



Lamictal (lamotrigine)

Generic name: Lamotrigine

Available strengths: 25 mg, 100 mg, 150 mg, 200 mg tablets

Available in generic: No

Drug class: Anticonvulsant/mood stabilizer

General Information

Lamictal (lamotrigine) is better known as an anticonvulsant—a medication for treating epilepsy. This may present some confusion for patients, as well as their families, when they are prescribed an anticonvulsant without a history of seizures. In the past decade, anticonvulsants have increasingly become the medications of choice for the treatment of bipolar disorder, particularly in acute mania. In addition to its indication for epilepsy, Lamictal has been approved by the U.S. Food and Drug Administration (FDA) for the treatment of bipolar disorder. The use of a medication for its approved indication is called *labeled use*. In clinical practice, however, physicians often prescribe medications for *unlabeled* (“off-label”) uses when published clinical studies, case reports, or their own clinical experiences support the efficacy and safety of those treatments. Unlabeled uses of Lamictal include treatment of cyclothymia (a milder form of bipolar disorder), treatment-resistant unipolar depression, schizoaffective disorder, and in some cases, borderline personality disorder. When Lamictal and other anticonvulsants are used for treating mood disorders, they are considered **mood stabilizers**.

Clinical studies have shown that Lamictal is effective in treating depressed and rapid-cycling bipolar disorder, especially in patients who had incomplete or no response to lithium. Lamictal can be used alone or in combination with another mood stabilizer, such as lithium. If it is used with Depakote, however, there are certain precautions that must be followed to minimize the risk of developing a potentially severe rash (see “Adverse Reactions and Precautions”). Lamictal may be especially effective in treating people who are “rapid cyclers,” those who have four or more episodes of mania or depression in 1 year. Patients whose mania is accompanied by irritability rather than euphoria may benefit from Lamictal. Moreover, Lamictal may be especially effective for treating or preventing bipolar depression. Patients receiving Lamictal alone for treatment of bipolar depression showed marked improvement in depressive symptoms.

It is not totally clear how some anticonvulsants are effective for seizures and bipolar disorder. The anticonvulsants, which have very complex effects on the central nervous system, may be effective by controlling “kindling” in the areas of the brain from which the psychiatric disorder emanates. Kindling is a phenomenon that occurs when repeated subthreshold stimulation is applied to certain regions of the brain and sensitizes them, setting off a cascade of events leading to seizures or manic behavior. By decreasing electrical conduction or neurotransmitter activity in unstable brain cells, anticonvulsants are effective in controlling seizures and bipolar illness.

Dosing Information

Lamictal is usually started at a low dosage of 25 mg/day, and the dosage is gradually increased by 25–50 mg every 2 weeks. By week 6, most patients are taking a target dosage of 100–200 mg/day. When Lamictal is administered in combination with Depakote (or shortly after discontinuation of the medication), it should be introduced even slower (e.g., 25 mg every other day for the first 2 weeks), and the target dosage should not exceed 100 mg/day. On the other hand, when Lamictal is administered with Tegretol (carbamazepine), the Lamictal dosage may need to be adjusted higher because Tegretol increases its metabolism.

Common Side Effects

The most common side effects associated with Lamictal are rash, dizziness, headache, somnolence, impaired coordination, difficulty with walking (**ataxia**), and gastrointestinal symptoms, including nausea, vomiting, and abdominal cramping. The incidence of rash associated with Lamictal is approximately 10%, but the risk may significantly increase when Lamictal is dosed too rapidly or administered in combination with Depakote or other valproate derivatives. Of greater concern is the rare occasion in which the patient receiving Lamictal develops a rash that progresses to life-threatening systemic symptoms (see “Adverse Reactions and Precautions”).

Adverse Reactions and Precautions

Lamictal may cause drowsiness and impair alertness, especially at the start of therapy. Patients should use caution when driving or performing tasks that require alertness.

Because of the risk of serious rashes associated with Lamictal, the FDA required the manufacturer to issue a “black box” warning in its labeling. The risk of a serious skin reaction occurs in about 1 in 1,000 patients among adults but in 1 in 100 patients among children younger than 16 years of age. Life-threatening skin rashes include a form called **Stevens-Johnson syndrome**, which is characterized by painful blistering of the skin and mucous membranes and is often fatal. The skin reaction is based on individual susceptibility, and other than age, there are no factors that can predict one’s susceptibility to the rash or the severity of rash associated with Lamictal. Patients should stop taking Lamictal at the first sign of rash, and if the rash is accompanied by malaise, sore throat, and fever, they should seek immediate medical attention at an emergency department for evaluation.

Use in Pregnancy and Breastfeeding: Pregnancy Category C

There are no adequate controlled studies of Lamictal in pregnant women to determine the medication’s risk to the woman and fetus. However, animal studies suggest that Lamictal may have a potential risk because it has been shown to decrease the concentration of folic acid, a B vitamin, in rats. Decreased fetal concentrations of folic acid are known to have harmful effects in animals and humans. The use of Lamictal should be avoided in pregnancy whenever possible, especially during the first trimester. However, if Lamictal is required because stopping the medication may result in relapse and present a greater danger to the mother and unborn child, the patient may continue taking Lamictal, after giving informed consent to the physician, or an alternative medication or treatment may be used.

Nursing mothers should not take Lamictal, because it is excreted in breast milk and may be harmful to the baby when ingested. If stopping the medication is not an alternative, breastfeeding should not be started or should be discontinued.

Possible Drug Interactions

When Lamictal is combined with another medication, the combination may alter its metabolism and thus affect the blood levels of the other medication or of Lamictal. If the level of the other medication is significantly reduced, the person's responsiveness to that medication may be compromised. If the level is significantly elevated, the person has a greater susceptibility to the toxic effects of the other medication. The clinically significant drug interactions reported with Lamictal are summarized in the table below.

Tegretol (carbamazepine)	When Lamictal is administered in combination with Tegretol, the blood levels of Lamictal may be significantly reduced. Under these conditions, the Lamictal dosage should be increased to 300–400 mg/day.
Depakote (divalproex) and valproic acid	Depakote and other valproic acid preparations may significantly increase Lamictal levels, which may increase the risk of developing a rash. Under these conditions, Lamictal should be started slowly and the maximum daily dosage generally should not exceed 100 mg/day.
Dilantin (phenytoin), phenobarbital, and Mysoline (primidone)	Dilantin, phenobarbital, and Mysoline are anti-convulsants that, when combined with Lamictal, may decrease its blood levels. Under these conditions, a higher Lamictal dosage may be needed.

Patients taking Lamictal should not consume alcohol because the combination may increase sedation and drowsiness. Moreover, the sedative effects of alcohol may act as a depressant, obscuring the therapeutic effects of Lamictal and complicating treatment.

Overdose

Depending on the amount ingested, overdose with Lamictal can be serious. Non-life-threatening symptoms of overdose include dizziness, ataxia (impaired coordination while walking), headache, and somnolence. In severe cases, overdose may result in delirium, liver and renal failure, severe rash, and coma. In small children the lethal dosage may be lower than for an adult of average size.

Any suspected overdose should be treated as an emergency. The person should be taken to the emergency department for observation and treatment. The prescription bottle of medication (and any other medication suspected in the overdose) should be brought as well, because the information on the prescription label can be helpful to the treating physician in determining the number of pills ingested.

