An Interactive Guide to Acute Myeloid Leukemia (AML)

What is AML? Click here to find out.
Acute Myeloid Leukemia (AML) first develops in the bone marrow, where leukemia cells accumulate and ultimately block the way for healthy blood cells to develop.1 Healthy blood cells are necessary as they carry oxygen to all tissues throughout the body and fight against infection/disease.1 AML can quickly spread into the bloodstream, causing infections, anemia or bleeding. Due to the rapid progression of the disease, if AML is not treated quickly it can result in death within months.3
Prevalence of AML

AML across the globe

AML has the lowest survival rate among leukemias that occur in adults.²

It is estimated that about 26.6% of patients will be alive 5 years after diagnosis.⁴

Of approximately 350,000 people with leukemias worldwide,⁵ about 25% have AML²

The highest incidence rates occur in the United States, Europe and Australia²

An estimated 21,380 people in the United States will be newly diagnosed with AML in 2017⁶
Role of Genetic Mutations

AML can be driven by genetic mutations

Researchers have made recent progress in understanding the prevalence of certain genetic mutations in AML, and their understanding continues to evolve.10

Learn about a few of the common genetic mutations in AML

Other genetic mutations that may play a role in AML include: CEBPA (9%), TET2 (8%), WT1 (8%), IDH2 (8%), IDH1 (7%), KIT (6%).10

AML treatment guidelines recommend genetic testing to identify gene mutations. Mutations can give pertinent information for diagnosis and prognosis.9

How is genetic testing performed?

-Novartis
The Patient Journey

Because of the extremely rapid progression of the disease, treatment is started as soon as possible after diagnosis.¹

Tailoring treatment
Doctors work with patients to create a suitable treatment pathway. This depends upon:³
• Disease-specific factors such as genetic subtype
• Patient-specific factors such as health condition, age and ability to tolerate chemotherapy

The treatment pathway

Diagnosis
An AML diagnosis is made based on:¹
• Medical history and physical examination
• Blood samples, known as a complete blood count (CBC)
• Bone marrow biopsy
• Cytogenetic analysis and molecular markers

Treatment
Patients are admitted to the hospital as soon as possible after diagnosis and treatment is begun immediately. Treatment aims to remove any cancer cells.³

Due to the low number of white blood cells and the risk for infection, patients remain in the hospital for around three weeks.¹⁴

A bone marrow sample is taken 7-10 days after start of treatment to judge efficacy. If remission has not been achieved, another course of treatment will be given. If remission is achieved, further treatment may be given to kill any remaining cancer cells and to help prevent relapse from occurring.⁹

Relapse
A relapse can happen at any stage of treatment. Relapses are identified with the reappearance of leukemic blasts (immature white blood cells) in the blood or the finding of more than 5% of blasts in the bone marrow.⁹

There are several treatment options for patients in relapse, including clinical trials.⁹

Remission and surveillance
Once in remission, regular appointments will be scheduled to monitor the disease.

In the first 2 years following remission:⁹
• CBCs are taken every 1-3 months
• Bone marrow biopsies only taken if abnormal cells detected

After 2 years:⁹
• CBCs taken every 3-6 months
• Bone marrow biopsies only taken if abnormal cells detected
• Risk of relapse decreases significantly at this point

Supportive care
Some patients may decide against further treatment for AML and instead focus on treating symptoms or complications that arise and keeping as comfortable as possible.⁹
The Disease Burden

The impact of disease for patients and loved ones

An emotional and psychologically difficult journey
AML diagnosis impacts many aspects of a patient's life throughout diagnosis, treatment and recovery.

The caregiver burden
Caring for a loved one can be a full time job. It can often be necessary for the caregiver to put the comfort and care of the patient before their own well-being. This can put the caregiver under an extreme burden.17

Support Systems
Many patients can find support from outside groups, which include local AML or cancer support groups, or even turning to online sources such as forums and social media.
The Economic Burden

Despite limited data, existing figures show the economic burden of AML to be high.

Final costs can depend on the selected treatment, length of hospital stay and adverse events, as well as insurance provider or region.22,23

Global costs can vary widely24

Cost drivers24-26
- Hospital reimbursement
- Physician payments
- Outpatient hospital/clinic payments
- Home health care payments

Indirect costs23,27
- Time off work
- Time spent in the hospital
- Transportation costs
- Home care
- Child care
- Potential costs associated with relapse
- Caregiver burden
**Glossary**

**AML – acute myeloid leukemia**
A rare form of leukemia

**CBC – complete blood count**
Blood test used to test for and monitor leukemia, measures several components of the blood, including red blood cells, white blood cells, hemoglobin and platelets

**CBF AML**
Core binding factor AML, a specific subtype of AML

**CEBPA**
CCAAT-enhancer binding protein alpha – a gene implicated in AML development

**CN-AML**
Cytogenetically normal AML, a subtype of AML

**DNMT3A**
DNA (cytosine-5)-methyltransferase 3A – a gene implicated in AML development

**FLT3 – Fms-like tyrosine kinase 3**
A gene implicated in AML development

**Hemoglobin**
The oxygen-carrying protein in red blood cells

**IDH – isocitrate dehydrogenase**
A gene implicated in AML development

**KIT**
A gene implicated in AML development

**Myeloblast**
An immature white blood cell

**NPM1 – Nucleophosmin**
A gene implicated in AML development

**Platelets**
A component of blood, which forms blood clots to stop bleeding

**Red blood cells**
A component of blood, which carries oxygen and other substances to all tissues of the body

**White blood cells**
A component of blood, which fights infection and disease
References


