

## What is pyridostigmine?

Pyridostigmine is an anticholinesterase agent used for the symptomatic treatment of myasthenia gravis (MG). In the United States, pyridostigmine is produced in a 60 milligram tablet, a 60 milligram/5 milliliter raspberry-flavored syrup, and a 180 milligram sustained release (long-acting) tan-colored tablet under the trade name Mestinon®. Regular-release pyridostigmine 60 milligram tablets are available in generic formulation also. Pyridostigmine injection 5 milligrams/ milliliter is available under the trade name Regonol Solution for Injection®.

## How is pyridostigmine used in the treatment of myasthenia gravis?

Pyridostigmine prevents the breakdown of acetylcholine in the neuromuscular junction. Acetylcholine travels across the space to the muscle-fiber side of the neuromuscular junction, where it attaches to many receptor sites. The muscle contracts when enough of the receptor sites have been activated by the acetylcholine. Pyridostigmine allows more acetylcholine to remain at the neuromuscular junction longer than usual so that more receptor sites can be activated. More acetylcholine in the neuromuscular junction results in stronger muscle contractions and less MG weakness. Pyridostigmine does not cure myasthenia gravis but does help to improve the symptoms.

[www.myasthenia.org](http://www.myasthenia.org)  
800.541.5454

**The MGFA mission is to facilitate the timely diagnosis and optimal care of individuals affected by myasthenia gravis and closely related disorders and to improve their lives through programs of patient services, public information, medical research, professional education, advocacy and patient care.**

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355 Lexington Avenue, 15th Floor  
New York, NY 10017-6603

(800) 541-5454

(212) 297-2156 • (212) 370-9047 fax

[mgfa@myasthenia.org](mailto:mgfa@myasthenia.org) • [www.myasthenia.org](http://www.myasthenia.org)

# Pyridostigmine (Mestinon®)

**Common questions patients with myasthenia gravis ask about Mestinon® or pyridostigmine.**

[www.myasthenia.org](http://www.myasthenia.org)

### What are some important things to consider when taking pyridostigmine?

It is important to take pyridostigmine on time and exactly as it has been prescribed. If one dose is missed within an hour of the prescribed dose, the patient should take the missed dose and continue with the other doses as scheduled. If the dose is missed by more than one hour, the patient should take the dose immediately and then wait the required 3 to 4 hours before taking the next dose. Subsequent doses should be taken with the prescribed intervals as well. For example, if a dose of pyridostigmine missed at noon is taken at 2 p.m., the next dose would be taken at 5 or 6 p.m. or as directed by the physician. Never take a double dose to make up for a missed one.

### What safety measures should I follow when taking pyridostigmine?

- Watch for possible adverse reactions and report them to your MG physician.
- Carefully follow the prescribed dose regimen. To help your physician individualize the amount of medication you need, record the response after each dose for the initial period of taking pyridostigmine or in times of instability of the MG weakness.
- Recognize that choosing an optimal dose of pyridostigmine for you can be difficult because the symptoms of overdose and underdose can be somewhat similar.

- Seek immediate medical attention should breathing and swallowing become difficult.
- Refill prescriptions early, in case there is difficulty in obtaining a supply of pyridostigmine.
- Store pyridostigmine in a dry place, never in a moist climate like the bathroom or refrigerator.
- Carry medications on your person when traveling, not in your luggage.

### What are some possible adverse reactions of pyridostigmine?

- Gastrointestinal upset, nausea, vomiting
- Abdominal cramps and diarrhea
- Increased salivation; drooling, and tearing
- Increased bronchial secretions
- Increased sweating
- Muscle cramps
- Muscle fasciculations (twitching)
- Muscle weakness
- Headache

All adverse reactions should be reported to your MG-treating physician. Many of the adverse effects can be relieved by a change in the dose of pyridostigmine. If changing the dose does not solve the problem, the physician may add another medication to help control the adverse reactions.

### Are all pyridostigmine or Mestinon® preparations equal?

No!

- Regular pyridostigmine or Mestinon® comes in two forms: Mestinon® 60 mg. tablets and Mestinon Syrup® 60 mg./5 ml. The greatest effect usually occurs in 60 to 90 minutes and lasts for 3 to 4 hours.
- Mestinon Timespan® is an extended release form of pyridostigmine bromide that slowly releases its active ingredients over an approximately 12-hour period. When prescribed, Mestinon Timespan® is

usually given as a bedtime dose so that the patient does not need to wake up every 3 or 4 hours to take a dose of regular Mestinon®.

- Mestinon Timespan® should never be substituted for regular Mestinon® or generic pyridostigmine.
- Mestinon Timespan® should never be crushed.
- The possible adverse effects of Mestinon Timespan® are the same as those for regular Mestinon® or generic pyridostigmine, but are possibly more likely to occur.
- The absorption and effect of Mestinon Timespan® are sometimes erratic. Some physicians and patients prefer to schedule nighttime doses of regular Mestinon® or generic pyridostigmine.
- Regonol Solution for Injection® 5 mg./ml. is sometimes required when patients cannot take anything by mouth. The physician will prescribe 1/30th of the usual oral dose by IM injection or very slow IV administration.
- No single fixed dose schedule will suit all patients with MG, whose medication requirements vary from time to time, day to day, and in response to stress or infection.
- Different muscles respond differently to a given dose of Mestinon® or generic pyridostigmine. The physician will select a dose that produces the best response in the most vitally affected muscles.