUKEMIA

OVERPRODUCTION AND ACCUMULATION OF IMMATURE WHITE BLOOD CELLS (LYMPHOBLASTS)

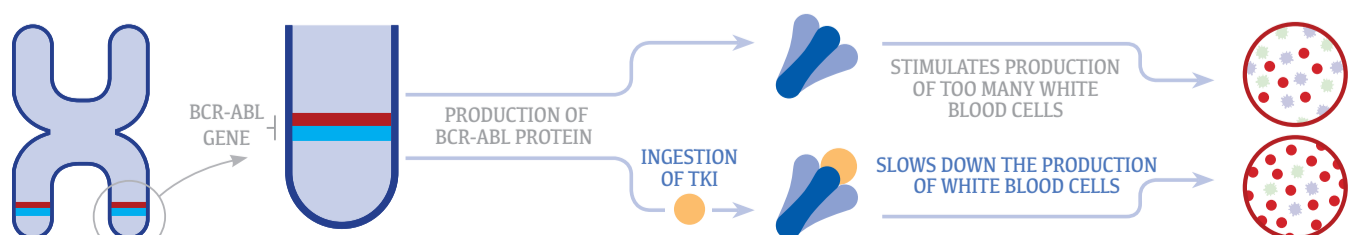
ALL IS THE MOST COMMON TYPE OF CANCER IN CHILDREN<sup>2</sup> ABOUT 3 OUT OF 4 LEUKEMIAS AMONG CHILDREN AND TEENS ARE ALL<sup>8</sup>

## CML CHRONIC MYELOID LEUKEMIA

INCREASE AND UNREGULATED GROWTH OF BLOOD-FORMING CELLS IN THE BONE MARROW AND ACCUMULATION OF THESE CELLS IN THE BLOOD  
CML IS LINKED TO A GENETIC MUTATION THE PHILADELPHIA (Ph+) CHROMOSOME  
CML HAS 3 PHASES: CHRONIC (CP), ACCELERATED (AP), BLAST CRISIS (BP)

PHILADELPHIA CHROMOSOME IS PRESENT IN **95%** OF CML PATIENTS<sup>7</sup>

ROLE OF TYROSINE KINASE INHIBITORS (TKIs) AND PHILADELPHIA CHROMOSOME



1. GBD 2015 Disease and Injury Incidence and Prevalence, Collaborators. (8 October 2016). "Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015". Lancet. 388 (10053): 1545-1602 2. <https://www.cancer.gov/types/leukemia>. 3. <https://www.cancercenter.com/leukemia/risk-factors/> 4. <https://seer.cancer.gov/statfacts/html/leuks.html#incidence-mortality> 5. <http://www.who.int/healthinfo/paper13.pdf> 6. <https://www.cancercenter.com/leukemia/> 7. <http://cml-and-me.com/2011/08/22/philadelphia-chromosome> 8. <https://www.cancer.org/cancer/leukemia-in-children>