Treatment for chronic myeloid leukaemia (CML)

Treatment for chronic myeloid leukaemia (CML) is usually very effective. The main treatment is a targeted drug called a tyrosine kinase inhibitor (TKI). Find out about TKIs and other treatment options, including chemotherapy and stem cell transplants.

Summary

- There are a lot of treatment options for CML. They are generally very effective.
- The first treatment for CML is usually a type of targeted therapy called a tyrosine kinase inhibitor (TKI). TKIs are tablets that you take by mouth every day.
- If your CML is in the blast phase, your haematology team might suggest chemotherapy as well as a TKI. This may be followed by a stem cell transplant using donor cells.
- If your first treatment for CML is not successful, there are many more options to try.

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How is CML treated?

There are a lot of treatment options for CML. Most of these aim to keep your CML under control rather than 'cure' it, but they are usually very effective.

Most people with CML have a normal life span and a good quality of life.

The treatment you have depends on the phase of your CML.

- If your CML is in the chronic phase, the usual treatment is a type of targeted therapy called a tyrosine kinase inhibitor (TKI).
- If your CML is in the blast phase, your doctors might suggest adding chemotherapy to your TKI. They could advise a stem cell transplant as well.

Depending on your circumstances, your haematology team might suggest other treatments. They will explain what they recommend for you.

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Before starting your main treatment

If you have high white blood cell counts or worrying symptoms, your doctors might start treatment before all your test results come back. This is likely to be a course of tablets called hydroxycarbamide (also known as hydroxyurea). This is a type of chemotherapy that helps lower your white blood cell count.

Once your blood counts improve, your haematology team usually reduce the dose before stopping it completely.

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TKIs

Tyrosine kinase inhibitors (TKIs) are a type of targeted therapy. They block an abnormal protein called BCR-ABL, which is a type of tyrosine kinase. This abnormal protein is present in people with CML. It encourages the blood-forming cells in your bone marrow to make too many white blood cells. Blocking the protein helps stop the leukaemia cells from multiplying.

TKIs are tablets that you take by mouth. They are generally highly effective at keeping CML under control. Each TKI has a different profile and might cause different side effects. TKIs used to treat CML are:

- Imatinib
- Nilotinib
- Dasatinib
- Bosutinib
- Ponatinib
- Asciminib

Your doctors will suggest the most suitable TKI for you based on:

- Your personal characteristics such as your age, any other medical conditions you have, and your treatment preference
- Features of your CML, like its phase and the exact genetic changes in your leukaemia cells
- How you've responded to any previous treatment you have had

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Chemotherapy

You might be offered chemotherapy as well as a TKI if your CML is in the blast phase. Different combinations of chemotherapy medicines may be used. Your haematology team will tell you what they recommend. They will explain what the treatment is, how you have it, and what side effects that you might get.

Rarely, some people have leukaemia cells in the central nervous system. If this is the case, you may also need a course of chemotherapy directly into the fluid surrounding your brain and spinal cord. This is called intrathecal chemotherapy.

Macmillan Cancer Support have more information about particular chemotherapy combinations.

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Stem cell transplant

A stem cell transplant involves having high-dose chemotherapy to kill blood-forming stem cells in your bone marrow. These are then replaced by healthy stem cells 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 haematology team might suggest a stem cell transplant if your CML is in the

blast phase. They might also consider it if you've already had treatment with several different TKIs.

Your haematology team will let you know early on if a stem cell transplant is an option for you. They will discuss it with you and explain its benefits and risks.

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Supportive care

During your treatment and afterwards, you might also need medicine to prevent or treat symptoms or side effects. This is called supportive care. It does not treat your CML itself, but it helps you feel better.

As well as medicines to help you, supportive care can include:

- Psychological support
- Support with exercise or physiotherapy
- Social support
- Spiritual wellbeing such as mindfulness

Your haematology team should talk to you to find out what support they can offer you.

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If treatment is not successful

Download our leaflet about second- and later-line treatment for CML
If your treatment is not successful, your haematology team will suggest changing to a different treatment. This may happen if:

- Your CML does not respond to the treatment
- Your CML responds to the treatment at first but then stops responding
- You have side effects that are difficult to manage

If your treatment is not successful, your haematology team will suggest the most suitable next treatment based on your individual circumstances. For most people, the usual second treatment is a different TKI. If second-line TKI treatment is not successful, the usual next treatment is another TKI.

TKIs are effective for most people, but if they are not suitable for you, your haematology team will discuss other treatment options This could include a stem cell transplant or supportive care.

TKIs all work in slightly different ways and have different side effects. Some are effective against particular gene changes. If one TKI is not successful, a different TKI may be.

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Need support?

You are not alone. We're here for you whether you have a diagnosis yourself or know someone who has. If you'd like advice, support, or a listening ear, call our freephone helpline on 08088 010 444 or send a WhatsApp message to 07500 068 065.

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