

# IPRATROPIUM + SALBUTAMOL



**IPRAVENT**  
200 mcg / 1 mg per mL  
Solution for Inhalation  
**Anticholinergic/Selective  
Beta-2-Adrenoceptor Agonist**

## FORMULATION:

Each mL contains:  
Ipratropium Bromide B.P .....200 mcg  
Salbutamol (as sulfate) B.P .....1 mg

## PRODUCT DESCRIPTION:

IPRAVENT is a clear, colorless solution free from extraneous particles.

## INDICATIONS:

Ipratropium Bromide + Salbutamol (Ipravent) is indicated for the treatment of reversible bronchospasm associated with obstructive airway diseases in patients who require more than a single bronchodilator.

## DOSAGE AND ADMINISTRATION:

Ipratropium Bromide + Salbutamol (Ipravent) inhalation solution in respiratory nebulisers may be administered from a suitable nebuliser or an intermittent positive pressure ventilator.

Adults (including elderly): One nebuliser as required for the relief of symptoms or as directed. Up to three to four nebulisers daily.

Patients should be advised to consult a doctor or the nearest hospital immediately in the case of acute or rapidly worsening dyspnoea if additional inhalations do not produce an adequate improvement.

## OVERDOSAGE:

The effects of overdosage are expected to be primarily related to salbutamol because acute overdosage with Ipratropium Bromide is unlikely as it is not well absorbed systemically after inhalation or oral administration.

### Symptoms

Manifestations of overdosage with salbutamol may include tachycardia, anginal pain, hypertension, hypotension, palpitations, tremor, widening of the pulse pressure, arrhythmia and flushing.

### Treatment

Administration of sedatives, tranquillisers and in severe cases, intensive therapy. Beta-receptor blockers, preferably beta<sub>1</sub>-selective, are suitable as specific antidotes; however, a possible increase in bronchial obstruction must be taken into account and the dose should be adjusted carefully in patients suffering from bronchial asthma.

## CONTRAINDICATIONS:

Ipratropium Bromide + Salbutamol (Ipravent) is contraindicated in patients with hypertrophic obstructive cardiomyopathy and tachyarrhythmia and in patients with a history of hypersensitivity to atropine or its derivatives, or to any other component of the product.

## WARNINGS AND PRECAUTIONS:

In the case of acute, rapidly worsening dyspnoea a doctor should be consulted immediately. Immediate hypersensitivity reactions may occur after administration of Ipratropium Bromide + Salbutamol (Ipravent) as demonstrated by rare cases of urticaria, angioedema, rash, bronchospasm and oropharyngeal oedema.

### Ocular complications:

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 combination of these symptoms develop, treatment with miotic drops should be initiated and specialist advice sought immediately. Patients should be instructed in the correct administration of Ipratropium Bromide + Salbutamol (Ipravent) and care must be taken to prevent Ipratropium Bromide + Salbutamol (Ipravent) from entering the eye. Patients who may be predisposed to glaucoma should be warned specifically to protect their eyes.

In the following situations Ipratropium Bromide + Salbutamol (Ipravent) should only be used after careful risk/benefit assessment, especially when doses higher than recommended are used: Insufficiently controlled diabetes mellitus, recent myocardial infarction, severe organic heart or vascular disorders, hyperthyroidism, phaeochromocytoma, risk of narrow-angle glaucoma, prostatic hypertrophy or bladder-neck obstruction.

Potentially serious hypokalaemia may result from prolonged and / or high dose beta<sub>2</sub>-agonist therapy. Additionally, hypoxia may aggravate the effects of hypokalaemia on cardiac rhythm. It is recommended that serum potassium levels be monitored in such situations.

Patients with cystic fibrosis may be more prone to gastrointestinal motility disturbances. If higher than recommended doses of Ipratropium Bromide + Salbutamol (Ipravent) are required to control symptoms, the patient's therapy plan should be reviewed by a doctor.

### Use in Pregnancy:

**Salbutamol Sulfate:** Studies in animals have been shown reproductive toxicity. Safety in pregnant women has not been established no control clinical trial with salbutamol have been conducted in pregnant women. Rare reports of various congenital anomalies following intrauterine exposure to salbutamol (including cleft palate, limb defects and cardiac disorders) have been received. Ipratropium bromide + Salbutamol solution for inhalation (Ipravent) should not be used during pregnancy unless clearly necessary.

**Ipratropium Bromide:** The safety of Ipratropium Bromide during human pregnancy has not been established. The benefits of using Ipratropium Bromide during a confirmed or suspected pregnancy must be weighed against the possible hazards to be unborn child. Practical studies have shown no embryotoxic or teratogenic effects following inhalation or intranasal application at doses considerably higher than those recommended in man.

### Use During lactation/Breast Feeding:

**Salbutamol:** As salbutamol sulfate is probably secreted in breast milk, its use in nursing mothers require careful consideration. It is not known whether salbutamol has a harmful effect on the neonate and so its use should be restricted to situations where it is felt that the expected benefit to the mother is likely to outweigh and potential risk to the neonate.

**Ipratropium Bromide:** It is not known whether ipratropium bromide is excreted into breast milk. It is unlikely that ipratropium bromide would reach the infant to an important extent, however caution should be exercised when ipratropium bromide is administered to nursing women.

**ADVERSE EFFECTS:**

In common with other beta-agonists containing products, side effects of Ipratropium Bromide + Salbutamol (Ipravent) can include fine tremor of skeletal muscles and nervousness and less frequently, tachycardia, dizziness, palpitations or headache, especially in hypersensitive patients.

Potentially serious hypokalaemia may result from prolonged and / or high dose beta-agonist therapy. As with use of other inhalation therapy, cough, local irritation and, less commonly, inhalation induced bronchospasm can occur.

As with other beta-mimetics, nausea, vomiting, sweating, weakness and myalgia/muscle cramps may occur. In rare cases decrease in diastolic blood pressure, increase in systolic blood pressure, arrhythmias, particularly after higher doses, may occur.

In individual cases psychological alterations have been reported under inhalation therapy with beta-mimetics. The most frequent non-respiratory anticholinergic related adverse events are dryness of mouth and dysphonia. Ocular side effects, gastrointestinal motility disturbances and urinary retention may occur in rare cases and are reversible.

**REPORTING OF SUSPECTED ADVERSE DRUG REACTION:**

To allow continued monitoring of the benefit/risk balance of the medicinal product, reporting of suspected adverse reaction is necessary.

Healthcare professionals are encouraged to report any suspected adverse reactions directly to the importer/distributor and/or report to FDA: [www.fda.gov.ph](http://www.fda.gov.ph)

Patients are advised to seek immediate medical attention at the first sign/s of adverse reactions.

**DRUG INTERACTIONS:**

The concurrent administration of other beta-mimetics, systemically absorbed anticholinergics and xanthine derivatives may increase the side effects.

Beta-agonist induced hypokalaemia may be increased by concomitant treatment with xanthine derivatives, glucocorticosteroids and diuretics. This should be taken into account particularly in patients with severe airway obstruction.

Hypokalaemia may result in an increased susceptibility to arrhythmias in patients receiving digoxin. It is recommended that serum potassium levels be monitored in such situations.

A potentially serious reduction in bronchodilator effect may occur during concurrent administration of beta-blockers.

Beta-adrenergic agonists should be administered with caution to patients being treated with monoamine oxidase inhibitors or tricyclic antidepressants, since the action of beta-adrenergic agonists may be enhanced. Inhalation of halogenated hydrocarbon anaesthetics such as halothane, trichloroethylene and enflurane may increase the susceptibility to the cardiovascular effects of beta-agonists.

**PHARMACOKINETICS:**

Ipratropium bromide is quickly absorbed after oral inhalation. The systemic bioavailability following inhalation is estimated to be less than 10% of the dose. Renal excretion of ipratropium bromide is given as 46% of the dose after intravenous administration. The half-life of the terminal elimination phase is about 1.6 hours as determined after intravenous administration. The half-life elimination of drug and metabolites is 3.6 hours, as determined after radio labelling. Ipratropium bromide does not penetrate the blood brain barrier. Salbutamol sulfate is rapidly and completely absorbed following administration either by the inhaled or oral route. Peak plasma salbutamol concentrations are seen within three hours of administration and it is excreted unchanged in the urine after 24 hours. The elimination half-life is 4 hours. Salbutamol will cross the blood brain barrier reaching concentrations amounting to about five per cent of the plasma concentrations. It has been shown that co-nebulisation of ipratropium bromide and salbutamol sulfate does not potentiate the systemic absorption of either component and that therefore the additive activity of Ipratropium Bromide + Salbutamol (Ipravent) is due to the combined local effect on the lung following inhalation. Beta-agonist induced hypokalaemia may be increased by concomitant treatment with xanthine derivatives, glucocorticosteroids and diuretics. This should be taken into account particularly in patients with severe airway obstruction.

Hypokalaemia may result in an increased susceptibility to arrhythmias in patients receiving digoxin. It is recommended that serum potassium levels be monitored in such situations.

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**STORAGE:**

Store at temperatures not exceeding 30°C. Protect from light & heat.

**CAUTION:**

Foods, Drugs, Devices & Cosmetics Act prohibits dispensing without prescription. Keep out of the reach of children.

**AVAILABILITY:**

Ipravent Solution for Inhalation is available as:  
2.5 mL translucent LDPE Ampoule (5 ampoules in aluminium foil pouch) (Box of 5's and 30's)

FDA REGISTRATION No.: DRP-5276

RENEWAL OF AUTHORIZATION: 08 February 2018

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Manufactured by:

**GEOFMAN PHARMACEUTICALS**

20/23, Korangi Industrial Area, Karachi, Pakistan.



Imported & Distributed by:

**SAHAR INTERNATIONAL TRADING INC.**

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