Canadian Society of Otolaryngology - Head and Neck Surgery /
Société canadienne d'oto-rhino-laryngologie et de chirurgie cervico-faciale

Return to Otolaryngology – Head & Neck Surgery Clinic Practice During the COVID-19 Pandemic
Recommendations from the CSO-HNS Taskforce

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1.0 Introduction and Rationale

Planning will be crucial to the success and sustainability of our transition to reopening our clinical practices. Ideally, the return to practice should be incremental and stepwise, incorporating virtual/telephone visits combined with in-person clinic visits. The aim of this document is to summarize the current evidence and provide expert consensus surrounding precautions for clinical care in the setting of the SARS-CoV-2 (COVID-19) pandemic. As well, these recommendations endeavour to provide general principles as well as practical tips for the reopening of Otolaryngology office practice to optimize patient and provider safety while providing a high level of patient care.

The literature surrounding COVID-19 is evolving rapidly. These guidelines will serve as a "starter" document to get our specialty back into practice initially over the next weeks to months. As the epidemiology of the disease changes, these recommendations may change. This text represents a living document that will be updated over time. Please see the online version (https://www.entcanada.org/news-events/covid-19-alerts/) for the most up to date information. If substantial changes in clinical information arise, this taskforce will endeavour to keep this information updated periodically.

The guidelines and recommendations of each applicable regional health authority should be respected and checked regularly for updates. The information in this document is meant to be an adjunct to local recommendations but not to supersede them.

1.1 Definitions

- COVID-19: disease caused by the 2019 novel coronavirus
- SARS-CoV-2: severe acute respiratory syndrome coronavirus 2 virus
- Aerosol: abbreviation for "aero-solution", a suspension of fine liquid or solid particles in a gas < 5 µm
- Droplet: small drop of liquid > 5 µm
- AGMP: aerosol generating medical procedure, for the purposes of this document, AGMPs include any procedure that has a reasonable potential to result in the production of aerosols of varying sizes including droplet nuclei. It is recognized that some higher risk AGMPs are more likely to induce larger quantity and longer duration aerosol/droplet production while others are less likely to do so
- HCP: health care provider
- PCRA: point of care risk assessment. This is to be conducted before every patient interaction and includes assessment of the task, the patient, and the environment. It is used for determination of control measures, appropriate actions, and PPE type.

- PPE: personal protective equipment
- Contact Precautions[1]:
    - Gloves and gowns for HCPs
- Droplet/Contact Precautions[1]:
    - Source control: mask on the patient
    - Mask, gown, eye protection (face shield or goggles), and gloves for HCPs
- Enhanced Droplet/Contact Precaution:
    - Source control: mask on the patient
    - Fit-tested N95 or higher level respirator, gown, eye protection (face shield or goggles), and gloves for HCPs

2.0 Risk Assessment

2.1 Prevalence COVID-19 in your community

One important consideration when increasing in-person visits during the COVID-19 pandemic is the current disease burden within your community and region. Loco-regional health authorities continue to track overall cases of confirmed COVID-19 infections, active cases, current hospitalizations, and mortality rates. These numbers will help guide clinicians, where decreasing numbers and low community spread may indicate it is safe to resume some in-person care and increasing numbers should trigger a significant reduction in routine in-person care. Moreover, testing should be available at a meaningful scale to confirm declining prevalence with decreasing incidence reflecting an actual decrease in disease prevalence rather than decrease in testing.

Beyond this, most health care resources are managed regionally or provincially. The authors would suggest considering the recommendations specific to your location as in-person visits are reintroduced to avoid unnecessary and potentially unsafe strains on local resources. For example, personal protective equipment (PPE) availability may affect the ability of some areas in Canada to ramp up in-person visits. Other regions have made recommendations about the division of in-person versus virtual care visits, with most regions recommending slow, progressive increases.

2.2 Personal risk/comorbidity

The literature on COVID-19 suggests that personal comorbidities and characteristics can increase the risk of severe infection and mortality. Amongst other factors, advanced age, cardiovascular disease and diabetes have been associated with an increased risk of death following COVID-19 infection. With this in mind, it is reasonable for physicians to consider their own comorbidities when defining their individual risk tolerance[2,3]. To respect these individual variations, this task force will present options/recommendations for safe office practices and appropriate PPE.

However, these recommendations should be considered as "minimum reasonable PPE", and providers should have the option to enhance their PPE, for example, with an N95 respirator, based on their point of care risk assessment (PCRA). However, supply chain concerns and sustainability should be considered.

2.3 Patient Selection

As we move to increase in-person visits, it is important to consider that elective in-person visits should be limited to patients with a low risk of COVID-19 infection. Specifically, patients who have no signs or symptoms of COVID-19 for the last 14 days, no unwell contacts, no recent travel to a jurisdiction with a higher prevalence, and no contact with COVID-19 positive patients - in the setting of low community spread. In areas with high community spread or increasing infection rates, in-person visits should be limited to essential visits only. The recommendations in this document do not apply in the latter scenario.

It may also be reasonable to consider having the physician screen/vet the need for in-person appointments (versus virtual/telephone visit) for appropriateness at this time.

When considering procedures in low risk patients, another important factor is patient cooperation or tolerance. It may be reasonable to defer elective in office procedures (endoscopy, cerumen debridement) in patients who are less tolerant (high gag reflex, lower pain/discomfort tolerances) for the safety of other patients and health care workers.

3.0 Controversies

3.1 Mode of COVID-19 transmission

The primary mode of transmission for COVID-19 is believed to be droplet /contact[4]. However, there is some controversy on whether aerosol spread of COVID-19 is significant for disease transmission. The World Health Organization (WHO) as well as Canadian Public Health agencies currently recommend droplet/contact precautions for HCPs caring for COVID-19 patients and additional airborne precautions for AGMPs according to PCRA.

3.2 High vs Low Risk AGMPs in the office

Talking, coughing, sneezing, and even breathing can generate droplets[5] and aerosols[6], but there is insufficient evidence at this point that virus transmission through aerosols in this setting are relevant, neither for COVID-19.

A number of medical procedures are potentially aerosol-generating but evidence for the creation of aerosols and the burden of viable infectious particles within the aerosols are not well studied. A systematic review by Tran et al. examined the risks of AGMP associated transmission of acute respiratory infections in HCPs and found that tracheal intubation and tracheotomy were associated with transmission of the SARS-CoV-1 virus during the 2003 outbreak, while bronchoscopy, nasogastric (NG) tube insertion, and suctioning of body fluids were not[7]. Given the association of viral transmission, tracheal intubation and tracheotomy are considered high risk AGMPs.

Flexible nasopharyngolaryngoscopy (NPL) represents an area of challenge and confusion for our specialty as it is not consistently recognized as an AGMP. So, is flexible NPL an AGMP or not? Some of our provincial authorities as well as the CDC and WHO do not recognize it as an AGMP. Nasopharyngolaryngoscopy was initially thought to be aerosol generating only when a sneeze or cough was induced[8]; however, there is new evidence that nasal endoscopy produces airborne aerosol with both rigid and flexible endoscopes[9]. Given its similar invasiveness to NG tube insertion and that NG tube insertion was not found to be a high risk AGMP[7], it is reasonable to extrapolate that flexible NPL is likely to be a low risk procedure, even if it generates aerosols.

Similarly, there is also no evidence that sneezing or coughing induced by nasopharyngeal specimen collection leads to increased risk of transmission of COVID-19, justifying recommendations for HCPs to use contact/droplet precautions when performing this task. Again, this is a procedure similar to flexible NPL in its trajectory and risk of inducing coughing or sneezing. Arguably, flexible NPL is even less traumatic than nasopharyngeal swabbing given that it is done under direct visualization.

Suctioning of middle ear fluid is another area of controversy during the COVID-19 pandemic. In viral URTI, previous studies have demonstrated that viruses detected in the nasopharynx can also be detected in middle ear fluids[10]. Extrapolating from this, but in the absence of direct evidence, middle ear and mastoid fluid should be treated as potentially coronavirus-containing in infected patients. Although there is evidence that open tracheal suctioning especially in mechanically ventilated patients may generate aerosols[11], there is no convincing evidence that suctioning in general results in aerosol generation. In fact, a recent cadaveric study demonstrated absence of aerosol generation with nasal suctioning using a 10F Frazier suction[9]. Furthermore, other work has shown that suctioning has the potential to reduce aerosol spread from potential AGMPs[12]. This taskforce would consider nasal suctioning as a low risk AGMP and ear suctioning a non-AGMP or low risk AGMP in the case of tympanic membrane perforation or incision (myringotomy). It has been demonstrated that a stand-alone suction machine in most standard otolaryngology cabinets disperses aerosols from the suction into the air, thus a suction filter is strongly recommended[13].

Given this evolving literature, patients should wear a mask throughout their in-person visit to minimize any potential droplets or aerosols that may be generated throughout their visit. We would also recommend that, at a minimum, the patient and the physician should be wearing a surgical mask for both source control and personal protection during endoscopy and microdebridement of the ear canal at this time.

3.3 Is Air Cleaning Necessary?

To determine if air cleaning is necessary following otolaryngology office visits which may include NPL and other AGMPs, we need to examine the evidence of COVID-19 viral particles that may be present in the air after exposure to a COVID-19 positive patient. A recent experimental study evaluated the persistence of COVID-19 viral particles and found that under artificial conditions, aerosols generated by a three-jet Collison nebulizer and fed into a Goldberg drum lasted up to 3 hours in the air[14]. Caution must be used to interpret this data as a powered generator does not simulate human cough condition or any AGMPs performed in clinical settings.

Furthermore, a report from Hong Kong by Cheng et al. where air samples were taken from a COVID-19 positive symptomatic patient 10 cm away from the patient's chin while performing normal breathing, deep breathing, speaking "1,2,3" continuously, and coughing continuously with and without mask use did not reveal any detectable SARS-CoV-2 RNA[15]. This anecdotal evidence needs to be taken in the context of potential large variability in individuals' propensity for aerosol generation - while some patients produce little to no aerosol, others are considered superproducers. Edwards et al sampled exhaled bioaerosols from 11 subjects and found that 6 of these produced over 99% of the bioaerosols measured[16]. Similarly, Asadi et al used an aerodynamic particle sizer to demonstrate that 8 of 40 individuals tested produced an order of magnitude greater aerosol particles during speech production than their counterparts[17]. These 'superemitters' may contribute to the phenomenon of superspreading of aerosolized infection, however it remains unproven if this type of transmission is applicable to the current pandemic.

In-room air cleaning units are effective in protecting HCPs from airborne pathogens such as measles and tuberculosis. Currently, there is insufficient evidence that SARS-CoV-2 is an airborne pathogen. Free aerosol generation is minimized in our encounter with the patient by having them wear a mask[18] and limiting encounter duration. In such a setting, air purifiers or air exchangers are not mandatory. If there is concern about significant aerosols being generated during a visit, air cleaning may be beneficial and should be considered as an option. There is limited evidence on which air cleaning devices should be considered at this time.

3.4 Duration of exposure

There is a paucity of information on the transmission of COVID-19 in healthcare settings in terms of duration of exposure. A recent study in the CDC's Morbidity and Mortality Report described the exposure to COVID-19 among HCPs who did and did not acquire COVID-19 infection[19]. HCPs who contracted COVID-19 had a longer duration of exposure compared to those who did not develop the infection. The median estimated exposure duration in COVID-19 positive HCPs was higher (120 minutes) compared to COVID-19 negative HCP (25 minutes) (p=0.06). The median duration of exposure during AGMPs was also higher among HCP with COVID-19 (95 minutes) than among those without COVID-19 (0 minutes) (p=0.13). At the time, COVID-19 was not suspected, HCPs were unprotected except for gloves and surgical masks in some instances. No N95 respirator or eye protection was used for AGMPs during exposure. There was also no patient source control measure such as wearing a mask.

Ng et al. reported that in a case where 41 HCPs had contact with a COVID-19 positive patient (unknown at the time) during an AGMP of at least 10 min at a distance less than 2 m wearing surgical masks (some with N95) and gloves did not contract COVID-19 infection[20]. The CDC currently uses 15 minutes as an operational definition for prolonged exposure, but data to justify this arbitrary cut-off is limited[21].

From current available evidence, transmission of COVID-19 requires prolonged and unprotected contact with an infected individual. Hence, we recommend contact/droplet precautions for HCPs during otolaryngology outpatient encounters given that the duration of contact with these patients is limited, and to consider masking the patient whenever possible in particular in small areas when physical distancing cannot be adhered to. We suggest performing all procedures efficiently and limiting time with the patient both pre and post procedure. As with all encounters, PCRA is performed at each encounter and PPE may be modified accordingly.

3.5 Room Decontamination Post Visit

Environmental contamination has been implicated as a route of transmission. In a study from Singapore examining areas with extensive exposure to actively viral shedding COVID-19 patients found that post cleaning samples were negative for SARS-CoV-2 virus following twice daily cleaning[22]. This indicates that routinely wiping down high contact areas will suffice, and should be done between patients (patient chair, door handle, etc.). Please see reference 23 for a list of approved cleaning products effective for COVID-19[23].

4.0 Pre-visit Considerations

4.1 Office Staff COVID-19 Education

- Become familiar and up to date with the epidemiology of COVID-19 in your practice catchment area
- Keep 2 metres distance from others whenever possible
- Practice hand hygiene (soap and water or alcohol-based (minimum 70%) hand sanitizer)
- Avoid touching your face
- Cover your cough or sneeze with elbow or tissue
- Stay at home if you are sick
- Clean and disinfect frequently touched surfaces
- Use a face mask or face covering

4.2 Office Preparedness[24]

- Prepare for office staff illness/absences
- Cross-train staff for all essential office functions
- Establish proper office and medical cleaning routines
- Consider keeping all doors open along patient path from entrance through office to exit to minimize contact with door handles

4.2.1 Clinic/Waiting Room Considerations

- Space chairs 2 metres apart whenever possible
- Consider front desk barrier (sneeze guard)
- Remove magazines, hand outs, non-essential objects
- Eliminate clipboards and pens in patient care areas
- Have dedicated pens for patient use
- Minimize sharing of items at front desk
- No touch trash bins with disposable linings
- Hand sanitizers should be readily available
- Advise patients before visit that they should wear face covering in the waiting area and during clinic visit whenever feasible
- Post signage to remind patients of respiratory hygiene, cough etiquette, arrival instructions, COVID-19 screening questions
- Take advantage of multiple doors leading into clinic to create separate waiting areas for patients if possible
- Indicate clearly where people should sit/stand while waiting to be able to respect social distancing (e.g. floor decals)

- Patients to arrive on time (not early), to manage waiting room crowding
- Can wait outside of building or in vehicle if arrived too early and receive phone call to enter only just prior to appointment time to reduce time and crowding in waiting room
- Minimize waiting room crowding, eliminate additional family/visitors other than patient unless absolutely necessary (caregiver or translator)

4.2.2 Exam Room Considerations

- Declutter space: remove hand outs, models, exposed equipment if possible
- Cover equipment or instruments
- Minimize opening of cabinet/drawer during exam by having required instruments ready
- Covered bins for transporting dirty instruments and scope
- Covered "used reusable PPE" container (goggles/masks)
- Hand sanitizer available
- Clean touchpoints after each patient (>70% alcohol or other antiviral wipes)
- Recommend filter on suction system (hydrophobic disposable suction filter)

- Consider plastic cover on keyboard
- Perhaps consider barriers (plexiglass) for difficult to clean/protect areas (e.g. computers, electronics, endoscopy towers)

4.3 Referral Triage: Virtual vs In-person Visit

- Establish appropriate number of patients scheduled per hour to allow for increased time for patient flow, encounter and room cleaning
- Start conservatively and ramp up as appropriate over 3-6 weeks to ensure compliance and limit waiting room overcrowding
- System in place (usually by MD) to triage referral to determine if the patient requires an in-person visit or a virtual/phone visit first

- Consider taking a history via a virtual/phone visit first and then scheduling a clinic visit as appropriate
- Consider use of a Head & Neck cancer risk calculator http://www.orlhealth.com/risk-calculator-2.html as a screening tool[25]
- Through virtual/telephone visits, investigations can be ordered with trial of medications started
- Consider obtaining pre-visit imaging (e.g. CT for patients with specific sino-nasal complaints or U/S for thyroid nodule)
- Virtual/telephone visits may be considered for the following groups of patients:
  - New patient consultation for history first. Can help shorten time of in-person subsequent visit for physical exam when necessary
  - Follow up for review of test results
  - Follow up for some post operative patients
  - Follow up for patients with certain chronic disorders
  - Medication refills
  - Review of preoperative questions
  - Patients with significant comorbidities
- Reserve in-person visit for patients requiring physical exam and therapeutic or diagnostic intervention

4.4 Clinic Schedule Considerations

- Schedule virtual visits in between in-person encounters to allow for cleaning and minimize patient flow in waiting room
- Consider staggering patient appointments if shared practice

4.5 Pre-appointment Phone Call[26]

4.4.1 Create a script (see Appendix 3 for sample)

- Ideally should be done within 24-48 hours of the appointment
- COVID-19 screening questions (see Appendix 4)
- If patient fails screening, his/her appointment may be changed to virtual visit or reschedule in-person visit
- Advise patient to arrive unaccompanied if possible unless they need caregiver or translator
- Advise patient to bring and wear a mask or face covering throughout the duration when they are at the office

5.0 Patient Visit

5.1 Patient Check In

- Provide hand sanitizer for patients upon arrival to office
- Provide patient mask if he/she does not have one (to protect office staff, other patients in waiting room)
- COVID-19 screening questions (see Appendix)
    - If patient fails screening, determine if a virtual visit is possible in the same time slot or reschedule appointment
- Validate health card pre-visit on EMR if possible then ask patient to either recite their health card information or hold it up for verification
- Consider verbal consent for email and other with no signing of forms and no physical paper exchange if approved by institution
- Pre-send questionnaires (e.g. fillable PDF) to patient and have them return the questionnaire prior to appointment (e.g. SNOT-22)
- Inform patient of physical distancing while in waiting room
- If not possible, ask patient to wait in the car to be called to return once the exam room is available
- Recommend against routine patient temperature checks, as this is generally unreliable in detection COVID-19 infection, isolated fever is an uncommon presentation, and may give a false sense of security

5.2 Patient-physician Encounter (Summarized in Table 1)

5.2.1 Donning PPE (see Appendix for infographics)

- https://rebelem.com/wp-content/uploads/2020/03/PPE-DON-DOFF.png

5.2.1 History (low risk AGMP)

- To minimize patient interaction time, consider history during virtual visit prior to in-person visit
- If possible, maintain physical distancing during this portion of the encounter
- Everyone in room should keep mask on during history taking
- If prolonged discussion is required, consider a follow up virtual call

5.2.2 Nasopharyngolaryngoscopy / rigid nasal endoscopy with or without suction (low risk AGMP)

- Determine if an endoscopy is necessary or if it can be delayed
- Surgical mask (consider N95 if higher prevalence or surgeon risk tolerance as per PCRA)
- Eye protection (face shield/goggles/visor)

- Gloves
- Gown optional
- Avoid powered aerosol anesthetic and decongestants
- Consider hand-held spray or lidocaine/decongestant pledget or ask patient to pre-spray decongestant prior to visit
- Modified face mask[8] on patient or lower mask for scoping
- Instruct patient to warn you if they have to sneeze so you can remove the endoscope and sneeze into elbow or put mask back over mouth and nose. Tip: can also try pinching nose at rhinion or press firmly on upper lip to abort the sneeze
- Consider using a pediatric scope which is less likely to irritate than the adult scope
- If available, a video system rather than direct visualization through endoscope eyepiece may be considered to keep examiner's face away from patient
- Mobile endoscopic adapters are a potentially useful and affordable alternative to a video system, and allow the operator to increase the space between the patient and the physician (e.g. SMARTScope®, Karl Storz; Save my Scope®; Endoscope-i®)

5.2.3 Microdebridement external auditory canal or mastoid cavity (low risk AGMP)

- Recommendation of a filter for suction machine
- Surgical mask, gloves for suctioning with no mucosal exposure
- +/- eye protection (face shield/goggles/visor)
- Mask on patient for source control
- Beware of risk of cough with EAC debridement because of Arnold's reflex
- Warn patient of this possibility and ask patient to notify if feels like they will cough
- If continued debridement is necessary in patient with sensitive cough reflex may consider local anesthesia in EAC to complete debridement

5.2.4 Intratympanic injection/placement of tympanostomy tube (low risk AGMP)

- Surgical mask, gloves, +/-eye protection (face shield/goggles/visor)
- Mask on patient
- Consider inserting ventilation tube and instructing patient to self-administer medication at home via external canal (prescribed intratympanic solution)

5.2.5 Cauterization for epistaxis (low risk AGMP)

- Surgical mask (consider N95 if higher prevalence or surgeon preference)
- Eye protection (face shield/goggles/visor)
- Gloves and gown
- Have patient wear a mask and pull mask down to expose nares
- Topical anesthesia/ decongestant via pledget or manual spray bottle
- Consider chemical cautery over electrocautery given possible aerosol generation with electrocautery

5.2.6 Tracheotomy or laryngectomy patients[27] (high risk)

- For tracheotomy or laryngectomy tube change and suctioning, consider N95 respirator, gown, gloves, eye protection (googles/visor/face shield)
- Avoid open tracheal suctioning if possible

5.2.7 Aesthetic facial procedures[28]

- Resuming elective office procedures in aesthetic medicine should be dependent on local health authority recommendations as well as availability of appropriate PPEs
- Consolidate multiple treatments into a single room and visit
- Prepare and set out all necessary supplies and equipment prior to bringing the patient into the treatment room
- Topical anesthetic agents (such as topical benzocaine/lidocaine/tetracaine ointment and others) should be applied in the same room as the ensuing treatment
- **Injectables (such as dermal fillers, botulinum toxin, Platelet-Rich Plasma (PRP) injections)**
  - Surgical mask, gown, eye protection, and gloves for the provider
  - Mask on patient
  - Minimize ancillary staff in the treatment room (if staff assistance is required, similar PPE as provider is recommended)
  - Avoid intraprocedure discussion by provider and patient

5.2.8 Special considerations for pediatric patients[29]

- Pediatric outpatients are a current area of controversy in the otolaryngology clinic setting. Evidence suggests that this population is more likely to be asymptomatic carriers, and less likely to adhere to office or exam protocols e.g. always arrive accompanied, frequently "screen positive" due to nonspecific URTI symptoms, and most importantly, be non-compliant with mask use. As such, we recommend that a PCRA is conducted for each pediatric patient considering factors such as disease severity, assessment of community disease prevalence, necessity of in-depth examination (e.g. use of tongue depressor, scope), treatment options, likelihood of aerosol generation and thus risk to HCP.
- Other tips may include placing a mask on patients over 2 years of age and asking caregivers to prevent them from touching office equipment/surroundings (e.g. ask them to put their hands in their pockets).

5.3 Audiology Assessment

- Audiologist to wear mask, gloves and eye protection when placing equipment on patient
- Change or remove gloves before starting testing so as to avoid contamination of audiology machine
- Have patient wear a mask in audiology booth
- Have patient use hand sanitizer prior to testing as they will be touching buttons for pure-tone testing
- Wipe down equipment after use with appropriate disinfectant agent

5.4 Patient Check out

- Maintain physical distancing at front desk
- Consider omitting check out procedure and opt for EMR-based instructions to admin assistants for investigations/follow-ups to be communicated by phone or email

6.0 Post-visit Considerations

6.1 Soiled Medical Equipment Processing

- Routine instrument cleaning is advised using approved process
- Optional to immerse reusable instruments in a container with soapy water immediately after use (transfer in container to device reprocessing when full, or at end of day)
- Ensure the entire endoscope and light cable/battery are cleaned since the handle may also be contaminated[30]

7.0 PPE Doffing Procedures

- Proper doffing of PPE (see Appendix 5)
https://rebelem.com/wp-content/uploads/2020/03/PPE-DON-DOFF.png
- Post doffing procedure in doffing area
- Doff in the exam room
- Hand sanitizer and wipes accessible nearby
- Dispose gloves after each patient
- Dedicate space for goggles/shield to wipe down if contaminated
- Reuse of masks and gowns depends on risk tolerance, PPE availability, and concern about contamination (procedure +/- soiling event)
- Clean office surfaces and contaminated eye protection with approved cleaner or wipes[23]

Table 1.

Encounter Type	Possible Aerosol Generation	Risk	Patient Mask	Physician PPE*	Special Considerations
History	Minimal	Low	Yes	Surgical Mask, Eye Protection**	Consider virtual history to minimize in-person time Maintain physical distancing in person
Physical Exam	Minimal	Low	Yes (if possible)	Surgical Mask, Eye protection**, Gloves	Time with mask off (of patient) should be minimized where possible
Transtympanic Injection	Minimal	Low	Yes	Surgical Mask, Eye Protection**, Gloves	Beware Arnold's reflex Consider local anesthesia/blocks to reduce coughing for extensive debridement Use of microscope may be hindered by eye protection
Tympanostomy Tube Placement	Minimal	Low	Yes		
Mastoid/EAC Debridement	Minimal	Low	Yes		
Cauterization Epistaxis	Minimal	Low	Yes	Surgical Mask, Eye Protection, Gloves, Gown**	Consider chemical cautery over electrocautery
Rigid Nasal Endoscopy	Moderate	Low	Yes		Avoid powered aerosolized anesthetic sprays Pull mask down to expose nostril or modify mask, keep mouth covered Consider video system over direct visualization to increase distance from patient
Flexible Nasopharyngo-laryngoscopy	Moderate	Low	Yes		
Tracheotomy/ Laryngectomy Patient	High	High	Not applicable	N95 respirator or Surgical Mask Eye Protection, Gloves, Gown	Unable to cover cough Consider N95 mask, particularly if tube being manipulated or suctioning performed
Rigid Laryngoscopy	No consensus	---	No consensus	No consensus	Consider flexible nasopharyngolaryngoscopy as an alternative
Aesthetic Procedures	Minimal	Low	Yes (if possible)	Surgical Mask, Eye Protection, Gloves, Gown**	Consider availability of appropriate PPE Dependent on local health authority recommendations

*minimum recommended personal protective equipment, **optional PPE, at physician discretion

Appendix. Checklists and Examples

Appendix 1. Checklist of Possible Items to be Implemented

- ❑ Order clinic supplies
- ❑ Create pre-visit call script
- ❑ Create signage for office
- ❑ Reorganize front office
- ❑ Remove exam room chairs as appropriate
- ❑ Declutter waiting room, front desk, and exam rooms
- ❑ Cover keyboards, instruments, dirty trays, used PPE containers
- ❑ Train staff on PPE
- ❑ Train staff on new office protocols

Appendix 2. Checklist of Possible Items to be Purchased (pending availability)

- ❑ Plexiglass barrier (sneeze guard)
- ❑ Trash bins with disposable liners (foot activated)
- ❑ Surgical masks / N95 respirators
- ❑ Gloves
- ❑ Gowns
- ❑ Face shield /goggles/visors
- ❑ Hand sanitizer
- ❑ Approved cleaning wipes
- ❑ Minimum 70% Alcohol cleaning/disinfectant solution
- ❑ Instrument/scope transport containers
- ❑ Instrument containers with lids
- ❑ Plastic "dirty PPE" container
- ❑ Suction filter
- ❑ Keyboard cover
- ❑ Physical distancing floor decal
- ❑ Signage specific to COVID-19 and office protocols

Appendix 3. Possible script for Pre-Visit Telephone Call

ENGLISH

May I speak to [name of patient with scheduled visit]? I am calling from [Dr X's office] with regard to your appointment scheduled for [date/time]. Given the recent COVID-19 outbreak, I am calling to ask a few questions in connection with your scheduled appointment. We are asking the same questions to all patients in preparation for the visit.

Administer Pre-COVID-19 screening questionnaire (Appendix 4)

If you can, please come by yourself unless you need a caregiver or translator. Please bring and wear a mask or face covering. Please check-in at the front desk and we may ask you to wait in your car to be called for your appointment after your check-in. Unless you hear otherwise from us, we look forward to seeing you at your appointment on [date/time].

FRENCH

Est-ce que je peux parler avec [nom du patient]? J'appelle du bureau du docteur(e) [nom du médecin] par rapport à votre rendez-vous du [date/heure]. Compte-tenu de la situation de la COVID-19, j'aimerais vous poser des questions avant votre rendez-vous. On pose les mêmes questions à tous les patients en préparation aux rendez-vous.

Questionnaire Pre-COVID-19 (Appendix 4)

Si vous pouvez, venez seul(e), à moins d'avoir besoin d'aide ou de traduction. Amenez un masque ou un couvre-visage. Enregistrez-vous à l'accueil et il est possible qu'on vous demande d'attendre dans votre auto avant d'être appelé à votre tour. Nous vous attendons pour votre rendez-vous du [date/heure].

Appendix 4. Pre-Visit COVID-19 Screening Form for All Patients[31]

Question		
1. Are you coming from a. home b. hospital c. long term care		
2. Have you had any of the following symptoms BEGIN in the last 14 days?	YES	NO
- fever		
- chills		
- cough		
- shortness of breath or breathing difficulties		
- runny nose or nasal congestion		
- joint or muscle pain		
- new headache		
- recent onset of loss of smell or taste		
- weakness, exhaustion		
- new onset diarrhea, nausea, vomiting		
- pink eye		
- any other symptoms or illness		
3. Have you been in contact with, or close to anyone who has the coronavirus in the last 14 days?		
4. Have you been in contact with, or close to someone who has been sick in the last 14 days (such as a cold, pneumonia, etc.), in absence of negative COVID-19 test.		
5. Have you travelled in the last 2 weeks? If so, where?		
6. Do you work in a high-risk facility and have you been tested positive for COVID-19? If so, when? *		

*Question 6: (case by case decision)

FRENCH VERSION

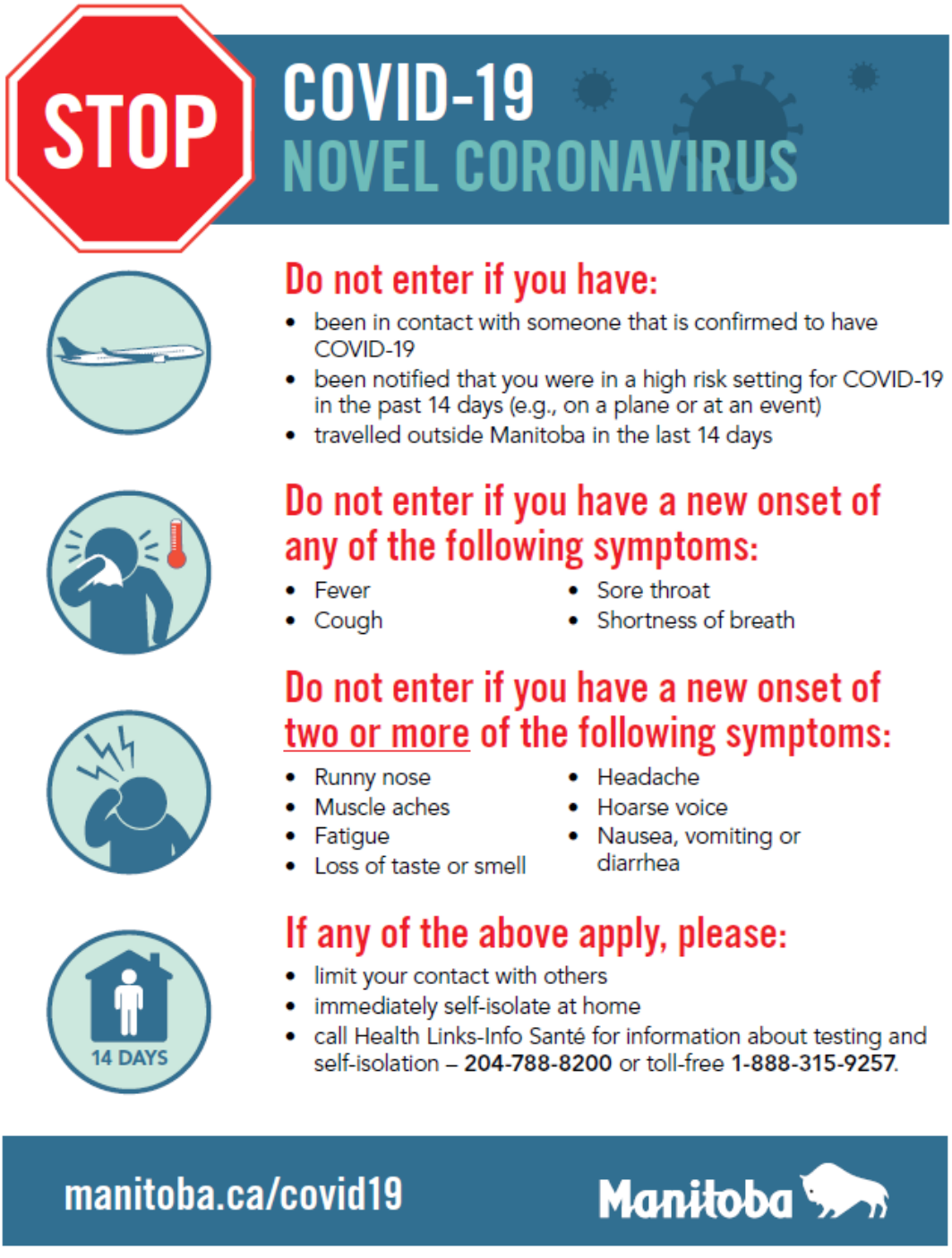
Question		
1. D'où venez vous ? a. domicile b. hôpital c. CHSLD		
2. Avez-vous eu le symptôme suivant qui a DÉBUTÉ au courant des 14 derniers jours ?	YES	NO
- fièvre		
- frissons		
- toux		
- difficulté à respirer		
- écoulement nasal ou congestion nasale		
- douleurs musculaires ou aux articulaires		
- nouveau mal de tête		
- perte du goût ou de l'odorat subite		
- faiblesse, épuisement		
- diarrhées, nausées, vomissements d'appartition soudaine		
- yeux rouges		
- tout autre symptôme ou maladie		
3. Avez-vous été proche ou en contact avec quelqu'un qui a eu le coronavirus dans les 14 derniers jours?		
4. Avez-vous été proche ou en contact avec quelqu'un de malade dans les 14 derniers jours (rhume, pneumonie, etc.), et vous n'avez pas eu de test négatif à la COVID-19?		
5. Avez-vous voyagé dans les deux dernières semaines? Si oui, où?		
6. Travaillez-vous dans un établissement à haut risque ? Et si oui avez-vous été testé positif pour la COVID-19? Si oui, quand? *		

*Question 6: (décision cas par cas)

Appendix 5. Donning & Doffing PPE[32]

Appendix 6. Examples of Office Signage that can be Adapted

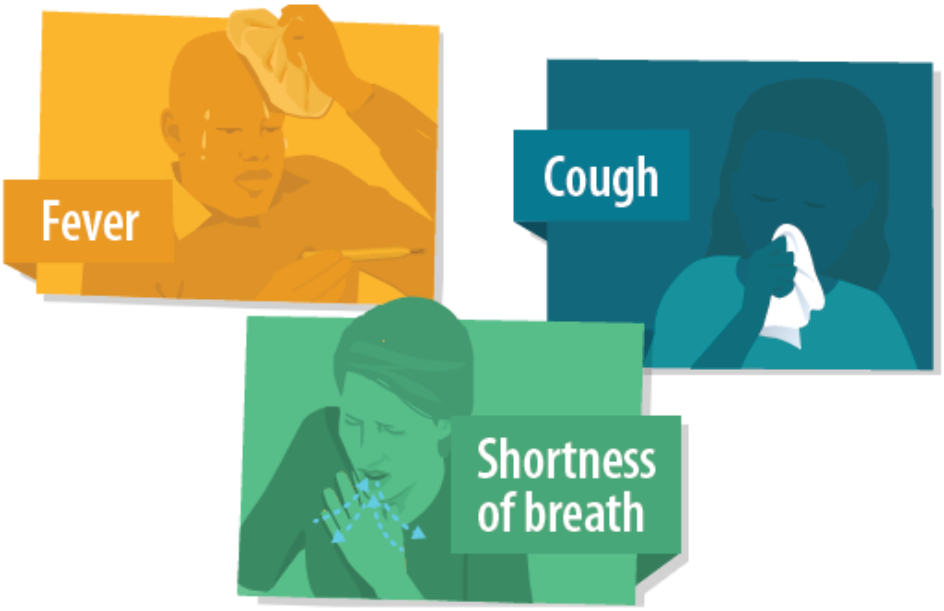
Reference 33



Reference 34

Please read before entering.

IF YOU HAVE



Please call our office before coming inside.
Clinic Phone # _____

The clinic staff may ask you to wear a mask or use tissues to cover your cough.

Thank you for helping us keep our patients and staff safe.

CDC

CS315889-B 03/12/2020

For more information: **www.cdc.gov/COVID19**

Reference 35

ATTENTION

DO NOT enter if you are experiencing any of the following symptoms:

- fever
- cough,
- and/or difficulty breathing

Please practice social distancing and try to maintain a distance of 2 metres from those around you.

Thank you for keeping our community safe!

Stay up-to-date with current information:

www.algomapublichealth.com/COVID-19

Algoma PUBLIC HEALTH Santé publique Algoma

Reference 36

STOP!

IF YOU HAVE:

FEVER

COUGH

SHORTNESS OF BREATH

OR IF YOU HAVE A REASON TO BELIEVE YOU MAY HAVE BEEN EXPOSED TO THE COVID-19 VIRUS FOR ANY REASON.

DO NOT ENTER

RETURN TO YOUR VEHICLE AND CALL YOUR HEALTHCARE PROVIDER.

Public Health
Prevent. Promote. Protect.

Reference 37

Reference 38

Infection. Prevention. Control.
You're in safe hands

NHS

Respiratory and cough hygiene

- Cough or sneeze into a clean tissue, not into your hands.

- Dispose of the tissue immediately into the nearest waste bin.

- If you do not have a tissue, cough or sneeze into your upper sleeve.

- Always clean your hands after coughing or sneezing, either using soap and warm running water, alcohol handrub or hand wipes.

These steps will help prevent the spread of colds, flu and other respiratory infections

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