

# blinatumomab

**Pronunciation:** blin-a-too-moo-mab

**Other Name(s):** Blincyto®

**Appearance:** solution mixed into larger bags of fluids

This handout gives general information about this cancer medication.

You will learn:

- who to contact for help
- what the medication is
- how it is given
- what to expect while on medication



This handout was created by Ontario Health (Cancer Care Ontario) together with patients and their caregivers who have also gone through cancer treatment. It is meant to help support you through your cancer treatment and answer some of your questions.

**This information does not replace the advice of your health care team. Always talk to your health care team about your treatment.**

## Who do I contact if I have questions or need help?

My cancer health care provider is: \_\_\_\_\_

During the day I should contact: \_\_\_\_\_

Evenings, weekends and holidays: \_\_\_\_\_

## What is this treatment for?

For treating a type of blood cancer called acute lymphoblastic leukemia (ALL).

## What should I do before I start this treatment?

Tell your health care team if you have or had significant medical condition(s), especially if you have / had:

- Neurological problems, for example, nerve problems or seizures
- Previous radiation or chemotherapy or,
- Any allergies

### Remember to:

- Tell your health care team about all of the other medications you are taking.
- Keep taking other medications that have been prescribed for you, unless you have been told not to by your health care team.

You will have a blood test to check for hepatitis B before starting treatment. See the [Hepatitis B and Cancer Medications](#) pamphlet for more information.

## How is this treatment given?

- Blinatumomab is given as injection through IV (injected into a vein). Your infusion will start on day 1 at the hospital and continue there until your health care team decides it is ok for you to continue at home. You will receive a continuous infusion of blinatumomab for 28 days followed by 2 weeks off (when the medication is not given). Talk to your health care team about your treatment schedule
- If you missed your treatment appointment, talk to your health care team to find out what to do.

## Other medications you may be given with this treatment

### To Prevent Allergic Reaction

You will be given a corticosteroid (such as dexamethasone) before your treatment to help prevent allergic reactions before they start.

### To Prevent Tumor Lysis Syndrome (TLS)

TLS can happen when a large number of cancer cells die quickly and your body cannot get rid of them fast enough. TLS can make you very sick. Ask your health care team if you are at risk for TLS.

If you are at risk for TLS, you may be given medications before your blinatumomab treatment to help prevent it.

These are called anti-uricemics (such as allopurinol), or others.

### To Prevent Infection from Herpes Zoster Virus (Shingles)

You may be given medication to take before your treatment to prevent infection from the Herpes Zoster virus.

- These are called anti-virals (such as acyclovir or valacyclovir).

### To Prevent Infection from Bacteria

You may be given a medication to take before your treatment to prevent infection.

- These are called antibiotics (such as trimethoprim-sulfamethoxazole).

### To Prevent Hepatitis B Flare Ups

If you have ever been infected with hepatitis B, there is a risk that this treatment can cause it to flare up (come back). Tell your health care team if you have had hepatitis B. You may need to take medication to prevent a hepatitis B flare-up.

## Other important things for you to know about this treatment

Blinatumomab causes your immune system to work harder. Your immune system is what fights infections and your cancer.

When your immune system is working harder, it can also damage healthy cells. This can cause side effects that are different from other cancer medications, like chemotherapy.

**Cytokine release syndrome (CRS)** can happen when your immune system responds aggressively to blinatumomab. CRS usually happens during the first few days of cycles 1 and 2. The symptoms can be mild but can also quickly become severe and life-threatening.

CRS can be treated. It is important to catch it early so that the treatment has the best chance of working well. Talk to your healthcare team **right away** if you have any of the following signs of CRS:

- Fever higher than 38°C
- Trouble breathing
- Fast or irregular heartbeat
- Flu-like symptoms (such as chills, body aches and fatigue)
- Severe nausea, vomiting or diarrhea

**Immune effector cell-associated neurotoxicity syndrome (ICANS)** is a side effect from blinatumomab that affects your nervous system (brain and nerves). ICANS can happen on its own, or together with CRS. It usually happens within 2 weeks after starting treatment, or a few days after developing CRS. It rarely occurs later during treatment.

ICANS is treatable, and it is very important to manage it as quickly as possible. You should talk to your health care team right away if you have any of the following signs of ICANS:

- Headaches that are new or worse than usual
- Drowsiness or weakness
- Tremors (shaking or trembling)
- Change in handwriting
- Trouble speaking or swallowing
- Seizures

You will be given a **wallet card** that has information and instructions for other health care providers about your treatment and possible side-effects. **Show this card to all health care providers**, especially if you need to go to the emergency room.

**DO this while on treatment**

- ✓ DO check with your health care team before getting any vaccinations, surgery, dental work or other medical procedures.
- ✓ DO tell your health care team about any serious infections that you have now or have had in the past. This includes herpes virus (such as Shingles) or Hepatitis B infections.

**DO NOT do this while on treatment**

- ✗ DO NOT use tobacco products (such as smoking cigarettes or vaping) or drink alcohol while on treatment without talking to your health care team first. Smoking and drinking can make side effects worse and make your treatment not work as well.
- ✗ DO NOT take any other medications, such as vitamins, over-the-counter (non-prescription) drugs, or natural health products without checking with your health care team.
- ✗ DO NOT start any complementary or alternative therapies, such as acupuncture or homeopathic medications, without checking with your health care team.
- ✗ DO NOT drive, operate machinery or do any tasks that need you to be alert if you feel dizzy, confused or experience seizures while on blinatumomab.

## Will this treatment interact with other medications or natural health products?

Yes, this medication can interact with other medications, vitamins, foods and natural health products. Interactions can make this medication not work as well or cause severe side effects.

Tell your health care team about all of your:

- prescription and over-the-counter (non-prescription) medications and all other drugs, such as cannabis/marijuana (medical or recreational)
- natural health products such as vitamins, herbal teas, homeopathic medicines, and other supplements

Check with your health care team before starting or stopping any of them.

If you are taking a blood thinner (such as warfarin), your health care team may need extra blood tests and may change your dose.



### Talk to your health care team **BEFORE** taking or using these :

- Anti-inflammatory medications such as ibuprofen (Advil® or Motrin®), naproxen (Aleve®) or Aspirin®.
- Over-the-counter products such as dimenhydrinate (Gravol®)
- Natural health products such as St. John's Wort
- Supplements such as vitamin C
- Grapefruit juice
- Alcoholic drinks
- Tobacco
- All other drugs, such as marijuana or cannabis (medical or recreational)

## What to do if you feel unwell, have pain, a headache or a fever

- ✓ **Always** check your temperature to see if you have a fever **before** taking any medications for fever or pain (such as acetaminophen (Tylenol®) or ibuprofen (Advil®)).
  - Fever can be a sign of infection that may need treatment right away.
  - If you take these medications before you check for fever, they may lower your temperature and you may not know you have an infection.

### How to check for fever:

Keep a digital (electronic) thermometer at home and take your temperature if you feel hot or unwell (for example, chills, headache, mild pain).

- You have a fever if your temperature taken **in your mouth (oral temperature)** is:
    - 38.3°C (100.9°F) or higher at any time
- OR
- 38.0°C (100.4°F) or higher for at least one hour.



### If you do have a fever:

- ✓ **Try to contact your health care team. If you are not able to talk to them for advice, you MUST get emergency medical help right away.**
- ✓ Ask your health care team for the [Fever](#) pamphlet for more information.

If you do not have a fever but have mild symptoms such as headache or mild pain:

- ✓ Ask your health care team about the right medication for you. **Acetaminophen (Tylenol®)** is a safe choice for most people.



**Talk to your health care team before you start taking** ibuprofen (Advil®, Motrin®), naproxen (Aleve®) or ASA (Aspirin®), as they may increase your chance of bleeding or interact with your cancer treatment.



Talk to your health care team if you already take **low dose aspirin** for a medical condition (such as a heart problem). It may still be safe to take.

## How will this treatment affect sex, pregnancy and breastfeeding?

**Talk to your health care team about:**

- How this medication may affect your sexual health.
- How this medication may affect your ability to have a baby, if this applies to you.

This medication may harm an unborn baby. Tell your health care team if you or your partner are pregnant, become pregnant during treatment, or are breastfeeding.

- If there is **any** chance of pregnancy happening, you and your partner together must use **2 effective forms of birth control** at the same time until **48 hours** after your last treatment dose. Talk to your health care team about which birth control options are best for you.
- Do not breastfeed while on this medication and for at least **48 hours** after the last dose.



## What are the side effects of this treatment?

The following table lists side effects that you may have when getting blinatumomab treatment. The table is set up to list the most common side effects first and the least common last. It is unlikely that you will have all of the side effects listed and you may have some that are not listed.

Read over the side effect table so that you know what to look for and when to get help. Refer to this table if you experience any side effects while on blinatumomab treatment.

Some side effects can become serious or life-threatening very quickly. You must tell your health care team **right away** if:

- You start to have **any new side effects**, especially if severe.
- You notice any of your side effects getting worse.

Common Side Effects (25 to 49 out of 100 people)	
Side effects and what to do	When to contact health care team
<p><b>Allergic reaction</b></p> <p>(May be severe)</p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>• Fever, itchiness, rash, swollen lips, face or tongue, chest and throat tightness.</li> <li>• It may happen during or shortly after your treatment is given to you and may be severe.</li> </ul> <p><b>What to do?</b></p> <ul style="list-style-type: none"> <li>• Tell your nurse right away if you feel any signs of allergic reaction during or just after your treatment.</li> <li>• Talk to your health care team for advice if you have a mild skin reaction.</li> </ul>	<p>Get emergency medical help right away for severe symptoms.</p>
<p><b>Headache; mild joint, muscle pain or cramps</b></p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>• Mild headache</li> <li>• New pain in your muscles or joints, muscle cramps, or feeling achy.</li> </ul>	<p>Talk to your health care team if it does not improve or if it is severe.</p>

Common Side Effects (25 to 49 out of 100 people)	
Side effects and what to do	When to contact health care team
<p><b>What to do?</b></p> <ul style="list-style-type: none"> <li>Take pain medication (acetaminophen or opioids such as codeine, morphine, hydromorphone, oxycodone) as prescribed.</li> <li>Read the above section: <b>"What should I do if I feel unwell, have pain, a headache or a fever?"</b> before taking acetaminophen (Tylenol®), ibuprofen (Advil®, Motrin®), naproxen (Aleve®) or Aspirin. These medications may hide an infection that needs treatment or they may increase your risk of bleeding.</li> <li>Rest often and try light exercise (such as walking) as it may help.</li> </ul> <p>Ask your health care team for the <a href="#">Pain</a> pamphlet for more information.</p>	
<p><b>Low neutrophils (white blood cells) in the blood (neutropenia)</b></p> <p>(May be severe)</p> <p>When neutrophils are low, you are at risk of getting an infection more easily. Ask your health care team for the <a href="#">Neutropenia (Low white blood cell count)</a> pamphlet for more information.</p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>If you feel hot or unwell (for example if you have chills or a new cough), you <b>must</b> check your temperature to see if you have a fever.</li> <li>Do not take medications that treat a fever before you take your temperature (for example, Tylenol® (acetaminophen), or Advil® (ibuprofen)).</li> <li>Do not eat or drink anything hot or cold right before taking your temperature.</li> </ul> <p>You have a fever if your temperature taken in your mouth (oral temperature) is:</p> <ul style="list-style-type: none"> <li>38.3°C (100.9°F) or higher at any time</li> <li>OR</li> <li>38.0°C (100.4°F) or higher for at least one hour.</li> </ul> <p><b>What to do?</b></p> <p><b>If your health care team has told you that you have low neutrophils:</b></p> <ul style="list-style-type: none"> <li>Wash your hands often to prevent infection.</li> <li>Check with your health care team before getting any vaccines, surgeries, medical procedures or visiting your dentist.</li> <li>Keep a digital thermometer at home so you can easily check for a fever.</li> </ul>	<p>If you have a fever, try to contact your health care team. If you are unable to talk to the team for advice, you <b>MUST</b> get emergency medical help right away.</p>

Common Side Effects (25 to 49 out of 100 people)	
Side effects and what to do	When to contact health care team
<p><b>If you have a fever:</b></p> <p><b>If you have a fever, try to contact your health care team. If you are unable to talk to the team for advice, you must get emergency medical help right away.</b></p>	
<p><b>Low platelets in the blood</b></p> <p>(May be severe)</p> <p>When your platelets are low, you are at risk for bleeding and bruising. Ask your health care team for the <a href="#">Low Platelet Count</a> pamphlet for more information.</p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>• Watch for signs of bleeding: <ul style="list-style-type: none"> <li>◦ bleeding from your gums</li> <li>◦ unusual or heavy nosebleeds</li> <li>◦ bruising easily or more than normal</li> <li>◦ black coloured stools (poo) or blood in your stools (poo)</li> <li>◦ coughing up red or brown coloured mucus</li> <li>◦ dizziness, constant headache or changes in your vision</li> <li>◦ heavy vaginal bleeding</li> </ul> </li> </ul> <p><b>What to do?</b></p> <p><b>If your health care team has told you that you have low platelets:</b></p> <ul style="list-style-type: none"> <li>• Tell your pharmacist that your platelet count may be low before taking any prescriptions or over-the-counter medication.</li> <li>• Check with your healthcare team before you go to the dentist.</li> <li>• Take care of your mouth and use a soft toothbrush.</li> <li>• Try to prevent cuts and bruises.</li> <li>• Ask your health care team what activities are safe for you.</li> <li>• Your treatment may have to be delayed if you have low platelets. Your health care team may recommend a blood transfusion.</li> </ul> <p><b>If you have signs of bleeding:</b></p> <ul style="list-style-type: none"> <li>• If you have a small bleed, clean the area with soap and water or a saline (saltwater) rinse. Apply pressure for at least 10 minutes.</li> </ul> <p><b>If you have bleeding that does not stop or is severe (very heavy), you must get emergency medical help right away.</b></p>	<p>Talk to your health care team if you have any signs of bleeding. If you have bleeding that doesn't stop or is severe (very heavy), you <b>MUST</b> get emergency help right away.</p>

Less Common Side Effects (10 to 24 out of 100 people)	
Side effects and what to do	When to contact health care team
<p><b>Liver problems</b></p> <p>Your health care team may check your liver function with a blood test. Liver changes do not usually cause any symptoms.</p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>• Rarely, you may develop yellowish skin or eyes, unusually dark pee or pain on the right side of your belly. This may be severe.</li> </ul> <p><b>What to do?</b></p> <p><b>If you have any symptoms of liver problems, get emergency medical help right away.</b></p>	<p>Get emergency medical help right away.</p>
<p><b>Mild swelling</b></p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>• You may have mild swelling or puffiness in your arms and/or legs. Rarely, this may be severe.</li> </ul> <p><b>What to do?</b></p> <p><b>To help prevent swelling:</b></p> <ul style="list-style-type: none"> <li>• Eat a low-salt diet.</li> </ul> <p><b>If you have swelling:</b></p> <ul style="list-style-type: none"> <li>• Wear loose-fitting clothing.</li> <li>• For swollen legs or feet, keep your feet up when sitting.</li> </ul>	<p>Talk to your health care team if it does not improve or if it is severe.</p>

Less Common Side Effects (10 to 24 out of 100 people)	
Side effects and what to do	When to contact health care team
<p><b>Cough and feeling short of breath</b></p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>You may have a cough and feel short of breath.</li> <li>Symptoms that commonly occur with a cough are: <ul style="list-style-type: none"> <li>wheezing or a whistling breathing</li> <li>runny nose</li> <li>sore throat</li> <li>heartburn</li> <li>weight loss</li> <li>fever and chills</li> </ul> </li> <li>Rarely this may be severe with chest pain, trouble breathing or coughing up blood.</li> </ul> <p><b>What to do?</b></p> <ul style="list-style-type: none"> <li>Check your temperature to see if you have a fever. Read the above section <b>"What should I do if I feel unwell, have pain, a headache or a fever?"</b>.</li> <li>If you have a fever, try to talk to your health care team. <b>If you are not able to talk to them for advice, you MUST get emergency medical help right away.</b></li> <li><b>If you have a severe cough with chest pain, trouble breathing or you are coughing up blood, get medical help right away.</b></li> </ul>	<p>Talk to your health care team. If you are not able to talk to your health care team for advice, and you have a fever or severe symptoms, you <b>MUST</b> get emergency medical help right away.</p>
<p><b>Rash; dry, itchy skin</b></p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>You may have cracked, rough, flaking or peeling areas of the skin.</li> <li>Your skin may look red and feel warm, like a sunburn.</li> <li>Your skin may itch, burn, sting or feel very tender when touched.</li> </ul> <p><b>What to do?</b></p> <p><b>To prevent and treat dry skin:</b></p> <ul style="list-style-type: none"> <li>Use fragrance-free skin moisturizer.</li> <li>Protect your skin from the sun and the cold.</li> <li>Use sunscreen with UVA and UVB protection and a SPF of at least 30.</li> <li>Avoid perfumed products and lotions that contain alcohol.</li> <li>Drink 6 to 8 cups of non-alcoholic, non-caffeinated liquids each day, unless your health care team has told you to drink more or less.</li> </ul>	<p>Talk to your health care team if it does not improve or if it is severe.</p>

Less Common Side Effects (10 to 24 out of 100 people)	
Side effects and what to do	When to contact health care team
<p><b>Rash may be severe in some rare cases and cause your skin to blister or peel. If this happens, get emergency medical help right away.</b></p>	
<p><b>Cytokine Release Syndrome</b></p> <p>Cytokine release syndrome (CRS) can happen when your immune system responds aggressively to blinatumomab (drug name). This can cause the release of a large amount of proteins called cytokines.</p> <p>CRS usually happens at the start of treatment, when your immune system starts to work harder (within hours and up to a few days of starting your first 2 cycles).</p> <p>Symptoms of CRS can be mild but can also quickly become severe and life-threatening. Your health care team will monitor you more closely during and for a few days after your first 2 cycles, and do blood tests as necessary.</p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>• Fever. Sometimes the fever can be high (more than 40°C).</li> <li>• You may also have: <ul style="list-style-type: none"> <li>◦ Trouble breathing</li> <li>◦ Fast or irregular heartbeats</li> <li>◦ Flu-like symptoms (such as chills, body aches and fatigue)</li> <li>◦ Severe nausea, vomiting or diarrhea</li> <li>◦ Signs of low blood pressure, such as dizziness</li> </ul> </li> </ul> <p><b>What to do?</b></p> <ul style="list-style-type: none"> <li>• Tell your nurse right away if you have any signs of CRS during or just after your treatment. Symptoms may get worse quickly.</li> </ul> <p>If you have left the hospital:</p> <ul style="list-style-type: none"> <li>• <b>Check your temperature to see if you have a fever.</b> If you have a fever, or any other signs of CRS, try to contact your health care team. If you cannot speak to the team for advice, you <b>MUST</b> get emergency medical help right away.</li> <li>• Make sure you show the emergency health care team your wallet card that was given to you by your cancer health care team.</li> </ul>	<p>Talk to your health care team right away if you have any of these symptoms. If you are unable to talk to the team for advice, you must get emergency medical help right away.</p>

Less Common Side Effects (10 to 24 out of 100 people)	
Side effects and what to do	When to contact health care team
<p><b>Trouble Sleeping</b></p> <p>Your medications may cause trouble sleeping. It may get better once your body gets used to the medication or when your treatment ends.</p> <p><b>What to look for?</b></p> <ul style="list-style-type: none"> <li>• You may find it hard to fall asleep or stay asleep.</li> <li>• How well you sleep may change over your treatment. For example, you may have several nights of poor sleep followed by a night of better sleep.</li> <li>• You may wake up too early or not feel well-rested after a night's sleep.</li> <li>• You may feel tired or sleepy during the day.</li> </ul> <p><b>What to do?</b></p> <p>Talk to your health care team if it does not improve or if it is severe.</p>	<p>Talk to your health care team if it does not improve or if it is severe.</p>

**Other rare, but serious side effects are possible with this treatment.**

If you have **any** of the following, talk to your cancer health care team or get emergency medical help right away:

- Headaches that are new or worse than usual
- Tremors, trouble walking, speaking or swallowing
- Change in handwriting
- Seizures
- Feeling confused
- Numbness, tingling, burning sensation of your fingers and toes, have trouble doing tasks like doing up buttons, writing, moving, or if you have severe pain or numbness
- Changes in your senses such as eyesight, smell, taste, hearing; or problems with controlling the muscles on your face
- Muscle twitching, severe weakness or cramping, irregular heartbeat
- New lower back pain, changes in urination (peeing) such as less urine (pee) than usual

- Severe belly pain, including pain in the centre of your belly that may extend to your back

For more information on how to manage your symptoms ask your health care provider, or visit:  
<https://www.cancercareontario.ca/symptoms>.

## Notes

---

---

---

---

---

---

---

---

### October 2024 Updated/Revised information sheet

*The information set out in the medication information sheets, regimen information sheets, and symptom management information (for patients) contained in the Drug Formulary (the "Formulary") is intended to be used by health professionals and patients for informational purposes only. The information is not intended to cover all possible uses, directions, precautions, drug interactions or side effects of a certain drug, nor should it be used to indicate that use of a particular drug is safe, appropriate or effective for a given condition.*

*A patient should always consult a healthcare provider if he/she has any questions regarding the information set out in the Formulary. The information in the Formulary is not intended to act as or replace medical advice and should not be relied upon in any such regard. All uses of the Formulary are subject to clinical judgment and actual prescribing patterns may not follow the information provided in the Formulary.*