Croup & Epiglottitis – Pediatrics

Concise, exam-oriented handout for MBBS Final Year

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Introduction

Both are pediatric upper-airway emergencies with stridor, but differ in speed of onset, etiology and urgency. Croup is viral, subglottic edema with barking cough; Epiglottitis is bacterial, supraglottic swelling with drooling and abrupt deterioration.

Part 1 — Croup (Laryngotracheobronchitis)

Definition: Viral inflammation of larynx, trachea and bronchi causing subglottic narrowing.
Epidemiology: 6 months–3 years; peaks in autumn/early winter.

Etiology

Parainfluenza (types 1–2) most common; also RSV, influenza, adenovirus.

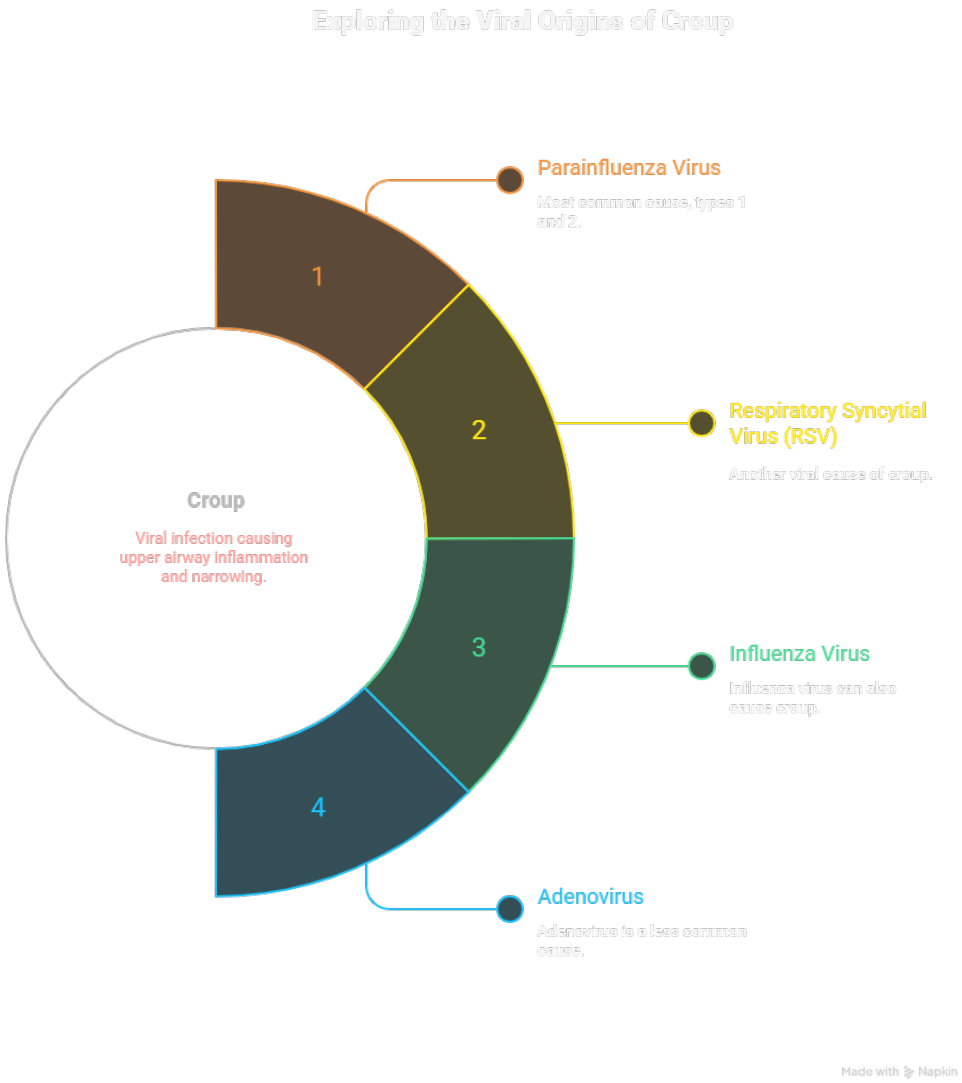

Figure: Viral causes of croup (visual summary).

Pathophysiology

Viral edema of subglottic airway → fixed narrowing → turbulent flow ⇒ inspiratory stridor & barking cough (worse with agitation).

Clinical Features

- Prodrome of URTI; low-grade fever, hoarseness.
- Barking (seal-like) cough, inspiratory stridor; symptoms worse at night.

Severity & Treatment at a Glance

Grade	Key Findings	Initial Treatment
Mild	Barky cough; no stridor at rest	Single dose dexamethasone 0.15–0.6 mg/kg PO/IM; calm & hydrate
Moderate	Stridor at rest; mild–mod retractions	Dexamethasone + nebulized epinephrine; observe ≥2–3 h
Severe/Impending failure	Marked stridor, agitation, hypoxemia, fatigue	Nebulized epinephrine + O_2; consider heliox; prepare for airway support/ICU

Diagnosis & Key Doses

- Clinical diagnosis; X-ray rarely needed (AP neck “steeple sign”).
- Nebulized epinephrine dosing (one option): L-epinephrine 1:1000, 0.5 mL/kg (max 5 mL) via nebulizer; observe for rebound.

Part 2 — Epiglottitis

Definition: Acute bacterial infection of epiglottis/supraglottis causing rapid, life-threatening airway obstruction.

Etiology: Pre-Hib—H. influenzae type b; now S. pneumoniae, Group A strep, S. aureus; can occur in unvaccinated or adults.

Clinical Features

- Abrupt high fever, severe sore throat; drooling, muffled “hot-potato” voice.
- Toxic look, tripod posture, inspiratory stridor; no barking cough.

Do-Not-Miss Actions

- Do not attempt throat/depressor exam if suspected (can precipitate complete obstruction).
- Keep child calm, sitting upright; involve anesthesia/ENT early; secure airway in controlled setting (OR) if needed.
- Start IV broad-spectrum antibiotics (e.g., ceftriaxone/cefotaxime). Steroids: optional/adjunct.

Croup vs Epiglottitis – Quick Comparison

Feature	Croup	Epiglottitis
Onset	Gradual (URTI prodrome)	Abrupt, rapidly progressive
Etiology	Viral (parainfluenza ≫ RSV/flu/adenovirus)	Bacterial (Hib historically; now Strep/Staph)

Feature	Croup	Epiglottitis
Fever	Low-grade	High
Cough	Barking, hoarse	Usually absent
Drooling	Rare	Common
Stridor	Inspiratory; worse with agitation	Constant inspiratory
Imaging sign	AP neck: Steeple	Lateral neck: Thumbprint
First-line Tx	Dexamethasone ± nebulized epinephrine	Secure airway + IV antibiotics

Summary & Exam Triggers

Exam Triggers	Croup: Barking cough + stridor at night; give dexamethasone, consider nebulized epinephrine. Epiglottitis: Drooling + tripod + high fever; don’t examine throat; secure airway + IV ceftriaxone.