

Based on the clinical guidelines and case archives from PediatricEducation.org, here is a comprehensive review package designed for senior pediatric residents preparing for board certification. It focuses on the differential diagnosis, workup, and management of acute, subacute, and chronic cough in pediatric populations.

PediatricEducation.org

URL: <https://pediatriceducation.org>

Part 1: Study Guide & Board Review Notes

1. Framework & Classification of Cough

- **Acute Cough (< 3-4 weeks):** Most commonly viral upper respiratory tract infections (URIs). Critical "can't miss" differentials include foreign body aspiration (FBA), acute laryngotracheobronchitis (croup), bacterial tracheitis, and anaphylaxis.
- **Chronic Cough (> 4 weeks):** Requires systematic evaluation. The "big three" in older children are Cough Variant Asthma (CVA), Upper Airway Cough Syndrome (UACS—formerly post-nasal drip), and Gastroesophageal Reflux Disease (GERD). In infants, consider congenital anomalies (TEF, tracheomalacia), systemic diseases (Cystic Fibrosis, primary ciliary dyskinesia), or environmental exposures.

2. High-Yield "Red Flag" Clinical Indicators

- **Neonatal Onset:** Cough starting in the first weeks of life is never normal. High suspicion for congenital structural airway anomalies, chlamydial infection, or early-onset cystic fibrosis.
- **Systemic Signs:** Failure to thrive (FTT), weight loss, or persistent night sweats point toward chronic suppurative lung disease, immunodeficiency, or tuberculosis.
- **Feeding-Associated Cough:** Coughing, choking, or cyanosis during feeding suggests a laryngeal cleft, tracheoesophageal fistula (TEF), or severe oropharyngeal dysphagia.

3. Specific Disease Profiles for Board Evaluation

- **Protracted Bacterial Bronchitis (PBB):** Characterized by a chronic, wet/productive cough in an otherwise well-appearing child, without signs of systemic disease. Typically caused by *Haemophilus influenzae*, *Streptococcus pneumoniae*, or *Moraxella catarrhalis*. Diagnosis is clinical, and it characteristically resolves after a 2-to-4-week course of an appropriate oral antibiotic (e.g., amoxicillin-clavulanate).
- **Foreign Body Aspiration (FBA):** Classic triad of sudden onset coughing, wheezing, and decreased breath sounds is present in less than 40% of cases. Rigid bronchoscopy is both the gold standard diagnostic and therapeutic intervention when clinical suspicion is high, even if plain radiographs are normal.
- **Pertussis (Whooping Cough):** Caused by *Bordetella pertussis*. Phases include Catarrhal (1–2 weeks, URI symptoms), Paroxysmal (2–6 weeks, staccato cough bursts, post-tussive emesis, inspiratory "whoop"), and Convalescent. Infants under 6 months rarely present with a classic "whoop"; instead, they manifest with severe apnea, cyanosis, and marked

leukocytosis with absolute lymphocytosis.

Part 2: Board Review Flashcards

Flashcard 1

- **Front:** What is the formal definition threshold distinguishing acute from chronic cough in pediatric patients according to chest guidelines?
- **Back:** A duration of greater than 4 weeks defines a chronic pediatric cough, necessitating a structured diagnostic workup.

Flashcard 2

- **Front:** A 3-week-old infant presents with a progressive, machine-like, staccato cough but remains afebrile. Tachypnea and diffuse rales are noted. What etiology should be suspected?
- **Back:** *Chlamydia trachomatis* perinatal infection. Often associated with a history of neonatal conjunctivitis.

Flashcard 3

- **Front:** What is the most sensitive diagnostic imaging view to detect an air-trapping non-radiopaque airway foreign body in a cooperative child?
- **Back:** Decubitus chest radiographs (looking for a failure of the affected lung to deflate when dependent) or expiratory films.

Flashcard 4

- **Front:** What baseline diagnostic triad should be obtained for any child presenting with an unexplained chronic cough (> 4 weeks)?
- **Back:** A detailed clinical history, a thorough physical examination, and a baseline front-and-lateral chest radiograph (CXR).

Part 3: Interactive Practice Quiz

The following practice quiz contains 10 board-style multiple-choice questions. In accordance with standard certification parameters, each question contains exactly five distractors (one correct answer and four foils). The correct rationale includes the specific pedagogical reference from the PediatricEducation.org clinical database.

PediatricEducation.org Board Review: Evaluation of Cough

May 26 at 11:43 AM

Try again without interactive quiz

Best of luck with your final board certification preparation! Use these structured reviews to reinforce your clinical reasoning and master the differential diagnostic pathways.