



**Children's Hospital Association of Texas**  
***Safety and Quality Collaborative***  
**Asthma Management Pathway (ED and IP)**

**Ipratropium Bromide**

**Recommendation:** Strong recommendation with high quality evidence for the use of ipratropium bromide with beta agonist for three doses as adjunct therapy in children with moderate asthma exacerbations.

**Dosage:**

**Ipratropium bromide Nebulizer solution (500mcg/2.5ml)**

• **Mild**

- N/A

• **Moderate**

- Children  $\leq$  12 years: 250mcg every 20 min X 3 doses
- Children  $>$  12 years: 500 mcg every 20 min X 3 doses

• **Severe**

- 500 mcg every 20 min X 3 doses



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**References**

1. Dotson, K. M. D.; Dallman, M. M. D.; Bowman, C. M. M. D.; and Titus, M. O. M. D. (2009). Ipratropium Bromide for Acute Asthma Exacerbations in the Emergency Setting: A Literature Review of the Evidence. *Pediatric Emergency Care*, 25(10): 687-692  
<http://www.ncbi.nlm.nih.gov/pubmed/?term=Ipratropium+Bromide+for+Acute+Asthma+Exacerbations+in+the+Emergency+Setti>
2. Hayday, K. and Stevermer, J. J. (2002). In children hospitalized for asthma exacerbations, does adding ipratropium bromide to albuterol and corticosteroids improve outcome? *Journal of Family Practice*, 51(3): 280 Abstract not available
3. Iramain, R.; Lopez-Herce, J.; Coronel, J.; Spitters, C.; Guggiari, J.; and Bogado, N. (2011). Inhaled salbutamol plus ipratropium in moderate and severe asthma crises in children. *Journal of Asthma*, 48(3), 298-303 <http://www.ncbi.nlm.nih.gov/pubmed/21332430>
4. Pollack C., Pollack E, Baren. M, et al. (2002). A prospective multicenter study of patient factors associated with hospital admission from the emergency department among children with acute asthma. *Archives of Pediatric Adolescent Medicine*. 156(9):934-940.  
<http://www.ncbi.nlm.nih.gov/pubmed/12197803>
5. Qureshi, F., Pestian, J., Davis, P., Zaritsky, A. (1998). Effect of nebulized ipratropium on the hospitalization rates of children with asthma. *New England Journal of Medicine* 339(15): 1030-1035  
<http://www.ncbi.nlm.nih.gov/pubmed/?term=Effect+of+nebulized+ipratropium+on+the+hospitalization+rates+of+children+with+asth>
6. Ralston, M.E.; Euwema, M.S.; Knecht, K.R.; et al. (2005). Comparison of levalbuterol and racemic albuterol combined with ipratropium bromide in acute pediatric asthma: a randomized controlled trial. *Journal of Emergency Medicine*, 29(1):29-35  
<http://www.ncbi.nlm.nih.gov/pubmed/?term=ralston+2005+asthma>
7. Rodrigo, G. J. and Castro-Rodriguez, J. A. (2005). Anticholinergics in the treatment of children and adults with acute asthma: a systematic review with meta-analysis. *Thorax*, 60(9): 740-6  
<http://www.ncbi.nlm.nih.gov/pubmed/16055613>
8. Stormon, M. O, Mellis, C. M., Van Asperen, P. P., & Kilham, H. A. (1999). Outcome evaluation of early discharge of asthmatic children from hospital: A randomized control trial. *Journal of Quality in Clinical Practice*, 19(3), 149-154.  
<http://www.ncbi.nlm.nih.gov/pubmed/10482323>
9. Zorc, J.J., Pusic, M.V., Ogborn, C.J., Lebet, R., and Duggan, A.K. (1999). Ipratropium bromide added to asthma treatment in the pediatric emergency department. *Journal of Pediatrics* 135(4 Pt 1 ):748-52 <http://www.ncbi.nlm.nih.gov/pubmed/10103297>