# **Glycopryl 25 Respule**

Glycopyrrolate (25mcg) Respule

**Category:** 

**Respiratory and Anticholinergic Medication** 

**Dosage Form:** 

**Respule (Liquid for Inhalation)** 

Strength:

• Glycopyrrolate: 25 mcg per 1 ml of respule

## **Description:**

Glycopyrrolate is an anticholinergic agent that works by blocking the action of acetylcholine, a neurotransmitter involved in bronchoconstriction. By inhibiting this action, glycopyrrolate helps to relax and widen the airways, making it easier for individuals with respiratory conditions to breathe. The Glycopyrrolate (25mcg) Respule is typically used in the treatment of chronic obstructive pulmonary disease (COPD) and other respiratory disorders.

This medication is a clear, colorless solution intended for inhalation through a nebulizer. It helps manage symptoms such as wheezing, shortness of breath, and coughing by reducing bronchospasm (tightening of the muscles around the airways).

#### **Indications:**

**Glycopyrrolate (25mcg) Respule is used for the treatment of:** 

- Chronic Obstructive Pulmonary Disease (COPD): To help relieve symptoms such as breathlessness, wheezing, and coughing caused by COPD.
- Bronchospasm: As a maintenance treatment for chronic bronchospasm associated with COPD.
- Asthma (off-label use): In some cases, glycopyrrolate may be used as an adjunct therapy for asthma, especially for patients who are not adequately controlled on other inhalers.

**Mechanism of Action:** 

Glycopyrrolate works by blocking muscarinic receptors in the smooth muscles of the airways. This prevents acetylcholine (a neurotransmitter responsible for bronchoconstriction) from binding to these receptors. The inhibition of this binding results in the relaxation of the bronchial muscles, leading to bronchodilation (widening of the airways). This makes it easier for air to flow into and out of the lungs, improving breathing and reducing symptoms of respiratory distress.

**Dosage and Administration:** 

- Adults and Elderly:
  - The usual dosage is 1 respule (25 mcg) to be inhaled once or twice

daily through a nebulizer, as directed by the healthcare provider.

- Pediatric Use:
  - Safety and efficacy in children under 12 years of age have not been established, so this medication should be used with caution in pediatric patients.

Note: The respule is intended for inhalation only. It should not be injected or taken orally. Always follow the specific instructions provided by your healthcare provider for proper use.

**Contraindications:** 

**Glycopyrrolate (25mcg) Respule should not be used in patients with:** 

- Hypersensitivity: Known hypersensitivity to glycopyrrolate or any of its ingredients.
- Narrow-Angle Glaucoma: Caution should be exercised in patients with narrow-angle glaucoma.
- Urinary Retention: Due to the anticholinergic effects, it should be avoided in individuals with a history of urinary retention or other urinary tract issues.

**Precautions:** 

- Cardiovascular Diseases: Use with caution in individuals with a history of heart disease, hypertension, or arrhythmias.
- Renal or Hepatic Impairment: Glycopyrrolate should be used with caution in patients with impaired kidney or liver function.

- Glaucoma: Caution should be taken in individuals with glaucoma, as glycopyrrolate may increase intraocular pressure.
- Pregnancy and Lactation:
  - Pregnancy Category: C. Glycopyrrolate should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.
  - It is not known if glycopyrrolate is excreted in breast milk; therefore, use with caution in breastfeeding mothers.

## **Adverse Effects:**

**Common side effects include:** 

- Dry Mouth: This is the most common side effect of glycopyrrolate due to its anticholinergic properties.
- Coughing or Throat Irritation: Some patients may experience throat irritation following inhalation.
- Headache or Dizziness: These symptoms may occur during initial use.
- Blurred Vision: Rare, but possible due to its effects on the eyes.
- Constipation or Urinary Retention: Anticholinergic side effects may lead to difficulty urinating or constipation.

Serious side effects are rare but may include:

- Allergic Reactions: Rash, itching, swelling, or difficulty breathing.
- Worsening of Glaucoma: In patients with a history of glaucoma.

If any serious side effects occur, discontinue use and contact a healthcare provider immediately. **Drug Interactions:** 

- Other Anticholinergic Medications: Caution is advised if used concurrently with other anticholinergic drugs, as the risk of side effects such as dry mouth, constipation, and urinary retention may be increased.
- Beta-agonist Medications (e.g., salbutamol): Combining glycopyrrolate with beta-agonist medications may result in additive bronchodilation, which may be beneficial in some patients but should be monitored for excessive effects.
- Diuretics: Use with caution, as diuretics can contribute to electrolyte imbalances, and glycopyrrolate may exacerbate dehydration and dry mouth.

**Storage Instructions:** 

- Store in a cool, dry place at room temperature (15°C to 30°C).
- Do not freeze.
- Keep the respules in the original packaging to protect from light and moisture.
- Keep out of the reach of children.

**Key Benefits:** 

- Effective Bronchodilation: Helps to reduce bronchospasm and makes breathing easier in patients with COPD or asthma.
- Long-Lasting Action: Provides prolonged relief of respiratory symptoms when used regularly as part of a maintenance therapy.
- Fewer Systemic Side Effects: Since it is inhaled directly into the lungs, glycopyrrolate's systemic effects are

minimized compared to oral medications.

## **Conclusion:**

Glycopyrrolate (25mcg) Respule is a safe and effective bronchodilator for managing chronic respiratory conditions such as COPD. It works by relaxing the airway muscles, allowing for better airflow and easier breathing. This medication is suitable for long-term maintenance therapy in individuals with obstructive lung diseases and should be used according to medical guidance to achieve the best results in symptom control and overall lung function improvement.

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