Bronchodilators for Reactive Airway Disease (2021)

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Peer Review Status: Internally Peer Reviewed

	Agent	Dose	Toxicity	Remarks
β-agonists	Albuterol (One MDI actuation delivers 100 mcg (0.1mg))	**Acute:** 0.1 mg/kg via nebulization/MDI every 1-4 hours as needed. Can increase to 0.5 mg/kg. (Usual starting dose is 1-2 puffs.) **Chronic:** 0.1 mg/kg every 12 hours	Increased heart rate, agitation	
	Albuterol-Ipratropium (Duoneb) (One MDI actuation delivers 90 mcg/18 mcg)	1-2 puffs BID	Increased heart rate, agitation	Added anticholinergic effect. The combination of ipratropium with a beta-agonist produces more bronchodilation than either drug individually.
	Levalbuterol (0.63 mg)	1-2 puffs BID	Increased heart rate, agitation	(R)-enantiomer of racemic albuterol and associated with less tachycardia
Methylxanthines	Theophylline[1]	LD: 5-6 mg/kg IV/PO followed by MD: 2 mg/kg IV/PO every 8 hours	Increased heart rate, irritability, arrhythmia, seizures.	Metabolism varies with age. Therapeutic levels (peak): 10-20 mg/L. Consider changing to a Q6h schedule if unable to achieve adequate levels after 4 weeks on therapy.
	Aminophylline[1]	LD: 8 mg/kg IV followed by 2 mg/kg IV every 6-8 hours	Increased heart rate, irritability, arrhythmia, seizures.	

Footnotes:

1. Monitoring serum levels is required. See “Use of Drug Monitoring Levels in the NICU” for more information.

References:

- Lexi-Comp, Inc. Pediatric Drug Information. Accessed online. Updated annually.
- Micromedex. NeoFax Pediatrics 2021.