



Overview

Lithium (*Lithane*[®], *Carbolith*[®], *Lithmax*[®]) belongs to a group of medications called “mood stabilizers”.

What is *lithium* used for?

Lithium is approved by Health Canada for:

- Treatment of episodes of mania (severely elevated mood) and hypomania (mania with less severe symptoms) associated with bipolar disorder
- Prevention of future manic or depressive episodes associated with bipolar disorder (formerly called manic-depression)

Lithium is also used for certain types of depression that are unresponsive to treatment with standard antidepressants, to decrease impulsive and aggressive behaviour in children and adolescents and prevention of chronic cluster headaches. 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 *lithium* work?

Lithium appears to affect the activity of brain chemicals (neurotransmitters) called norepinephrine, dopamine, and serotonin. In general, this medication has a “stabilizing” effect on nerves, which in turn helps to reduce severe mood fluctuations (e.g. mania or depression) associated with bipolar disorder. The exact way lithium improves symptoms of bipolar disorder is not fully known.

How well does *lithium* work in children and adolescents?

Lithium has been shown to reduce the symptoms of a manic or depressive episode associated with bipolar disorder, and to help reduce the risk of future episodes of mania or depression from occurring. Lithium can be used alone or in combination with other mood stabilizers. Lithium may be especially helpful for patients who only have mania compared to patients who have a ‘mixed’ mood episode that includes both manic and depressive symptoms.

When treating a manic episode, lithium 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 goal-directed activities.

When treating a depressive episode (usually along with other medication(s)), lithium may improve symptoms such as: prolonged sadness; decreased interest or pleasure; difficulty sleeping or sleeping too much; changes in appetite and weight; loss of energy or extreme tiredness; slowed movements or agitated behaviour; feelings of worthlessness, guilt or hopelessness; impaired concentration or decision-making skills; thoughts or attempts of suicide and self-harm.

When effective, lithium stabilizes 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. Lithium may be particularly helpful for reducing the risk for suicide or self-harm. Whenever possible, adding education about your condition (for example: teaching you how to recognize early warning signs of a manic or depressive episode and the appropriate coping strategies) increases the chance you will benefit from taking this medication.

How should *lithium* be taken?



Lithium comes in capsules, tablets, and liquid that is taken by mouth. This medication comes in two forms: immediate-release (capsules, syrup) and sustained-release (tablets). Each dose of immediate-release lithium releases medication right away, and is usually taken two or three times daily to start with but many people are able to eventually take their total dose once daily.

Each dose of sustained-release lithium (Lithmax[®]) releases medication slowly over a longer period of time. Sustained-release lithium is usually taken once or twice daily. Sustained-release lithium tablets should be swallowed whole with liquids, and should never be crushed, chewed or broken in half. Doing so may result in the medication not being released properly.

When starting treatment with lithium, your doctor may initially prescribe a low dose that is taken two or three times daily. Then, the dose is gradually increased every 3 to 7 days. After several weeks, the dose may be combined into a single dose taken at bedtime. Your doctor will determine how much you should take, according to how much medication is in your blood and your response to this medication. Usually, your doctor will ask you to have blood tests periodically to measure the amount of lithium in your blood. The blood level of lithium required to be effective varies, but for most people, the desired blood level is between 0.6 – 1 millimole/L. Do not take your lithium dose just before having a blood test to check your lithium level, as this can affect your blood level results. Instead, take your dose right after the blood test is completed.

Lithium needs to be taken regularly on a daily basis in order to be effective (even if you feel well). Lithium should be taken at the same time 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 dose(s). Treatment with lithium should usually not be stopped suddenly. This could lead to your symptoms returning, and they may become more frequent or harder to treat.

You should take lithium with food to make it easier on your stomach. It is important to avoid dehydration (especially during periods of hot weather) and drink enough fluids (at least 1.5 litres/day (water, juice, milk, soup, tea and other fluids all count towards this amount) when taking lithium. Maintain a consistent salt intake and report to your doctor if you experience or anticipate heavy sweating (this can cause excessive salt loss from your body, and can affect lithium blood levels).



Tip: When taking lithium, limit the amount of caffeine-containing beverages you consume (e.g., coffee, black/green tea, colas, energy drinks) as these can reduce how well lithium works in your body, and can increase the amount of side effects (especially shakiness) you may experience.

When will *lithium* start working?

Lithium needs to be taken for 1-2 weeks before you notice an improvement in your symptoms. It may take 3 weeks or longer to see the full effect of this medication. You may notice an improvement earlier if lithium is combined with other medications. Unless directed by your doctor, do not increase, decrease, or stop taking lithium if there are no improvements during the first few weeks. A delay in response is normal.

Lithium may not work for everyone. If you are not feeling better 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 *lithium*?



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 lithium 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 or depression 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 mood episode is significantly decreased. Even if you are feeling better, do not stop taking this medication suddenly without first

discussing it with your doctor. If you are being treated for bipolar disorder, and you have been taking lithium on a regular basis, stopping it suddenly may trigger manic episodes that occur more frequently and may be more difficult to treat. If you and your doctor decide to stop using lithium, your doctor will explain how to safely lower the dose gradually (e.g. over 6 to 8 weeks) so that your symptoms are less likely to return.

Is lithium addictive?

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

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

As with most medications, side effects may occur when taking lithium. 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 medicine. 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.

- Acne (*use an oil-free face wash daily. Discuss with your doctor if acne becomes severe*)
- Dizziness (*try getting up slowly from a sitting or lying down position*)
- Drowsiness, weakness, confusion, difficulty concentrating (*do not drive or operate machinery until you know how this medication affects you*)
- Headache (*try using a pain reliever like acetaminophen (Tylenol®)*)
- Increased thirst (*discuss with your doctor; make sure to drink at least 1.5 litres of fluid every day. However, if thirst and fluid intake become excessive, contact your doctor right away*)
- Increased frequency of urination (*discuss this with your doctor; try reducing fluid intake in the evening before bedtime. If urination becomes excessive, contact your doctor right away*)
- Itchy, red and scaly patches on the skin (psoriasis) (*try using a special anti-itch moisturizer (e.g. Aveeno®)*)
- Skin rash, hair loss (*discuss with your doctor*)
- Shaking (tremor) of the hands (*discuss with your doctor. If this becomes bothersome or persistent, avoiding caffeine intake from coffee, tea, colas or energy drinks can help*)
- Stomachache, nausea, diarrhea or vomiting (*try taking the dose with food. Avoid dehydration by increasing your fluid intake if diarrhea or vomiting occurs. Discuss with your doctor if nausea or vomiting is severe or persistent*)
- Weight gain (*try increasing the amount you exercise, limiting foods and beverages high in calories and eating a healthy and well-balanced diet*)

Uncommon side effects (e.g. those that occur in less than 5% of patients)

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



- Excessive thirst or urination
- Muscle weakness or twitching; severe nausea, vomiting or diarrhea; tiredness, drowsiness or dizziness; slurred speech, blurred vision, clumsiness or confusion; headache, shakiness, seizures (convulsions), fainting, irregular heartbeat (*these may occur if your blood lithium level is too high. This may be dangerous. If you experience any of these effects, stop taking this medication and seek emergency medical help immediately.*)
- Swelling in any area of the body (for example: wrists, ankles)
- Swelling of your neck (*this may occur if your thyroid gland is not functioning properly. Your doctor will monitor your thyroid function by periodic blood tests during your treatment.*)
- Tiredness, muscle weakness or cramps, feeling cold, dry skin, coarser hair, constipation, weight gain, puffy face (*these may be signs of low thyroid function (hypothyroidism) or low kidney function. Your doctor will monitor your thyroid and kidney function by periodic blood tests during your treatment.*)

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

Many medications can interact with lithium, including commonly used anti-inflammatory medications such as ibuprofen (Advil[®], Motrin[®]), naproxen (Aleve[®]) and others available by prescription; blood pressure medications such as hydrochlorothiazide, ramipril (Altace[®]) or amlodipine (Norvasc[®]); fibre supplements such as Metamucil[®]; 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 reaction to a medication
- anticipate or experience excessive sweating from prolonged heavy exercise, saunas or hot weather
- have a flu or a fever, loose stools (diarrhea) or vomiting
- follow or start following a low-salt/low-sodium diet; you should try to maintain a consistent intake of salt/sodium
- have a history of heart or kidney disease or diabetes
- have a history of brain injury
- 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 lithium
- Are currently using alcohol or street drugs as these substances can decrease how well lithium works for you or may worsen side effects of lithium

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

- Keep all appointments with your doctor and the laboratory. Your doctor may order certain lab tests (lithium blood levels, thyroid function tests, kidney function tests, electrolyte levels, complete blood cell counts, urine tests, and electrocardiogram (ECG)) to check for side effects and how you are responding to lithium.
- Try to keep a healthy and well-balanced diet and exercise regularly. Some individuals who take lithium may gain weight due to an increase in appetite.
- Do not allow anyone else to use your medication.

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

If you take lithium regularly and you forget to take it, skip the missed dose and continue with your regular schedule (i.e. take your next dose at the regularly scheduled time). Do NOT double your next dose.



What storage conditions are needed for *lithium*?

- Keep this medication in the original container, stored 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 Program and reviewed by the staff of the Keltly Resource Centre.