NEW ZEALAND SOCIETY OF

OTOLARYNGOLOGY HEAD & NECK SURGERY

Guidelines for Otolaryngologists, Head and Neck Surgeons on Personal Protection Equipment in the COVID-19 Pandemic

CONTEXT

Novel coronavirus (COVID-19) represents an emerging infectious disease threat worldwide, with a spectrum of disease ranging from mild-moderate illness, to pneumonia and severe respiratory distress.

Infection can be caused by virus contacting the upper airway mucosal or conjunctiva through:

- airborne spread (e.g. coughing and aerosols)
- interpersonal contact
- contact with contaminated surfaces.

Otolaryngologists, Head and Neck Surgeons commonly perform invasive examinations and interventions which can be classified as **aerosol generating procedures (AGPs),** and consequently are at increased risk of contracting or acting as vectors for transmission of COVID-19 to our patients.

Appropriate triaging of the need to perform invasive examinations or procedures in the context of the current pandemic can reduce some of these risks, however, where they are absolutely indicated, risks of transmission are reduced through the use of appropriate personal protective equipment (PPE). It is vital that **routine elective procedures and examinations are deferred** during the current pandemic.

Access to stocks of different components of PPE has been an issue worldwide as well as throughout New Zealand, and it is important that existing stocks are preserved until increased local manufacturing can compensate for the increase in demand.

COMPONENTS OF PPE

- Gloves
- Long sleeve fluid-impervious gowns
- Eye protection (e.g. goggles or visor)
- Surgical cap
- Surgical mask
- Correctly fitted N95 “mask” (also known as the N95 respirator)
- Powered Air Purifying Respirator (PAPR)

It is important to understand that different patient contacts carry varying risk of exposure, and PPE selected should be appropriate to that exposure to **minimise depletion of supply of a limited resource**.

It is generally accepted that a surgical mask provides a **high level of protection** against transmission of COVID-19 in casual patient contact and non-AGP examinations.

Powered air purifying respirators (PAPR) provide the highest level of protection, however, very few are currently available nationwide, and patient care should not be compromised by insisting on an inaccessible resource in the NZ healthcare environment. However, DHBs should make all efforts to secure robust supplies of these to protect essential front-line staff engaged in AGPs.

Practitioners engaged in patient contact should ensure they familiarise themselves with the correct techniques for putting on, removing, and disposing of PPE as **incorrect use decreases the effectiveness of protection**.

COVID-19 INFECTION RISK

Patients should be risk triaged according to Ministry of Health guidelines.

The following patients are regarded as high risk:

- Positive test for COVID-19
- Close contact with a confirmed case of COVID-19
- International travel within the last 14 days
- Any of the following symptoms
    - Sore throat
    - Cough
    - Shortness of breath
    - Fever > 38C

"IN-OFFICE", EMERGENCY DEPARETMENT OR WARD-BASED PRACTICE

AGPs should be undertaken only if essential, clinically indicated for diagnosis or likely to change management; a senior clinician should make the decision if there is any doubt.

Only essential people should be present to minimise risks and preserve stocks of PPE.

In a COVID-19 positive or high-risk patient, examinations should be performed in a **negative pressure room** where available.

Regardless of the level of PPE employed, **appropriate hand hygiene and "donning & doffing" technique** must be employed.

High risk AGPs
These include flexible laryngoscopy, oropharyngeal examination, rhinoscopy drainage of peritonsillar abscess, and the management of epistaxis.

Recommended minimum level of PPE:

- N95
- Eye protection
- Surgical cap
- Long sleeve fluid-impervious gown
- Gloves

Low risk AGPs
These include oral cavity exam (without instrumentation), and essential aural micro-suction.

Recommended minimum level of PPE:

- Surgical mask
- Eye protection
- Long sleeve fluid-impervious gown
- Gloves

Non-AGP
These include neck palpation, and skin lesion examination.

Recommended minimum level of PPE:

- Surgical mask
- Eye protection
- Gloves

Additional Recommendations

COVID-19 "unknown" but symptomatic patients in an emergent setting should be treated as **COVID-19 positive**.

Consider using a dedicated examination/procedural room with **appropriate cleaning** between patients.

OPERATIVE PRACTICE

Routine elective surgeries must be deferred for the time being in order to preserve resources for emergency surgery and urgent elective surgery, and to minimise risk of asymptomatic carriers infecting health care personnel.

Below we have list examples of case types within each category, however this list is not exhaustive and we urge ORLHNS to **work collaboratively with colleagues** in decision making regarding appropriateness of surgical intervention during this period.

Pre-operative testing
Internationally there is no consensus on pre-operative COVID-19 testing, and current availability of test kits is low. A recent New England Journal of Medicine publication makes the case for two pre-operative swabs, separated by at least 24 hours.

We feel testing is of value in identifying cases for which a) PAPR should be accessed where available, or b) consideration can be given to deferral of the case and this committee **advocates strongly for making these tests available to ORLHNS.**

Acute/Emergency Surgery

1. Relief of upper airway obstruction (e.g. intubation/tracheostomy)
2. Management of haemorrhage in the airway
3. Acute mastoiditis or biopsy of suspected malignant otitis externa
4. Removal of foreign body from upper aerodigestive tract
5. Drainage of abscess
6. Complications of acute sinusitis (e.g. orbital, intracranial)

Elective Urgent Surgery

1. Diagnostic procedures for suspected H&N cancer
2. Resection of confirmed H&N mucosal malignancy
3. Resection of complex or metastatic skin malignancy
4. Resection of salivary gland malignancy
5. Thyroid cancer with airway invasion/suspected anaplastic cancer
6. Decompensated chronic airway obstruction
7. Complicated cholesteatoma (facial palsy/intracranial complication)

Decision making regarding appropriate level of PPE to be employed during surgical cases is complex and is summarised in the table below. Where full PPE is recommended, this comprises:

- N95 (or PAPR if available)
- Eye protection
- Surgical cap
- Long-sleeved fluid-impervious gown
- Gloves

Standard practice comprises:

- Surgical mask
- Eye protection

- Surgical cap
- Long-sleeved fluid-impervious gown
- Gloves

Additional principles:

- PPE to be worn by everyone in the OR.
- Minimise number of people in the OR.
- Minimise movement in and out of the OR.

Risk Stratification for Surgical Cases during the COVID-19 Pandemic

Acute/Emergent (<48hr window)	
AGP	**Treat as if COVID 19 + ve, full PPE**
Non AGP Symptomatic or has definite/suspected MoH triage risk factors	**Treat as if COVID 19 + ve, full PPE**
Non AGP Asymptomatic with no definite/suspected MoH triage risk factors	**Treat as per standard practice**
Elective Urgent (>48hr window)	
Non AGP Asymptomatic with no definite/suspected MoH triage risk factors	**Treat as per standard practice**
Non AGP Symptomatic or has definite/suspected MoH triage risk factors	**Cancel Surgery until either - fully recovered (2 weeks asymptomatic) OR -2 x negative swab tests, 24hrs apart**
Elective Urgent (>48hr window)	
AGP	**All cases to be swab tested 2 tests, 24hrs apart**
If Swab results = 2 x Negative tests	**Proceed with surgery as planned Full PPE – high procedural risk for staff**
If Swab results = 2 x Positive tests	**Cancel Surgery**
If Swab results = 1 x Positive, 1 x Negative Test	**Repeat Swab testing – 2 tests, 24hrs apart**

COVID-19 testing may not be available as yet in all DHBs, however, we believe access must be prioritized for to aid decision making on the timing of elective surgery with a high aerosol generation potential in order to protect patients and staff.