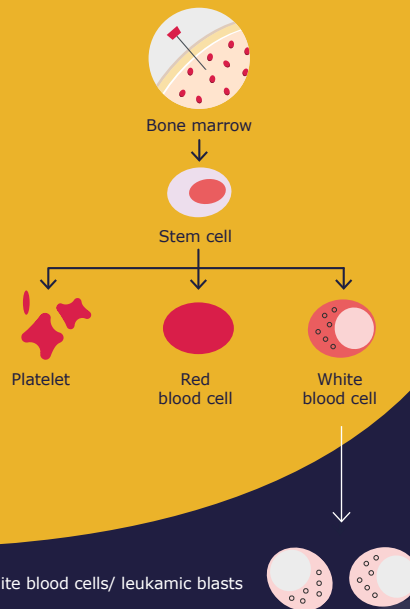


Doctors diagnosing and treating **acute myeloid leukemia (AML)** will conduct tests on blood and bone marrow samples, as that is where they will be able to see if cancerous cells are present.<sup>1</sup>

## BONE MARROW

AML originates in the bone marrow, which is the soft inner part of certain bones **where blood cells are made.**<sup>2</sup> It produces lots of different cells that circulate in your blood, including red blood cells, different types of white blood cells and platelets.<sup>2,3</sup>



## LEUKAEMIC BLASTS

AML develops when too many immature white blood cells form in the bone marrow and not enough healthy blood cells are created.<sup>3</sup> These white blood cells are abnormal, making them cancerous. They build up and group together to become **'leukaemic blasts'**.<sup>3</sup>

In AML, abnormal white blood cells make up at **least 20%** of bone marrow cells.<sup>4</sup>

## WHAT TESTS WILL DOCTORS RUN TO DIAGNOSE AML?

### BLOOD TESTS

A **blood sample** is taken from the arm and only takes a few minutes. Blood tests let doctors count the number of healthy cells versus abnormal white blood cells. This is also known as a blood count.<sup>4</sup>

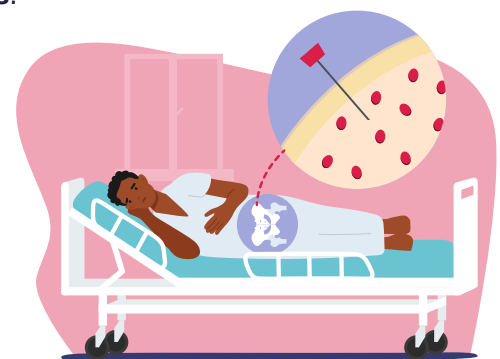
Blood tests are often the first tests done to diagnose blood cancer and monitor blood count.<sup>1</sup>



### BONE MARROW TEST

Bone marrow tests are usually taken from the **hip area and take 20–30 minutes.**<sup>1</sup>

In hospital, the doctor will use local anaesthetic to numb the hip area.<sup>1</sup> Doctors will then insert a hollow needle into the bone marrow and take out a sample of cells.<sup>1</sup>



A bone marrow sample lets doctors count the number of abnormal white blood cells, or leukaemic blasts, compared to healthy cells, in the bone marrow.<sup>1</sup>

Doctors will run both blood and bone marrow tests as sometimes changes in **blood cells can be detected in bone marrow samples** before they can be seen in blood samples.<sup>5</sup>

## WHAT IS GENETIC TESTING?

Genetic testing can help determine which genes are present in the AML.<sup>1</sup> This test is carried out on blood and bone marrow samples to help doctors decide the best treatment options.<sup>1</sup>



## MUTATED GENES FOUND IN AML

There are many different genes involved in AML.<sup>6</sup> For example:<sup>6</sup>

- **FLT3** (FMS-like tyrosine kinase 3, *ty-ro-sin-kin-aze*)
- **NPM1** (nucleophosmin, *nu-cle-ophos-min*)
- **CEBPA** (CCAAT enhancer binding protein alpha, *uhn-haan-suh bine-duhng proh-teen al-fuh*)
- **KIT** (v-kit Hardy Zuckerman 4 feline sarcoma viral oncogene homolog, *har-dee zuk-er-man 4 fe-line sar-co-ma vi-ral onc-o-gene hom-o-log*)



They are all slightly different. For example, FLT3 is a gene in the DNA that helps white blood cells grow however if its faulty it can cause white blood cells to multiply very quickly, which can become cancerous. Similarly, NPM1 is a gene that is involved in cell growth and division, but if its faulty it can lead to the development of abnormal, cancerous cells.<sup>6</sup>

## WHAT'S NEXT?

### DIAGNOSIS AND TREATMENT PLAN

Following blood and bone marrow tests, doctors will be able to tell you when to expect your results.

### RE-TESTING

Doctors will run regular blood and bone marrow tests to watch for changes in the number of abnormal white cells in the blood, in comparison to healthy ones. The results of these tests can show how AML is impacting the body and how well the treatment is working.<sup>5,7</sup>



\*Doctors will be able to advise how quickly to expect the results

IF YOU HAVE ANY QUESTIONS ABOUT YOUR TESTING OR RESULTS,  
ASK YOUR DOCTOR. FOR MORE SUPPORT, VISIT [AML CARE.CO.UK](https://www.amlcare.co.uk) OR [AML CARE.IE](https://www.amlcare.ie)

This leaflet is for patients in UK and Ireland only, and has been created and funded by Astellas. It is provided for informational purposes only and does not constitute individual medical advice. If you have any questions or concerns about your medical condition or AML, ask your doctor. This document should be printed in full, on A4 paper.

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