

● NGN NCLEX · PEDIATRIC RESPIRATORY · 2026 TEST PLAN

RSV • Bronchiolitis

Respiratory Syncytial Virus — the #1 cause of bronchiolitis & pneumonia in infants under 2 years. A high-yield review of pathophysiology, recognition, supportive care, and the new 2024 immunization landscape.

PRIORITY TOPIC

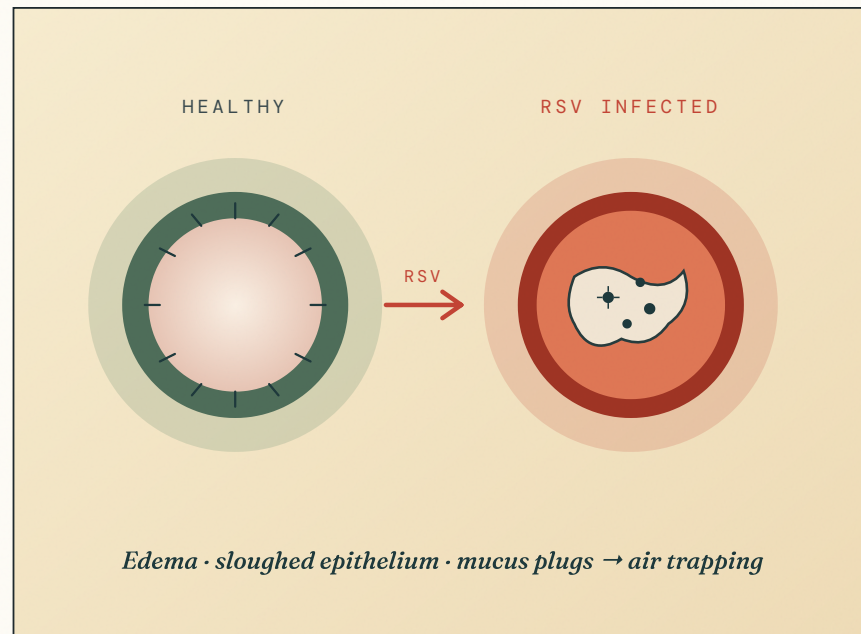
HIGH-YIELD NGN

PEDS · RESP · VOL. 04

PATHOGEN Paramyxovirus (RNA)	PEAK SEASON Nov – Mar WINTER	HIGHEST RISK < 2 yrs PEAK 2-6 MO	TRANSMISSION Droplet + Contact
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01 Pathophysiology

SMALL AIRWAYS · BIG PROBLEM



THE CASCADE

- RSV invades **ciliated epithelium** of small bronchioles
- Necrosis & sloughing of cells → **edema + inflammation**
- Mucus + cellular debris form **plugs** — but air can still enter
- One-way valve effect → **air trapping & hyperinflation**
- V/Q mismatch → **hypoxemia**, ↑ work of breathing

WHY INFANTS ARE HIT HARDEST

Bronchioles are **tiny** — even small amounts of edema/mucus dramatically narrow the lumen (Poiseuille's law: resistance ↑ to the 4th power as radius ↓). Infants are also **obligate nose breathers**, so nasal congestion alone = significant respiratory distress.

02 Who's at Highest Risk

RECOGNIZE ON THE TEST

AGE & PREMATURITY

- Infants < **6 months** (peak 2–6 mo)
- **Preemies** (< 35 weeks gestation)
- Low birth weight

UNDERLYING DISEASE

- **Congenital heart disease** (esp. cyanotic)
- **BPD** / chronic lung disease
- Immunocompromised
- Down syndrome, neuromuscular d/o

ENVIRONMENTAL

- **Secondhand smoke** exposure
- Daycare attendance / older siblings
- Crowded living, no breastfeeding
- Virus survives on surfaces **~6 hrs**

03 Clinical Progression

URI → BRONCHIOLITIS → DISTRESS

DAYS 1 – 3 • URI PHASE

Looks Like a Cold

- > Clear rhinorrhea (copious)
- > Low-grade fever
- > Mild dry cough
- > Decreased appetite
- > Sneezing, fussiness

DAYS 3 – 5 • LRT PHASE

Bronchiolitis Sets In

- > **Tachypnea** (RR > 60 in infants)
- > **Wheezing** + fine crackles
- > Retractions, nasal flaring
- > Paroxysmal cough
- > Poor feeding (can't suck & breathe)

Δ DAYS 4 – 7 • SEVERE

Respiratory Failure

- > **Apnea** — esp. < 2 mo & preemies
- > Grunting, head bobbing
- > Cyanosis, SpO₂ < 90%
- > Lethargy / irritability
- > Dehydration, ↓ urine output

"In a young infant, apnea may be the first & only sign of RSV — before any cough or fever."

04 Diagnostics & Assessment

MOSTLY CLINICAL

CONFIRMATORY TESTING

- **Rapid RSV antigen** — nasopharyngeal swab/wash (*gold for bedside*)
- **RT-PCR** — most sensitive, multi-virus panel
- **CXR**: hyperinflation, peribronchial cuffing, atelectasis (not routine)
- **ABG/CBG**: only if severe distress or impending failure

NURSING ASSESSMENT PRIORITIES

- **Respiratory rate & effort** — count for full minute
- **SpO₂ continuous** — keep $\geq 90\%$
- **Auscultate**: wheeze, crackles, $\downarrow$ breath sounds
- **Hydration**: cap refill, fontanelle, urine output, mucous membranes
- **LOC & tone** — lethargy = late, bad sign

05 Priority Nursing Actions

SUPPORTIVE CARE = THE ANSWER

✦ ACTION SEQUENCE • MEMORIZE THE ORDER ✦

- 01 Isolate** — contact + droplet precautions, private room or cohort with other RSV(+) patients only.
- 02 Position** HOB elevated **30–45°**; allow position of comfort. Infants > 12 mo may prefer upright in caregiver's arms.
- 03 Suction nasal passages with bulb syringe** *before* feeds & sleep — clears obligate-nose breather. Saline drops first.
- 04 Oxygen** humidified, titrate to keep SpO₂ $\geq 90\%$; escalate to **HFNC** → **CPAP** → **intubation** as needed.
- 05 Hydrate** — small frequent feeds; switch to NG/IV fluids if RR > 60 (aspiration risk). Strict I&O, daily weights.
- 06 Monitor** apnea, SpO₂, work of breathing continuously; watch for paradoxical worsening on day 3–5.
- 07 Antipyretics** (acetaminophen / ibuprofen > 6 mo) for fever & comfort. **No aspirin** — Reye's risk.
- 08 Educate caregivers**: hand hygiene, smoke-free home, no kissing on face, expected illness course (peaks day 3–5, resolves 1–2 wks).

06 NGN Click-Traps

WRONG-ANSWER PATTERNS

⦿ TRAP ANSWER "Administer antibiotics."	✓ CORRECT THINKING RSV is viral. Antibiotics only if confirmed bacterial co-infection (e.g., otitis media, pneumonia).	⦿ TRAP ANSWER "Routine albuterol & steroids."	✓ CORRECT THINKING Not recommended in bronchiolitis (AAP). Only consider trial in select wheezers.
⦿ TRAP ANSWER "Suction after feeds for clean airway."	✓ CORRECT THINKING Suction before feeds & sleep — clearing nares first lets baby feed/breathe.	⦿ TRAP ANSWER "Give OTC cough/cold medicine."	✓ CORRECT THINKING Contraindicated in children < 6 yrs. Saline drops + bulb suction instead.
⦿ TRAP ANSWER "Place in mist tent / cool humidifier as primary tx."	✓ CORRECT THINKING Not evidence-based for bronchiolitis. Humidified O₂ (if hypoxic) is the standard.	⦿ TRAP ANSWER "Roommate is a child with pneumonia."	✓ CORRECT THINKING Cohort RSV(+) with RSV(+) only, never with another respiratory illness.



ESCALATE IMMEDIATELY • RECOGNIZE CUES

Apnea • SpO₂ < 90 % on O₂ • Grunting • Lethargy • Inability to Feed

These cues signal impending respiratory failure. Anticipate **HFNC, CPAP, or intubation**; notify provider, prepare resuscitation equipment bedside, ensure NPO status, IV access established.

07 Prevention & Immunization — *New for 2024–2026*

HEAVILY TESTABLE

★ NEWEST • 2023

Nirsevimab (Beyfortus)

MONOCLONAL ANTIBODY • IM

Single dose for **ALL infants < 8 months** entering their first RSV season; high-risk toddlers up to 24 mo.

Passive immunity — works immediately, lasts ~5 months. Replacing palivizumab in most settings.

MATERNAL • 2023

RSVpreF (Abrysvo)

VACCINE • IM • PREGNANCY

Given to pregnant persons at **32–36 weeks** gestation (Sept–Jan). Maternal antibodies cross placenta → protect newborn for first ~6 months. Either maternal vaccine *or* infant nirsevimab — **not both routinely**.

LEGACY • HIGH-RISK

Palivizumab (Synagis)

MONOCLONAL ANTIBODY • IM

Older monthly injection during RSV season. Reserved for very high-risk infants when nirsevimab unavailable: premies < 29 wks, BPD, hemodynamically significant CHD.

UNIVERSAL PRECAUTIONS CAREGIVERS MUST KNOW

- **Hand hygiene** before every contact with infant
- Limit exposure to sick contacts & crowds in season
- Disinfect toys & surfaces (RSV survives ~6 hrs)
- Avoid **secondhand smoke** & vape exposure
- **Breastfeeding** provides passive immunity
- No kissing infant on face/hands when ill

MEMORY AID • LOCK IT IN

Three Letters, Three Rules

RSV

R — **R**espiratory support & suction (bulb syringe before feeds)

V — **V**iral & very contagious · contact + droplet, cohort RSV(+) only

S — **S**upportive care only · NO routine antibiotics, steroids, or bronchodilators

Bonus: Watch for **A**pnea (in young infants it's the only sign), and remember **HOB up, hydrate, humidified O₂**.

08 NGN Item-Type Strategy

2026 TEST PLAN

BOW-TIE

Center: "infant w/ bronchiolitis." **Left**

(causes): RSV, premature, daycare exposure.

Right (actions): bulb suction before feeds, HOB ↑, humidified O₂, contact/droplet, monitor apnea.

MATRIX / TREND

Compare vitals over time — **worsening** cues: ↑ RR, ↓ SpO₂, retractions, lethargy, ↓ urine output. **Improving:** ↓ RR, ↑ feeding, fewer retractions.

HIGHLIGHT / DRAG-DROP

Identify cues of distress: **nasal flaring, grunting, retractions, RR > 60, apnea, SpO₂ 88 %**. Drop low-priority cues: low-grade fever, clear rhinorrhea (early/expected).