

## MEDICATION RECOMMENDATIONS

### Asthma Therapy in Wyoming

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A recent review of asthma therapy in Wyoming identified several areas for improvement. The ideal therapy of the asthmatic patient has been identified by the National Asthma Education Prevention Program and clarified in the 2002 update. Inhaled corticosteroids are the preferred agent for all patients with persistent asthma.<sup>1,2</sup> Any patient having symptoms more than twice weekly, or more than two nocturnal episodes in a month, is defined as having persistent asthma. This equates to the use of more than one albuterol inhaler per year. Regular use of an inhaled steroid in Wyoming was only 11% for patients with mild asthma and 16% with moderate/severe asthma. Antibiotics are not recommended for acute exacerbations of asthma unless the patient has a fever, purulent sputum or evidence of pneumonia or sinusitis. Antibiotics were used 87% of the time with acute exacerbations of asthma. A metered dose inhaler with a spacer works as well as nebulizations and costs considerable less than nebulizations. Ipratropium bromide (Atrovent, Combivent, Duoneb) is not recommended except with acute exacerbations of severe asthma but was utilized in 15% of the patients on a chronic basis. Montelukast (Singulair) is not recommended as first line therapy. Levalbuterol (Xopenex) appears to have more side effects than racemic albuterol and costs 5 times more.<sup>3</sup> Advair (fluticasone/salmeterol) was used but never tapered despite great asthma control. In order to improve the care of asthmatics in Wyoming we should consider using more inhaled steroids and less Singulair, Xopenex, Atrovent, Advair, and antibiotics.

Spiriva (tiotropium) was recently approved for chronic obstructive pulmonary disease (COPD).<sup>4</sup> It should not be used to treat asthma patients. It should not be used in conjunction with ipratropium (Atrovent, Combivent, Duoneb). Tiotropium works better than ipratropium for COPD. Tiotropium works by competitive inhibition at the muscarinic receptor therefore combining tiotropium with ipratropium will decrease the effect.

#### References

1. NAEPP Expert Panel Report Guidelines for the Diagnosis and Management of Asthma, <http://www.nhlbi.nih.gov/guidelines/asthma/asthqln.pdf>, visited 16 July, 2004
2. NAEPP EPR 2 Update 2002 <http://www.nhlbi.nih.gov/guidelines/asthma/asthmafullrpt.pdf>, visited 16 July, 2004
3. 2004 PDR publisher Thomson PDR Monvale NJ, pp3114-3118
4. Chute, A Spiriva Handihaler Formulary Dossier, Letter 2004

### Cost Comparison of Asthma Medications (Average wholesale price/month less discount for Medicaid.)

Medication	Cost	Medication	Cost	Medication	Cost
Albuterol MDI	15.00	Ipratropium MDI	66.33	Azmacort	110.19
Albuterol Syrup	24.75	Atrovent/albuterol MDI	69.41	Beclomethasone	98.12
Alupent MDI	35.16	Maxair (Pirbuterol)	91.63	Aerobid	96.96
Albuterol HFA	43.96	Serevent MDI	91.89	Pulmicort DPI	70.60
Albuterol Rotocaps	45.50	Atrovent/albuterol neb	208.00	Pulmicort vial nebs	137.40
Albuterol vial nebs	44.00	Xopenex neb	270.00	Singulair	98.40
Maxair DPI	45.82	Spiriva	162.50	Accolate	83.24
Atrovent vial nebs	59.00	Flovent 110	44.70	Zyflo	106.40
		Flovent 220	34.70		