

RECOMMENDATIONS FOR ADAPTING AN OPTOMETRY PRACTICE DURING THE CORONAVIRUS PANDEMIC (COVID-19)

Version 2 (March 30, 2020)

Updates in this version:

- COVID-19 disease definition
 - o Updated triage criteria and questionnaire¹
- Surface and equipment disinfection
- Personal protection equipment
 - o Ocular protection and gowns
- Fever criteria: 38.0°C

REMINDER

Following directives from government and from the Order, optometrists must close their practices until further notice, except for the provision of emergency services and teleoptometry. For more details, [see updated directives on the Order's website](#).

The purpose of the following recommendations is to help optometrists adjust their practice when responding to urgent or pressing needs.

¹ Quebec Ministry of Health and Social Services, March 25th 2020

1. Administrative measures

Reduction in clinical activities

- Close the practice, except for the provision of emergency eye care services (if the appropriate infection control and prevention measures can be taken) and tele-optometry
- Put in place a telephone triage system where the decision to bring a patient to the office is made by the optometrist.
 - Determine if the case is urgent or not (see Appendix 1)
 - Use the triage questionnaire (see Appendix 2).
 - Recommend COVID-19 suspect patients contact the provincial information line (1-877-644-4545).
- Post a sign in front of the clinic informing patients to call the office for triage.
- Update the clinic's website (or other forms of social media) to provide patients with easier access to information on the changes made
- Provide patients with a telephone number for postponing an exam or renewing a prescription.

Patient Triage (see Appendix 3)

- Put in place a **triage station** at the clinic entrance that includes:
 - A staff member who must be wearing gloves and a mask
 - Immediate HH for each patient and reminder of breathing etiquette
 - Verbal triage COVID-19 questionnaire, with written documentation in the record regardless of results
 - Measuring of patient temperature using a non-contact, infrared thermometer
 - Confirmation/triage of level of emergency of ocular condition (Appendix 1)
 - Breathing etiquette sign (see Appendix 4)
 - Sign for hand hygiene (HH) (see Appendix 5)
 - Sign for how to don a mask

For COVID-19 suspects (positive questionnaire)

- Urgent condition
 - Send to ophthalmology if available in the area
 - If ophthalmologist is unavailable, see patient in the optometry practice **as a high priority**, take appropriate precautions (Table 1)
 - Patient must don a mask upon entering the practice
- Non-urgent condition
 - Postpone exam to a later date and direct patient to provincial COVID-19 information line.

For non COVID-19 suspects (negative questionnaire)

- Urgent condition
 - See patient in optometry practice (with appropriate precautions, Table 1) or send to ophthalmology, following usual referral criteria and regulation
- Non urgent condition
 - Postpone exam to a later date

Train personnel on infection prevention and control

- HH, breathing etiquette, wearing and removal of masks, wearing and removal of gloves

Monitor the health of staff

- Repeat the triage questionnaire every day: if positive, contact the provincial COVID-19 information line.

2. Environmental recommendations

Recommendations for the office in general (including reception area, laboratory and other common areas)

- Respect social distancing between all staff members
- HH for all staff members arriving at the office, before and after contact with a patient, before and after eating, before and after using the bathroom.
- Frequent disinfection of high touch areas (keyboards, mice, tablets, telephones, pens, doorknobs, etc.) (Appendix 6).
- If possible, have each staff member use a separate telephone and computer.
 - If not possible, disinfect between each use.
- Minimize the number of pens.
- Waste management: currently no special recommendations for biological waste management (use normal procedure).

Waiting room

- Install a HH station.
- Provide disposable tissues.
- Respect a minimum distance of 2 m between patients (remove chairs if necessary).
- If possible, have an isolation area or room for patients with a fever or COVID-19 suspect.
- Keep the waiting room as empty as possible.
 - Ask patients to wait outside or in their vehicle and call them in when it is time for their exam (HH and other precautions when returning to the clinic).
- HH must be practiced before and after using the bathroom.
- Management of visitors/escorts:
 - Ban escorts, unless absolutely necessary.
 - If allowed in, visitors must undergo the same precautions as the patient.

Examination room

- Conduct the exam as quickly as possible.
- Keep conversation to a strict minimum.
- Ask the patient not to speak during the exam, especially when using the biomicroscope.
- It is mandatory to install a **biomicroscope breath shield** (the largest one possible).
 - If unavailable commercially, consider an alternative option (see Appendix 7).
- Use sterile, single-use cotton swabs when manipulating eyelids.
- Disinfect surfaces and equipment before and after each patient.
- Tonometry
 - Avoid tonometry if not necessary.
 - Ban the use of non-contact tonometers.
 - Use Goldmann tonometers (disposable probes preferably) or Icare tonometers (use a new probe for each patient).
 - If disposable probes unavailable for Goldmann tonometers, disinfect **by completely soaking the end for 5 to 10 minutes in:**
 1. A bleach-based solution (ratio 1:10) OR
 2. Peroxide 10% OR
 3. Isopropyl alcohol (alcohol swab insufficient)
 - After soaking, rinse with sterile saline and allow to air dry
 - Do not soak the probes any longer than 10 minutes to avoid damaging the prisms (fissures, etc.).
 - Have more than one tonometer probe available to alternate and minimize wait times between disinfection cycles.
- HH for patient and optometrist after the exam
- After the examination, securely doff personal protection equipment upon exiting the examination room
- After examination, disinfect examination room

Optical services

- Disinfect surfaces, equipment and frames: use the best disinfectant available (see Appendix 6) before and after each patient.
 - Disinfect patient spectacles (including the ophthalmic surfaces) before or after repairs using isopropyl alcohol 70%.
- To measure the pupillary distance: use a previous measurement if possible or use the ruler method at arm's length (avoid using a pupillometer).

3. Personal protective equipment and precautions based on clinical situations

Table 1

| Clinical situation | Individual | Precautions |
|-------------------------|--|--|
| Triage Station | Staff member | Gloves, mask, HH |
| | All patients, upon arriving at the triage station | HH |
| | Patient admitted: COVID-19 suspect (to be seen first) | Mask, HH |
| | Patient admitted: non suspect for COVID-19 | HH |
| Waiting Room | COVID-19 suspect (to be seen first) | Mask, HH, isolation space or room |
| | Non suspect for COVID-19 patient | HH, social distance 2 m |
| Examining Room | COVID-19 suspect (to be seen first) | Mask, HH |
| | Non-suspect for COVID-19 patient | HH |
| | Optometrist with COVID- 19 suspect | Gloves, mask, HH, biomicroscope breath shield, protective eyewear, protective gown |
| | Optometrist with non-suspect for COVID-19 | HH, biomicroscope breath shield |
| Optical Services | COVID-19 suspect (to be seen first) | Mask, HH |
| | Optometrist, optician or assistant with COVID-19 suspect | Gloves, mask, HH |
| | Non-suspect for COVID-19 patient | HH |
| | Optometrist, optician or assistant with Non-suspect for COVID-19 | HH |

Gloves

- Single use, non-sterile (ideally nitrile, otherwise vinyl or latex, but potential allergies)
- Replace gloves between patients to avoid contamination and conduct HH afterwards.
- Single-use gloves cannot be washed or disinfected because their integrity may be compromised.
- Avoid wearing jewellery or long artificial nails.
- Follow precautions when donning and doffing (Appendix 8).

Masks

- Use surgical masks preferably (attach behind the head).
- Procedure masks acceptable (hook behind the ears)
- N95 masks not necessary
- Follow precautions when donning and doffing (Appendix 9)

Protective eyewear

- Protective eyewear or shield are to be used to protect examiner's conjunctiva from contagion. Can be worn over prescription eyewear
- Use airtight model or with lateral protection (example [here](#))
- Prescription spectacles do not offer adequate protection
- Protective eyewear can be reused if it is used by the same healthcare worker
- Disinfection of protective eyewear (interior and exterior) must be performed immediately upon removal and between each patient encounter, with appropriate disinfectant (Appendix 6). If visibly soiled, clean with soap and water before disinfecting
- If the integrity or visibility through the eyewear is compromised, it should be replaced

Protective gowns

- Single-use, non-sterile, long-sleeved protective gowns (example [here](#)).
- Ensure appropriate donning and doffing procedures (Appendix 9)
 - Sign: <https://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ipc-doffing-ppe-poster.pdf>
 - Video: <https://www.youtube.com/watch?v=Bpb6t9igA2M>

REFERENCES

These recommendations were updated on March 30th 2020, following communications from the Quebec Ministry of Health and Social Services and using the following documents:

Alert: Important coronavirus updates for ophthalmologists, American Academy of Ophthalmology, 18 mars 2020, <https://www.aao.org/headline/alert-important-coronavirus-context> accès 2020-03-19

AOA Guidance for Optometry Practices - Coronavirus/COVID-19 March 17, 2020, American Optometric Association, 2019
<https://www.aao.org/Documents/optometrists/AOA%20Guidance%20for%20Optometric%20Practices%20-%20COVID-19.pdf> accès 2020-03-19

Lai, T. H. T., Tang, E. W. H., Chau, S. K. Y., Fung, K. S. C., & Li, K. K. W. (2020). Stepping up infection control measures in ophthalmology during the novel coronavirus outbreak: an experience from Hong Kong. *Graefe's Archive for Clinical and Experimental Ophthalmology*, 1–7. <https://doi.org/10.1007/s00417-020-04641-8>

Junk AK, Chen PP, Lin SC, Nouri-Mahdavi K, Radhakrishnan S, Singh K, Chen TC. *Disinfection of Tonometers: A Report by the American Academy of Ophthalmology*. *Ophthalmology*. 2017 Dec;124(12):1867-1875.

Notions de base en prévention et contrôle des infections : gestion des visiteurs, Institut national de santé publique du Québec, 2018, <https://www.inspq.qc.ca/publications/2441> accès 2020-03-18

Notions de base en prévention et contrôle des infections : hygiène des mains, Institut national de santé publique du Québec, 2018, <https://www.inspq.qc.ca/publications/2438> accès 2020-03-18

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Notions de base en prévention et contrôle des infections : précautions additionnelles, Institut national de santé publique du Québec, 2018 <https://www.inspq.qc.ca/publications/2436> accès 2020-03-18

Notions de base en prévention et contrôle des infections : équipements de protection individuelle, Institut national de santé publique du Québec, 2018
<https://www.inspq.qc.ca/publications/2442> accès 2020-03-18

APPENDIX 1: Urgent and Non-urgent Eye Conditions

Examples of urgent eye conditions:

- Recent flashes and floaters
- Sudden loss of vision
- Painful red eye
- Suspected foreign body
- Etc. (based on clinical judgment)

Examples of non-urgent eye conditions:

- Annual exam
- Routine dilation monitoring
- Follow-up on suspicion of glaucoma
- SAAQ (department of motor vehicles) form
- Etc. (based on clinical judgment)

APPENDIX 2 - COVID-19 triage (updated March 26th 2020)

In Quebec, as of March 25, 2020, a suspected case of COVID-19 was defined as any person who:

- has travelled outside of Canada in the past 3 weeks **OR**
- was in close contact with a confirmed case **OR** a suspected case of COVID-19 **OR** a symptomatic traveller **OR**
- has received a recommendation of voluntary self-isolation at home

AND

Who has fever **OR** cough **OR** difficulty breathing which started

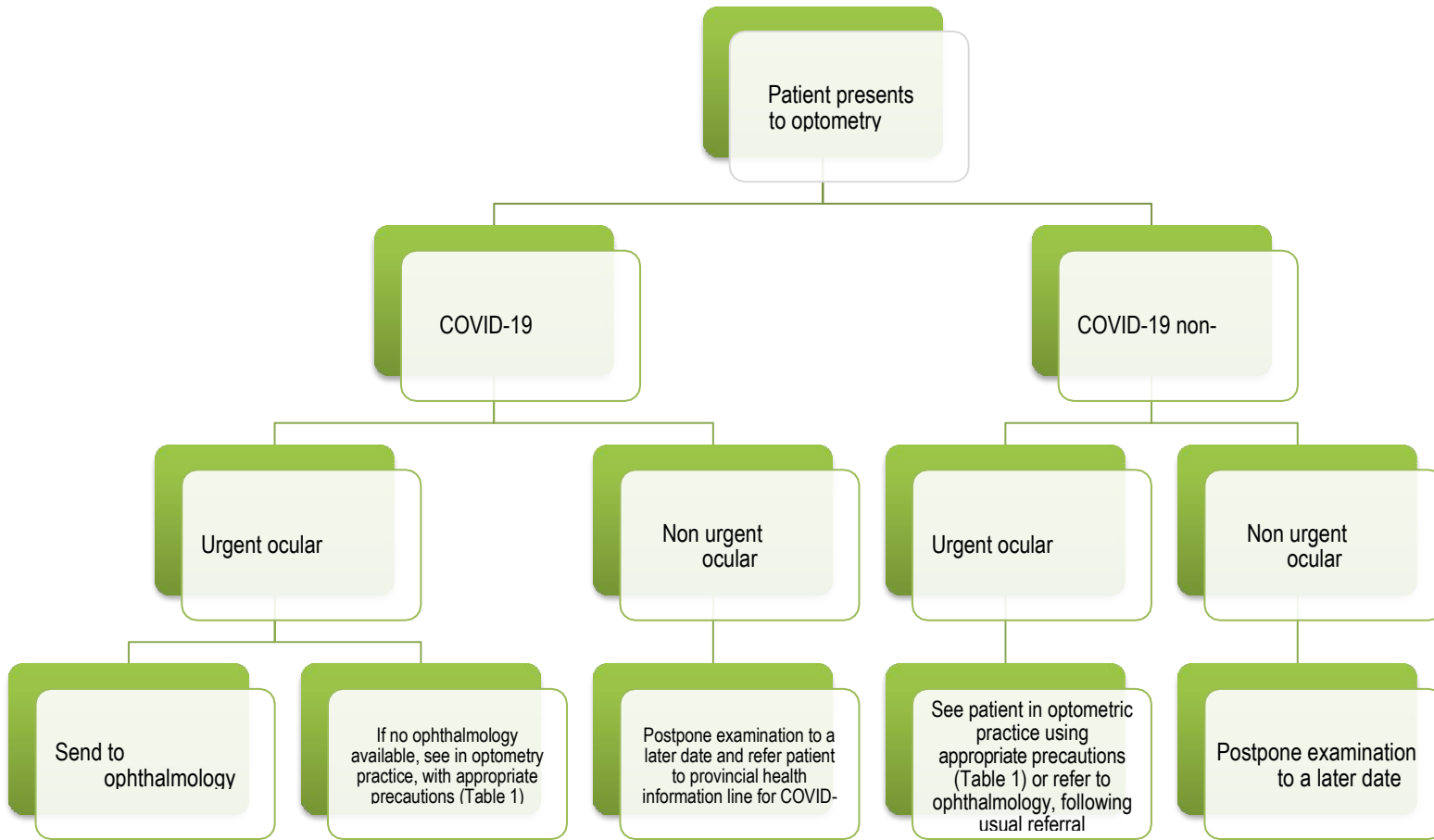
- During their time abroad **OR** within 14 days of their return **OR**
- Within 14 days following their potential exposure

Therefore, using the following questionnaire:

A suspected COVID-19 case = YES to (questions 1 OR 2 OR 3) AND YES to (questions 4 OR 5 OR 6)

| | | |
|---|------------------------------|-----------------------------|
| 1. Have you travelled outside of Canada in the last 21 days? OR | yes <input type="checkbox"/> | no <input type="checkbox"/> |
| 2. Have you been in close contact with a confirmed or suspected case of COVID-19 or a symptomatic traveller? OR | yes <input type="checkbox"/> | no <input type="checkbox"/> |
| 3. Have you received a recommendation of voluntary self-isolation at home? AND | yes <input type="checkbox"/> | no <input type="checkbox"/> |
| 4. Do you have a fever (temperature $\geq 38^{\circ}\text{C}$) which started during your trip or within 14 days of you return or of your potential exposure? <i>(question to be asked on the phone and temperature to be measured in person when possible)</i> OR | yes <input type="checkbox"/> | no <input type="checkbox"/> |
| 5. Do you have a cough which started during your trip or within 14 days of you return or of your potential exposure? OR | yes <input type="checkbox"/> | no <input type="checkbox"/> |
| 6. Do you have breathing difficulties which started during your trip or within 14 days of you return or of your potential exposure? | yes <input type="checkbox"/> | no <input type="checkbox"/> |

APPENDIX 3: Triage algorithm for optometry patients during the COVID-19 pandemic



APPENDIX 4: Breathing Etiquette Sign

PROTECT THE HEALTH OF OTHERS!

Respiratory hygiene



1

If you have to sneeze or cough, cover your mouth and nose with a tissue.



2

Dispose of soiled tissues in the trash.



3

If you do not have a tissue, turn your face into your shoulder or the bend of your elbow to sneeze or cough.



4

Wash your hands often. If soap and water are not available, use an antiseptic product.

IF YOU ARE ILL, AVOID VISITING FAMILY AND FRIENDS.

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gouvernement

Québec

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Source: Ministère de la santé et services sociaux du Québec, accessed online at: <https://publications.msss.gouv.qc.ca/msss/fichiers/2019/19-207-01A.pdf>

APPENDIX 5: Hand Hygiene Signs

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

Duration of the entire procedure: 40-60 seconds

0 Wet hands with water;

1 Apply enough soap to cover all hand surfaces;

2 Rub hands palm to palm;

3 Right palm over left dorsum with interlaced fingers and vice versa;

4 Palm to palm with fingers interlaced;

5 Backs of fingers to opposing palms with fingers interlocked;

6 Rotational rubbing of left thumb clasped in right palm and vice versa;

7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

8 Rinse hands with water;

9 Dry hands thoroughly with a single use towel;

10 Use towel to turn off faucet;

11 Your hands are now safe.

World Health Organization

Patient Safety
A World Alliance for Safer Health Care

SAVE LIVES
Clean Your Hands

How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

Duration of the entire procedure: 20-30 seconds

1a Apply a palmful of the product in a cupped hand, covering all surfaces;

1b Rub hands palm to palm;

3 Right palm over left dorsum with interlaced fingers and vice versa;

4 Palm to palm with fingers interlaced;

5 Backs of fingers to opposing palms with fingers interlocked;

6 Rotational rubbing of left thumb clasped in right palm and vice versa;

7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

8 Once dry, your hands are safe.

World Health Organization

Patient Safety
A World Alliance for Safer Health Care

SAVE LIVES
Clean Your Hands

Source: World Health Organization, accessed online at: https://www.who.int/gpsc/5may/How_To_HandWash_Poster.pdf?ua=1 and https://www.who.int/gpsc/5may/How_To_HandRub_Poster.pdf?ua=1

APPENDIX 6: Disinfection of surfaces and equipment

Recommended Disinfectants for Office Surfaces and Equipment

Many disinfectants can be used for surfaces and equipment. For instruments, refer to manufacturer's recommendations.

To disinfect surface and equipment, use paper towels and dispose of in regular trash receptacles, which must contain a plastic bag.

To choose a disinfectant: see [list of products approved by Health Canada](#) (updated regularly) for effective use against the virus causing COVID-19

Examples include:

Diluted bleach solution (1:10 = one part household bleach [5.25 – 6% concentration] + 9 parts water)

- Apply to surface. Required contact time: 3 minutes
- Wear protective gloves to prevent skin lesions from corrosion
- Perform HH after glove removal
- Do not use in spray bottles (upper respiratory tract irritation)
- Prepare new solution every 24h (limited shelf life)
- Must be stored in opaque, plastic container
- Do not combine with other cleaning or chemical substances or with urine (toxic fumes)

Isopropyl alcohol (minimum 70%)

Thymox (commercial name safeblend)

- Canadian product, biodegradable, ecologo certified, non-corrosive

Special instructions: tonometry

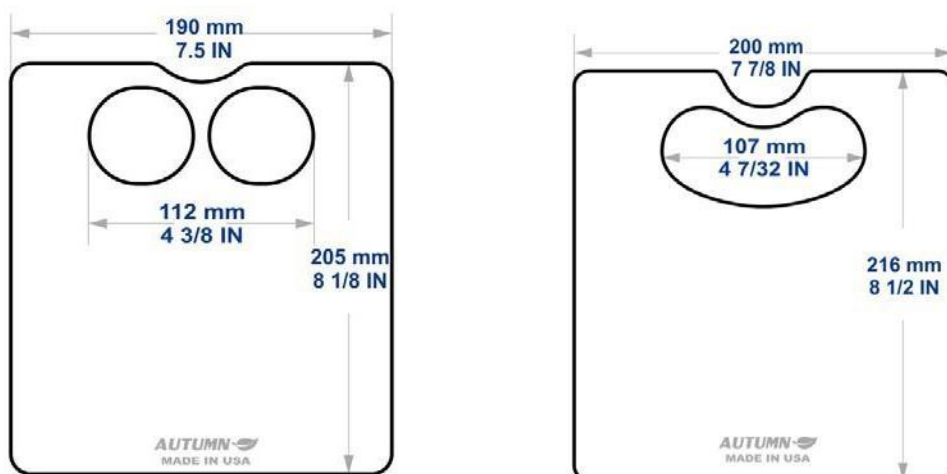
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 3. Isopropyl alcohol (alcohol swab insufficient)
- After soaking, rinse with sterile saline and allow to air dry
- Do not soak the probes any longer than 10 minutes to avoid damaging the prisms (fissures, etc.).
- Have more than one tonometer probe available to alternate and minimize wait times between disinfection cycles.

APPENDIX 7: Biomicroscope Face Shield – Tips for Alternatives

- Look for large models (190-200 mm) since the goal is to have a shield that is as large as possible. The models attached to the screw on some biomicroscopes are often too narrow (110-120 mm).
- Use methyl methacrylate (plexiglass) that is 1/8" thick (available in hardware stores).
- Cut a shape to fit onto the eye pieces of the biomicroscope or use the screw for this purpose, if applicable (located between the eye pieces on certain biomicroscopes).

See examples below or other models <https://chinrestpapersource.com/oem-products/slit-lamp-breath-shields?bfilter=a39:92>

- Install on examiner side



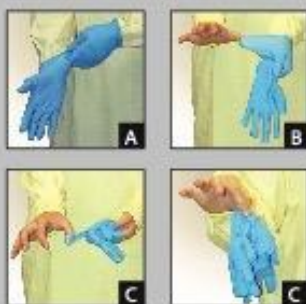
Source: Chin rest paper source, accessed online at:

[https://chinrestpapersource.com/oem-products/slit-lamp-breath-shields?bfilter=a39:92;](https://chinrestpapersource.com/oem-products/slit-lamp-breath-shields?bfilter=a39:92)

APPENDIX 8: Donning and doffing of personal protective equipment

Taking off (Doffing) Personal Protective Equipment (PPE)

1 Gloves



A Grasp the outside edge of the glove near the wrist and peel away from the hand, turning the glove inside-out.

- ◆ Hold the glove in the opposite gloved hand.
- B** Slide an ungloved finger or thumb under the wrist of the remaining glove.
- C** Peel the glove off and over the first glove, making a bag for both gloves.
- ◆ Put the gloves in the garbage.

2 HAND HYGIENE



- A** Using an alcohol-based hand rub is the preferred way to clean your hands.
- B** If your hands look or feel dirty, soap and water must be used to wash your hands.

3 Gown



- A** Carefully unfasten ties.
- B** Grasp the outside of the gown at the back of the shoulders and pull the gown down over the arms.
- C** Turn the gown inside out during removal.
- ◆ Put in hamper or, if disposable, put in garbage.

4 HAND HYGIENE



- ◆ Clean your hands. (See No. 2)
- ◆ Exit the patient room, close the door and clean your hands again.

5 Eye protection or face shield



- ◆ Handle only by headband or ear pieces.
- ◆ Carefully pull away from face.
- ◆ Put reusable items in appropriate area for cleaning.
- ◆ Put disposable items into garbage.

6 Mask or N95 respirator



- ◆ Bend forward slightly and carefully remove the mask from your face by touching only the ties or elastic bands.
- ◆ Start with the bottom tie, then remove the top tie.
- ◆ Throw the mask in the garbage.

There are different styles of N95 respirators but all styles have the same basic steps for doffing.

7 HAND HYGIENE

- ◆ Clean your hands. (See No. 2)

May 2014

APPENDIX 9: How to Put on a Mask

PROTECT THE HEALTH OF OTHERS!

How to put on a mask



1

Place the mask over your mouth and nose with the flexible nosepiece upwards.



2

Shape the flexible nosepiece to the bridge of your nose.



3

Position the bottom edge under your chin.

CHANGE YOUR MASK IF IT BECOMES DAMP.

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et Services sociaux
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Source: Ministère de la Santé et Services sociaux du Québec:
<https://publications.msss.gouv.qc.ca/msss/fichiers/2012/12-207-06A.pdf>