Optimal care pathway for people with chronic myeloid leukaemia

Quick reference guide

Support: Assess supportive care needs at every step of the pathway and refer to appropriate health professionals or organisations.

The optimal care pathways describe the standard of care that should be available to all cancer patients treated in Australia. The pathways support patients and carers, health systems, health professionals and services, and encourage consistent optimal treatment and supportive care at each stage of a patient's journey. Seven key principles underpin the guidance provided in the pathways: patient-centred care; safe and quality care; multidisciplinary care; supportive care; care coordination; communication; and research and clinical trials.

This quick reference guide provides a summary for clinicians of the *Optimal care pathway for people with chronic myeloid leukaemia* (CML).

Please note that not all patients will follow every step of the pathway.

Step 1: Prevention and early detection

Prevention

The causes of CML are not fully understood, and there is no evidence that CML can be prevented.

Risk factors

- gender (males are at a slightly higher risk)
- exposure to high-dose radiation (e.g. nuclear disaster), but this is rare in Australia.

Early detection

GPs should be aware of the possibility of CML in patients with leucocytosis or thrombocytosis, or those with non-specific symptoms of fatigue, weight loss, sweats and malaise. Early satiety and abdominal discomfort may be related to progressive splenomegaly.

Most cases of mild leucocytosis with neutrophilia will be due to other causes, but a PCR test for *BCR-ABL1* to screen for CML should be ordered if either:

- the white blood cell (WBC) count is over 25
- leucocytosis or thrombocytosis is confirmed on a repeat blood test
- there are features on the blood film that raise the possibility of CML.

Screening recommendations

Screening is not indicated for CML.

General health checklist

- ❑ Recent weight changes discussed and the patient's weight recorded
- ❑ Alcohol intake and smoking status discussed and support offered if appropriate
- ❑ Physical activity recorded
- ❑ Referral to a dietitian considered

Step 2: Presentation, initial investigations and referral

About half of patients with CML are asymptomatic. CML is frequently diagnosed after blood tests are taken for unrelated reasons. Typical symptoms include fatigue, malaise, weight loss, sweats and symptoms related to an enlarged spleen.

Initial investigations by the GP include the following:

- a thorough patient history and examination, specifically looking for evidence of splenomegaly
- a full blood count will usually indicate the strong possibility of CML based on the numbers of WBC, platelets and the WBC differential. A pathologist report on the blood test will usually raise the possibility of CML based on the blood count and blood film, but this may not always be the case
- a PCR test on the peripheral blood to detect the *BCR-ABL1* transcript in patients with a blood picture consistent with CML. This may be a quantitative or qualitative test.

Checklist

- ❑ Signs and symptoms recorded
- ❑ Investigations completed
- ❑ Supportive care needs assessed and referrals to allied health services actioned as required
- ❑ Patient notified of support services such as Cancer Council 13 11 20 and the Leukaemia Foundation 1800 620 420
- ❑ Referral options discussed with the patient and/or carer including cost implications

FIRST EDITION
This quick reference guide was published in October 2021

Australian Government
Cancer Australia

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Step 2: Presentation, initial investigations and referral continued

Referral options

At the referral stage, the patient's GP or other referring doctor should advise the patient about their options for referral, waiting periods, expertise, potential out-of-pocket costs and the range of services available. This will enable patients to make an informed choice of specialist and health service.

Communication

The GP's responsibilities include:

- explaining to the patient and/or carer who they are being referred to and why
- supporting the patient and/or carer while waiting for specialist appointments
- informing the patient and/or carer that they can contact Cancer Council on 13 11 20 and the Leukaemia Foundation on 1800 620 420.

Timeframe

Blood count results should be provided **within 3 days** of testing, or sooner if the patient is unwell.

The PCR test result may take days, or sometimes weeks, but the patient can be referred to a haematologist for further investigation in the interim.

If CML is suspected, non-urgent patients should ideally be seen by a specialist haematologist **within 2 weeks**. However, some cases may require **immediate hospital admission or urgent assessment** by a haematologist (e.g. WBC > 100, platelet count < 50 or > 800, priapism, symptoms of leukostasis, unexpected organ dysfunction or uncontrolled pain).

Step 3: Diagnosis, staging and treatment planning

Diagnosis and disease phase assessment

Minimum established tests include:

- medical examination including documenting spleen size
- real-time quantitative RT-PCR test to detect and measure the level of *BCR-ABL1* on the international scale
- biochemistry screen including liver function tests, electrolytes, renal function tests, urate, lipase and amylase, BSL
- HIV, hepatitis B and hepatitis C serology
- electrocardiogram.

Investigations that should be done in most circumstances:

- bone marrow aspiration including cytogenetics, immunophenotyping/flow cytometry and morphology (exceptions can be made for frail or very elderly patients)
- fasting lipids (not essential if the patient will receive frontline imatinib)
- chest x-ray (not essential for young, healthy patients).

For patients who may be at high risk of vascular disease, additional tests are recommended before treatment with a second-generation tyrosine kinase inhibitor (TKI). These include ankle brachial index, Doppler study of neck and leg arteries and echocardiogram.

Genetic testing is not relevant for CML.

Treatment planning

The treating haematologist should discuss and develop a treatment plan with the patient within 2 weeks of completing investigations.

Research and clinical trials

Consider enrolment where available and appropriate. See the OCP resources appendix and relevant steps for clinical trial resources relevant to CML.

Communication

The lead clinician's[1] responsibilities include:

- discussing a timeframe for diagnosis and treatment options with the patient and/or carer
- explaining the role of the multidisciplinary team where indicated in treatment planning and ongoing care

Checklist

- ❑ Diagnosis has been confirmed
- ❑ Performance status and comorbidities measured and recorded
- ❑ Patient options and recommendations provided to the patient and/or carer
- ❑ Clinical trial considered
- ❑ Supportive care needs assessed and referrals to allied health services actioned as required
- ❑ Referral to support services (e.g. Cancer Council, Leukaemia Foundation)
- ❑ Treatment costs discussed with the patient and/or carer

1 Lead clinician – the clinician who is responsible for managing patient care.
The lead clinician may change over time depending on the stage of the care pathway and where care is being provided.

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Step 3: Diagnosis, staging and treatment planning continued

- encouraging discussion about the diagnosis, prognosis, advance care planning and palliative care while clarifying the patient's wishes, needs, beliefs and expectations, and their ability to comprehend the communication
- providing appropriate information and referral to support services as required
- communicating with the patient's GP about the diagnosis, treatment plan and recommendations.

Timeframe

Investigations should generally be completed **within 2 weeks**.

Step 4: Treatment

Establish intent of treatment

- Curative
- Anti-cancer therapy to improve quality of life and/or longevity without expectation of cure
- Symptom palliation

Targeted therapies and immunotherapy

TKI therapy is the mainstay of therapy for chronic phase CML. The choice of TKI will depend on the CML risk score (using the EUTOS Long-Term Survival (ELTS) score to assess), comorbidities, the patient's motivation to achieve treatment-free remission and, importantly, patient preference.

Supportive therapies

Comprehensive side effect management is essential since lifelong treatment may be required. Treatment with TKIs can affect physical, psychological, nutritional and general wellbeing. Patients should be offered appropriate psychosocial and supportive care and symptom-related interventions as part of routine care from the time of diagnosis.

Treatment-free remission

Patients who achieve deep molecular response that is maintained for at least 12 months have the option to consider ceasing treatment. It's important to discuss what this entails including the chance of success, the frequency of molecular monitoring required, the risk of TKI-withdrawal syndrome and the impact of restarting therapy if required.

Palliative care for blast phase CML

Timely referral to palliative care can improve quality of life and in some cases survival. Referral should be based on need, not prognosis. For more information, visit the Palliative Care Australia website <www.palliativecare.org.au>.

Communication

The lead clinician and team's responsibilities include:

- discussing treatment options with the patient and/or carer including the intent of treatment as well as risks and benefits
- discussing advance care planning with the patient and/or carer where appropriate
- communicating the treatment plan to the patient's GP
- helping patients to find appropriate support for exercise programs where appropriate to improve treatment outcomes.

Checklist

- ❑ Intent, risk and benefits of treatment discussed with the patient and/or carer
- ❑ Treatment plan discussed with the patient and/or carer and provided to GP
- ❑ Supportive care needs assessed and referrals to allied health services actioned as required
- ❑ Advance care planning discussed where appropriate with the patient and/or carer

Timeframe

Ideally TKI therapy should begin **within 4 weeks**, unless there is a specific indication to delay.

Initiating therapy is **urgent** in blast phase CML. Ideally chemotherapy and/or TKI therapy should be started **within 1 week** of diagnosis.

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Step 5: Care during treatment

Provide a treatment and follow-up summary to the patient, carer and GP outlining:

- the diagnosis, including tests performed and results
- treatment received (types and date)
- current toxicities (severity, management and expected outcomes)
- interventions and treatment plans from other health professionals
- potential long-term and late effects of treatment and care of these
- supportive care services provided
- a follow-up schedule, including tests required and timing
- contact information for key healthcare providers who can offer support for lifestyle modification
- a process for rapid re-entry to medical services for suspected recurrence.

Communication

The lead clinician's responsibilities include:

- explaining the treatment summary and follow-up care plan to the patient and/or carer
- informing the patient and/or carer about secondary prevention and healthy living
- discussing the follow-up care plan with the patient's GP.

Checklist

- ❑ Treatment and follow-up summary provided to the patient and/or carer and the patient's GP
- ❑ Supportive care needs assessed and referrals to allied health services actioned as required
- ❑ Patient-reported outcome measures recorded

Step 6: Managing refractory, relapsed, residual or progressive disease

Detection

Most refractory or relapsed disease will be detected via a loss of molecular, cytogenetic or haematological response on routine monitoring.

Treatment

When managing people with CML who have treatment failure or resistance, treatment will depend on the degree and timing of failure, mutation analysis, age, comorbidities and adherence and toxicity to prior TKIs.

Advance care planning

Advance care planning is important for those patients with advanced disease. It allows them to plan for their future health and personal care by thinking about their values and preferences. This can guide future treatment if the patient is unable to speak for themselves.

Palliative care

Palliative care should be addressed and offered for those with blast phase CML. Timely referral to palliative care can improve quality of life and in some cases may be associated with survival benefits. Referral should be based on need, not prognosis.

Communication

The lead clinician and team's responsibilities include explaining the treatment intent, likely outcomes and side effects to the patient and/or carer and the patient's GP.

Checklist

- ❑ Treatment intent, likely outcomes and side effects explained to the patient and/or carer and the patient's GP
- ❑ Supportive care needs assessed and referrals to allied health services actioned as required
- ❑ Advance care planning discussed with the patient and/or carer as indicated
- ❑ Patient referred to palliative care if appropriate
- ❑ Routine follow-up visits scheduled

Step 7: End-of-life care

Palliative care

For patients with blast phase CML, consider a referral to palliative care. Ensure an advance care directive is in place.

Communication

The lead clinician's responsibilities include:

- being open about the prognosis and discussing palliative care options with the patient
- establishing transition plans to ensure the patient's needs and goals are considered in the appropriate environment.

Checklist

- ❑ Supportive care needs assessed and referrals to allied health services actioned as required
- ❑ Patient referred to palliative care
- ❑ Advance care directive in place

Visit the guides to best cancer care webpage < www.cancercareguides.org.au > for consumer guides. Visit the OCP webpage <www.cancer.org.au/OCP> for the optimal care pathway and instructions on how to import these guides into your GP software.

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