

# Relapsed or Refractory Chronic-Phase CHRONIC MYELOID LEUKEMIA (CML)

## Relapsed



CML that has come back after responding to treatment.

## Resistant



CML not responding to the current treatment.

## Refractory



CML that is resistant to treatment from the start or becomes resistant.

## Early Response Milestones

It is important to take the correct dose of your medicine at the correct time. **Do not miss doses or take an extra dose.**

Months After Starting Treatment	3	6	12	≥15
<i>BCR-ABL</i> <sup>15</sup> over 10%	Possible TKI Resistance	TKI Resistance		
<i>BCR-ABL</i> <sup>15</sup> between 1% and 10%			Possible TKI Resistance	TKI Resistance

The *BCR-ABL*<sup>15</sup> score uses a standardized baseline of 100%. This is the starting point or value that your results are measured against. Response milestones are measured as the percentage of cells with *BCR-ABL* that remain after treatment. The goal is to get as close to zero as possible.

If certain milestones are not met, your CML may be resistant to the tyrosine kinase inhibitor (TKI) you are currently taking. **Tell your doctor about:**

- Missed or skipped doses.
- Other medicines, including over-the-counter drugs, supplements, or herbs.



- If milestones are not met or there are signs of decreased response, your doctor may order a test to detect new *BCR-ABL* mutations.
- Certain *BCR-ABL* mutations can make your current medication less effective. If they are found, your doctor may suggest a change in treatment.

## Treatment

**Similar to initial treatment, TKIs are used in the relapsed refractory setting:**

- Imatinib Mesylate (Gleevec®)
- Dasatinib (Sprycel®)
- Nilotinib (Tasigna®)
- Bosutinib (Bosulif®)
- Ponatinib (Iclusig®)

**Other options that may be used in certain circumstances include:**

- Omacetaxine Mepesuccinate (Synribo®)
- Interferon
- Allogeneic stem cell transplant
- Clinical trial



**If your CML has developed a resistance mutation, some treatments may not work. Your doctor will help you select appropriate treatment.**

# SIDE EFFECTS ASSOCIATED WITH TKIs

## Most Common Side Effects

## Warnings and Precautions

### Imatinib Mesylate (GLEEVEC®)



- Fluid retention
- Nausea
- Vomiting
- Muscle cramps
- Bone pain
- Diarrhea
- Rash

- Severe fluid retention
- Low blood counts
- Heart problems
- Liver damage
- Severe bleeding
- Kidney problems

### Dasatinib (Sprycel®)



- Fluid retention
- Diarrhea
- Bone pain
- Rash
- Headache
- Stomach pain
- Fatigue

- Low blood counts and bleeding
- Fluid retention
- Heart problems
- High blood pressure in the arteries of the lungs

### Nilotinib (Tasigna®)



- Rash
- Headache
- Nausea
- Cold symptoms
- Fatigue
- Joint pain
- Fever

- Low blood counts
- Heart problems
- Blood clots
- Inflammation of the pancreas
- Liver damage
- Severe bleeding
- Fluid retention

### Bosutinib (Bosulif®)



- Diarrhea
- Nausea
- Rash
- Stomach pain
- Headache
- Fatigue
- Vomiting

- Gastrointestinal toxicity
- Low blood counts
- Liver damage
- Heart problems
- Fluid retention
- Kidney damage

### Ponatinib (Iclusig®)



- Rash
- High blood pressure
- Joint pain
- High cholesterol
- Stomach pain
- Headache
- Narrowing of the arteries

- Blood clots or blockages in arteries/veins
- Heart and liver problems
- Inflammation of the pancreas
- Nerve damage
- Serious eye problems
- Severe bleeding
- Fluid retention
- Low blood counts
- Impaired wound healing