Acute Myeloid Leukemia

What is acute myeloid leukemia (AML)?

AML is a rare and aggressive cancer of the blood and bone marrow.\(^1\)

It prevents white blood cells from maturing, causing an accumulation of “blasts” which do not allow room for the normal blood cells.\(^1\)

...of all adult leukemias worldwide are attributed to AML, with the highest incident rates occurring in the United States, Europe and Australia.\(^2\)

AML Diagnosis

A diagnosis for AML is based upon:

- Physical exam and medical history
- Complete blood count (CBC) To measure proportion of each type of blood cell present
- Blood smear To examine the number and shape of different blood cells present
- Bone marrow aspiration and biopsy Sample of cells taken from bone marrow
- Immunophenotyping To identify different types of cells present and subtype of AML
- Genetic testing To identify if any mutations are present and determine subtype of AML

Risk factors include:

- Being male
- Previous cancer treatment
- Smoking
- Exposure to radiation

AML Prognosis

Prognosis varies per person and depends upon a number of factors, including:

- Age
- Medical history
- Stage of disease
- Subtype and genetic mutations

Role of gene mutations in AML

- Mutations in specific genes are found in many cases of AML.\(^3\) These mutations cause the cells to multiply and remain immature, thereby leading to the development and spread of the disease.\(^1\)

- Mutation testing is recommended for newly diagnosed patients to help identify factors that may determine prognosis.\(^4\)

- According to one study, the most common gene mutations in AML include FLT3 (37%), NPM1 (29%), DNMT3A (23%) and NRAS (10%).\(^5\)

Resources