SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

Ipratropium 250 mcg/ml Steri-Neb
Ipratropium 500 mcg/2ml Steri-Neb
Steri-Neb Ipratropium 250 mcg/ml
Ipratropium Unit Dose Nebuliser Solution 250 micrograms /1ml (Ipratropium Steri-Neb)
Ipratropium Unit Dose Nebuliser Solution 500 micrograms /2ml (Ipratropium Steri-Neb)
Ipratropium Steri-Neb 250 micrograms/ml Nebuliser Solution

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Ipratropium Bromide Ph. Eur. 0.025% w/v

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Sterile solution for nebulisation

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

For the treatment of reversible airways obstruction.

4.2 Posology and method of administration

Administration is by means of a power-operated nebuliser.
Adults (including the elderly): 0.4-2.0 ml solution (100-500 micrograms) up to four times daily.

Children: 0.4-2.0 ml solution (100-500 micrograms) up to three times daily.
If dilution is required sterile sodium chloride 0.9% should be used e.g. Saline Steri-Neb.

Private purchase of nebuliser devices for use at home to deliver rescue therapy for the acute treatment of asthma in children and adolescents is not recommended.

Only specialists in respiratory medicine should initiate and clinically manage use of nebulisers and associated nebulised medicines at home for acute treatment of asthma in children and adolescents.

Children should be trained in the correct use of their device to deliver rescue therapy and use should be supervised by a responsible adult.

Urgent medical assistance should be sought if worsening asthma symptoms are not relieved by rescue medicines, even if there is short-term recovery following use of prescribed nebulised medication.

4.3 Contraindications

Hypersensitivity to the active substance, atropine or to any of the excipients listed in section 6.1.

4.4 Special warnings and precautions for use

Use of the nebuliser solution should be subject to close medical supervision during initial dosing. There have been rare reports of paradoxical bronchospasm associated with the administration of nebulised solutions of Ipratropium Bromide. The patient should be advised to seek medical advice should a reduced response become apparent.
Patients must be instructed in the correct administration of the nebuliser solution and be warned not to allow the solution or mist to enter the eyes. Caution is advised in patients with glaucoma. There have been isolated reports of ocular complications (i.e. mydriasis, increased intraocular pressure, narrow-angle glaucoma, eye pain) when aerosolised ipratropium bromide, either alone or in combination with an adrenergic beta2-agonist, has come into contact with the eyes.
Eye pain or discomfort, blurred vision, visual halos or coloured images in association with red eyes from conjunctival congestion and corneal oedema may be signs of acute narrow angle glaucoma. Should any of these symptoms develop, treatment with miotic drops should be initiated and specialist advice sought immediately.
Anticholinergic agents can precipitate acute urinary retention in patients with prostatic hypertrophy should sufficient plasma concentrations be achieved. However, urinary retention has rarely been reported. Nevertheless, caution is advised in patients with prostatic hypertrophy.
Patients with cystic fibrosis may be prone to gastro-intestinal motility disturbances, ipratropium, as with other anticholinergics, should be used with caution in these patients.

4.5 Interactions with other medicinal products and other forms of interaction

There is evidence that the administration of ipratropium with beta-adrenergic drugs and xanthine preparations may produce an additive bronchodilatory effect.

The chronic co-administration of ipratropium with other anticholinergic drugs is not recommended

The risk of acute glaucoma in patients with a history of narrow-angle glaucoma (see section Special warnings and precautions for use) may be increased when nebulised ipratropium bromide and beta2-agonists are administered simultaneously.

4.6 Fertility, pregnancy and lactation

Animal teratology and reproduction studies have demonstrated no adverse effects. The safety of Ipratropium Bromide in human pregnancy has not been established. As with all medicines, Ipratropium Bromide 250 mcg/ml Steri-Neb should not be used in pregnancy, especially in the first trimester, unless the expected benefit is thought to outweigh any possible risk to the foetus.

Lactation
It is not known to what extent Ipratropium Bromide passes into breast milk. The product should not be administered to nursing mothers unless considered essential by the physician.

Fertility
Clinical data on fertility are not available for ipratropium bromide. Nonclinical studies performed with ipratropium bromide showed no adverse effect on fertility (see section 5.3).

4.7 Effects on ability to drive and use machines

Not applicable.

4.8 Undesirable effects

Anticholinergic side effects are unlikely at therapeutic doses but some patients may complain of a dry mouth. Urinary retention and constipation have rarely been reported.
No adverse effect on bronchial secretion has been shown within the therapeutic range.

Many of the listed undesirable effects can be assigned to the anticholinergic properties of Ipratropium Bromide.

Summary of the safety profile
The most frequent side effects reported in clinical trials were headache, throat irritation, cough, dry mouth, gastro-intestinal motility disorders (including constipation, diarrhoea and vomiting), nausea, and dizziness.

Tabulated summary of adverse reactions
The following adverse reactions have been reported during use of Ipratropium Bromide in clinical trials and during the post-marketing experience.

Frequencies
Very common ≥ 1/10
Common ≥ 1/100 < 1/10
Uncommon ≥ 1/1,000 < 1/100
Rare ≥ 1/10,000 < 1/1,000
Very rare < 1/10,000

MedDRA System Organ Class Adverse reaction	**Frequency**
Immune system disorders	
Hypersensitivity	Uncommon
Anaphylactic reaction	Uncommon
Angioedema of tongue, lips & face	Uncommon
Nervous system disorders	

Headache	Common
Dizziness	Common
Eye disorders	
Blurred vision	Uncommon
Mydriasis (1)	Uncommon
Intraocular pressure increased (1)	Uncommon
Glaucoma (1)	Uncommon
Eye pain (1)	Uncommon
Halo vision	Uncommon
Conjunctival hyperaemia	Uncommon
Corneal oedema	Uncommon
Accommodation disorder	Rare

Cardiac disorders	
Palpitations	Uncommon
Supraventricular tachycardia	Uncommon
Atrial fibrillation	Rare
Heart rate increased	Rare
Respiratory, thoracic and mediastinal disorders	
Throat irritation	Common
Cough	Common
Bronchospasm	Uncommon
Paradoxical bronchospasm(3)	Uncommon
Laryngospasm	Uncommon
Pharyngeal oedema	Uncommon
Dry throat	Uncommon
Gastrointestinal disorders	
Dry mouth	Common
Nausea	Common
Gastro-intestinal motility disorder	Common
e.g. Diarrhoea	Uncommon
Constipation	Uncommon
Vomiting	Uncommon
Stomatitis	Uncommon
Skin and subcutaneous tissue disorders	
Rash	Uncommon
Pruritus	Uncommon
Urticaria	Rare
Renal and urinary disorders	
Urinary retention(2)	Uncommon

(1) ocular complications have been reported when aerolised ipratropium bromide, either alone or in combination with an adrenergic beta$_2$-agonist, has come into contact with the eyes – see section 4.4.

(2) the risk of urinary retention may be increased in patients with pre-existing urinary outflow tract obstruction.

[3] as with other inhalation therapy, inhalation induced bronchoconstriction may occur with an immediate increase in wheezing after dosing. This should be treated straight away with a fast acting inhaled bronchodilator. Ipratropium Bromide 250 mcg/ml Steri-Neb should be discontinued immediately, the patient assessed and, if necessary, alterative treatment instituted.

Reporting of suspected adverse reactions
Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme at: www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App Store.

4.9 Overdose

Inhaler doses of 5 mg produced an increase in heart rate with palpitations but single doses of 2 mg in adults and 1 mg in children did not cause side effects. Single oral doses of Ipratropium Bromide 30 mg caused anticholinergic side effects but these were not severe and did not require treatment.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Ipratropium Bromide is a competitive muscarinic acetyl choline receptor antagonist selective for bronchial receptors.

5.2 Pharmacokinetic properties

The plasma half life following *in-vivo* administration is 3.6 hours. After *in- vivo* dosing approximately 70% is excreted in the urine.

Ipratropium has a wide therapeutic range and only a small amount of drug is absorbed following inhalation of high therapeutic doses (0.5 mg). Hence, the altered pharmacokinetics which may be present in patients with renal or hepatic impairment, or in elderly patients, is not likely to be clinically significant. Therefore, no special dosage recommendations are required in these populations.

5.3 Preclinical safety data

There were no adverse findings in toxicology or carcinogenicity studies in animals dosed by the inhaled, oral or *intravenous* routes. The compound does not exhibit any mutagenic potential. There was no evidence of teratogenic or fertility effects in studies in mice, rabbits and rats.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Sodium Chloride
IM Hydrochloric acid q.s. to pH 3.4
Water for Injections

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

Unopened container: 24 months.
Diluted solution: not applicable.
Opened container: not applicable.

6.4 Special precautions for storage

Store at a temperature not exceeding 25°C. Protect from light.

6.5 Nature and contents of container

Unit dose, blow moulded, hermetically sealed ampoule made form low density polyethylene. Strips of 5 Steri-Nebs are packed into foil laminate pouches, which in turn are packed into boxes containing 20 and 100 (Steri-Nebs).
Contents: 1 ml or 2 ml solution.

6.6 Special precautions for disposal

(i) Prepared the nebuliser for use.
(ii) Remove a Steri-Neb from the strip by twisting and puffing.
(iii) Hold the Steri-Neb upright and twist off the cap, transfer the contents to the reservoir of the nebuliser.
(iv) Use the nebuliser according to the manufacturer's instructions.
(v) After use throw away any remaining solution and clean the nebuliser.
Do not allow the solution for nebulisation, or the mist, to enter the eyes.

7. MARKETING AUTHORISATION HOLDER

Norton Healthcare Limited T/A IVAX Pharmaceuticals UK
Ridings Point
Whistler Drive

Castleford
West Yorkshire
WF10 5HX
United Kingdom

8. MARKETING AUTHORISATION NUMBER

PL 00530/0694

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

1st January 2004

10. DATE OF REVISION OF TEXT

11/01/2023