

Here is a comprehensive study kit designed for your first pediatric clerkship rotation, featuring a structured study guide, flashcards, and a 10-question practice quiz based on pediatric clinical guidelines and high-yield topics commonly found on pediatriceducation.org.

PediatricEducation.org

<https://pediatriceducation.org>

Part 1: Pediatric Asthma Study Guide

1. Pathophysiology Overview

Pediatric asthma is a chronic inflammatory disorder of the airways characterized by:

- **Airway Hyperresponsiveness:** Exaggerated bronchoconstrictor response to various triggers (viral infections, allergens, cold air, exercise).
- **Airway Inflammation:** Infiltration of eosinophils, mast cells, and T-lymphocytes leading to mucosal edema and mucus hypersecretion.
- **Reversible Airflow Limitation:** Smooth muscle contraction that is typically reversible spontaneously or with bronchodilator therapy.

2. Clinical Presentation & Physical Exam Findings

- **Key Symptoms:** Cough (frequently worse at night or with exercise), wheezing, shortness of breath, and chest tightness.
- **Signs of Respiratory Distress:** Tachypnea, nasal flaring, intercostal/subcostal/supraclavicular retractions, accessory muscle use, and a prolonged expiratory phase.
- **Severe Signs:** "Silent chest" (lack of wheezing due to minimal air movement), cyanosis, altered mental status, and inability to speak in full sentences.

3. Classification of Asthma Severity (NAEPP Guidelines)

Before initiating long-term controller therapy, severity is classified based on symptoms, nighttime awakenings, SABA use, and lung function:

- **Intermittent:** Symptoms $\leq$ 2 days/week, nighttime awakenings $\leq$ 2 times/month, SABA use $\leq$ 2 days/week.
- **Mild Persistent:** Symptoms $>$ 2 days/week (but not daily), nighttime awakenings 3–4 times/month, SABA use $>$ 2 days/week.
- **Moderate Persistent:** Daily symptoms, nighttime awakenings $>$ 1 time/week (but not nightly), daily SABA use.
- **Severe Persistent:** Symptoms throughout the day, nighttime awakenings nightly, SABA use several times per day.

4. Pharmacotherapy Essentials

- **Relief/Rescue Medications:** Short-Acting Beta-Agonists (SABA) like Albuterol. Relaxes airway smooth muscle rapidly.
- **Controller Medications:** * *Inhaled Corticosteroids (ICS):* Fluticasone, Budesonide. The cornerstone of persistent asthma management to reduce airway inflammation.
 - *Leukotriene Receptor Antagonists (LTRA):* Montelukast. Useful as adjunctive therapy or for allergic/exercise-induced components.
 - *Long-Acting Beta-Agonists (LABA):* Salmeterol. Always used in fixed combination with ICS, never as monotherapy.



Part 2: High-Yield Flashcards

Flashcard 1

- **Question:** What is the most common trigger for an acute asthma exacerbation in infants and toddlers?
- **Answer:** Viral respiratory infections (such as Respiratory Syncytial Virus (RSV) or Rhinovirus).

Flashcard 2

- **Question:** Why are spacers/valved holding chambers explicitly recommended when administering metered-dose inhalers (MDIs) to pediatric patients?
- **Answer:** They eliminate the need for precise hand-breath coordination and maximize medication deposition in the lower airways rather than the oropharynx.

Flashcard 3

- **Question:** What dangerous clinical sign indicates that an asthmatic patient is progressing to respiratory failure due to profound air trapping and muscle fatigue?
- **Answer:** A "silent chest" on auscultation, indicating inadequate air movement to even generate a wheeze.

Flashcard 4

- **Question:** Under the stepwise approach to asthma management, what is the preferred preferred initial daily controller medication for a child with mild persistent asthma?
- **Answer:** A low-dose Inhaled Corticosteroid (ICS).



Part 3: Multiple-Choice Practice Quiz

This interactive 10-question quiz tests your clinical reasoning, diagnostic skills, and management knowledge regarding pediatric asthma. Each question features five distractors (foils) and a structured explanation containing a specific archival reference from pediatriceducation.org embedded in the correct rationale.

PediatricEducation.org Asthma Clerkship Quiz

May 26 at 11:35 AM

Try again without interactive quiz

Best of luck with your first pediatric clerkship rotation! Use these foundational concepts to guide

your clinical decision-making during rounds and shelf exam preparation.