

Lamotrigine (LAMICTAL®): the basics

What is lamotrigine used for?

Lamotrigine has been approved by Health Canada for use:

- in combination with other anti-seizure medications (ASMs, anti-epileptic medications) to manage seizures associated with **Lennox-Gastaut syndrome** in adults (18 years and older) and children who weigh at least 9 kg.
- in combination with other ASMs to manage **epilepsy** in adults who are not adequately controlled with conventional therapy.
- on its own to manage **epilepsy** in adults after stopping the other ASMs.

Your physician may decide to prescribe this medication for a use different from that approved by Health Canada.

If you have questions about whether this medication is appropriate for you, consult with your physician.

What forms does this medication come in? Is there a generic drug version?

In Canada, lamotrigine is sold under the brand name Lamictal®. The regular tablets are also available as generic drugs.

Dosage form	Strengths available in Canada	Is it covered by the Ontario Drug Benefit (ODB) program?*
Tablets, oral	25 mg, 100 mg, and 150 mg	Yes.
Dispersible (chewable) tablets, oral	2 mg and 5 mg	Lamictal® dispersible tablets (no generics available) are not routinely covered by ODB; coverage may be considered under exceptional circumstances. Consult your healthcare professional for more information.

*Contact your pharmacist for the most up-to-date information regarding drug availability and coverage.

Before starting lamotrigine, inform your healthcare professional of the following:

- your medical history, especially of allergies; liver, heart, kidney, or mental health problems; blood disorders; autoimmune diseases; meningitis; or Parkinson's disease
- if you are already taking lamotrigine or have been on lamotrigine in the past
- if you have the HLA-B*1502 allele (gene variation common among people of Han Chinese or Southeast Asian descent)
- if you have a mixed seizure disorder that includes generalized onset seizures (lamotrigine may worsen myoclonic seizures)
- if you are pregnant, breastfeeding, or considering pregnancy
- other ASMs you have used in the past, especially if you have experienced a rash or an allergic reaction
- your current medications (prescription and nonprescription) and any substances you are taking

Lamotrigine may interact with the following:

- **valproic acid, carbamazepine, phenytoin, phenobarbital, and primidone.** Your physician will need to adjust your dose of lamotrigine in the presence or withdrawal of any of these medications.
- **medications that can affect how your heart beats**, such as some heart medications and carbamazepine; **alcohol**; and **medications that slow down the nervous system (CNS depressants)**. These may increase your risk of side effects with lamotrigine.
- **hormonal contraceptives** (such as oral contraceptives) and **female hormone replacement therapy**. Consult with your physician before starting or stopping these medications, or if you experience changes in your menstrual pattern (e.g., spotting).
- **many other medications.** This is not a comprehensive list of drug interactions. Inform your healthcare professional about all the medicines (prescription and nonprescription) and substances you are taking, including medications from other prescribers, over-the-counter medications, vitamins, minerals, herbal products, or alternative medicines, so they can check for potential drug interactions. A potential drug interaction may not rule out use of the medications together; dosage adjustments and/or additional monitoring (such as lab work) may be carried out by your healthcare professional; check with your physician or pharmacist.

What are possible side effects from using lamotrigine?

Depending on the individual, side effects may occur at varying degrees or not at all, including:

- **dizziness, drowsiness, fatigue, and other side effects that can affect your cognition, alertness, coordination, or vision.** It is important to avoid activities requiring mental alertness or physical coordination (such as operating hazardous machines or driving) until you are sure that lamotrigine does not affect your abilities.
- **skin rashes.** Rashes can occur anytime during use, but most occur during the first few weeks of therapy. Mild rashes are very common. Rare but serious, life-threatening allergic reactions may also occur. These reactions are more likely to occur in children, in people with the HLA-B*1502 allele, if the starting dose is high, if the dose is increased too quickly, and if lamotrigine is taken in combination with valproic acid. Rashes should be reported to your healthcare professional.
- **worsening of movement symptoms** in individuals with Parkinson's disease.
- **heart conduction or rhythm problems.** If you have a history of heart disease, tell your physician.
- **mood or behaviour changes**, which occur rarely. If you have thoughts of suicide or harming yourself, seek medical help.
- **lower-than-normal numbers of platelets, red blood cells, and white blood cells.** These are considered very rare reactions, but the risk may be increased if you are also taking certain ASMs. Your blood work may need to be checked on a regular basis.
- **other rare conditions** such as multi-organ failure and meningitis not caused by an infection.

This is not a comprehensive list of possible side effects. Consult with your physician or pharmacist for more information about side effects, including what symptoms to monitor for and what to do about them.

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Tips for using Lamotrigine (Lamictal®):

- Take your medication as directed by your physician. Read the medication information sheets given to you by your healthcare professional. If you have any questions, ask your physician or pharmacist.
- This medication works best when taken at evenly-spaced intervals, about the same times each day.
- Lamotrigine can be taken with or without food.
- Swallow the regular oral tablets whole with water; do not crush or chew them.
- Lamictal® dispersible tablets can be swallowed whole, chewed, or dispersed in water or diluted fruit juice. To disperse the tablets, follow the instructions provided by the manufacturer or your healthcare professional.
- If your seizures worsen or you experience new types of seizures, contact your physician.

How will my dose be determined?

Your physician will start you on a low dose to decrease the risk of side effects, especially serious skin reactions. Your dose must be increased very slowly; it may take several weeks to months to reach your maintenance dose. Other factors such as medical history, potential drug interactions, seizure control, any side effects experienced, and, if lamotrigine is for a child, body weight will also be taken into consideration when determining your dose.

The usual maintenance dosage range of lamotrigine is given below; however, your physician may prescribe a different dose for you based on the reasons noted above.

Usual maintenance dosage range*	
Adults, children older than 12 years old	100 to 400 mg per day in 2 divided doses
Children 9 kg or more	Consult your child's physician/pharmacist for their specific weight-based dosing range.**

*Your dosage will be individualized based on factors such as indication, medical history, potential drug interactions, clinical response, and tolerability.

**The dosing charts cannot be reproduced in this document due to space constraints.

What if I miss a dose?

If you miss a dose, take it as soon as you remember. But if your next dose is due in less than 4 hours, do not take the missed dose; instead, take your next dose at your usual time. Do not double the dose. If you miss more than 1 dose, contact your healthcare professional for advice.

How do I store this medication?

Store the lamotrigine tablets and Lamictal® dispersible tablets at room temperature (15 to 30°C) in a dry place away from light and heat. Keep out of reach of children.

Medication blood level test – is it required for lamotrigine?

- Routine monitoring of the concentrations (levels) of lamotrigine in your blood is usually not required; however, levels may be monitored during dosage adjustments if you are also taking a medication(s) that interacts with lamotrigine; before, during, and after pregnancy; and in a breastfed infant experiencing adverse effects and whose mother is on lamotrigine.
- Unless otherwise instructed by your physician, lamotrigine levels should be drawn just before your next dose is due (trough level).

Pregnancy and breastfeeding:

- In general, ASMs may slightly increase the risk of birth defects. It is important to consult with your healthcare professional for preconception care if you are planning to become pregnant.
- Folic acid supplementation should be started at least 3 months before pregnancy to reduce the risk of birth defects. Speak with your healthcare professional to determine the appropriate dose for you.
- Lamotrigine crosses the placenta during pregnancy. It passes into the breast milk. The potential benefits of using this medication during pregnancy or breastfeeding must be weighed against any potential risks to your unborn child or breastfed baby; consult with your physician. Do not stop taking your medication(s) or adjust your dosage on your own.

Warning:

Abrupt withdrawal of any anti-epileptic medication may trigger status epilepticus, a potentially fatal condition of continued seizures without recovery. When there is a need for reduction, discontinuation or substitution of the medication, this should be done gradually and under the physician's care. Never discontinue anti-epileptic medications or make changes in activities unless specifically advised to do so by an attending physician.

This material has been created by Stephanie Chiu, RPh, BCGP, CDE for Epilepsy Toronto in 2024 and is offered to provide general information to the public. It is not intended to be taken as medical advice. Epilepsy Toronto and its advisors accept no liability. Consult your physician and/or neurologist with any questions you may have.