Treatment for acute myeloid leukaemia (AML)

Acute myeloid leukaemia (AML) is a fast-growing blood cancer. Find out about intensive and non-intensive treatment options for AML, including chemotherapy, targeted medicines and stem cell transplants.

Summary

- There are many different treatment options for AML. They can either be intensive or non-intensive.
    - Intensive treatment aims to get AML into remission. It involves chemotherapy, sometimes with a targeted medicine. Some people might have a stem cell transplant.
    - Non-intensive treatment is gentler. It aims to control your AML as much as possible rather than cure it. It usually involves low-dose chemotherapy or targeted medicines to take at home.
- You will also have treatment to prevent or relieve symptoms or side effects.
- Your haematology team will recommend what is best for you based on your individual needs.

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Choosing the right treatment

Your medical team will recommend the most suitable treatment option for you based on many factors. These include:

- Your age and overall fitness
- Any other medical conditions you have
- Your subtype of AML
- The genetic changes in your leukaemia cells
- Your preference on how you wish to be treated

They will recommend either intensive or non-intensive treatment.

- **Intensive treatment** aims to get your AML into remission. Treatment happens in phases, with different treatments in each phase. You usually stay in hospital for some of them.
- **Non-intensive treatment** is gentler. It aims to control your AML as much as possible rather than cure it.

Your medical team may ask if you'd like to take part in a clinical trial. They will let you know if there is one suitable for you.

You have regular tests during your treatment. These check how well your AML is responding.

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Intensive treatment

Intensive treatment happens in phases. These are usually induction, consolidation and sometimes maintenance.

Induction phase

Induction therapy aims to kill as many leukaemia cells as possible. The aim is to achieve complete remission. This is when bone marrow tests after treatment find little or no leukaemia cells left.

Induction therapy usually involves having chemotherapy. You might also have a targeted treatment. This depends on the genetic changes in your leukaemia cells. You usually stay in hospital for a few weeks to have induction therapy.

Combinations of chemotherapy medicines your team might suggest include:

- Daunorubicin + cytarabine (also known as DA)
- Liposomal daunorubicin + cytarabine (also known as CPX-351 or Vyxeos)
- Fludarabine, cytarabine, granulocyte-colony stimulating factor and idarubicin (also known as FLAG-Ida)
- Chemotherapy combinations including a medicine called mitoxantrone

Targeted medicines you might have alongside chemotherapy include:

- Gemtuzumab ozogamicin (also known as GO)
- Midostaurin
- Quizartinib

Your medical team will let you know what they recommend for you and why.

At the end of your induction therapy, you will have a bone marrow test. This checks how well your leukaemia has responded to treatment.

- If your leukaemia has responded, you will move onto consolidation therapy.
- If not, you may have another cycle of induction therapy.

Consolidation phase

Consolidation therapy aims to kill any leukaemia cells that may be left. This improves the chance that your AML will stay in remission.

Consolidation therapy usually involves having cycles of chemotherapy. You might also have a targeted treatment. This depends on the genetic changes in your leukaemia cells. You usually stay in hospital to have each cycle of treatment.

Common consolidation chemotherapy options include:

- Liposomal daunorubicin + cytarabine (also known as CPX-351 or Vyxeos)
- High dose cytarabine (also known as HiDAC)
- Chemotherapy combinations including a medicine called mitoxantrone

Targeted medicines you might have alongside consolidation chemotherapy include:

- Gemtuzumab ozogamicin (also known as GO)
- Midostaurin
- Quizartinib

Your medical team will let you know what they recommend for you and why.

Stem cell transplant

If your AML has a medium or high risk of coming back, your team might suggest a stem cell transplant.

A stem cell transplant involves having high-dose chemotherapy and sometimes radiotherapy. This kills the blood-forming cells in your bone marrow, called stem cells. These are replaced by healthy stem cells, usually from a matched donor.

A stem cell transplant is very intensive. It is only suitable for people who are fit enough to have it. Your team will let you know if it is an option for you.

Anthony Nolan is a UK charity that also has further information on stem cell transplants.

Maintenance phase

Maintenance therapy aims to reduce the risk of your AML coming back. Not everyone needs maintenance treatment. Your haematology team might recommend it if you have a higher chance of relapse. Relapse is when your AML comes back after treatment.

Maintenance therapy involves having chemotherapy or a targeted treatment. You usually have these treatments as tablets or capsules to take at home. You may need to take these long-term, usually for a year or longer.

Your medical team will let you know what they recommend for you and why. They might suggest:

- Azacitidine tablets
- Midostaurin
- Quizartinib

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Non-intensive treatment

Your haematology team will assess whether intensive treatment is suitable for you. If they think you might not cope well with it, they might recommend other, gentler options.

This could be due to:

- Your age

- Your physical fitness
- Other health conditions you have

The aim of non-intensive treatment is to keep your AML under control with as few side effects as possible. This aims to reduce your symptoms and improve your quality of life. But it does not cure your AML.

Usually, you will have gentler or low-dose chemotherapy. You might also have a targeted medicine.

Your haematology team will let you know what they recommend for you and why. They might suggest:

- Azacitidine injections
- Venetoclax and azacitidine
- Venetoclax and low-dose cytarabine
- Ivosidenib and azacitidine
- Hydroxycarbamide
- Low-dose cytarabine

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Supportive treatment

You might also need medicine to prevent or treat symptoms or side effects. This is called supportive care. It might include:

- Blood transfusions or medicines called growth factors. They can help if your blood counts are low.
- Anti-sickness or anti-diarrhoeal medicines.
- Pain relief, if you need it.
- Medicine to prevent or treat infections.
- Mouth washes to help with mouth ulcers, infections or a sore mouth.
- Food or drink supplements, if you are not able to eat or drink enough.
- Steroids, which help with many different symptoms and side effects.
- Physiotherapy.
- Emotional and social support.

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What happens if treatment does not work?

There are many treatment options for AML. But not everyone responds to treatment. This is called refractory AML.

If this happens to you, your haematology team will talk to you about your treatment options.

Depending on your individual circumstances, they might recommend:

- Chemotherapy
- A targeted medicine
- A stem cell transplant
- Supportive care

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Sources we used to develop this information

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Page last reviewed: 31 December 2024
Updated January 2026
Next review due: 31 December 2027