## Acute Myeloid Leukaemia (AML)

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Acute myeloid leukaemia (AML) is an aggressive form of blood cancer and is characterised by a rapid and excessive production of abnormal cells derived from the bone marrow.\(^1,2\)

### Normal Functioning Myeloid Cells

- **Fight infection**
- **Defend against parasites**
- **Prevent the spread of tissue damage**

When a person has AML, the myeloid cells that are produced do not have the infection-fighting properties of normal, mature myeloid cells. Increased production of these abnormal cells also affects the bone marrow’s ability to produce healthy, functioning red blood cells and platelets.\(^3\)

### AML is the Most Common Acute Leukaemia Affecting Adults\(^4\)

The global prevalence of AML is **0.6-11.0 per 100,000 people**\(^5\)  

In Europe:  
- **4-6** in every **100,000 people** will receive a diagnosis of AML each year\(^7\)  
- **15-25** people in every **100,000 aged over 70 years** will die of AML each year\(^7\)  

**66** = median age at diagnosis\(^6\)

### AML is Curable in Some Patients, but Cure Rates Remain Low, Particularly for Older Patients\(^1\)

- **40-60%** of older adults (60 years or above) will achieve complete remission, with **risk of relapse**\(^8,9\)  
- In older adults (60 years or above) who cannot be treated with intensive chemotherapy, median survival is only 5-10 months following diagnosis.\(^1\)

**5-year survival for AML = 27%.**\(^10\)  
Survival depends on both patient and disease related factors.\(^10\)

While patients may respond to initial therapy, relapse is common and associated with poor prognosis. In most patients with AML, disease recurrence occurs within **3 years** after diagnosis.\(^3\)

### AML Can Be Associated with Poor Health-Related Quality of Life, in Comparison to the General Population\(^11\)

- The World Health Organization classifies AML under several subtypes, which help to define the severity and outlook of the disease at each stage.\(^12,13\)
  - AML with recurrent genetic abnormalities
  - AML with myelodysplasia-related changes
  - AML related to previous chemotherapy or radiation
  - AML not otherwise specified
  - Myeloid sarcoma
  - Myeloid neoplasms with germline predisposition
  - Myeloid proliferations related to Down's Syndrome

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**PHEM/HEM/0217/003**  
**June 2017**
AML has a number of symptoms

- Pale skin
- Tiredness
- Breathlessness
- Unusual bleeding
- Frequent infections

There is no one cause of AML

Risk factors can include:

- Radiation exposure
- Benzene
- Smoking
- Blood disorders
- Genetic disorders
- Previous cancer treatment

Treatment approaches for AML have not changed significantly in the past 40 years:

Treatment for AML varies depending on your level of fitness to tolerate treatment. If you are deemed fit for intensive treatment, it is typically carried out in two stages:

1. Induction
   - Aims to kill as many leukaemia cells as possible, clear the bone marrow as much as possible and treat any symptoms
   - Induction therapy may include:
     - Intensive chemotherapy: a combination of chemotherapy medications given at a high dose to kill the cancer cells in blood and bone marrow (most types of AML)
     - All Trans-Retinoic Acid (ATRA): addition of the medicine ATRA to chemotherapy for patients who have a sub-type of AML known as acute promyelocytic leukaemia (APL)

2. Consolidation
   - Aims to deepen the response and delay the cancer returning if induction therapy is successful:
     - Regular injections of chemotherapy medication over the course of several months
   - Other treatments used on top of, or instead of, induction or consolidation therapies include:
     - Bone marrow or stem cell transplant
     - An investigational treatment as part of an ongoing clinical trial

If you are deemed unfit for intensive induction or consolidation treatment, you will likely receive:

- A hypomethylating agent
- Low-dose cytarabine (chemotherapy)
- Best supportive care
- An investigational agent as part of an ongoing clinical trial

New treatment options for AML are needed to improve overall survival, and the outlook and quality of life for patients. This unmet need is highlighted by an encouraging number of ongoing trials to find new treatment options for AML.

References