5.11: Anticholinergics

Ipratropium is an example of a short-acting anticholinergic. Tiotropium is an example of a long-acting anticholinergic. Additional information regarding anticholinergics can be found in the “Autonomic Nervous System” chapter. (See Figure 5.13 for an image of tiotropium.)

![Tiotropium, a long-acting anticholinergic](https://med.libretexts.org/Bookshelves/Nursing/Nursing_Pharmacology_(OpenRN)/05%3A_Respiratory/5.11%3A_Anticholiner...

**Figure 5.13** Tiotropium, a long-acting anticholinergic

**Mechanism of Action**

Anticholinergics block the action of acetylcholine in bronchial smooth muscle, which reduces bronchoconstrictive
substance release.

**Indications for Use**

Anticholinergics are used for maintenance therapy of bronchoconstriction associated with asthma, chronic bronchitis, and emphysema.

**Adverse/Side Effects**

Anticholinergics should be used with caution with the elderly and can cause cough, drying of the nasal mucosa, nervousness, nausea, GI upset, headaches, and dizziness.  

**Patient Teaching & Education**

Patients should be instructed to use the inhaler as directed and be careful not to exceed dosage recommendations. They should receive education regarding the onset of medication and differences in usage for short- and long-acting anticholinergics. Some long-acting anticholinergics may cause signs of angioedema and the healthcare provider should be notified if this occurs.

Now let's take a closer look at the medication grid for ipratropium and tiotropium in Table 5.11.  

<table>
<thead>
<tr>
<th>Class/Subclass</th>
<th>Prototype/Generic</th>
<th>Administration Considerations</th>
<th>Therapeutic Effects</th>
<th>Adverse/Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticholinergics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(short acting)</td>
<td>ipratropium</td>
<td>Long-term management of pulmonary disease</td>
<td>Rapid bronchodilation</td>
<td>Cough and drying of the nasal mucosa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slower onset of action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anticholinergics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(long acting)</td>
<td>tiotropium</td>
<td>Long-term management of pulmonary disease</td>
<td>Prevention of bronchospasm and reduces exacerbations in COPD patients</td>
<td>Cough and drying of the nasal mucosa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slower onset of action</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. "Spiriva HandiHaler"-brand dry powder inhaler (open).png" by RonEJ at English Wikipedia is licensed under [CC0 1.0](https://creativecommons.org/publicdomain/zero/1.0/).
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