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Acute Myeloid Leukemia

Acute myeloid leukemia (AML) is a blood cancer that starts in the blood and bone marrow and can progress rapidly. Treatment in many cases can lead to a long-term reduction in symptoms (remission). Without immediate treatment, AML becomes much harder to manage successfully.

What is acute myeloid leukemia (AML)?

White blood cells called myeloid cells (myeloblasts) typically develop into mature blood cells in the bone marrow (spongy tissue in your bones). These include red blood cells, white blood cells, and platelets that transport oxygen, fight infection, and help your blood clot.

With acute myeloid leukemia, your bone marrow makes abnormal white blood cells. They crowd your blood and bone marrow, leaving less room for healthy cells.

With AML, you can experience infections or easy bleeding. You may also experience anemia (fewer red blood cells), which can lead to reduced oxygen in the body.

AML does not usually produce tumors, but it can spread quickly to the lymph nodes, spine, brain, and other organs. Left untreated, AML can be life threatening.

This type of leukemia also goes by other names, including:

- Acute myeloblastic leukemia
- Acute myelogenous leukemia

Want more information?

Read next

- Acute nonlymphocytic leukemia (ANLL)

Acute myeloid leukemia facts and stats

- Acute myeloid leukemia is a rare blood cancer, accounting for 1% of all new cancer cases.
- The median age at diagnosis is 68.
- Relapse (return of cancer after remission) affects 50% of people with AML.

For survival rates, view our **leukemia statistics** (https://leukemiarf.org/leukemia/statistics/) webpage.

Causes and risk factors of acute myeloid leukemia

We don't know what exactly causes acute myeloid leukemia. Researchers suspect it may be due to changes (mutations) in certain genes, including those that control the growth of bone marrow cells. In some cases, these are passed down in families (inherited).

AML affects men and older adults more often. The average age of diagnosis is 68. Other risk factors that may increase your chance of developing AML include:

- Blood disorders, including aplastic anemia, **myelodysplastic syndrome (https://leukemiarf.org/myelodysplastic-syndromes/),** and myeloproliferative neoplasm
- Chemotherapy drugs
- Exposure to hazardous chemicals, including benzene
- Genetic disorders, including Down syndrome and Fanconi anemia
- Smoking

Symptoms of acute myeloid leukemia

Early acute myeloid leukemia symptoms can include fatigue or fever, making it hard to tell it apart from other illnesses. Symptoms may also include:

- Bruising
- Excessive bleeding, including nosebleeds or bleeding gums
- Frequent infections
- Weakness
- Weight loss

Types of acute myeloid leukemia

The World Health Organization classifies acute myeloid leukemia into several groups:

- **Acute promyelocytic leukemia (APL) (https://leukemiarf.org/leukemia/acute-myeloid-leukemia/acute-promyelocytic-leukemia/)**
- AML with certain genetic abnormalities

- AML with myelodysplasia-related changes
- AML related to previous chemotherapy or radiation
- AML not otherwise specified
- Myeloid sarcoma (also called granulocytic sarcoma or chloroma)
- Myeloid proliferations related to Down syndrome
- **NPM1-mutated acute myeloid leukemia (AML) (https://leukemiarf.org/leukemia/acute-myeloid-leukemia/npm1-mutated/)**
- Undifferentiated and biphenotypic acute leukemias (also called mixed phenotype acute leukemias or MPALs)

Diagnosing acute myeloid leukemia

To diagnose acute myeloid leukemia, your doctor performs a physical exam and asks about your medical history. Tests may include:

- **Blood tests:** These tests check for levels of white blood cells and platelets in your blood. They're also used to determine your AML subtype, which can help to guide treatment.
- **Bone marrow aspiration or biopsy:** In this procedure, your doctor removes a small sample of bone marrow or bone tissue for analysis.
- **Lumbar puncture (spinal tap):** Your doctor uses a needle to remove a small amount of cerebrospinal fluid (the fluid surrounding your brain and spinal cord). Results show whether the disease has spread into fluid around the brain or spinal cord.
- **Genetic testing:** This test can identify AML subtypes to help doctors plan your specific treatment.

Treatments for acute myeloid leukemia

Acute myeloid leukemia can often be difficult to manage because it's so aggressive. Acute myeloid leukemia treatment depends on the subtype, as well as your overall health and other factors. AML is not divided into stages, which describe the extent of many other forms of cancers.

In most cases, doctors use chemotherapy (drugs that destroy cancer cells) to treat AML. About 65% of people under age 60 go into remission after chemotherapy, which means they don't have any symptoms.

If AML recurs (relapses), you may need additional chemotherapy (post-remission or consolidation chemotherapy). People who receive consolidation chemotherapy often experience reduced symptoms and go into long-term remission (more than one year).

Other treatment options for AML may include:

- **Targeted therapy (https://leukemiarf.org/patients/treatment/options/targeted-therapy/):** Targeted drugs and other substances can often stop the growth of cancer cells or kill them while minimizing harm to surrounding healthy tissue.
- **Stem cell transplant (https://leukemiarf.org/patients/treatment/options/transplants/) (bone marrow transplant):** St (https://leukemiarf.org/patients/treatment/options/transplants/)em cell transplant may be an option if other treatments haven't worked. The doctor

extracts damaged stem cells (blood-forming cells in the bone marrow) and replaces them with healthy cells from a donor or a patient's own cells.
- **Clinical trials** (https://leukemiarf.org/clinical-trials/)**:** Clinical trials available at some medical centers may give eligible patients access to promising treatments not widely available.
- **Supportive therapies:** Some people may opt for supportive care in place of more intensive treatments, such as **chemotherapy** (https://leukemiarf.org/?s=chemotherapy). Medication, diet, relaxation exercises, and other options can provide relief from symptoms.

Learn about some of the latest AML treatments from two medical experts in recorded webinar videos:

- **Dr. Eytan Stein (https://leukemiarf.org/patients/webinars/aml-treatments/)** from Memorial Sloan Kettering Cancer Center and
- **Dr. Anand Patel (https://leukemiarf.org/patients/webinars/acute-myeloid-leukemia-treatments/),** from the University of Chicago Medicine.

Helpful resources

Support can make a difference when you face a cancer diagnosis. You can connect with others who understand the challenges cancer brings through our **peer support (https://leukemiarf.org/patients/support/)** programs. We offer an online support community and a mentoring program. We also have a **directory of resources** (https://leukemiarf.org/patients/resources/) to help patients, families, and caregivers.

Want more information?

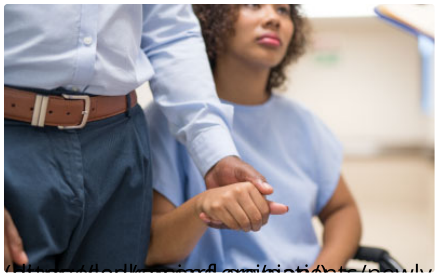
Sign up to receive emails about upcoming AML patient webinars, the latest treatment updates, and other patient resources.

SIGN UP (HTTPS://LEUKEMIARF.ORG/EMAIL-SIGN-UP/)

Read next

Coping with your diagnosis

Choosing a treatment provider



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