

## Benzotropine (Cogentin)

Benzotropine (Cogentin) is a centrally-acting anticholinergic medication that blocks the muscarinic receptors in the central nervous system. Benzotropine is indicated for Parkinson's disease and acute dystonia caused by antipsychotic medications. Side effects may include mydriasis, dry mouth, urinary retention, constipation, psychosis, and tachycardia. Since older adults are less tolerant of CNS side effects (sedation, confusion, delusions), avoid administering benzotropine.



PLAY PICMONIC

### Mechanism

#### Anticholinergic

##### Ant-tie-cola

Benzotropine (Cogentin) blocks centrally-acting muscarinic receptors and helps restore the natural balance of dopamine and acetylcholine in the brain. This effect helps resolve abnormal muscle contractions and results in improved muscle coordination. Anticholinergic side effects are common because the majority of muscarinic receptors are near parasympathetic nerves. Although benzotropine is centrally acting, this medication may also affect peripheral muscarinic receptors.

### Indications

#### Parkinson's Disease

##### Park-in-sun garage

The deficiency of dopamine associated with Parkinson's disease results in excessive cholinergic activity. As an anticholinergic, benzotropine decreases acetylcholine's effect on the brain and minimizes tremors and stiff muscles associated with Parkinson's Disease.

#### Acute Dystonia

##### Acute-angle Dice-stone

Some antipsychotic medications block dopamine receptors and cause extrapyramidal symptoms, such as involuntary muscle movements or slurred speech. Benzotropine blocks centrally acting muscarinic receptors and decreases involuntary abnormal muscle contractions associated with antipsychotic medications.

### Side Effects

#### Mydriasis

##### Meter-eyes

One of the side effects of benzotropine is mydriasis, as well as photophobia and blurred vision caused by impaired accommodation. Because mydriasis impairs the outflow of aqueous humor, benzotropine is contraindicated in patients with narrow-angle glaucoma.

#### Dry Mouth

##### Cotton Mouth

Benzotropine may block the salivary glands and lead to xerostomia or dry mouth. This side effect may lead to difficulties in swallowing or speaking, resulting in loss of appetite and weight. The healthcare provider may consider adjusting the patient's dosage of benzotropine or prescribing a different medication to avoid xerostomia. Frequently offer the patient ice and sips of water while ensuring strict oral hygiene.

#### Urinary Retention

##### Urine Retained in bladder

Benzotropine may inhibit the binding of acetylcholine at muscarinic receptors M(2) and M(3) on detrusor smooth muscle cells and other structures within the bladder wall. This effect leads to decreased muscular tone of the bladder wall and causes urinary retention. Male patients with benign prostatic hyperplasia are the most susceptible to this complication after taking benzotropine. Minimize the risk of urinary retention by advising the patient to void immediately prior

to taking benztropine. Severe urinary retention may require catheterization or administration of a muscarinic agonist (i.e., bethanechol). Monitor the patient's intake and output.

### **Tachycardia**

#### **Tac-heart-card**

This drug may block parasympathetic nerves of the heart and cause cardiac dysrhythmias. Instruct the patient to notify their healthcare provider if experiencing palpitations, tachycardia, or irregular heartbeat. Monitor vital signs and observe for symptoms of weakness, dizziness, or peripheral edema.

### **Constipation**

#### **Corked-con-toilet**

Benztropine may block the muscarinic receptors of the intestinal tract. This effect leads to decreased tone and motility of the intestinal smooth muscle and results in constipation. Benztropine is contraindicated in patients with low intestinal muscle tone. Advise the patient to minimize the effects of constipation by increasing dietary fiber, fluids, and physical activity.

### **Psychosis**

#### **Psychic**

Benztropine may cause CNS excitation. Inform the patient that benztropine may cause visual hallucinations, vivid dreams, or paranoia. If the patient taking this medication begins experiencing symptoms of psychosis, the administration of the drug should be stopped. Avoid administering first-generation antipsychotics to relieve psychotic symptoms because the medication's dopamine-blocking actions will intensify motor symptoms. Psychotic symptoms can be treated with clozapine or quetiapine.