

Policy & Strategy for **ENT Out Patient Clinic & Surgeries in Bangladesh in COVID-19 Pandemic**

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**Society of Otolaryngologists &
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Disclaimer: This guideline is compiled with available information online and contains essential information for ENT practices to mitigate COVID-19 crisis.

Preface

The COVID-19 pandemic is the defining global health crisis of our time and the greatest health challenge we are facing every day. Since its emergence in China late last year, the virus has spread to every continent of the world and killed tens of thousands of people. Government of Bangladesh has already formulated national guidelines to combat the situation. Now, more than ever, we need a well workforce and must support our national approach of containment to slow the spread of this potentially lethal virus.

The COVID-19 pandemic has also necessitated changes to our ENT practice to protect clinicians and patients. This guideline is a small effort made by the executive committee of the Society of Otolaryngologists-Head & Neck surgeons of Bangladesh (ORLHNSB) to block the spread of COVID-19 during aerosol generating surgical and diagnostic procedures and clinic visits. This guideline is formulated through Zoom EC meetings with active participations, fruitful discussions and suggestions by the executive members.

Most of the materials of this guideline are taken from the most recent international guidelines like ENT-UK, RCS, ACS, and AIIMS. We hope that ENT service and personal protection of surgical team can be maximized with the use of this guidance.

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Introduction

Generally, Otolaryngologists are in a high-risk level during this covid-19 pandemic. It is important for Otolaryngology staffs to enhance personal protection against Covid-19 infections. Most of the Otolaryngology examinations require inevitable face to face position. Some aerosol generating procedures (nasal endoscopy and laryngoscopy) will increase virus infectivity. Any reflex coughing or sneezing during procedures will cause a direct contamination to medical staffs.

Protective measures

1. Personal protective equipment (PPE) for Otolaryngology.
2. Patients' screening.
3. Examination suggestion.
4. Medical service management.

Personal protective equipment (PPE) for Otolaryngology

- I. Otolaryngologists should choose appropriate protective equipment based on medical operations.
- II. Routine inquiry or simple examination, such as anterior rhinoscopy and oropharyngeal inspection, require basic protection.
- III. During surgery we need more protective measures.

Grading of precautions

Grade I precautions include wearing work clothes, waterproof medical cap, surgical masks, gowns and latex gloves.

Grade II precautions contain wearing waterproof medical caps, medical protective masks (N95 or N99), protective clothing, work suit, anti-penetration isolation gown, latex gloves, shoe covers, and anti-fog protective goggles or protective face shield when necessary.

Grade III precautions mean that besides all Grade II personal protective equipment (PPE) listed above, wearing a comprehensive protective face shield or a powered air-purifying respirators (PAPR) is required.

Recommendation regarding use of PPE

We recommend that Grade II precautions are needed for OPD & Clinic patients in COVID-19 epidemic areas, and Grade III precautions should be used for COVID-19 suspected or confirmed cases when necessary (usually during AGP).

Identifying infected or suspicious patients is the first step

- Covid symptoms
 1. Fever, cough, shortness of breath, fatigue, myalgia
 2. Some patients also have regular ENT complaints such as
Sore throat (13.9 - 60%),
Rhinorrhea (4 - 6%)
Nasal obstruction (4.8%),
Anosmia and dysgeusia
Tonsil swelling (2.1%) and
Throat congestion (1.7%)

Patients' screening

- Triage (as per guideline of DGHS Bangladesh).
- Asymptomatic patients are increasing.
- Think all patient as Covid-19.

In OPD/Clinic Recommendations:

- Triage for all patients attending OPD/Clinic.
- Thermal screening & hand sanitization before entering the hospital/clinic.
- Decrease the number of patients in waiting rooms.
- Spread out chairs in waiting rooms.
- Throw away magazines/handouts that may acquire persistent reservoirs of pathogens.
- One accompanying person only.
- All patients and attendants have to wear masks.
- Limiting the number of visitors/family members to one per patient in outpatient offices.
- Discourage the chronic patients to attend OPD/Clinic.
- Reduce unnecessary physical examinations in the ENT Clinic in COVID-19 epidemic areas.
- For COVID-19 patients/suspected patients who are in urgent need to be examined, the medical precautions should base on Grade II precautions.
- Before throat examination (if needed) patient should be asked to make gargling with Povidone iodine 1% mouth wash.

Don'ts

1. Avoid indirect laryngoscopy.
2. Avoid fibre optic laryngoscopy in clinic.
3. Avoid suctioning nose and discharging ear.
4. Don't allow any patient in the clinic without masks.

In summary

- Elective outpatient attendance should be kept a safe minimum.
- Increase the use of telephone clinics / telemedicine if appropriate.
- When patient needs to be seen face to face, direct contact should be kept minimum and PPE should be worn.
- Postpone long term/unnecessary follow-up.
- Povidone Iodine 1% gargle before entering the chamber for patients to reduce viral load in throat.
- Patient and attendant should wear face mask.
- Patient and attendant will use hand sanitizer before entering the chamber.
- Doctor will use hand sanitizer after seeing every patient.
- Inside the chamber-minimum attendance- single adult patient, child with single attendance.

Regarding Face Mask (N95/FFP3), shortage of masks

- I. Extended use up to 8 hrs
- II. Face shield over N95 can decrease mask soiling.
- III. Re-use up to 5 times by mask rotation
- IV. Hang dry or paper bag
- V. Virus non-viable after 72hrs

Doctors should have 4 sets of N95 face masks, after using one, keep it in separate box with numbering until use the no 4 and re-use 5 times and destroy and get another 4 sets.

Examination suggestions

For suspected patients without typical symptoms, necessary examinations should be performed to exclude potential infection.

- Chest X-radiography or CT is recommended firstly.
- Blood test will provide additional support for diagnosis.
Patients often have lymphopenia and elevated CRP level, or leukopenia or thrombocytopenia.
- PCR test, Antibody test.

Medical service management

- Healthcare services should be adjusted accordingly to reduce the accumulation of patients in hospitals.
- Only emergency cases to be seen and surgeries should be performed.
- During the early outbreak, ENT clinic, routine endoscopy and elective surgeries are to be suspended.
- Elderly medical staff or with co-morbidities such as cardiovascular disease, hypertension, diabetes and cancer are suggested to avoid engaging with high infection risk medical procedures.
- Restriction in the necessary number of assistants during procedures and segregate into smaller teams or individuals to cover entire services.

If the procedure is likely to have

- Close contact with respiratory droplets or aerosols caused by involuntary coughing, sneezing and deeply breathing, such as
 - Throat swabs,
 - Endoscopy for nose and larynx,
 - Treatment for nasal bleeding and
 - Foreign body in pharynx.
- More protection should be utilized, including
 - Wearing coveralls inside the gown,
 - Water-resistant boot covers, face shield outside the goggles, aiming to minimize skin exposure and
 - Double-layer gloves are recommended in case of a tearing accident.

General recommendations

1. All patients will be assessed for symptoms of possible COVID infection such as fever, cough, upper respiratory tract symptoms.
2. All patients will be assessed for COVID exposure.
3. All procedures will be assessed as high or low aerosol generating procedures. High aerosol procedures include nasopharyngeal / oropharyngeal, tracheal surgery.
4. All patients should undergo a PCR COVID screening prior to non-emergent (urgent and elective time sensitive) surgical procedures.
5. The test is to be ordered in the Pre Anesthesia Unit (PAU) or on the ward if the patient is already admitted. The test will be performed by the resident on the team. The test should be done within 48 hours of the procedure.

Emergent procedure

1. If a patient has an emergent procedure that cannot wait for the result of the COVID test, we still recommend a COVID screen even though the emergency procedure will be done without delay as the test can be checked postoperatively and additional necessary precautions will be taken postoperatively.
2. In these patients in whom surgery will be done without waiting for the PCR test, a strong consideration is to be made for a chest CT scan prior to the procedure.

Standard general precautions during surgery

1. Regular surgical masks to be placed on all patients coming into and out of the operating room.
2. During the procedure, the anesthesia team will be conducting the anesthesia according to their protocol using COVID precautions with N95 masks and goggles and gowns.
3. At the induction of anesthesia and intubation, the surgical team should wait outside the operating room for at least 4 minutes after intubation as this is the minimum time required for the air to be exchanged from our operating rooms (15 cycles per hour).
4. The surgical team should also wait outside the room at the extubating.
5. For low aerosol generating procedure, a standard surgical attire with a regular surgical mask and gowns are recommended (If a surgeon feels the need for an N95 mask it can be provided).

6. For high aerosol generating procedure, using an N95 mask, goggles and double gloves is recommended.
7. If the patient is a COVID positive patient or high risk for being a COVID positive patient, the procedure will be done in a negative pressure room, there is no need for the surgical team to wait five minutes for air exchange.
8. A full COVID gear with N95 with Tyvec suit, N95 mask and goggles will be needed.

Clinical guide to surgical prioritization during the coronavirus pandemic

Priority 1a: Emergency procedures to be performed in <24 hours.

- Airway obstruction - Cancer / Foreign body / Sepsis.
- Neck trauma with vascular / visceral / airway injury.
- Nasal /ear button battery removal.
- Life threatening middle ear conditions.
- Orbital cellulitis.

Priority 1b: Urgent procedures to be performed in <72 hours.

- Uncontrolled epistaxis.
- Sinus surgery for impending catastrophe.
- Acute mastoiditis, or severe complications of cholesteatoma.
- Facial nerve palsy secondary to trauma / cholesteatoma.
- Traumatic injury to the pinna.
- Lymph node biopsy - lymphoma where core biopsy inadequate.
- Head and neck sepsis - not responding to conservative treatment.
- MDT directed Cancer debulking / biopsy - Microlaryngoscopy +/- laser.
- Vocal Cord medialisation for severe aspiration.

Priority 2: Procedures to be performed in <1 month.

- EUA / biopsy for malignancy - hypopharynx / larynx.
- MDT directed nasopharyngeal / laryngeal surgery for malignancy.
- MDT directed oropharyngeal surgery for malignancy.
- MDT directed otological cancer surgery.
- Cochlear implantation post meningitis.
- Baro - trauma causing perilymph fistula.
- Organic foreign bodies in the ear.
- MDT directed treatment of small, high grade salivary cancers.
- MDT directed treatment of sinonasal malignancy.
- Non - malignant sino - nasal lesions threatening sight.
- Treatment of pharyngeal / oesophageal / airway stricture.

Priority 3: Procedures to be performed in <3 months.

- CSF fistula repair.
- Symptomatic mucocoele (eg diplopia / recurrent infection).
- Cochlear implant in pre - verbal profound hearing loss where delay will impact on long term outcome.
- Micro-Laryngoscopy and papilloma resection (laser / microdebrider / coblation / steel).
- Endoscopic treatment of pharyngeal pouch with severe dysphagia.

Priority 4: Procedures to be performed in >3 months.

- All other Rhinology.
- Cholesteatoma - uncomplicated, CSOM.
- All Ossicular Surgery / Middle ear implants.
- Tympanoplasty, Grommets, Meatoplasty.
- Vestibular Surgery.
- Non-organic foreign body (except button batteries).
- Cochlear Implants - other.
- Uncomplicated nasal fracture.
- Micro Laryngoscopy benign vocal fold / cord conditions e.g. polyp / cyst/ectasia / paralysis.
- Laryngeal framework surgery (thyroplasty) (unless significant aspiration).
- Routine procedures for pharyngeal pouch.
- Routine transnasaloesophagoscopy.

The following procedures are considered to be potentially infectious AGPs (relevant to ENT):

Tracheotomy / tracheostomy procedures.
Intubation, extubation and related procedures.
Open suctioning.
Bronchoscopy.
Surgery in which high - speed devices are used.
Manual ventilation.
Non - invasive ventilation (NIV) e.g. Bi-level Positive Airway Pressure (BiPAP) and Continuous Positive Airway Pressure ventilation (CPAP).
High - frequency oscillating ventilation (HFOV).
High - flow Nasal Oxygen (HFNO).
Induction of sputum.

For patients with suspected/confirmed COVID-19, any of these potentially infectious AGPs should only be carried out when essential:

- Where possible, these procedures should be carried out in a single room with the doors shut.
- Only those healthcare staff who are needed to undertake the procedure should be present.
- A disposable, fluid repellent surgical gown, gloves, eye protection and a FFP3 respirator should be worn by those undertaking the procedure and those in the room.

- Certain other procedures/equipment may generate an aerosol from material other than patient secretions but are not considered to represent a significant infectious risk. Procedures in this category include:
 - Administration of pressurised humidified oxygen;
 - Administration of medication via nebulisation.

Note: During nebulisation, the aerosol derives from a non - patient source (the fluid in the nebuliser chamber) and does not carry patient-derived viral particles. If a particle in the aerosol coalesces with a contaminated mucous membrane, it will cease to be airborne and therefore will not be part of an aerosol.

- Staff should use appropriate hand hygiene when helping patients to remove nebulisers and oxygen masks.
- Stop all non - urgent Elective Surgery and Outpatients.
- Continue emergency cases and the cancer cases.
- Priorities other urgent cases based on whether the clinical outweighs the risk of catching COVID-19 and experiencing morbidity or mortality.

PPE recommended for all patients during these procedures

Make sure endoscopy is absolutely necessary for management of the patient. Endoscopy should be carried out by video monitoring if possible, rather than direct viewing through eyepiece. Consider / avoid use of local anaesthetic to reduce chance of droplet spread from sneezing or coughing. If use is deemed necessary use soaked pledgets rather than spray. Use hand sanitizer, gloves, gown, face mask, face shield, head cover-optional.

Procedures / examination

- Flexible laryngoscopy / nasoendoscopy
- Oral, nasal & ear open suction
- Change of tracheostomy tube
- Endoscopic guided insertion of feeding tube
- Change of tracheoesophageal prosthesis
- Deep throat examinations (e.g. Checking of tonsil mass, ulcer at retromolar trigone region)

Recommended PPE in different settings for ALL patients (Not just suspected or confirmed COVID-19 patients)

	Triage/ Fever Room	Aerosol Generating Procedures	Out Patient	Other Areas with no pt Contact	AIIR* for Suspected /+ Pt
Hand hygiene	Yes	Yes	Yes	Yes	Yes
Face mask (N95/FFP3)	Yes	Yes	Yes	Yes/FFP2	Yes
Isolation gown	Yes	Yes	+/-	-	Yes
Disposable gloves	Yes	Yes	Yes	-	Yes
Eye protection (Goggles/ face shield)	Yes	Yes	+/-	-	Yes
Hair cover	Optional	Optional	Optional	-	Optional

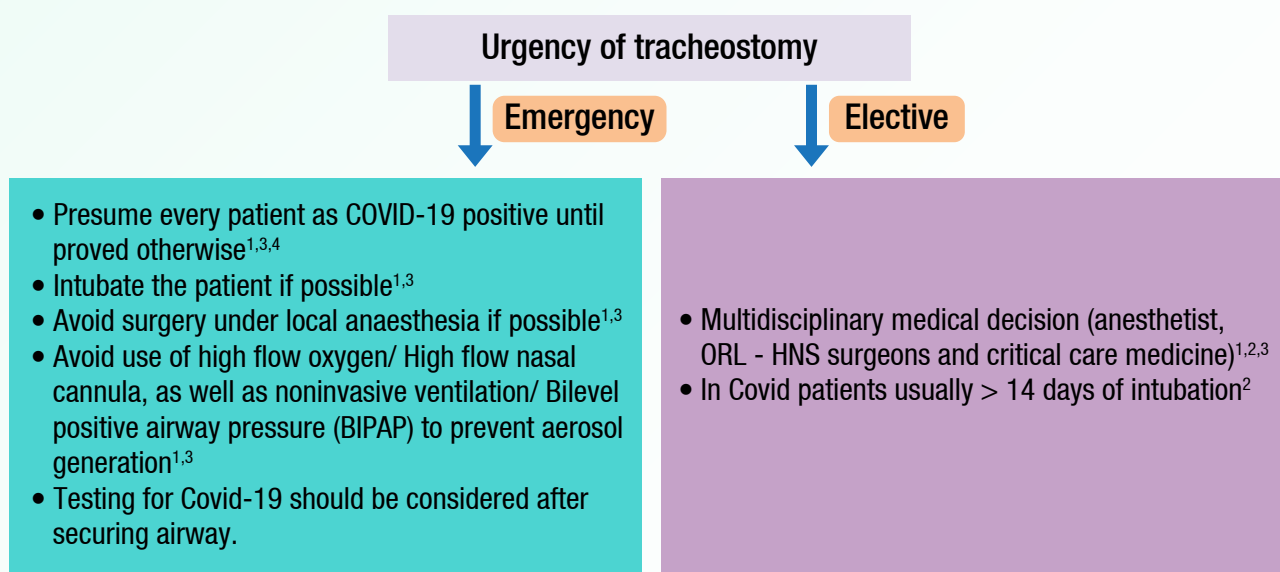
*AIIR = Air-borne Infection Isolation Room

**Shoe covers not recommended

Recommended PPE during different procedures in ENT for ALL patients (not just suspected or confirmed COVID-19 patients)

	History taking	Procedures / examination	
		<ul style="list-style-type: none"> • Flexible laryngoscopy / nasendoscopy • Oral, nasal & ear open suction • Change of tracheostomy tube 	<ul style="list-style-type: none"> • Endoscopic guided insertion of feeding tube • Change of tracheoesophageal prosthesis • Deep throat examinations (e.g. checking of tonsil mass ulcer at retromolar trigone region)
Hand hygiene	Yes		
Type of mask/respirator	FFP2	N95/FFP3	
Isolation gown	No	AAMI level 1	
Disposable gloves	Yes. Use separate pair of gloves for each patient. The same applies to accompanying nurse. Gloves have to be appropriate to allow palpation, use of switches and fine controls (some of the polythene gloves are not suitable)		
Eye protection: The eye is an Important point of entry for viral infection.	Visor / Face shield	Face shield	
Hair cover	Optional		

Surgical Considerations for Tracheostomy During the COVID-19 Pandemic



Surgical tracheostomies in COVID-19 patients: important considerations and the “5Ts” of safety



Fig. The “5Ts” for a safe COVID-19 tracheostomy

1. Theatre Set-Up

The surgical team’s protective equipment (PPE) is displayed in the photograph and is essential. The minimum PPE for an open tracheostomy should comprise a FFP3 face mask with confirmed seal, surgical hood, goggles or visor and double gloves.

This is in accordance with WHO and PHE guidance.

2. Team Briefing

The team briefing occurs in the “Covid theatre”. The key personnel that needs to be present and includes critical care, anaesthetics, surgeons, and nursing team and Anaesthetics

1. Consultant anaesthetics
2. Senior anaesthetics trainee
3. Anaesthetics nurse

3. Transfer of the patient

The patient’s transfer is co-ordinated by the ICU and anaesthetic team. We consider deep suctioning of the chest using the closed suctioning circuit prior to transfer to be a critical procedural step. We also request the oral cavity to be suctioned prior to transfer. This minimises the amount of secretions at the time of opening the trachea.

During the transfer downtime, the surgical and nursing staff begin to ‘doff’ the PPE and enter the theatre to prepare the surgical trays and check the tracheostomy tube.

4. Tracheostomy Procedure

Prior to preparing the patient, we ask the anaesthetist to suction the ET tube again, including suction of the subglottic port, and to confirm adequate muscle relaxation. We consider this a critical step. ICU patients have padded ET tube ties to secure the tube for long periods whilst preventing pressure sores. These can be cumbersome, therefore the anaesthetist removes them prior to the procedure and places an easy to release ET tube tie. Prep and drape is standard; however we ensure that the ET tube and oral cavity is draped over and is only accessible to the anaesthetist to allow for manoeuvring during the tracheostomy.

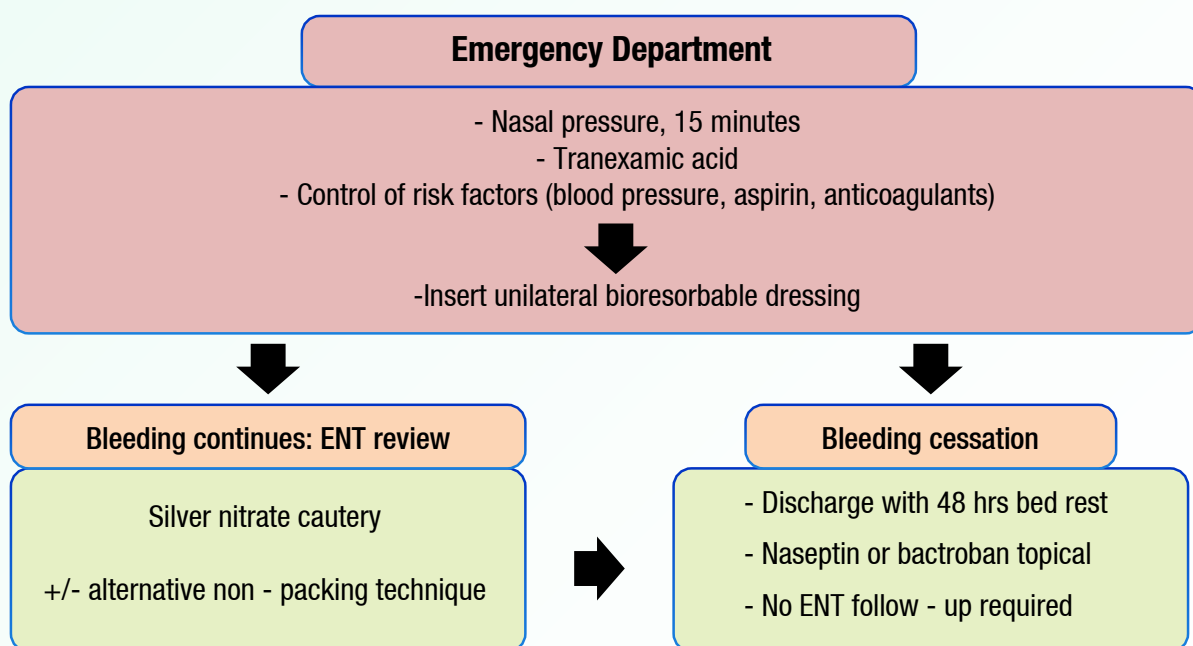
We feel that a crucial step is to keep a closed circuit until the tracheostomy tube is inserted in the trachea. For this reason the balloon/cuff needs to be kept intact. Prior to making the tracheal window, we request the anaesthetist to stop the ventilator and deflate the balloon/cuff. Afterwards, the surgeon makes the window in the trachea. Minimal suctioning is used. Once the window is achieved the ET tube is advanced further (past the window) and the balloon / cuff is re-inflated, thus establishing a closed circuit. This is a critical step. It is important to recognise that the patient is at significant risk of alveolar derecruitment and may require aggressive recruitment after re-inflation of the cuff. We found that this was best achieved with two anaesthetists; one to manipulate the ET tube and one to manage the ventilator.

5. Team “Doffing” and De-Brief

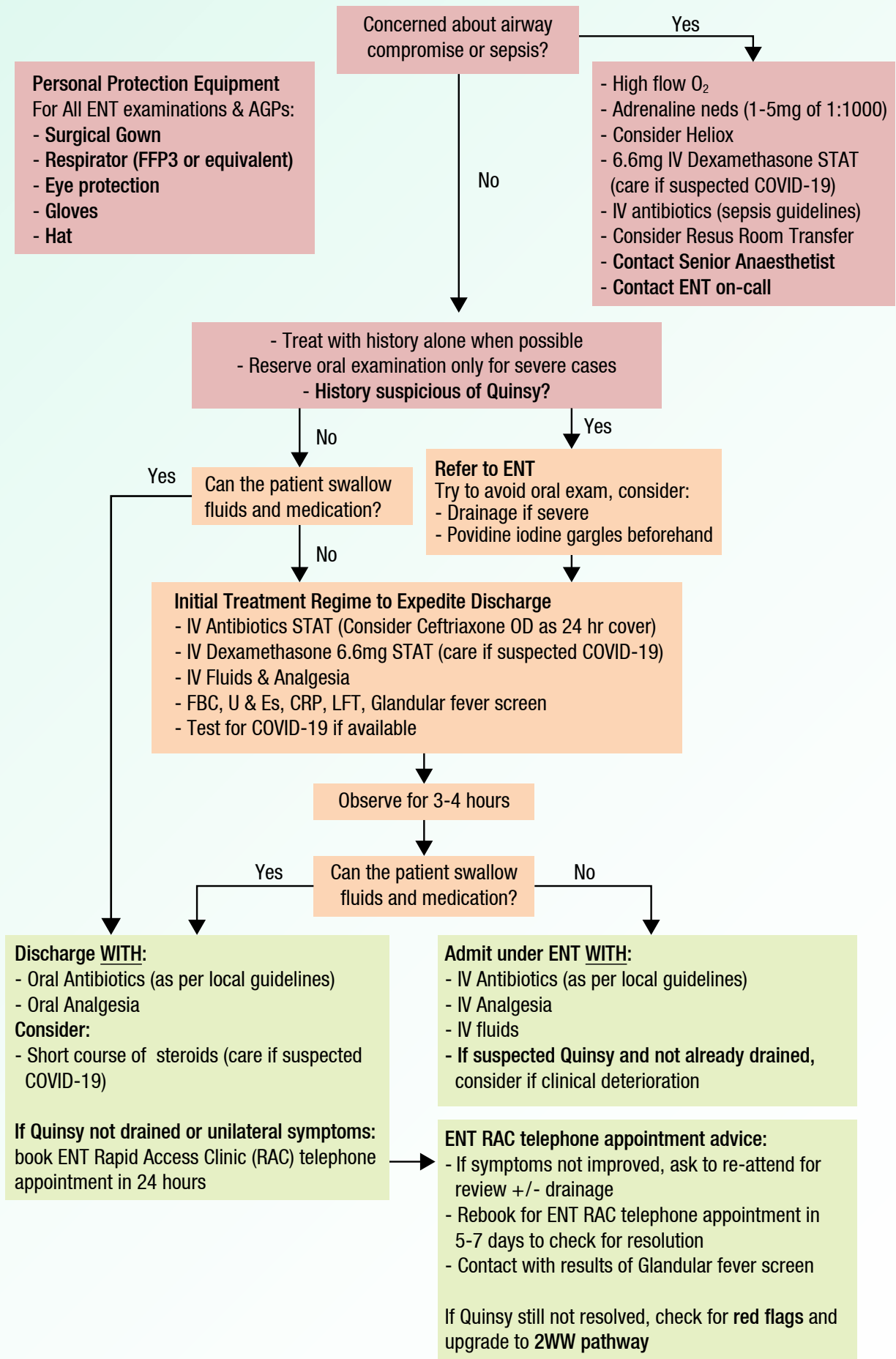
The appropriate time to doff our PPE is a minimum of 20 minutes after removal of the ET tube. This is done in the theatres’ designated area and following the current standard practice guidelines. After this 20 minute hiatus the patient can be transferred back to ICU. The ICU team transfers the patient back to ICU using the same route and procedures described above.

De-brief on these cases is crucial in order to pollinate any future practice. As a surgical team we are liaising very closely with our anaesthetic / ICU and nursing colleagues we approach we approach these cases as safely as possible.

COVID-19 Epistaxis Management



COVID-19 Adult Tonsillitis & Quinsy Guidelines



Mastoidectomy in the COVID Era

Use the 2 microscope drape method to reduce aerosolization (Use traditional / modified drape in case of shortage of plastic drape).

FESS in the COVID Era

Endoscopic examinations of the nose, sinuses, oropharynx, hypopharynx, and larynx are among the most common head and neck diagnostic procedures and are routinely performed by a wide variety of practitioners and trainees. They are considered aerosol-generating procedures.

Moreover, the nose and nasopharynx have been shown to be reservoirs for high concentrations of the SARS-CoV-2 virus, And after manipulation, viral particles have been shown to be airborne for 3 hours or more.

Examinations should be limited to patients who have a clear indication and need. Again, the examination should be performed by the most experienced personnel available in an expedient fashion. Routine or lower-priority examinations should be deferred during the pandemic. Patients should be placed in private rooms with negative pressure, if available, and the use of PPE should follow the guideline.

However, use of sprays should be avoided. Carefully placed pledgets should be used to provide decongestion and anesthesia. Topical anesthesia for any office-based intervention of the larynx under the guidance of a laryngoscope or strobolaryngo-scope is performed through application of a spray. This is considered high risk; therefore, office-based biopsy, injection, laser, or other procedures should be delayed if possible. If a video screen is available to project the examination, it should be used to keep the patient's and health care worker's faces apart. Disposable endoscopes may be considered. After completion of the examination, the endoscope must be appropriately handled. The endoscope should not be removed from the examination room without a protective cover.

Tips for foreign bodies removal

For nasal foreign bodies

- Look directly and remove.
- Next option is to sniff out the foreign body, closing the other nostril.
- Final option is removal under general anaesthesia as per COVID-19 protocol.

For ear foreign bodies

- Look and remove without use of suction apparatus.
- Syringing to remove small, non-wedged objects.
- Tissue adhesive may be used for objects that are difficult to grasp, but avoid adhering to the ear canal. Apply glue to the end of a cotton swab stick and hold on the foreign body for 20 to 30 seconds, then remove.
- Impacted foreign bodies that may swell should be attended to urgently.

For throat foreign bodies

- X-ray will give clues to where it is lodged.
- It should be treated as an emergency and utmost precautions taken as these are aerosol generating procedures. (Button batteries and magnets as foreign bodies should be treated as absolute emergencies for removal). Any planned surgical procedures and establishing tissue diagnosis for treatment planning is regarded as a priority.

Once again these guidelines may change as new evidence becomes available.

Further reading:

1. National Guidelines on Clinical Management of Coronavirus Disease 2019 (COVID-19), DGHS, Govt of Bangladesh, <https://dghs.gov.bd/index.php/en/home/5376-novel-coronavirus-covid-19-guidelines>
2. ENT UK/ COVID-19, <https://www.entuk.org/entuk-guidelines-changes-ent-during-covid-19-pandemic>
3. American College of Surgeons/COVID-19, <https://www.facs.org/covid-19>
4. Royal College of Surgeons of England/Coronavirus (COVID-9), <https://www.rcseng.ac.uk/coronavirus/>
5. All India Institute of Medical Science, New Delhi, <https://covid.aiims.edu>
6. World Health Organization, Coronavirus disease (COVID-19) Pandemic, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>