

Bronchoscopy: Pre- and Post-Procedure Standards (Respiratory Therapy)

Site Applicability

St. Paul's Hospital, Mount Saint Joseph Hospital

Practice Level

Respiratory Therapist, Registered Nurse, Respiriologist

Need to Know

Outpatient bronchoscopy procedures will be booked through Pacific Lung Health Centre (SPH) or Surgical Day Care (MSJ).

All bronchoscopy procedures will at minimum have an attending Respiriologist, a Registered Nurse and a Respiratory Therapist in attendance. The Respiriologist is required to be present in the suite before the first dose of sedation is administered and remain present for the duration of the procedure.

At the start of every procedure, the bronchoscopy team (Respiriologist, RN, RT) will complete the *Bronchoscopy Time Out Sheet* together.

INDICATIONS:

- Diagnostic or therapeutic purposes
- Abnormal chest x-ray or chest CT scan
- Unexplained respiratory symptoms, such as persistent cough, coughing up blood, wheezing, hoarseness, or shortness of breath
- Persistent lung collapse (atelectasis)

CONTRAINDICATIONS:

- Absence of patient consent
- Has not been NPO for a sufficient length of time
- Absence of skilled care providers proficient in performing and assisting with the bronchoscopy procedure
- Allergy to any medications or substances that may be used during the procedure

INFECTION CONTROL PRECAUTIONS

Bronchoscopy is considered a high-risk aerosol generating medical procedure (AGMP) that requires the bronchoscopist and assisting clinicians to be in close proximity to the airway for prolonged periods of time. As such all health care providers involved in the procedure should be wearing complete Personal Protective Equipment (PPE) including fit-tested N95 mask and eye protection for all diagnostic and therapeutic bronchoscopies.

SPECIAL CONSIDERATIONS:

1. Ensure that chilled sterile saline and/or 1:20,000 of epinephrine are readily available in the event that uncontrolled bleeding occurs during the procedure.
2. For patients that have an allergy to lidocaine, the alternative drug chloroprocaine may be requested from Pharmacy at least 24 hours in advance of the procedure by the attending Respiriologist.

Equipment and Supplies

- PPE including fit-tested N-95 mask
- Fibreoptic bronchoscope appropriate for procedure
- Disposable suction valve
- Disposable biopsy valve
- Harmonized Bronchoscopy kit
- 10 x 5 mL ampules of 2% lidocaine
- Lidocaine spray (10 mg per metered dose) and disposable nozzle tip
- 500 mL bottle of normal saline (room temperature)
- 500 mL bottle of chilled normal saline (readily available)
- Denture cup
- Smart Capnoline Guardian[™] or Oximask/biteblock and capnography interface if unable to use Guardian
- 2 x Cytolyte containers
- 2 x Formalin containers
- 2 x Sterile specimen containers
- Permanent marker
- Procedure specific tools:
 - 60 mL syringe, cytology brush, biopsy forceps, microbiology protected brush, wire scissors,
- Bath towel to use as neck roll
- Face towel to cover eyes

This material has been prepared solely for use at Providence Health Care (PHC), Provincial Health Services Authority (PHSA) and Vancouver Coastal Health (VCH). PHC, PHSA and VCH accept no responsibility for use of this material by any person or organization not associated with PHC, PHSA and VCH. A printed copy of this document may not reflect the current electronic version.

- Enzymatic detergent for scope pre-clean
- Bottle of sterile water
- Emergency safety equipment
- Emergency medications

Standard Operating Procedure

Steps

1. Perform hand hygiene and don gloves.
2. Open the harmonized bronchoscopy kit ([Exhibit 1](#)) and lay out contents on worktable. Fill one medicine cup with 20 mL of the 2% lidocaine and label with provided lidocaine label.
3. With a 20 mL slip tip syringe, draw up 1 mL of 2% lidocaine then fill remainder with air. Repeat this step with a second syringe (you can obtain 2 additional 20 mL syringes if preferred). These syringes should be labeled with the provided lidocaine labels.
4. Place 10 mL of 2% lidocaine into a labeled medicine cup and set aside with denture cup for upper airway freezing.



Exhibit 1

5. Open a bottle of normal saline (room temperature) and fill provided bowl. Fill a 20 mL slip tip syringe with normal saline to 20 mL mark. The syringe should be labeled with the enclosed normal saline label.
6. Fill one medicine cup with normal saline and set aside for rinsing brushes and biopsy forceps.
7. Just prior to procedure, obtain bronchoscope from cabinet and inspect for damage and wear. Attach biopsy and suction adaptors to the bronchoscope.
8. Connect bronchoscope suction tubing to suction canister. Cut suction tubing approximately 6 inches from the end and add a 5-in-1 connector to accommodate inline sputum trap.
9. Attach bronchoscope to processor and ignite lamp. Perform white balance. Place scope securely on hanger.

This material has been prepared solely for use at Providence Health Care (PHC), Provincial Health Services Authority (PHSA) and Vancouver Coastal Health (VCH). PHC, PHSA and VCH accept no responsibility for use of this material by any person or organization not associated with PHC, PHSA and VCH. A printed copy of this document may not reflect the current electronic version.

10. Set-up suction unit for oral suction.
11. Ensure that manual resuscitator is attached to oxygen tubing and that there are oral airways available.
12. Assist with specimen collection as directed by the physician and in accordance with the [Bronchoscopy Specimen Collection Guide](#).

Scope Pre-Cleaning Procedure:

1. Power off the light source and processor, disconnect the bronchoscope and attach the water resistant cap to the side port.
2. Empty the remaining saline from the sterile bowl and refill with sterile water.
3. Using the sponge from the enzymatic detergent kit, wipe the insertion tube from boot to distal end.
4. Immerse the distal end of scope into enzyme detergent kit and aspirate the contents for ~30 seconds.
5. Aspirate sterile water for ~10 seconds, and then aspirate air for ~10 seconds.
6. Discard suction and biopsy valves and place bronchoscope into a transport bin with soiled sign indicating the time the pre-clean procedure was completed.
7. Place soiled scopes on wheeled cart and deliver to MDRD staff for reprocessing (GI MDRD at SPH).

Documentation Post-Procedure

1. RN completes documentation in Cerner.
2. Check all specimen laboratory requisitions for accuracy and completeness and pair with labeled specimens.
3. Any photos and video obtained during the procedure should be saved to the secure network Respiriology drive.

Staff Education & Orientation

1. Complete *Bronchoscopy Suite Orientation Checklist* with core bronchoscopy respiratory therapist.
2. Complete practical portion of orientation that includes assisting with a minimum of 5 standard bronchoscopy procedures, 5 Linear EBUS and 5 Radial EBUS Procedures, or until competency is demonstrated.
3. Complete *Procedural Sedation BCCA Certification Program* accessed at <https://learninghub.phsa.ca/>

References

1. American Association of Respiratory Care. Clinical Practice Guideline Bronchoscopy Assisting- 2007 Revision and Update. *Respiratory Care* 2007:Vol 52(1):74-80.

This material has been prepared solely for use at Providence Health Care (PHC), Provincial Health Services Authority (PHSA) and Vancouver Coastal Health (VCH). PHC, PHSA and VCH accept no responsibility for use of this material by any person or organization not associated with PHC, PHSA and VCH. A printed copy of this document may not reflect the current electronic version.

Initial Effective Date:	01-JUN-2016
Posted Date:	14-APR-2021
Last Revised:	14-APR-2021
Last Reviewed:	
Approved By:	PHC
	Bronchoscopy Quality & Safety Team
Owners:	PHC
	Respiratory Therapy