CORONAVIRUS: Update for the ENT Surgeon

Recommendations compiled by the University of Cape Town, Division of Otolaryngology

NB: This is a dynamic document that continues to be updated as we receive feedback. The National & Western Cape Provincial COVID-19 Guidelines will be incorporated as they are released.

Recent information from high risk areas has shed new light into the exposure of ENT surgeons and their patients during this outbreak.
We need to bear the following in mind:

- The specialists most likely to be infected are ENT surgeons
- ENT specialists "underestimated the risk that they subjected themselves to". We should learn from this.
- The highest viral load is found in the nasal mucosa, followed by the nasopharynx and trachea.
- Patients are often asymptomatic, typically not presenting with rhinorrhea or blocked nose. There are reports of associated anosmia as the only symptom.
- The most common first symptom is a dry cough. Fever can be a late symptom.
- Children continue to be asymptomatic carriers.
- Transmission is airborne and through droplet spread – caution with aerosol generated procedures (AGP).

NB: The information below is aimed at ENT Surgeons and their patients. Please continue to review updated general and medical COVID-19 resources.

ENT Workplace Guidance

- ENT specialists to provide only *time-sensitive* or *emergent* clinic-based and surgical care.
  - *Time sensitivity* and *urgency* is determined by the individual specialists' judgement and must always take into account for the individual patient's medical condition, socioeconomic circumstances, and needs.
  - *Patients who are over 60 years, are hypertensive, diabetic or with any cardiovascular or chronic lung disease, are at VERY high risk for surgery and are unlikely to survive a COVID-19 infection post-operatively.*

- **Conservation of critical resources**
  - Look after the entire clinical team – nurses, registrars, fellows, consultants, admin
  - **Engage with Hospital Management and Chief of Surgery / Heads of Divisions**
    - Patients with complex ENT problems need <u>healthy, uninfected, skilled ENT surgeons to be available.</u>
    - Initiate strict measures to protect ENT divisions with already small staff numbers
    - ENT surgeons in small divisions should not work outside their scope of practise and not in the frontline.
    - Hospitals should therefore take all necessary steps to protect ENT surgeons from becoming infected, especially in small surgical divisions.
    - Recommend: 14 days on & 14 days off ENT service where possible
    - Make provisions for medical cover for international registrars
      - Provide a directive on doctors with kids/families (hotel room for doctors)

- **Necessary Protective Gear – use sparingly**
  - Ensure complete Personal Protective Equipment (PPE) set that includes gloves, goggles, gowns.
  - Get trained on how to don and doff
    - (Donning) https://www.youtube.com/watch?v=kKz_vNGsNhc
    - (Doffing) https://www.youtube.com/watch?v=oUo5O1JmLH0
  - If COVID-19 positive *and the COVID-19 Protocol is activated*, it is necessary to increase barrier to Powered Air-Purifying Respirator (PAPR).

N95 mask

Personal Protective Equipment (PPE): masks, gowns, goggles

Powered Air-Purifying Respirator (PAPR)

THE SOUTH AFRICAN REALITY

The PAPR is not available in South Africa, and likely won't ever be. The Groote Schuur Guidelines recommend the following for:

Improvised face shield

Consulting:

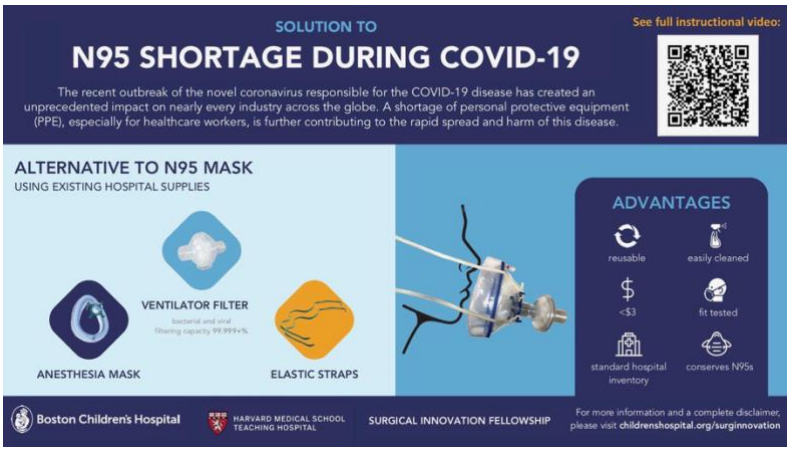
A) COVID-19 unknown
   - surgical mask, goggles / visor

B) COVID-19 positive
   - surgical mask, goggles / visor
   - Head and face shield
   - Surgical Gown and plastic apron

Surgery:

A) COVID-19 unknown:
   - airway surgery (tracheostomy / laryngoscopy, bronchoscopy / laryngectomy)
     - surgical mask, goggles / visor
     - Head and face shield
     - Surgical Gown and plastic apron
     - Plastic drape over patient's head and neck
     - Proper discarding of contaminated disposables
   - Non-airway (cancers outside airway / neck sepsis / trauma)
     - surgical mask, goggles / visor
     - Head and face shield
     - Surgical Gown and plastic apron
     - Plastic drape over patient's head and neck – for intubation
     - Proper discarding of contaminated disposables

B) COVID-19 positive
   - surgical mask, goggles / visor
   - Head and face shield
   - Surgical Gown and plastic apron
   - Plastic drape over patient's head and neck
   - Negative pressure theatre
   - Proper discarding of contaminated disposables



Workplace Guidance *(continued)*

- Cancelling of clinics / OPDs and seeing only urgent cases
- Cutting back on the surgical volume *(Appendix A)*
    - Urgent vs Emergent cases

A) Clinic Operation

For planned Outpatient visits

- Aim to re-schedule all ambulatory visits
    - Pre-visit screening via telephone call for booked patients
    - Outpatients who come to hospital
        - Entry way screeners, front desk screeners (outside the clinic space)
        - Referrals via telephone / Video visits – preferably by consultant

For actual clinic visits

- Waiting Room:
    - Mark a red line on the floor in front of the reception desk to protect admin staff
    - Insist on physical distancing in the waiting room (<5 people in a room with 2 metres between them). Position the chairs in advance, have hand sanitisers available
    (70% alcohol), fix to avoid theft. Remove all reading literature & toys
- Clinic assessment area:
    - Given available evidence, we recommend extreme caution with procedures through a trans-nasal or trans-oral route. These procedures should be avoided in all circumstances.
    - Avoid instrumentation in the head and neck cavities and mucosa where possible
    - Topical medications are more safely applied using pledgets than by spray
    - **Avoid flexible nasendoscopy in ALL cases. If necessary, requires full PPE, consider doing in a dedicated space / theatre setting *(see below)* in the event of a surgical intervention is required – biopsy / tracheostomy**
    - Follow-up: recommend telephonic / video call
    - Avoid admission where possible
        - Isolation ward until COVID-19 test results
        - Use PPE when reviewing / ward rounds (keep contact to minimum)
    - NB: Universal precautions must always apply PPE must be worn, change with each patient. https://www.youtube.com/watch?v=kKz_vNGsNhc
        - Disinfect all equipment medical & non-medical (surfaces, chairs, pens)
        - No use of room for 3 hours
        - Doffing & disposing of PPE must be done according to universal precautions https://www.youtube.com/watch?v=oUo5O1JmLH0
        - Reduce the number of medical staff
        - No patient visits (family / friend)

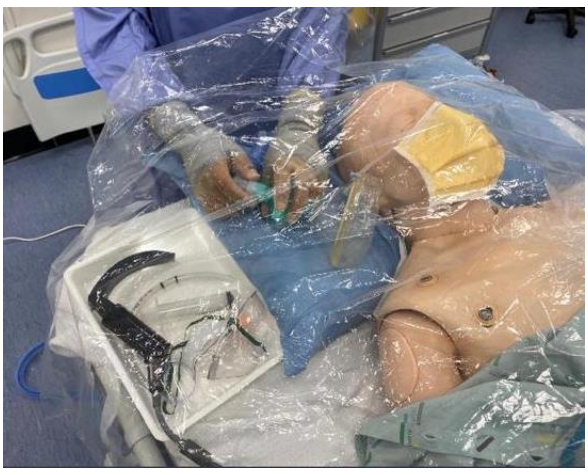
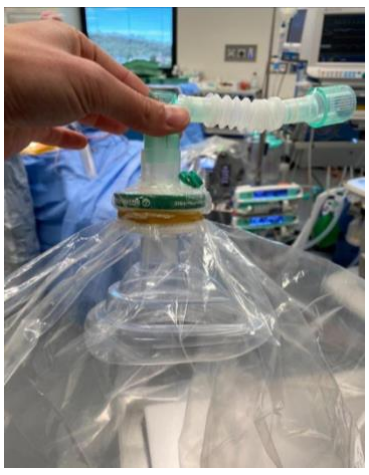
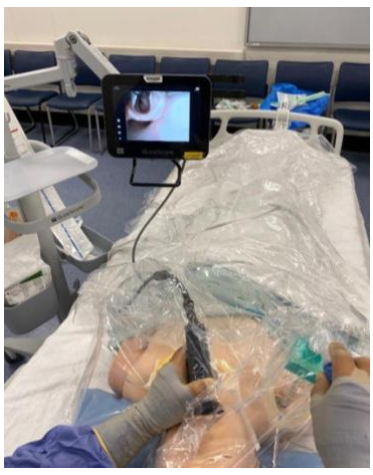
B) Surgery

- Immediately cut back on the surgical volume
  - Reschedule elective and non-urgent admissions
  - Delay inpatient and outpatient elective surgical and procedural cases
- Urgent vs Emergent cases *(Appendix A for list of surgeries & urgency)*
- Determine what is truly an emergency
- Review each case by divisional chief / consultant on call
- Be judicious in consideration with what is safe for patient & theatre staff
- Be careful not to miss everyday pathology that should be managed on an urgent basis - Quinsy, Cancers, TB, Other life-threatening infections
- Consider negative pressure theatre for high risk endoscopies
- Avoid jet-ventilation

KEY PROCEDURES AND SURGERIES PERFORMED BY ENT SURGEONS

The acute stridor / airway obstructed patient

- Clear guidance in managing these patients is necessary
- Location, equipment, skilled staff, post-procedural care
- Avoid nasal intubation and use cuffed tubes with manometry testing
- Given available evidence, we recommend a **dedicated COVID-19 theatre to be used by ENT / Thoracic Surgeons**
- This enables diagnostic and definitive management in 1 centralised space
- Laryngeal obstruction secondary to laryngeal carcinoma / Mycobacterium tuberculosis (TB) larynx / foreign body airway / tracheal stenosis / Subglottic stenosis / papillomatosis /retropharyngeal abscess/parapharyngeal abscess/uncontrolled epistaxis→definitive care
- Tracheostomy where applicable - only once COVID-19 negative, keep intubated until then if possible. https://onlinelibrary.wiley.com/doi/full/10.1097/00005537-200310000-00022
- Reduced number of ICU beds mandates discussion of intubation outcome before proceeding for every case.
- Active multi-disciplinary consultation with Anaesthesia & ICU for every case
- Innovative measures to reduce aerosolising of secretions from the upper airways:
  - During intubation, place the filter onto the end of the endotracheal tube (ETT).
  - Also place the ETT through a clear drape to minimise secretions when looking directly at the glottis. Keep top lights off to avoid reflection, discard drape appropriately once tube inserted
  - An LMA may be an option, but note that there may be more secretions
  - Use CMAC / CMOS for more distance staff from patient

Images courtesy of Dr. James Lai @avecgas

KEY SURGERIES PERFORMED BY ENT SURGEONS

- Tracheostomies:
  ENT Surgery will not do tracheostomies on COVID-19 positive patients
  - There is evidence to show that positive patients on ventilation, typically do not require prolonged ventilation. They either die early, or are discharged from ICU before the need for tracheostomy
  - Any patient requiring a tracheostomy must first be cleared of the virus (must test negative)
  - Testing to be performed by ICU team prior to consulting ENT Surgeons

- Endoscopic and skull base surgery
  - To proceed with surgery, an adult patient must have 2 negative COVID-19 tests
    - Caution: False negative rates known with current COVID-19 testing
  - If COVID-19 status positive, and surgery emergent, wait 3-4 weeks before proceeding
  - If COVID-19 status positive, surgery cannot wait, perform only with PAPR.
  - In the absence of confirmed negative status, by 2 test more than 24 hours apart, patient should be treated as positive.

KEY PROCEDURES PERFORMED BY ENT SURGEONS

- Epistaxis
  - Do nasal endoscopy, pack with rapid rhinos, keep for 48 hours
  - Discharge home within 24 hours after removing packs
  - Considering sending home with 1 rapid rhino in situ if hospital full / COVID patients in hospital. Patient to pull pack themselves after 72hrs & communicate with ENT surgeon telephonically?
- Quinsy
  - Review from a distance (assess trismus / use of +_ images by smartphone to corroborate, if accessible)
  - Intra-venous antibiotics and avoid drainage, no topical spray
  - If drainage required, use needle aspiration. Patient to swallow local anaesthetic
- Acute complicated sinusitis
  - External drainage only, frontal trephine
    https://vula.uct.ac.za/access/content/group/ba5fb1bd-be95-48e5-81be-586fbaeba29d/External%20ethmoidectomy%20and%20frontal%20trephine.pdf
  - AWO through anterior wall of maxillary sinus (canine fossa)- not transnasal
    https://vula.uct.ac.za/access/content/group/ba5fb1bd-be95-48e5-81be-586fbaeba29d/Caldwell%20Luc%20_radical%20antrostomy_%20procedure%20canine%20fossa%20and%20inferior%20meatal%20puncture%20and%20inferior%20meatal%20antrostomy.pdf
  - Intra-venous antibiotics and topical decongestants
- Acute complicated mastoiditis
  - Drain abscess only (no drill, only curettage or hammer and gouge)
    https://vula.uct.ac.za/access/content/group/ba5fb1bd-be95-48e5-81be-586fbaeba29d/Hammer%20_%20Gouge%20Mastoidectomy%20for%20acute%20mastoiditis-1.pdf
  - Intra-venous antibiotics

- Obstructive Sleep Apnoea Syndrome
    - Defer all cases except those already admitted in hospital
    - Proceed with caution only for MOS 3 & 4 scores in children
- Presumed Sinonasal cancer case
    - CT scan first
    - If biopsy required, COVID test first. Biopsy if test negative.
    - If high risk factors present (over 60 years / Hypertensive / Diabetic / Cardiovascular disease), consider rebooking in 6-8wks depending on pandemic spread and developing guidelines.

Other ENT Resources:

- https://www.entnet.org/content/coronavirus-disease-2019-resources
- https://www.entuk.org/categories/covid-19

Donning PPE
https://www.youtube.com/watch?v=I94lIH8xXg8
Doffing PPE
https://www.youtube.com/watch?v=oPLdi15YL3g

Donning & Doffing PAPR: https://www.youtube.com/watch?v=5ygz64l4-NY

National Coronavirus Hotline:0800 029 999
Coronavirus Western Cape Hotline: 021 9284102
Whatsapp: send "Hi" to 0600 123 456
UCT Updates: https://www.news.uct.ac.za/campus/communications/updates/covid-19/

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APPENDIX A: ENT SURGERIES

https://www.cms.gov/files/document/31820-cms-adult-elective-surgery-and-procedures-recommendations.pdf
(ENT Surgery modifications added in last column)

Tiers	Action	Definition	Locations	Examples	ENT Surgeries
1a	Postpone surgery / procedure	**Low acuity surgery/healthy patient -** outpatient surgery Not life-threatening illness	HOPD* ASC** Hospital with low/no COVID-19 census	-Carpal tunnel release -EGD -Colonoscopy -Cataracts	-Sistrunk -Pre-auricular sinus -Tympanoplasty
1b	Postpone surgery / procedure	**Low acuity surgery/healthy patient -**	HOPD ASC Hospital with low/no COVID-19 census	-Endoscopies	- MLBs -DLTBs - Tonsillectomy -Adenoidectomy -Grommets
2a	Consider postponing surgery / procedure if possible	**Intermediate acuity surgery/healthy patient -** Not life threatening but potential for future morbidity & mortality. Requires in-hospital stay	HOPD ASC Hospital with low/no COVID-19 census	-Low Risk cancer -Non-urgent spine & Ortho: including hip, knee replacement & elective spine surgery -Stable ureteral colic -Elective angioplasty	- FESS -Sinus Surgery -Tympano-mastoidectomy -Benign Laryngeal surgery
2b	Postpone surgery / procedure if possible	**Intermediate acuity surgery/healthy patient -**	HOPD ASC Hospital with low/no COVID-19 census		-Angiofibromas -CSF leak
3a	Do not postpone	**High acuity surgery/healthy patient -**	Hospital	-Most cancers -Highly symptomatic patients	-All head and neck cancers -Complicated Sinusitis / Mastoiditis -Uncontrolled Epistaxis -Acutely threatened airway -OSAS (MOS 4) in children
3b	Do not postpone	**High acuity surgery/unhealthy patient**	Hospital	-Transplant -Trauma -Cardiac w/symptoms -Limb threatening vascular surgery	-Above cases -All head & neck cancers -Refractory subglottic / tracheal stenosis -Retropharyngeal / Parapharyngeal abscess

Do not postpone any refractory bleeding, ongoing sepsis or acute obstruction of the head & neck and airway

Where COVID-19 positive 3b, activate the COVID-19 Protocol