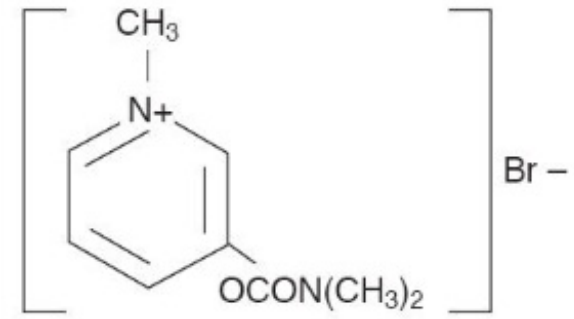
MESTINON- pyridostigmine bromide solution
MESTINON- pyridostigmine bromide tablet
MESTINON- pyridostigmine bromide tablet, extended release
Bausch Health US, LLC

MESTINON®
(pyridostigmine bromide)
Oral Solution, USP ORAL SOLUTION TABLETS
and TIMESPAN TABLETS

DESCRIPTION:

MESTINON (pyridostigmine bromide) Oral Solution, USP is an orally active cholinesterase inhibitor. Chemically, pyridostigmine bromide is 3-hydroxy-1-methylpyridinium bromide dimethylcarbamate. Its structural formula is:



MESTINON is available in the following forms: *Oral Solution* containing 60 mg pyridostigmine bromide per teaspoonful in a vehicle containing 5% alcohol, glycerin, lactic acid, sodium benzoate, sorbitol, sucrose, FD & C Red No. 40, FD & C Blue No. 1, flavors and water. *Tablets* containing 60 mg pyridostigmine bromide; each tablet also contains lactose, silicon dioxide and stearic acid. *TIMESPAN tablets* containing 180 mg pyridostigmine bromide; each tablet also contains carnauba wax, corn-derived proteins, magnesium stearate, silica gel and tribasic calcium phosphate.

ACTIONS:

MESTINON inhibits the destruction of acetylcholine by cholinesterase and thereby permits freer transmission of nerve impulses across the neuromuscular junction. Pyridostigmine is an analog of neostigmine (PROSTIGMIN™), but differs from it in certain clinically significant respects; for example, pyridostigmine is characterized by a longer duration of action and fewer gastrointestinal side effects.

INDICATION:

MESTINON is useful in the treatment of myasthenia gravis.

CONTRAINDICATIONS:

MESTINON is contraindicated in mechanical intestinal or urinary obstruction, and particular caution should be used in its administration to patients with bronchial asthma. Care should be observed in the

use of atropine for counteracting side effects, as discussed below.

WARNINGS:

Although failure of patients to show clinical improvement may reflect underdosage, it can also be indicative of overdosage. As is true of all cholinergic drugs, overdosage of MESTINON may result in cholinergic crisis, a state characterized by increasing muscle weakness which, through involvement of the muscles of respiration, may lead to death. Myasthenic crisis due to an increase in the severity of the disease is also accompanied by extreme muscle weakness, and thus may be difficult to distinguish from cholinergic crisis on a symptomatic basis. Such differentiation is extremely important, since increases in doses of MESTINON or other drugs of this class in the presence of cholinergic crisis or of a refractory or "insensitive" state could have grave consequences. Osserman and Genkins[1] indicate that the differential diagnosis of the two types of crisis may require the use of TENSILON™ (edrophonium chloride) as well as clinical judgment. The treatment of the two conditions obviously differs radically. Whereas the presence of myasthenic crisis suggests the need for more intensive anticholinesterase therapy, the diagnosis of cholinergic crisis, according to Osserman and Genkins[1], calls for the prompt *withdrawal* of all drugs of this type. The immediate use of atropine in cholinergic crisis is also recommended.

Atropine may also be used to abolish or obtund gastrointestinal side effects or other muscarinic reactions; but such use, by masking signs of overdosage, can lead to inadvertent induction of cholinergic crisis.

For detailed information on the management of patients with myasthenia gravis, the physician is referred to one of the excellent reviews such as those by Osserman and Genkins,[2] Grob[3] or Schwab.[4,5]

Usage in Pregnancy:

The safety of MESTINON during pregnancy or lactation in humans has not been established. Therefore, use of MESTINON in women who may become pregnant requires weighing the drug's potential benefits against its possible hazards to mother and child.

PRECAUTION:

Pyridostigmine is mainly excreted unchanged by the kidney.[6,7,8] Therefore, lower doses may be required in patients with renal disease, and treatment should be based on titration of drug dosage to effect.[6,7]

Pediatric Use:

Safety and effectiveness in pediatric patients have not been established.

ADVERSE REACTIONS:

The side effects of MESTINON are most commonly related to overdosage and generally are of two varieties, muscarinic and nicotinic. Among those in the former group are nausea, vomiting, diarrhea, abdominal cramps, increased peristalsis, increased salivation, increased bronchial secretions, miosis and diaphoresis. Nicotinic side effects are comprised chiefly of muscle cramps, fasciculation and weakness. Muscarinic side effects can usually be counteracted by atropine, but for reasons shown in the preceding section the expedient is not without danger. As with any compound containing the bromide radical, a skin rash may be seen in an occasional patient. Such reactions usually subside promptly upon discontinuance of the medication.

To report SUSPECTED ADVERSE REACTIONS, contact Bausch Health US, LLC, at 1-800-321-4576 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DOSAGE AND ADMINISTRATION:

MESTINON is available in three dosage forms:

Oral Solution -

raspberry-flavored, containing 60 mg pyridostigmine bromide per teaspoonful (5 mL). This form permits accurate dosage adjustment for children and “brittle” myasthenic patients who require fractions of 60 mg doses. It is more easily swallowed, especially in the morning, by patients with bulbar involvement.

Conventional Tablets -

each containing 60 mg pyridostigmine bromide.

TIMESPAN tablets -

each containing 180 mg pyridostigmine bromide. This form provides uniformly slow release, hence prolonged duration of drug action; it facilitates control of myasthenic symptoms with fewer individual doses daily. The immediate effect of a 180 mg TIMESPAN tablet is about equal to that of a 60 mg Conventional Tablet; however, its duration of effectiveness, although varying in individual patients, averages 2½ times that of a 60 mg dose.

Dosage:

The size and frequency of the dosage must be adjusted to the needs of the individual patient.

Oral Solution and Conventional Tablets -

The average dose is ten 60 mg tablets or ten 5 mL teaspoonfuls daily, spaced to provide maximum relief when maximum strength is needed. In severe cases as many as 25 tablets or teaspoonfuls a day may be required, while in mild cases one to six tablets or teaspoonfuls a day may suffice.

TIMESPAN tablets -

One to three 180 mg tablets, once or twice daily, will usually be sufficient to control symptoms; however, the needs of certain individuals may vary markedly from this average. The interval between doses should be at least 6 hours. For optimum control, it may be necessary to use the more rapidly acting regular tablets or oral solution in conjunction with TIMESPAN therapy.

NOTE: For information on a diagnostic test for myasthenia gravis, and for the evaluation and stabilization of therapy, please see product literature on TENSILON (edrophonium chloride).

HOW SUPPLIED:

Oral Solution, 60 mg pyridostigmine bromide per teaspoonful (5 mL) and 5% alcohol - bottles of 16 fluid ounces (1 pint) (NDC 0187-3012-20).

Tablets, 60 mg pyridostigmine bromide each - bottles of 100 (NDC 0187-3010-30).

TIMESPAN tablets, 180 mg pyridostigmine bromide each - bottles of 30 (NDC 0187-3013-30).
Note: Because of the hygroscopic nature of the TIMESPAN tablets, mottling may occur. This does not affect their efficacy.

Store MESTINON (pyridostigmine bromide) Oral Solution, USP, Tablets, and TIMESPAN tablets at 25°C (77°F); excursions permitted to 15°-30°C (59°-86°F).

REFERENCES:

1. Osserman KE, Genkins G. Studies in myasthenia gravis: Reduction in mortality rate after crisis. *JAMA*. Jan 1963; 183:97-101.
2. Osserman KE, Genkins G. Studies in myasthenia gravis. *NY State J Med*. June 1961; 61:2076-2085.
3. Grob D. Myasthenia gravis. A review of pathogenesis and treatment. *Arch Intern Med*. Oct 1961; 108:615-638.
4. Schwab RS. Management of myasthenia gravis. *New Eng J Med*. Mar 1963; 268:596-597.
5. Schwab RS. Management of myasthenia gravis. *New Eng J Med*. Mar 1963; 268:717-719.
6. Cronnelly R, Stanski DR, Miller RD, Sheiner LB. Pyridostigmine kinetics with and without renal function. *Clin Pharmacol Ther*. 1980; 28:No. 1, 78-81.
7. Miller RD. Pharmacodynamics and pharmacokinetics of anticholinesterase. In: Ruegheimer E, Zindler M, ed. *Anaesthesiology*. (Hamburg, Germany: Congress; Sep 14-21, 1980; 222-223.) (Int Congr. No. 538), Amsterdam, Netherlands: Excerpta Medica; 1981.
8. Breyer-Pfaff U, Maier U, Brinkmann AM, Schumm F. Pyridostigmine kinetics in healthy subjects and patients with myasthenia gravis. *Clin Pharmacol Ther*. 1985;5:495-501.

Manufactured for: Bausch Health US, LLC
Bridgewater, NJ 08807 USA

Manufactured by: Bausch Health Companies Inc.
Laval, Quebec H7L 4A8, Canada

9600200 50102987E Rev. 10/2019

PRINCIPAL DISPLAY PANEL - 473 mL Bottle Label

NDC 0187-3012-20
Rx Only

Mestinon®
(pyridostigmine
bromide).
Oral Solution,
USP

1 Pint (473 mL)
5 mL =
60 mg

*5 mL (1 teaspoonful) contains **60 mg***
pyridostigmine bromide.

Alcohol 5%

BAUSCH Health

PRINCIPAL DISPLAY PANEL - 60 mg Tablets Bottle Label

NDC 0187-3010-30
Rx Only
Pull here

Mestinon®
(pyridostigmine bromide
tablets, USP)

60 mg

Each tablet
contains 60 mg
pyridostigmine
bromide

100
Tablets
Valeant

VALEANT
Pharmaceuticals North America LLC

PRINCIPAL DISPLAY PANEL - 180 mg Bottle Label

NDC 0187-3013-30
Rx Only

Pull here

Mestinon®
(pyridostigmine bromide)
TIMESPAN®

180 mg

Each tablet
contains180 mg
pyridostigmine
bromide
in a specially
constructed tablet for
sustained release

30
Tablets

VALEANT

MESTINON
pyridostigmine bromide solution

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0187-3012
Route of Administration	ORAL		

Active Ingredient/Active Moiety		
Ingredient Name	**Basis of Strength**	**Strength**
pyridostigmine bromide (UNII: KVI301NA53) (pyridostigmine - UNII:19QM69HH21)	pyridostigmine bromide	60 mg in 5 mL

Inactive Ingredients	
Ingredient Name	**Strength**
alcohol (UNII: 3K9958V90M)	
glycerin (UNII: PDC6A3C0OX)	
LACTIC ACID, UNSPECIFIED FORM (UNII: 33X04XA5AT)	
sodium benzoate (UNII: OJ245FE5EU)	
sorbitol (UNII: 506T60A25R)	
sucrose (UNII: C151H8M554)	
FD&C Red No. 40 (UNII: WZB9127XOA)	
FD&C Blue No. 1 (UNII: H3R47K3TBD)	
water (UNII: 059QF0KO0R)	

Product Characteristics			
Color		**Score**	
Shape		**Size**	
Flavor	RASPBERRY	**Imprint Code**	
Contains			

Packaging				
#	**Item Code**	**Package Description**	**Marketing Start Date**	**Marketing End Date**
1	NDC:0187-3012-20	473 mL in 1 BOTTLE; Type 0: Not a Combination Product	01/25/1965	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA015193	01/25/1965	

MESTINON

pyridostigmine bromide tablet

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0187-3010
Route of Administration	ORAL		

Active Ingredient/Active Moiety		
Ingredient Name	**Basis of Strength**	**Strength**

pyridostigmine bromide (UNII: KVI301NA53) (pyridostigmine - UNII:19QM69HH21)	pyridostigmine bromide	60 mg

Inactive Ingredients	
Ingredient Name	**Strength**
LACTOSE, UNSPECIFIED FORM (UNII: J2B2A4N98G)	
silicon dioxide (UNII: ETJ7Z6XBU4)	
stearic acid (UNII: 4ELV7Z65AP)	

Product Characteristics			
Color	WHITE	**Score**	4 pieces
Shape	ROUND	**Size**	10mm
Flavor		**Imprint Code**	Mestinon;V;60
Contains			

Packaging				
#	**Item Code**	**Package Description**	**Marketing Start Date**	**Marketing End Date**
1	NDC:0187-3010-30	100 in 1 BOTTLE; Type 0: Not a Combination Product	04/06/1995	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA009829	04/06/1955	

MESTINON

pyridostigmine bromide tablet, extended release

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0187-3013
Route of Administration	ORAL		

Active Ingredient/Active Moiety		
Ingredient Name	**Basis of Strength**	**Strength**
pyridostigmine bromide (UNII: KVI301NA53) (pyridostigmine - UNII:19QM69HH21)	pyridostigmine bromide	180 mg

Inactive Ingredients	
Ingredient Name	**Strength**
carnauba wax (UNII: R12CBM0EIZ)	
magnesium stearate (UNII: 70097M6I30)	
silicon dioxide (UNII: ETJ7Z6XBU4)	
tribasic calcium phosphate (UNII: 91D9GV0Z28)	

Product Characteristics			
Color	YELLOW (light straw)	**Score**	no score
Shape	OVAL (capsule-shaped)	**Size**	19mm
Flavor		**Imprint Code**	MES;V;180
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0187-3013-30	30 in 1 BOTTLE; Type 0: Not a Combination Product	01/12/1959	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA011665	01/12/1959	

Labeler - Bausch Health US, LLC (831922488)

Establishment

Name	Address	ID/FEI	Business Operations
Bausch Health Companies Inc.		245141858	MANUFACTURE(0187-3012, 0187-3010, 0187-3013) , LABEL(0187-3012, 0187-3010, 0187-3013) , PACK(0187-3012, 0187-3010, 0187-3013)

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