PHILIPPINE HEART CENTER INCIDENT COMMAND POST	Document Type **GUIDELINES**	Document Code: GL-ICP-034
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REVISION HISTORY

Rev No.	Review Date	Description of Change	Date of Next Review
			June 2021

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I. OBJECTIVE:

To describe the protocol for the conduct of elective and emergent bronchoscopy procedures at the time of documented community transmission of Covid-19 pandemic.

II. DESCRIPTION:

The coronavirus disease 2019 (COVID-19) pandemic caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is known to be predominantly transmitted by large droplets and fomites. Aerosol generating procedures such as bronchoscopy places healthcare workers (HCW) at high risk for this aerosol-transmitted infection. Infectious aerosols might likewise be generated from asymptomatic patients with viral shedding as community prevalence rises. In view that all current guidelines suggest that bronchoscopy is relatively contraindicated in COVID-19, this document details to whom to perform and how to perform elective and emergent bronchoscopy safely at this time of documented local community transmission of the COVID-19 pandemic.

III. REQUIREMENTS:

1. Negative Pressure Bronchoscopy Room
2. Bronchoscopy machine
3. Personal Protective Equipment (PPE):
    - 3.1 Isolation Gowns (donned over washable scrub suits)
    - 3.2 Filtering Face Piece 2 (FFP2) or N95 masks/ FFP3 masks/ Powered Air Purifying
    - 3.3 Respirator (PAPR)
    - 3.4 Protective eye wear/goggles
    - 3.5 Face shields
    - 3.6 Surgical gloves
    - 3.7 Shoe cover/booties
    - 3.8 Surgical masks for patient use (if not intubated)

IV. PATIENT CRITERIA:

All adult and pediatric patients referred for bronchoscopy are included. All elective procedures should have negative RT-PCR tests at least 7 days of the procedure. Patient in

convalescence who had COVID-19 infections should have 2 negative RT-PCR tests with at least 30 days of symptoms resolution.

V. INDICATIONS:

It is recommended that elective procedures are postponed until documented community transmission is low. However, for procedures that cannot be postponed, bronchoscopy shall be limited to the following:

suspicion of superinfection; lobar or entire lung atelectasis with concern for mucus plugging; facilitate tracheostomy; concern for alternate etiology of respiratory disease which could change management; life-saving or emergent intervention (significant hemoptysis, severe central airway obstruction or stenosis, foreign body).

VI. CONTRAINDICATIONS:

1. Absolute
   - A. No RT-PCR for COVID-19 done/results unknown within 7 days of scheduled procedure
   - B. Active Covid-19 infection
   - C. Patients who recovered from Covid-19 less than 30 days of resolution of symptoms
   - D. Full ventilatory support with refractory hypoxemia
   - E. Hemodynamic instability
   - F. Malignant cardiac arrhythmias
   - G. Bleeding diathesis uncorrectable before the procedure
   - H. Anticoagulation and blood thinners
   - I. Absence of informed consent
2. Relative
   - A. Lack of patient cooperation
   - B. Recent myocardial infarction or unstable angina
   - C. Uncontrollable hypertension
   - D. Uremia (for bronchoscopic biopsy)

VII. VENUE OF PROCEDURE:

All elective non-surgical procedures shall be done at the bronchoscopy room equipped with negative pressure. Elective surgical procedures with need for intra-operative bronchoscopy at

the Operating Room should be referred to the Section more than 24 hours prior to the procedure for adequate evaluation, otherwise the referral shall be considered emergent.

VIII. TRIAGE:

1. The attending physician or fellow-in-charge shall triage patients, with detailed medical and travel history that includes, but not limited to: travel to or residence in areas with documented community transmission, indications and contraindications if present.
2. RT-PCR for COVID-19 smears shall be requested to all patients for elective procedures by the attending physician/fellow-in-charge.
3. The attending physician/fellow-in-charge shall liaise with the Respiratory Therapist assigned at the Bronchoscopy Section for patient schedule.

IX. SCHEDULING:

1. For elective procedures, a tentative schedule maybe set with the Respiratory Therapist assigned at the Bronchoscopy Section. Confirmation of the schedule may only be done once RT-PCR for COVID-19 are known to be negative. Patient shall be informed of the confirmed schedule by phone call. Procedure must be done within the next 7 days. It case of delays, it is recommended that repeat RT-PCR tests be done and procedure be re-scheduled once results are confirmed to be negative.
2. For emergent procedures, inquiry on patient's RT-PCR test status is imperative:
   A. RT-PCR for COVID-19 negative within 7 days of procedure
      - Action: Proceed with bronchoscopy as per protocol.
   B. RT-PCR for COVID-19 negative but beyond 7 days of procedure/Lateral Flow IgM and IgG done/Tests done but results are unknown or unavailable:
      - Action: Do RT-PCR nasopharyngeal swab immediately. Once done, proceed with bronchoscopy as per protocol.
      - All HCWs are mandated to undergo 14 days of quarantine after exposure or until patient's RT-PCR tests are known to be negative (see Return to Work).

X. PERSONNEL:

Staff shall be limited to: Attending Physician, First-Assist (Fellow-in-Charge), Second-Assist (Fellow-in-Charge), and Respiratory Therapist. All non-essential personnel are not allowed

inside the bronchoscopy room during the procedure to limit HCW exposure. Social distancing as deemed appropriate shall be imposed.

XI. PROTOCOL PROCEDURE:

Elective Bronchoscopy:

1. Phone screening shall be done 1-2 days prior to the procedure. Patient shall expect a call from the Attending Physician/Fellow-in-Charge to ask for any new onset of acute respiratory symptoms like cough, colds, fever, etc and confirmation of RT-PCR for Covid-19 swab results. Schedule of procedure shall then be confirmed.
2. Upon arrival at the Admitting Section of the Hospital, patient shall be screened again by the Fellow-in-Charge at the reception area. Temperature shall be checked using an infrared thermometer.
3. After the final screening, patient will be ushered in to the Bronchoscopy Room and briefed of the procedure. Consent for the procedure shall be required.
4. HCWs shall donn the appropriate PPE prior to patient preparation for the procedure.
5. Patient preparation shall commence once safety checks are all in place.
6. Patient shall wear a surgical mask to cover the nose and mouth during the whole procedure to minimize droplet transmission. The surgical mask maybe slotted to permit transmask, transnasal, or transoral bronchoscopy.
7. Devices that produce aerosols including nebulizers or atomizers shall be avoided during the procedure. Such devices may lead to spread of contaminated aerosols.
8. Sedation protocols shall be implemented to minimize cough.
9. Procedure shall be carried-out safely with time-efficiency. Consider oral suction as required.
10. Post-procedure care shall be rendered to the patient after bronchoscopy.
11. PPE shall then be doffed and discarded appropriately.

Emergent Bronchoscopy:

1. Once informed of any referral for emergent bronchoscopy, the Attending Physician/Fellow-in-Charge shall determine the patient's medical and travel history including RT-PCR smear status.
2. Consent for the procedure shall be required.
3. HCWs shall donn the appropriate PPE prior to patient preparation for the procedure.

4. Patient preparation shall commence once safety checks are all in place.
5. It is recommended that patient be intubated for emergent procedures to minimize aerosolization.
6. Devices that produce aerosols including nebulizers or atomizers shall be avoided during the procedure. Such devices may lead to spread of contaminated aerosols.
7. Sedation protocols shall be implemented to minimize cough. Consider paralysis to eliminate cough in general anesthesia.
8. An RT-PCR for COVID-19 nasopharyngeal smear shall be taken immediately prior to the procedure if COVID-19 status is undetermined or if prior test results are inconclusive.
9. Procedure shall be carried-out safely with time-efficiency. Consider oral suction as required.
10. Post-procedure care shall be rendered to the patient after bronchoscopy.
11. PPE shall then be doffed and discarded appropriately.

XII. POST PROCEDURE:

Elective Bronchoscopy:

1. Patient shall remain at the bronchoscopy room until fully awake.
2. All specimen recovered from the patient during the procedure shall be submitted to the for testing appropriately labelled and sealed.
3. Patient shall be discharged from the bronchoscopy room and shall be informed of the results of any tests done by the Attending Physician/Fellow-in-Charge through phone call or upon follow-up.
4. Bronchoscopy room shall be cleaned and sterilized after each procedure
5. The bronchoscope shall undergo standard high level disinfection after each procedure.

Emergent Bronchoscopy (Operating Room)

1. Patient shall be under the care of the anesthesiologist after the procedure. Standard Operating Room protocols shall apply.
2. All specimen recovered from the patient during the procedure shall be submitted to the laboratory for testing appropriately labelled and sealed.
3. The bronchoscope shall undergo standard high level disinfection after each procedure.

XIII. QUARANTINE INDICATIONS:

All HCWs exposed to probable or confirmed cases of COVID-19 shall undergo a 14-day quarantine. They shall submit themselves for RT-PCR nasopharyngeal or oropharyngeal smear as soon as possible.

If tested positive, HCW shall be isolated and referred accordingly for appropriate management.

XIV. RETURN TO WORK:

Healthcare workers exposed to patients whose RT-PCR smear status are undetermined during the bronchoscopy (as in emergent cases) shall remain in quarantine until the patient's smear status is known to be negative. Likewise, their smears should likewise be negative prior to reporting back to work.

Healthcare workers with positive RT-PCR smear results may report back to work after a 14-day quarantine including period of convalescence and 2 negative RT-PCR smear results taken at least 1 day apart.