NGN NCLEX 2026 • RESPIRATORY SYSTEM • DIAGNOSTIC PROCEDURE • VISUAL STUDY LIBRARY

Bronchoscopy

Direct visualization of the larynx, trachea & bronchi — pre, intra & post-procedure nursing care

SYSTEM: RESPIRATORY | TYPE: INVASIVE / ENDOSCOPIC | POST-OP PRIORITY: AIRWAY | ⚠ PNEUMOTHORAX RISK

📚 SOURCE DISCLOSURE

Bronchoscopy is **not present** in your uploaded reference notes. Content compiled from: *Saunders Comprehensive Review for the NCLEX-RN Examination, 9th ed. (2026)*; *ATI RN Adult Medical-Surgical Nursing*; *Lippincott Illustrated Reviews: Pharmacology*; and current *American Thoracic Society (ATS) / American College of Chest Physicians (CHEST)* bronchoscopy guidelines.

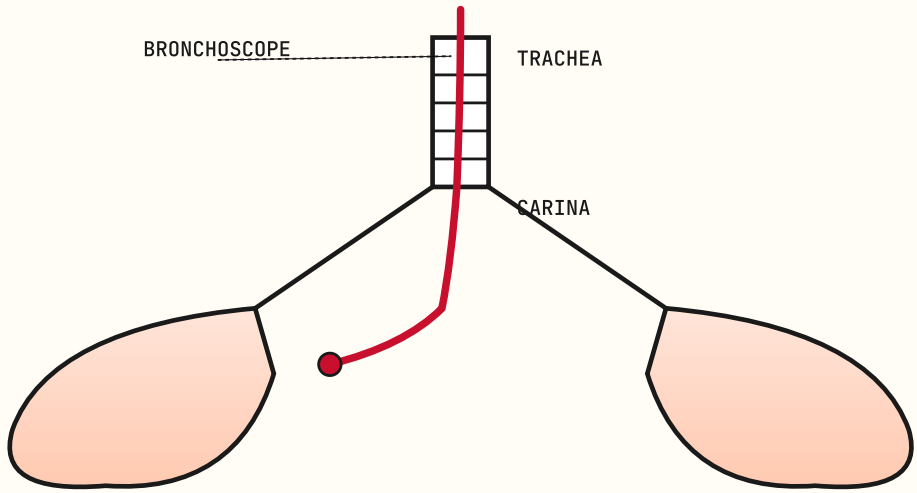
1

SECTION 01 — FOUNDATION

Definition & Overview

Bronchoscopy is an **invasive procedure** in which a lighted, flexible (or rigid) scope is passed through the nose, mouth, or endotracheal tube into the trachea and bronchi to **visualize** the airway, **obtain specimens**, or **perform therapeutic interventions**.

- **Flexible fiberoptic bronchoscopy** — most common; bedside or outpatient; conscious sedation
- **Rigid bronchoscopy** — performed in OR under general anesthesia; used for massive hemoptysis, large foreign-body retrieval, stent placement
- Duration typically **20–45 minutes**; client is sedated but usually breathing spontaneously
- Considered moderate/conscious sedation — **NPO 6–8 hours** before and signed informed consent required



SCOPE ADVANCEMENT: NOSE/MOUTH → LARYNX → TRACHEA → CARINA → MAINSTEM BRONCHI

SECTION 02 — INDICATIONS

2 Why Is It Done?

DIAGNOSTIC

- Visualize tumors, lesions, strictures
- Obtain **biopsies** & brushings
- **Bronchoalveolar lavage (BAL)** for cytology/culture
- Evaluate **hemoptysis** source
- Assess persistent atelectasis or cough
- Stage lung cancer (TBNA)

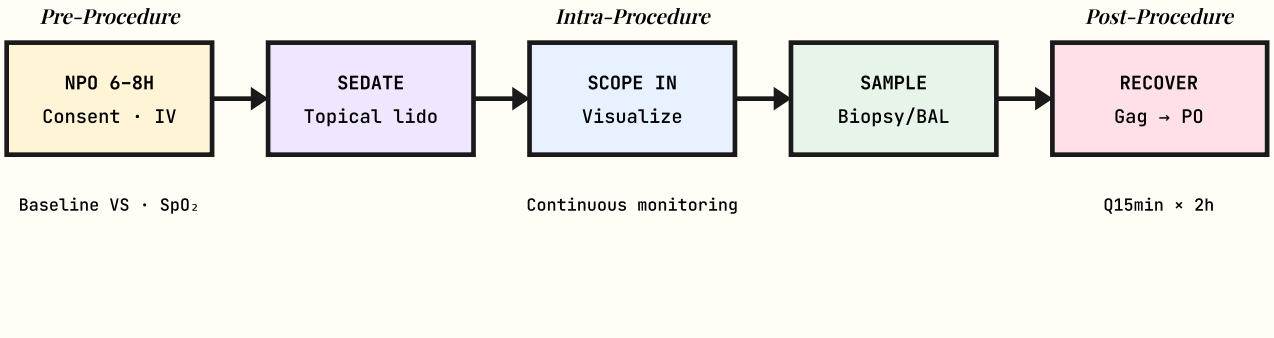
THERAPEUTIC

- Remove **foreign bodies**
- Suction **retained secretions / mucus plugs**
- Place airway **stents**
- Control bleeding (cautery / laser)
- Dilate strictures / debulk tumors
- Difficult intubation assistance

SECTION 03 — PROCEDURE PATHWAY

3 Step-by-Step Mechanism

Topical anesthetic numbs the airway → suppresses the gag reflex → scope is advanced → tissue/fluid is sampled → scope withdrawn → **gag reflex must return** before anything by mouth.



PROCEDURE FLOW — GAG REFLEX IS THE GATEKEEPER OF POST-PROCEDURE INTAKE

SECTION 04 — PRE-PROCEDURE

4 Nursing Care BEFORE

REQUIRED ACTIONS

- **Verify informed consent** is signed (invasive procedure)
- **NPO 6–8 hours** prior (prevents aspiration)
- Establish IV access for sedation/emergency meds
- Baseline VS, SpO_2, lung sounds, LOC
- Remove **dentures, partials, contact lenses, jewelry**
- Have client **void** before procedure
- Verify allergies — esp. **lidocaine, latex, contrast**

LABS & HOLDS

- Check **coagulation labs** (PT/INR, aPTT, platelets) — biopsy risk
- Hold **anticoagulants** per HCP order (warfarin, DOACs, aspirin, clopidogrel)
- Check recent CBC, BUN/creatinine, type & screen if high-risk
- Pre-procedure CXR available
- Bronchodilators if ordered (asthma/COPD)

△ CRITICAL PRE-CHECK

Confirm NPO status. A client who ate breakfast cannot proceed safely — risk of aspiration during sedation.

SECTION 05 — INTRA-PROCEDURE

5 Nursing Care DURING

- **Position:** Supine or semi-Fowler's (40–45°) — promotes scope passage & airway protection
- **Continuous monitoring:** SpO_2, ECG, BP, RR, capnography ($ETCO_2$) if available
- **Supplemental O_2** via nasal cannula (scope occupies airway space → desaturation risk)
- Apply **topical anesthetic** (lidocaine spray/gargle) — numbs gag reflex
- Administer **conscious sedation** (midazolam ± fentanyl) per HCP order, titrated to LOC
- Atropine may be given to **dry secretions** & prevent vagal bradycardia
- Reassure the awake/sedated client; remind them they cannot talk while scope is in
- Have **suction, O_2, intubation equipment, and reversal agents** (naloxone, flumazenil) at bedside

6

SECTION 06 — POST-PROCEDURE ★ HIGHEST NCLEX YIELD

Nursing Care AFTER

Apply **ABC prioritization**: airway integrity, breathing pattern, oxygenation. Most post-procedure complications surface in the **first 2 hours**.

✓ STANDARD POST-OP CARE

- **Position semi-Fowler's** (HOB ≥ 30°) — protects airway, eases breathing
- VS & SpO_2 **Q15 min × 2h**, then per protocol
- **NPO until gag reflex returns** (typically 1–2 hrs) FIRST ACTION
- Check gag reflex with tongue blade before offering ice chips/water
- Monitor lung sounds bilaterally each VS check
- Encourage rest of voice — hoarseness is expected
- Save sputum 24h after biopsy (cytology)

⚠ EXPECTED VS CONCERNING

EXPECTED (normal): mild hoarseness, sore throat, slight blood-tinged sputum (after biopsy), mild fatigue, dry mouth

REPORT IMMEDIATELY: frank hemoptysis, stridor, dyspnea, ↓ breath sounds, ↓ SpO_2, sustained ↑ HR/↓BP, chest pain, fever > 24h, subcutaneous emphysema (crepitus)

GOLD-STANDARD TEST POINT

The FIRST nursing action before giving the post-bronchoscopy client anything by mouth is to assess the gag reflex. Without it, aspiration is nearly guaranteed.

7

SECTION 07 — RED-FLAG COMPLICATIONS

Signs & Symptoms 🚨

COMPLICATION	HALLMARK SIGNS	PRIORITY ACTION
Pneumothorax Esp. after transbronchial biopsy	Sudden sharp chest pain, dyspnea, **absent breath sounds on affected side**, tracheal deviation (late), ↓ SpO_2	Apply O_2, semi-Fowler's, notify HCP STAT, prep for **chest tube**, stat CXR
Laryngospasm	**Stridor**, high-pitched crowing, accessory muscle use, retractions, ↓ SpO_2	100% O_2, jaw thrust, prepare for emergency intubation, notify HCP
Bronchospasm	Wheezing, prolonged expiration, dyspnea, ↓ SpO_2	Bronchodilator (albuterol) nebulizer, O_2, semi-Fowler's, notify HCP
Hemorrhage Post-biopsy	**Frank hemoptysis** (> 1–2 tsp bright red), tachycardia, ↓ BP, pallor	Position on **affected side down** (protects unaffected lung), O_2, IV fluids, notify HCP, prep for repeat bronch
Hypoxia	**Early: restlessness, tachycardia**. Late: cyanosis, ↓ LOC, bradycardia	Apply/↑ O_2, reposition, suction PRN, notify HCP
Aspiration	Cough, wheeze, crackles, fever, ↓ SpO_2 after PO intake	Suction, O_2, side-lying, CXR, NPO, notify HCP
Infection	Fever > 24h post, purulent sputum, ↑ WBC	Cultures, antibiotics per order, monitor temp
Vasovagal response	Bradycardia, hypotension during/after scope	Stop stimulation, atropine if ordered, IV fluids

SECTION 08 — PHARMACOLOGY

8 Drugs Used in Bronchoscopy

DRUG / CLASS	MECHANISM	USE	NURSING CONSIDERATIONS / ANTIDOTE
Midazolam (Versed) Benzodiazepine	↑ GABA → CNS depression, sedation, anterograde amnesia	Conscious sedation	Monitor RR & LOC. Respiratory depression risk. **Antidote: Flumazenil**
Fentanyl Opioid analgesic	μ-opioid receptor agonist → analgesia, sedation	Adjunct analgesia	Monitor RR (target ≥ 10). Risk: chest wall rigidity, respiratory depression. **Antidote: Naloxone**
Lidocaine Local anesthetic (topical)	Blocks Na^+ channels → suppresses gag & cough reflex in airway	Topical airway anesthesia	Watch for systemic toxicity: perioral numbness, tinnitus, seizures, dysrhythmias
Atropine Anticholinergic	Blocks muscarinic receptors → ↓ secretions, ↑ HR	Pre-medication: dry secretions, prevent vagal bradycardia	S/E: tachycardia, dry mouth, urinary retention, blurred vision. Caution: glaucoma, BPH
Albuterol SABA bronchodilator	β_2-agonist → bronchial smooth muscle relaxation	Pre/post — prevent or treat bronchospasm	S/E: tachycardia, tremor, jitteriness, hypokalemia

SECTION 09 — TEST TRAPS

9 NCLEX Wrong vs Right ⚠️

✗ TRAP #1 — "OFFER WATER AS SOON AS ALERT"

Wrong. **Alertness does NOT equal returned gag reflex.** The topical lidocaine can numb the throat for 1–2+ hours after the client is wide awake.

✓ CORRECT — CHECK GAG REFLEX FIRST

Test gag with tongue blade BEFORE any PO intake — even ice chips.

✗ TRAP #2 — "BLOOD-TINGED SPUTUM = CALL HCP IMMEDIATELY"

Wrong. **Small amount of blood-tinged sputum is EXPECTED** after a biopsy.

✓ CORRECT — REPORT FRANK HEMOPTYSIS

Concern arises with bright red blood > 1–2 tsp, persistent bleeding, or unstable VS.

✗ TRAP #3 — "SUDDEN DYSPNEA + CHEST PAIN = ANXIETY"

Wrong. **Suspect pneumothorax** — especially after transbronchial biopsy. Auscultate immediately.

✓ CORRECT — ASSESS BREATH SOUNDS, NOTIFY HCP STAT

Absent/diminished breath sounds on one side = chest tube territory.

✗ TRAP #4 — "RESTLESSNESS POST-PROCEDURE = SEDATION WEARING OFF"

Wrong. **Restlessness & tachycardia are the EARLIEST signs of hypoxia.**

✓ CORRECT — CHECK SpO_2 AND APPLY O_2

Never sedate a restless post-procedure client without first ruling out hypoxia.

✗ TRAP #5 — "POSITION CLIENT ON THE UNAFFECTED SIDE AFTER HEMORRHAGE"

Wrong. **Position on the AFFECTED (bleeding) side DOWN.** Gravity protects the healthy lung from blood spillage.

✓ CORRECT — "GOOD LUNG UP, BAD LUNG DOWN"

This is the mantra for unilateral lung hemorrhage post-bronch.

✗ TRAP #6 — "HOARSENESS 4 HOURS LATER = VOCAL CORD DAMAGE"

Wrong. **Hoarseness & sore throat are normal** and resolve within 24 hours.

✓ CORRECT — REASSURE, OFFER LOZENGES/WARM SALINE GARGLE ONCE GAG RETURNS

Persistent > 24–48h hoarseness or stridor IS concerning.

10

SECTION 10 — PATIENT & FAMILY TEACHING

Patient Education

BEFORE THE PROCEDURE

- Do **NOT eat or drink for 6–8 hours** before (sips of water for meds only if approved)
- Arrange a **ride home** — you cannot drive after sedation
- Procedure takes 20–45 minutes; you'll be relaxed but may be aware
- Throat will be sprayed with numbing medicine — feels strange/unable to swallow well
- Bring a list of medications, especially blood thinners

AFTER THE PROCEDURE

- **Do not eat or drink** until your gag reflex returns (nurse will test)
- Sore throat & hoarseness are normal — use lozenges or warm saline gargle when safe
- A **small amount of blood-streaked sputum** is normal for 24 hours after biopsy
- Rest for 24 hours; no driving, alcohol, or important decisions
- **Call HCP immediately** for: difficulty breathing, chest pain, fever, large amount of bright red blood, or a swollen/crackling feeling under the skin of the neck/chest

11

SECTION 11 — MEMORY BOOSTERS

Mnemonics & Pattern Recognition

BRONCH

POST-PROCEDURE PRIORITIES

- **B** — Breath sounds & SpO_2 (assess bilaterally)
- **R** — Rest position: semi-Fowler's, voice rest
- **O** — Observe for bleeding & pneumothorax
- **N** — NPO until gag reflex returns
- **C** — Check vitals Q15 min × 2h
- **H** — Hoarseness & sore throat are normal

"Gag before Gulp"

No food, fluids, or ice chips until you confirm the gag reflex has returned. This is the **#1 NCLEX priority** after a bronchoscopy.

"Good Up, Bad Down"

If unilateral hemorrhage occurs, position with the affected lung DOWN to protect the healthy lung.

Restless = Hypoxia

Restlessness + tachycardia are the EARLIEST signs of hypoxia — never write them off as anxiety or pain.

Antidote Pairs to Memorize

- **Midazolam (Versed)** → **FLUMAZENIL**
- **Fentanyl / opioids** → **NALOXONE (Narcan)**
- **Lidocaine toxicity** → Stop drug · Supportive care · IV lipid emulsion (severe)

SECTION 12 — NCJMM 6-STEP SCENARIO

12 Clinical Judgment Walkthrough

CASE SCENARIO

A 62-year-old client has just returned to the medical unit after a flexible fiberoptic bronchoscopy with transbronchial biopsy of a right-upper-lobe lesion. The client is sleepy but arousable. Vital signs on arrival: HR 96, BP 132/78, RR 18, SpO_2 95% on 2 L nasal cannula, T 98.7°F. Twenty minutes later, the client becomes increasingly restless, complains of "the worst pain in my right chest," and the nurse notes the SpO_2 has dropped to 88%. Breath sounds are diminished on the right side.

1 RECOGNIZE CUES

Restlessness, sudden right-sided sharp chest pain, SpO_2 dropping (95% → 88%), diminished right-sided breath sounds, post transbronchial biopsy.

2 ANALYZE CUES

*Pattern = unilateral diminished breath sounds + acute chest pain + hypoxia after a biopsy through the pleural surface. This is classic for **pneumothorax**, a known complication of transbronchial biopsy. Restlessness is the early hypoxia cue, not anxiety.*

3 PRIORITIZE HYPOTHESES

#1 Pneumothorax (most likely & most life-threatening) → if untreated, can progress to tension pneumothorax. Rule out: bronchospasm, hemorrhage, mucus plug, pulmonary embolism.

4 GENERATE SOLUTIONS

Apply high-flow O_2 via non-rebreather, raise HOB to high-Fowler's, notify HCP STAT, stat portable CXR, prepare for chest tube insertion, maintain IV access, reassure client, recheck VS Q5 min.

5 TAKE ACTION

Increase O_2 to 100% NRB immediately → position high-Fowler's → call rapid response/HCP → set up chest tube tray and water-seal drainage system → keep client NPO → continue cardiac & pulse-ox monitoring.

6 EVALUATE OUTCOMES

Expected: $SpO_2 \geq 94\%$, RR 12–20, pain controlled, breath sounds return after chest tube placement, CXR confirms re-expansion. If no improvement → reassess for tension pneumothorax (tracheal deviation, JVD, hypotension) → emergent needle decompression.