

Here is a board-review level study guide, a set of flashcards, and a 10-question multiple-choice practice quiz designed for a third-year pediatric resident preparing for board certification.

PediatricEducation.org

URL: <https://pediatriceducation.org>

Part 1: Board-Review Study Guide (Asthma Management)

1. Clinical Phenotypes & Diagnoses

- **Atypical Presentations:** Always consider alternative diagnoses in infants or children with "refractory asthma" who do not respond to standard bronchodilator or corticosteroid therapy. Key differentials include vascular rings, tracheomalacia, foreign body aspiration, and cystic fibrosis.
- **Vocal Cord Dysfunction (VCD):** Characterized by paradoxical adduction of the vocal cords during inspiration. It mimics asthma but is distinguished by a flattened inspiratory loop on spirometry and a lack of response to rescue bronchodilators.

2. Acute Exacerbation Management

- **First-Line Path:** Repetitive or continuous administration of inhaled short-acting beta2-agonists (SABA) combined with inhaled ipratropium bromide (anticholinergic) is standard for moderate-to-severe exacerbations in the emergency setting to decrease hospitalization rates.
- **Systemic Corticosteroids:** Early administration (within 1 hour of presentation) is critical for patients failing to respond completely to initial SABA. A 3- to 5-day burst of oral prednisone/prednisolone (1–2 mg/kg/day) is typically sufficient without a taper.
- **Intravenous Magnesium Sulfate:** Acts as a smooth muscle relaxant. Indicated in severe acute asthma exacerbations with poor initial response to intensive bronchodilator therapy.

3. Chronic Controller Therapy (EPR-3 and EPR-4 Guidelines)

- **Inhaled Corticosteroids (ICS):** The cornerstone of long-term controller therapy for persistent asthma. Step-up therapy involves doubling the ICS dose or adding a Long-Acting Beta2-Agonist (LABA).
- **Biologic Therapies:** For severe allergic or eosinophilic asthma uncontrolled on high-dose ICS-LABA, targeted monoclonal antibodies (e.g., Omalizumab for anti-IgE, Mepolizumab for anti-IL-5) are utilized based on specific biomarkers.

Part 2: Interactive Flashcards

- Flashcard 1

- *Front:* What spirometric finding distinguishes Vocal Cord Dysfunction (VCD) from a classic acute asthma exacerbation?
- *Back:* A flattened inspiratory flow volume loop, whereas expiration is typically preserved or shows a non-fixed obstruction.
- **Flashcard 2**
 - *Front:* What is the recommended duration of systemic corticosteroid bursts for an uncomplicated acute asthma exacerbation in children, and is a taper needed?
 - *Back:* 3 to 5 days; no taper is required if the course is under 10–14 days.
- **Flashcard 3**
 - *Front:* At what age can reliable spirometry routinely be performed in a clinic setting to monitor asthma?
 - *Back:* Generally starting at 5 years of age.
- **Flashcard 4**
 - *Front:* What is the mechanism of action of Ipratropium Bromide when added to Albuterol during an acute asthma flare?
 - *Back:* It blocks muscarinic cholinergic receptors, reducing vagal-mediated bronchoconstriction and decreasing mucus secretion.
- **Flashcard 4**
 - *Front:* Which targeted biologic is indicated for patients $\geq$ 6 years old with moderate-to-severe persistent allergic asthma inadequately controlled by ICS?
 - *Back:* Omalizumab (Anti-IgE antibody).

Part 3: Multiple-Choice Practice Quiz

The following 10-question practice quiz is formatted with exactly 5 distractors (foils) per question to simulate board examination complexity. Each correct rationale contains its respective archive citation from pediatriceducation.org.

PediatricEducation.org Asthma Board Review

May 26 at 11:38 AM

Try again without interactive quiz

Best of luck studying for your pediatric board certification exam! Use these clinical scenarios to anchor your understanding of the EPR guidelines. You've got this!