

Using **carbamazepine** (**Tegretol[®]**, **Tegretol CR[®]**) in Children and Adolescents



Overview

Carbamazepine (Tegretol[®], Tegretol CR[®], and generic forms) belongs to a group of medications called “mood stabilizers”. This medication is used to treat mood disorders such as bipolar disorder. Carbamazepine is also called an “anticonvulsant”, and is used to treat seizure disorders (epilepsy).

What is carbamazepine used for?

Carbamazepine is approved by Health Canada to treat certain types of seizure disorders (epilepsy) in adults and children. Carbamazepine is also approved by Health Canada for the treatment of bipolar disorder and severe facial nerve pain (trigeminal neuralgia) in adults age 18 and over.

Like many other medications prescribed for children and adolescents, Health Canada has not approved valproic acid for management of bipolar disorder in this age group. When the potential benefits (e.g., reducing your symptoms) of using valproic acid outweigh the potential risks (e.g., the side effects), many doctors may prescribe it “off-label” to treat several conditions such as:

- Treatment of episodes of mania (elevated mood) associated with bipolar disorder
- Prevention of future manic episodes associated with bipolar disorder
- Alcohol withdrawal syndrome

Your doctor may be using this medication for another reason. If you are unclear why this medication is being prescribed, please ask your doctor.



How does carbamazepine work?

Carbamazepine may affect the activity of brain chemicals (neurotransmitters) called GABA and glutamate. This medication has a “stabilizing” effect on nerves, which in turn helps to reduce severe mood fluctuations (e.g. mania) associated with bipolar disorder. The exact way carbamazepine improves symptoms of bipolar disorder is still not fully known.

How well does carbamazepine work in children and adolescents?

There is evidence to show that carbamazepine reduces symptoms of a manic episode associated with bipolar disorder. It may also prevent future episodes of mania from occurring. Carbamazepine may be used alone or in combination with other mood stabilizers to manage bipolar disorder.

When treating a manic episode, carbamazepine may improve symptoms such as: an elevated, expansive or irritable mood; a reduced need for sleep; fast/increased talking; an inflated self-esteem or feelings of grandiosity; being easily distracted; racing thoughts; high-risk behaviours; taking part in an excessive amount of activities.

When effective, carbamazepine helps to stabilize your mood and returns your activity level to normal. This medication may help you to have more control over your emotions and to improve your overall functioning. Carbamazepine may be helpful for patients who have symptoms of mania and depression occurring at the same time (a mixed episode) or who have more than four mood episodes per year (this is called rapid cycling). This medication may also specifically target aggressive or impulsive behavioural problems, alcohol withdrawal syndrome or neurological causes of mania. Whenever possible, adding education about your condition (for example: teaching you how to recognize early warning signs of a manic episode and the appropriate coping strategies) increases the chance you will benefit from taking this medication.

How should *carbamazepine* be taken?



Carbamazepine comes in tablets, chewable tablets and as a liquid, all of which are taken by mouth. The non-chewable tablets come in two forms: immediate-release (Tegretol®) and controlled-release (Tegretol CR®). Generic versions of these medications are also available. Each dose of immediate-release carbamazepine releases medication right away. Usually, it is taken two or three times daily. Each dose of controlled-release carbamazepine releases medication slowly over a longer period of time, and is usually taken twice daily. Take carbamazepine with food to reduce the chance of stomach upset.

If necessary, controlled-release carbamazepine tablets may be broken in half. However, they should not be crushed or chewed. Doing so may result in the medication not being released properly. If you are taking the liquid form, shake it well before using each time. This ensures that you get the correct amount of medication at every dose.

When starting treatment, your doctor may initially prescribe a low dose of carbamazepine. Then, the dose may be gradually increased every 3 to 7 days. Your doctor will determine how much you should take, according to your weight, how much medication is in your body and your response to this medication. The blood level of carbamazepine required to be effective varies, but for most people, the desired blood level is somewhere between 20-50 micromoles/L. Do not take your carbamazepine dose just before getting a blood test to check your carbamazepine level, as this can affect your blood level results. Instead, take your dose right after the blood test is completed.

Carbamazepine needs to be taken regularly on a daily basis in order to be effective (even if you feel well). Carbamazepine should be taken at the same times each day as directed by your doctor. Try connecting it with something you do at that time(s) (for example: brushing your teeth) to help you remember the doses. Treatment with carbamazepine should usually not be stopped suddenly, as it may lead to uncomfortable withdrawal effects. If you are taking carbamazepine for a seizure disorder, stopping carbamazepine suddenly may trigger seizures.

Do not drink alcoholic beverages, eat grapefruit or drink grapefruit juice while taking carbamazepine, as this may result in increased side effects.

When will *carbamazepine* start working?

When used to control a manic episode, carbamazepine needs to be taken for 1 to 2 weeks before you notice an improvement in your symptoms. You may notice an improvement earlier if carbamazepine is combined with other medications. Unless directed by your doctor, do not increase, decrease, or stop taking the medication if there are no improvements in the first few weeks. A delay in response is normal. Carbamazepine may not work for everyone. If you find this medication has not helped you after a month of treatment or the side effects are too bothersome, your doctor may recommend switching you to a different medication.



How long do I have to take *carbamazepine*?

This depends on the symptoms you have, how frequently they occur and how long you have had them. Most people who have bipolar disorder need to take carbamazepine for at least 6 months. This allows your symptoms to stabilize and for you to regain functioning while decreasing your risk of another mood episode. After 6 months of treatment, you and your doctor can discuss the benefits and risks of continuing treatment.

If you have had several episodes of mania and you tolerate this medication well, you may be asked to take this medication indefinitely. By continuing to take this medication, your risk of having another episode of mania is significantly decreased. Even if you are feeling better, do not stop taking this medication suddenly without first discussing it with your doctor. After you have been taking carbamazepine on a regular basis, stopping it suddenly may trigger uncomfortable withdrawal effects or increase your risk for having a seizure. If you and your doctor decide to stop using carbamazepine, your doctor will explain how to safely lower the dose gradually.

Is *carbamazepine* addictive?

Carbamazepine is not addictive. You will not have “cravings” for it like some people do with nicotine or street drugs.

What are the side effects of carbamazepine and what should I do if I get them?

As with most medications, side effects may occur when taking carbamazepine. However, most side effects are mild and temporary. Sometimes the side effects may occur before any of the beneficial effects. It is also possible for some individuals to experience side effects that they feel are concerning or long-lasting. If this occurs, speak to your doctor about ways to manage them. Below are some of the more common side effects of taking this medication. In brackets are suggested ways to lessen these effects.

Common side effects

Side effects are usually more common when starting a medication or after a dose increase. If any of these side effects is troublesome for you, please discuss them with your doctor, nurse or pharmacist.

- Blurred or double vision
- Clumsiness, unsteadiness (*do not take part in activities that require physical coordination until you know how this medication affects you*)
- Drowsiness, clouded thinking, confusion (*avoid alcoholic drinks with this medication. Do not drive, operate machinery or participate in activities requiring mental alertness until you know how this medication affects you.*)
- Dizziness (*try getting up slowly from a sitting or lying down position*)
- Headache (*try using a pain reliever like acetaminophen (Tylenol®)*)
- Increased skin sensitivity to the sun (*use a broad-spectrum sunscreen daily. Limit sun exposure to avoid sunburns.*)
- Stomachache, nausea, vomiting (*try taking the medication with food*)
- Minor itching or rash

Potentially serious but uncommon side effects (e.g. those that occur in less than 5% of patients)

There are risks involved with taking any medication. Make sure you have had a conversation with your doctor about the potentially serious effects of carbamazepine.

Contact your doctor **IMMEDIATELY** if you have any of these potentially serious side effects:



- Increased agitation, nervousness
- Fatigue, confusion, muscle twitching or worsening of seizures
- Fever, sore throat, infection, mouth ulcers, easy bruising or bleeding, red or purple spots on the skin, nausea, unusual tiredness, dizziness, chills, nosebleeds
- Increased frequency of seizures
- Irregular heartbeat, chest pain
- Rash, red skin, blistering of the lips, eyes or mouth or peeling of the skin that is accompanied by fever (*You should seek emergency medical help immediately if you experience any of these signs of serious skin reactions. Patients of Asian descent may be at a higher risk for this kind of reaction.*)
- Swelling in the face, ankles, feet or lower legs
- Thoughts of self-harm, hostility or suicide; unusual changes in mood or behaviour
- Tiredness, muscle weakness/cramps, feeling cold, dry skin, coarser hair, constipation, weight gain, puffy face
- Yellowish skin, yellow eyes, significant rash/itchiness, loss of appetite, weakness, vomiting, dark colored urine, pain in the upper right part of the abdomen

What precautions should my doctor and I be aware of when taking carbamazepine?

Many medications can interact with carbamazepine, including birth control pills; cimetidine (Tagamet®); warfarin (Coumadin®); anticonvulsant medications such as phenytoin (Dilantin®), divalproex/valproic acid (Epival®/Depakene®) and lamotrigine (Lamictal®); antidepressants such as fluoxetine (Prozac®); antibiotics such as erythromycin or clarithromycin (Biaxin®); antipsychotics such as risperidone (Risperdal®); anti-anxiety medications such as clonazepam (Rivotril®); blood pressure medications such as verapamil (Covera®) or felodipine (Plendil®); caffeine, and several others. If you are (or begin) taking any other prescription or over-the-counter medications, be sure to check with your doctor or pharmacist to see if they are safe to use. Your doctor may need to change the doses of your medication(s) or monitor you carefully for side effects if you are taking certain other medications.

It is important to tell your doctor if you:

- have any allergies or have experienced a bad reaction to a medication
- have a history of diabetes
- have a history of heart conditions
- have a history of kidney or liver problems
- have a history of seizures (epilepsy)
- have a history of blood disorders
- have a history of serious skin reactions
- have a history of glaucoma (an eye disease)
- drink alcohol regularly or have a history of alcohol abuse
- currently or in the past, have had thoughts/attempts of suicide or self-harm
- have hallucinations (seeing or hearing things that are not there)
- Miss a period, are pregnant (or are planning to become pregnant) or are breast-feeding. Tell your doctor right away if you become pregnant while taking carbamazepine

What special instructions should I follow while using *carbamazepine*?

- Keep all appointments with your doctor and the laboratory. Your doctor may order certain lab tests (carbamazepine blood levels, liver function tests, thyroid function tests, electrolyte levels, complete blood cell counts) to check for side effects and how you are responding to carbamazepine.
- Do not allow anyone else to use your medication.

What should I do if I forget to take a dose of *carbamazepine*?

If you take carbamazepine regularly and you forget to take it, take it as soon as you remember. If it is more than 4 hours after your regularly scheduled dose, skip the missed dose and continue with your regular schedule. Do NOT double your next dose.



What storage conditions are needed for *carbamazepine*?

- Store this medication at room temperature away from moisture and heat (e.g., not in the bathroom).
- Keep this medication out of reach and sight of children.

You may wish to share this information with your family members to help them to understand your treatment options. Since every person's needs are different, it is important that you follow the advice provided to you by your own doctor, nurse and/or pharmacist and speak to them if you have any questions about this medication.

Developed by the health care professionals of Child & Adolescent Mental Health Programs and reviewed by the staff of the Kelty Resource Centre.