

MEDfacts

An Educational Health Series From National Jewish Health®



THEOPHYLLINE: QUESTIONS AND ANSWERS

What is theophylline?

Theophylline is a "methylxanthine." This is a chemical that relaxes smooth muscle around the airways of the lungs. It also may act in other ways to help open the airways. There are other methylxanthines such as caffeine and theobromine. They are found in coffee, tea, and chocolate/cocoa, but they are not as strong as theophylline.

Why is theophylline sometimes used for people with lung diseases?

Theophylline is a long-term control medicine. This means it is used daily to maintain control of your lung disease. It is not one of the first medications used for long-term control of lung diseases. There are safer and more effective medicines available. For people with chronic lung disease theophylline may be added to other medicines to improve symptoms and lung function. Theophylline relaxes the muscles around the airways in the lungs so air can flow more easily into the lungs. Theophylline may also help the improve contraction of the diaphragm, which may help a persons breathing.

Are some theophylline preparations better than others?

A preparation containing only theophylline is considered best. Some older forms of theophylline were combined with ephedrine or sedative medicines. Ephedrine may cause a rapid heartbeat, and sedatives may depress the brain's respiratory control center. There are a number of products available, but you should only take the one that is prescribed by your doctor. Common theophyllines include Slo-Bid®, Uniphyll® and T-Phyl®.

How does the doctor decide the starting dose?

The starting dose is determined by your age and body weight. Sometimes the doctor will start at ¼ or ½ the dose and increase to

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a full dose over 2-3 weeks. This is designed to allow you to become used to the medicine, and it helps reduce the number of side effects.

What conditions influence the theophylline dose I need?

The dose of theophylline varies from person to person and sometimes, over time, in the same person. Your doctor will adjust your dose based on your age and diet, as well as other medicines you take and other medical conditions. You should notify your doctor if you receive medicine from another doctor

How far apart should the doses be?

Always check with your doctor on to see when you should take your theophylline. A suggested guideline is to space it out evenly over a 24-hour period. For example: twice daily--every 12 hours, 3 times a day--every 8 hours. Sometimes the doctor will give a higher dose at one time (like bedtime) and a lower dose(s) the rest of the day. This is to give better coverage at the times a person may have the most trouble with symptoms. It is very important to take this medicine in the way that is prescribed by your doctor.

What about once-a-day preparations?

Once daily theophylline products are useful in reducing the number of times you take your medicine. They are often useful when given in the evening to people who have increased symptoms at night.

What are possible theophylline side effects?

The side effects include:

headache	restlessness	nausea
irritability	insomnia	stomach ache
nervousness	tremors	diarrhea
fast, pounding, or irregular heart beat	light-headedness	loss of appetite
	seizures	

If I have side effects early on, when can I expect side effects to disappear?

Many people do not have side effects. If you have side effects early on, they often disappear after the first week of treatment. If side effects persist, or if they make you uncomfortable, notify your doctor. Other medicines and illnesses also cause these symptoms. If you experience side effects at the start of therapy, the first four days can be the worst, with side effects improving after that.

Once I'm on theophylline, how does the doctor regulate it?

The doctor will look at improved symptoms, any signs of side effects, and a blood test to measure theophylline when regulating your theophylline dose. If your breathing is more difficult, or side effects increase, notify your doctor.

What is a theophylline level?

A theophylline level is a measure of theophylline in the bloodstream. This is used to

regulate the dose. A blood level between 5-15 µg/ml often gives good relief of symptoms with the fewest side effects. Some people may do better with a level less than 5 µg/ml. If the level is greater than 15, there is an increased risk of side effects.

How often should a theophylline level be taken?

In general, a level should be checked 1-2 times a year after a person is regulated. Of course, a person with variable levels should have his levels checked more often. If trouble breathing increases or side effects appear, then a level should be checked.

Medication, herbal supplements, over the counter asthma medication and a change in smoking status can all affect the theophylline level. Make sure to talk with your doctor about any of these changes.

How long after my theophylline dose should my blood be drawn?

If the sustained release theophylline is given twice a day, then a good time to measure a level is 4 hours after the morning dose. If the sustained release theophylline is given only once a day, then the blood should be drawn 8-12 hours after the dose. For example, first thing in the morning after the evening dose. These are the times when the theophylline level is highest in the blood. Your doctor may want to know your lowest blood level of the day. This is often drawn before the dose is due. Since every person is unique, the above times are general guidelines. Your doctor may have a special reason to suspect that your theophylline requirement is different and may want your blood levels checked at other times.

Should I take my theophylline with food or not?

How much and how quickly or slowly theophylline gets to the blood stream may be dependent on food. Some brands are more affected by food and should be taken on an empty stomach. Some brands can be taken with food to lessen stomach irritation. Please check with your doctor or pharmacist about your particular brand and if you should take it with or without food. It is important for you to be consistent in taking your theophylline as recommended.

My child takes theophylline and "beads" come out in the stool. Is he getting his medicine?

Check with your doctor or pharmacist. Often this is a "filler" and not the medicine being passed in the stool.

Will theophylline affect my child's school performance?

In certain children theophylline may increase "motor activity." Even in these children academic performance scores do not seem to be affected. If you notice a significant change in your child's behavior, discuss this with your doctor.

Talk with your health care provider if you have further questions about theophylline.

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