

Coronavirus COVID-19



COVID-19 – ORAL PROCEDURES

PHASE 3: ROUTINE ORAL SERVICES RESUME

INTERIM GUIDELINES

MAY 28, 2020 UPDATE

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BACKGROUND

The recommendations in this document are based on the information available at the time of writing. As both the situation and our understanding of the SARS-CoV-2 (COVID-19) virus are evolving rapidly, all information is subject to change. Changes to the previous version of this document are highlighted in yellow.

A working group has been set up by Québec's Ministère de la Santé et des Services sociaux (MSSS) to issue directives to guide oral health professionals during the COVID-19 pandemic.

The information and guidelines are based on the available scientific evidence concerning COVID-19 and, when no such evidence is available, on a consensus of experts from the Working Group on Dental Services During the COVID-19 Pandemic created by MSSS. They are also consistent with the measures put in place by the government to limit community spread of COVID-19. Given the epidemiological situation in Québec and the dearth of scientific evidence concerning aerosol-generating dental procedures, the experts have agreed to apply the precautionary principle with regard to all procedures liable to produce aerosols from body fluids.

Unlike other health care and services, which are primarily provided by the public sector in Québec, most oral health care services are dispensed in the private sector. When it is absolutely necessary to ensure access to dental care, patients with suspected or confirmed COVID-19 cases can still receive treatment, ideally in a designated COVID-19 dental clinic or otherwise in a private emergency dental clinic.

THESE ARE INTERIM DIRECTIVES: THEY WILL CHANGE IN RESPONSE TO SCIENTIFIC DISCOVERIES, THE EPIDEMIOLOGY OF COVID-19, QUÉBEC'S PLAN FOR THE GRADUAL RESUMPTION OF ACTIVITIES, AND THE STATE OF QUEBECERS' ORAL HEALTH. NON-EMERGENCY DENTAL CARE AND SERVICES ARE NOT AUTHORIZED PRIOR TO THE DATE DESIGNATED FOR THE RESUMPTION OF ACTIVITIES.

This document applies to all workers: dentists (D), dental hygienists (H), dental assistants (A), dental technicians (T), denturists (DD) and office personnel (P). To make it easier to use this document, certain leaflets are aimed at all professionals (D, H, A, T, DD, P), while others concern specific professions.

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REOPENING PHASES

The reopening phases planned for the dental profession are as follows:

Phase 1: Treatment of dental emergencies (March 16, 2020)

- Declaration of a public health emergency in Québec
- Only emergency dental treatments and teledentistry consultations are permitted
- Creation of designated COVID-19 dental clinics
- Ministère de la Santé et des Services sociaux publishes a reference document with interim recommendations for dental clinic procedures during COVID-19

Phase 1: Treatment of a wider range of dental emergencies (April 22, 2020)

- Public health emergency remains in place in Québec
- Range of dental emergencies expanded to take into account changes in patients' oral health
- Only treatment of the broader range of dental emergencies and teledentistry consultations are permitted
- Designated COVID-19 dental clinics remain in place
- Ordre des dentistes du Québec publishes a list of expanded dental emergencies

Phase 3: Routine oral services resume (May 28, 2020)

- Gradual easing of restrictions
- Asymptomatic patients can have routine treatments
- Suspected or confirmed COVID-19 patients can only have emergency dental treatments or teledentistry consultations
- Designated COVID-19 dental clinics remain in place to treat suspected or confirmed COVID-19 patients

Phase 4:

- To be determined, based on scientific discoveries, the epidemiology of COVID-19, Québec's plan for the gradual resumption of activities, and the state of Quebecers' oral health.

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DECISION TREE (D,H,A,T,DD,P)

During the COVID-19 pandemic, MSSS will use the following decision tree to keep dental professionals informed of safety procedures to follow for treatments in dental clinics. These are temporary measures, effective immediately.

Determine patient status by administering the COVID-19 Screening Form (Leaflet 2A) when taking the appointment	→	Confirmed/suspected patient		
↓				
Asymptomatic patient		Determine the urgency of the situation through a phone interview (Leaflet 2)		
↓		↓	↓	
		Emergency procedure	Non-emergency procedure →	Postpone the procedure (Leaflet 2)
		↓		
		Is pharmacological management of the urgent situation possible? →	Yes →	↑ Provide appropriate pharmacological management without patient leaving home (if patient exhibits COVID-19 symptoms, avoid prescribing NSAIs).
		↓		
		No		
		↓		
		Option 1 : Refer patient to a designated COVID-19 clinic (Appendix 7). Option 2 : If no designated clinic is available, treat patient at the end of day in a regular dental clinic with appropriate equipment and PPE (leaflets 2, 5, 6 and 6A).		
Type of procedure (Leaflet 5)		Type of emergency procedure (Leaflet 5)		
↓	↓	↓		

<p>Procedure:</p> <p>1) Non aerosol-generating</p> <p>2) Low risk of generating aerosols from body fluids</p> <p>---</p> <p>Characteristics:</p> <ul style="list-style-type: none"> - Open or closed room - Use dental dam if high-speed handpiece is used - Minimal non-continuous use of high-speed handpiece - Minimal non-continuous use of air-water syringe with no simultaneous use of air and water - No use of scaler - No use of air polisher (Prophyjet™) 	<p>Procedure liable to generate aerosols from body fluids</p> <p>---</p> <p>Characteristics:</p> <ul style="list-style-type: none"> - Closed room (respect wait time following procedure) - Prolonged use of air-water syringe - Prolonged use of high-speed handpiece, without dam - Use of scaler - Use of air polisher (Prophyjet™) 	<p>Procedure:</p> <p>1) Non aerosol-generating</p> <p>2) Low risk of generating aerosols from body fluids</p> <p>---</p> <p>Characteristics:</p> <ul style="list-style-type: none"> - Open or closed room - Use of dental dam if high-speed handpiece used - Minimal non-continuous use of high-speed handpiece - Minimal use of air-water syringe with no simultaneous use of air and water - No use of scaler - No use of air polisher (Prophyjet™) 	<p>Procedure liable to generate aerosols from body fluids</p> <p>---</p> <p>Characteristics:</p> <ul style="list-style-type: none"> - Closed room (respect wait time following procedure) - Prolonged use of air-water syringe - Prolonged use of high-speed handpiece, without dam - Use of scaler - Use of air polisher (Prophyjet™)
↓	↓	↓	↓
<p><u>Universal precautions (Leaflet 6)</u></p> <ul style="list-style-type: none"> - Medical mask (Level 2 or higher) - Single-use non-sterile gloves - Eye protection (face shield or safety glasses with lateral protection) * Selective polishing: Add long-sleeve gown (1 per patient) and face shield 	<p><u>Airborne/contact precautions (leaflets 6/6A)</u></p> <ul style="list-style-type: none"> - Certified N95 mask or similar (e.g., KN95, PFF2), with fit test (see Leaflet 6A) - Single-use non-sterile gloves - Eye protection (face shield) - Long-sleeve gown (1 per patient) 	<p><u>Droplet/contact precautions (Leaflet 6)</u></p> <ul style="list-style-type: none"> - Medical mask (Level 2 or higher) - Single-use non-sterile gloves - Eye protection (face shield) - Long-sleeve gown (1 per patient) -- <p>Treat patient in last slot of the day's schedule, reserved for suspected or confirmed cases.</p>	<p><u>Airborne/contact precautions (leaflets 6/6A)</u></p> <ul style="list-style-type: none"> - N95 mask with fit test - Single-use non-sterile gloves - Eye protection (face shield) - Long-sleeve gown (1 per patient) -- <p>Treat patient in last slot of the day's schedule, reserved for suspected or confirmed cases.</p>

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LEAFLET 1: HYGIENE STANDARDS IN THE WORKPLACE

(D, H, A, T, DD, P)

This leaflet is based on the CNESST document (Commission des normes, de l'équité, de la santé et de la sécurité du travail) *Workplace Sanitary Standards Guide – COVID-19*. In response to the COVID-19 pandemic, this leaflet sets out general standards that can be used as the basis for implementing prevention measures recommended by public health authorities and occupational health and safety experts. Once you have identified contamination risks in your facility, you can adapt these standards to your specific situation.



Checklist:

- Do not allow anyone with symptoms to enter the workplace:
 - The following steps can prevent transmission of the disease:
 - Staff with COVID-19 symptoms identified as soon as they arrive at work. Screening methods might include:
 - A staff monitoring log (see Appendix 3)
 - Staff self-evaluations
 - If a worker starts experiencing symptoms on the job, have a process in place so they can be isolated in a room and have them wear a medical (or surgical) mask. Call 1-877-644-4545.
 - Physical distancing
 - Whenever possible, keep workers at **least two metres apart** for the entire work day.
 - This includes lunch and other breaks:
 - Have workers eat in a room that is big enough that they can stay two metres apart.
 - If no other room is available, stagger meal times to limit the number of workers in the dining room at one time.
 - Do not share cups, glasses, plates, or utensils. Wash dishes with soap and hot water before each use.
 - Avoid direct contact such as hugs and handshakes among staff and patients.
 - If possible, set up a one-way system to avoid close contact in the clinic (e.g., put marks on the floor to indicate the direction of foot traffic).
 - If physical distancing is not possible
 - Install barriers (solid transparent partitions) between work stations that are too close together or that cannot be spaced two metres apart.
 - Install physical barriers (solid transparent partitions) at the reception desk.
 - Adapt work processes. For example:

- Create teams with as few people as possible and minimal turnover
 - Reduce the number of workers and task rotations
 - Do not hold in-person meetings
 - Do not share equipment
- Provide the right personal protective equipment for the risk (see leaflets 6 and 6A).
- To limit the risk of transmission in the workplace, wash hands frequently with soap and warm water or an alcohol-based hand sanitizer (60% to 70%):
 - Before touching your face (eyes, nose, mouth)
 - After coughing, sneezing or blowing your nose
 - Before and after eating
 - After handling frequently touched objects
 - Upon entering and leaving treatment rooms and after each use of shared equipment (e.g., dental X-ray machines)
- Follow respiratory etiquette:
 - Cover your mouth and nose when coughing or sneezing using tissues or your elbow
 - Use only single-use tissues
 - Throw used tissues away immediately (ideally in a contactless waste bin)
 - Wash your hands often
 - Do not touch your mouth or nose with your hands, even if you are wearing gloves
- Wear a face covering or mask:
 - Wearing a mask does not eliminate the need for physical distancing and creating more space in the layout of the facility
 - Surgical masks are mandatory for suspected and confirmed patients:
 - Ask the patient to safely remove their face covering, if they have one, and to wash their hands. Then give them a medical mask (e.g., if the patient is coughing or has a fever) and ask them to wash their hands again, regardless of where in the facility the patient is being seen.
 - Asymptomatic patients only need to wear medical masks at their appointments if physical distancing is impossible.
 - For people wearing a face covering and who are not showing signs that would require them to wear a medical mask, it's a personal choice.
 - Office staff must wear a medical or surgical mask at all times inside the clinic. They may only remove the mask when working alone at their desk behind a transparent barrier and two metres away from any other employee at the reception desk.
 - Healthcare staff must wear a medical or surgical mask at all times inside the clinic.
 - They must practice hand hygiene whenever they touch or remove their mask or face covering.
- Clean and disinfect high-touch surfaces:
 - Make sure that the ventilation systems are clean and in good working order, as required for the type of work and facility (see Appendix 6).

- Limit the shared use of office equipment (e.g., pens, telephones, tablets, mice).
- Clean and disinfect shared equipment (e.g., telephones, computers, mice, photocopiers, printers) regularly or after each use.
- Clean restrooms at least every shift and disinfect daily.
- Clean lunch rooms after each use and disinfect daily. For example:
 - Refrigerator handle
 - Backs of chairs
 - Microwave
- Clean high-touch surfaces at least every shift and when they are visibly dirty. For example:
 - Tables
 - Countertops
 - Door handles
 - Faucets
 - Toilets
 - Telephones
 - Computer accessories
- Clean and disinfect tools and equipment after each use or when they must be shared (e.g., dental X-ray machines, intraoral cameras, etc.).
- Remove non-essential objects (e.g., magazines, newspapers, knick-knacks) from common areas.



Useful tips:

- Stagger appointments to limit the number of people in the clinic. This is the easiest way to maintain physical distancing.
- Limit the personal items employees bring to work.
- Whenever possible, use contactless payment (e.g., contactless credit card terminals) so patients do not have to touch the payment machine. Terminals must be disinfected after each use.
- If patients pay with cash, the person who took the payment must wash their hands immediately with a no-rinse product (hand sanitizer with 60% to 70% alcohol).
- Instruct shippers and suppliers to leave packages (in cardboard boxes or plastic bags) with a clinic employee but to place them on the floor rather than handing them to the employee. Maintain distance of two metres, if possible.
 - Assume all packages are contaminated. Proceed as follows: Place the box/bag on a clean surface and open it with an instrument. Practice hand hygiene. Then without touching the packaging, remove the contents and place them on a clean surface or put them away immediately. Practice hand hygiene again and disinfect the instrument used to open the package.
- Ask shippers and suppliers to use hand sanitizer (60% to 70% alcohol) between each delivery.



For more information:

- **Leaflet 2:** Telephone triage and screening
- Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST) document:
<https://www.cnesst.gouv.qc.ca/salle-de-presse/covid-19-info-en/Documents/DC100-2146A-Guide.pdf>
- Hand washing:
https://www.inspq.qc.ca/sites/default/files/publications/2438_prevention_controle_infections_hygiene_mains.pdf
- Interim recommendations for prevention measures in the workplace:
<https://www.inspq.qc.ca/publications/2911-mesures-milieu-travail-covid19>
- Cleaning and disinfecting restrooms and waiting rooms:
<https://www.inspq.qc.ca/sites/default/files/covid/2970-nettoyage-desinfection-cliniques-medicales-covid19.pdf>
- MSSS, procedure for resuming specialized medical care:
https://www.msss.gouv.qc.ca/professionnels/documents/coronavirus-2019-ncov/COVID19_Guide-reprise-activites-specialisees_2020-05-04.pdf

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LEAFLET 2: TELEPHONE TRIAGE AND SCREENING (D, H, A, T, DD, P)

This leaflet will help you schedule and organize patient appointments at your clinic. It includes information about preappointment telephone triage and screening.



Checklist:

- Schedule appointments by phone. It is best not to let anyone enter the clinic without an appointment.
- Before scheduling an appointment, call or email the patient to fill out the screening form (Preappt. column in Leaflet 2A).
 - For confirmed or suspected COVID-19 patients, contact their dentist for a telephone assessment of whether their clinical situation is a dental emergency that requires treatment.
 - The form must be signed **electronically or by hand** by the person who filled it out (office employee or patient, as applicable).
- If COVID-19 is suspected/confirmed:
 - Reschedule non-urgent procedures based on the recommendations in this document for general lockdown easing: <https://www.inspq.qc.ca/publications/2986-tableau-levee-isolement-covid19>
 - For emergencies:
 - Use medication to manage the issue, if possible.
 - **If the patient has COVID-19 symptoms, do not prescribe nonsteroidal anti-inflammatory drugs (NSAIDs).**
 - If the patient cannot be treated with medications:
 - **1st option:** Refer them to a designated COVID-19 dental clinic. The dental office is responsible for contacting the clinic to schedule an appointment for the patient (see Appendix 7).
 - **2nd option:** If a designated COVID-19 dental clinic is not available, treat the patient at the end of day provided the appropriate facilities (closed room) and PPE are available (leaflets 6 and 6A). Tell the patient not to use public transit to get to the clinic.
 - If necessary, refer the patient to a different clinic with the right facilities and PPE. The dental office is responsible for contacting the clinic to schedule an appointment for the patient.
- Stagger appointments in order to maintain physical distancing of at least two metres in the waiting room). Limit the number of people on site at the same time.
- Ask the patient to:
 - Come to their appointment alone:

- If they need assistance, only allow one helper. Tell them that the person accompanying them will not be allowed in the treatment room or the waiting room, except in special cases. The helper will have to leave the clinic while the patient is being seen.
 - If the helper must enter the treatment room or the waiting room, they must be symptom free and not have any COVID-19 risk factors. Ask the questions on the screening form to determine the helper’s COVID-19 status (see Leaflet 2A).
- Arrive on time and if possible, call the office before entering the clinic.
- Wearing a mask does not eliminate the need for physical distancing and creating more space in the layout of the facility.
- Suspected or confirmed patients must wear a medical or surgical mask.
 - Ask the patient to safely remove their face covering, if they have one, and to wash their hands. Then give them a medical mask (e.g., if the patient is coughing or has a fever) and ask them to wash their hands again, regardless of where in the facility the patient is being seen.
 - Asymptomatic patients only need to wear medical masks at their appointments if physical distancing is impossible.
 - For people wearing a face covering and who are not showing signs that would require them to wear a medical mask, it’s a personal choice.
- If an **asymptomatic patient** is not seen on the same day as the telephone triage and screening, make sure their COVID-19 status has not changed:
- Ideally within 24 hours of the appointment, call the patient to reconfirm or update the information about COVID-19 symptoms and risk factors entered in the screening form when the appointment was made.
 - Repeat for the helper, if they are bringing one. If the helper has symptoms, ask the patient to bring someone else.
 - Tell the patient to call the office and stay home if they develop symptoms before their appointment.
- If a patient comes to the clinic with COVID-19 symptoms, ask them to leave and not use public transit. Postpone their appointment or find another way to hold the consultation (e.g., teledentistry). Ask them to call 1-877-644-4545.



Useful tips:

- You might want to consider waiving penalties for no-shows and appointments cancelled at the last minute.

- Consider asking patients to wait outside the building and text or call them when you are ready for their appointment. This might not be appropriate for all clinics and in all situations (e.g., if it is raining or in winter).

Table 1: Summary of information office staff need to collect for telephone triage and screening

(1) Patient COVID-19 status		
Suspected/Confirmed:		
1) Person who has tested positive for COVID-19 in the last 21 days or is waiting for a test result.		
OR		
2) Person with the clinical presentation of symptoms from Group A or B, with no other apparent cause.		
<p><u>Group A symptoms: At least one of the following:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Fever (over 38°C or 100.4°F), OR <input type="checkbox"/> New cough or worsening chronic cough, OR <input type="checkbox"/> Breathing difficulties (e.g., shortness of breath, difficulty speaking), OR <input type="checkbox"/> Sudden loss of smell (anosmia) without nasal congestion with or without loss of taste (ageusia) 	<p>OR</p>	<p><u>Group B symptoms: At least two of the following:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> General symptom: muscle aches, headache, intense fatigue, or significant loss of appetite <input type="checkbox"/> Sore throat <input type="checkbox"/> Diarrhea
AND		
Person who has been in close contact (at least 15 minutes within 2 metres) with a confirmed or suspected case of COVID-19		
Asymptomatic:		
Person with no COVID-19 symptoms or risk factors or who does not meet the criteria for a suspected/confirmed case		
(2) Recognized dental emergencies		
<ul style="list-style-type: none"> <input type="checkbox"/> Intolerable pain (e.g., pulpitis, pericoronitis, alveolar osteitis, extensive caries, defective restoration, etc.) <input type="checkbox"/> Bucco-dental injury (e.g., cracked and painful tooth, soft tissue laceration, tooth knocked out, dislocation, etc.) <input type="checkbox"/> Acute infection (e.g., cellulitis, abscess, swelling inside or outside the mouth) <input type="checkbox"/> Heavy or prolonged bleeding <input type="checkbox"/> Immediate dental procedure medically necessary for surgery or cancer treatment <input type="checkbox"/> Urgent biopsy required for a suspected malignant wound 		
(3) Classification of dental procedures based on aerosol production		
<ul style="list-style-type: none"> <input type="checkbox"/> Procedures that do not produce aerosols <input type="checkbox"/> Procedures that produce few aerosols from body fluids <input type="checkbox"/> Procedures liable to produce aerosols from body fluids 		



For more information:

- **Appendix 5:** Classification of dental procedures based on aerosol production
- **Appendix 7:** List of designated COVID-19 dental clinics for the emergency treatment of suspected or confirmed COVID-19 patients
- Measures for the management of cases and contacts in the community:
<https://www.inspq.qc.ca/publications/2902-mesures-cas-contacts-communaute-covid19>
- COVID-19 Clinical Bulletin. Screening criteria for suspected or confirmed cases of COVID-19 infection:
https://www.msss.gouv.qc.ca/professionnels/documents/coronavirus-2019-ncov/BC-SPU-COVID19-Coordo_DMR-Criteres-depistage-cas-suspectes-confirmes_2020-05-06.pdf
- Using teledentistry to provide emergency dental care during the COVID-19 pandemic:
http://www.odq.qc.ca/Portals/5/fichiers_publication/DossierSante/Coronavirus/ODQ_Guide%20Te%CC%81e%CC%81dentisterie%20COVID19_vfinale_1470420_anglais.pdf

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LEAFLET 2A: SCREENING FORM FOR PATIENTS/ACCOMPANYING PERSONS (D, H, A, T, DD, P)

Name of the person screened: _____	PRE-APPT.	CLINIC
Please indicate if the above name refers to the screening form for the patient or the accompanying person: <input type="checkbox"/> Patient <input type="checkbox"/> Accompanying person – Name of patient: _____	Date:	Date:
1- Have you tested positive for COVID-19 in the last 21 days or have you been told that you should be tested?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Do you have the following conditions:		
2-Fever (over 38°C or 100.4°F)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
3-New cough or worsening chronic cough	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
4-Breathing difficulties (e.g., shortness of breath, difficulty speaking)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
5-Sudden loss of smell (with or without loss of taste)	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
6-Muscle pain, headache, intense fatigue or significant loss of appetite	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
7-Sore throat	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
8-Diarrhea	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
9-Have you been in close contact (at least 15 minutes within 2 meters) with a confirmed or suspected case of COVID-19?	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
Signature of person who has completed the form (patient or office personnel): Signature pre-appt.: _____ Signature clinic: _____		
<p>THIS SECTION IS RESERVED FOR DENTAL CLINIC PERSONNEL</p> <p><i>If the patient has answered</i></p> <ul style="list-style-type: none"> • <u>YES</u> to question 1: SUSPECTED/CONFIRMED STATUS. • <u>YES</u> to at least one of questions 2 to 5 AND <u>YES</u> to question 9: SUSPECTED/CONFIRMED STATUS. • <u>YES</u> to at least two of questions 6 to 8 AND <u>YES</u> to question 9: SUSPECTED/CONFIRMED STATUS. • Any other answer: ASYMPTOMATIC STATUS. <p><i>Check off the box of patient's COVID-19 status:</i></p> <p><input type="checkbox"/> Asymptomatic <input type="checkbox"/> Suspected/Confirmed</p> <p>If the patient is considered a suspected/confirmed case of COVID-19, consult the dentist before making an appointment.</p>		

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LEAFLET 3: GREETING PATIENTS AND PHYSICAL ORGANIZATION OF PREMISES (D, H, A, T, DD, P)

Dental staff can use this leaflet to plan for greeting patients and adapting the facility in response to the pandemic.



Checklist:

- Put up a sign outside the clinic saying that appointments must be made by phone or electronically.
- Mark out physical distancing requirements (using cones or another method) on the floor of the waiting room and, if possible, outside the clinic.
- Greet the patient at the door and ask them to wash their hands:
 - Set up a hand hygiene and respiratory hygiene and etiquette station at the entrance to the clinic.
Provide:
 - A 60% to 70% alcohol hand sanitizer dispenser OR
 - A sink, soap, and paper towels AND
 - A box of tissues AND
 - Contactless waste bins
 - Clean the station regularly.
- If possible, actively check patients for fever at the door if they were identified as asymptomatic during the telephone screening (put up a sign to let patients know). Use a contactless thermometer and disinfect it between users:
 - If a patient's temperature is above 38°C or 100.4°F, ask them to leave, avoid public transit, and reschedule their appointment (see Leaflet 2). Suggest they call 1-877-644-4545.
- Office staff should fill out the "patient and accompanying persons log" by entering the patient's name and the name of their helper, if applicable, and the time they arrived and left (see Appendix 2).
 - If the information is available in your schedule, you don't need to fill out the log.
- Go over the screening form again for all patients identified as asymptomatic when screened by phone (use the CLINIC column, Leaflet 2A). The form must be signed by the person who filled it out (office employee or patient, as applicable) and placed in the patient's file (see Leaflet 2A).
- Make sure the patient touches as few surfaces as possible, because they will all have to be disinfected afterwards (e.g., open and close doors yourself).
 - If possible accompany the patient directly to the treatment room as soon as they arrive.
 - Otherwise, take the patient from the waiting room to the treatment room, to avoid touching door handles in common spaces.

- Suspected or confirmed patients must wear a medical or surgical mask.
 - Ask the patient to safely remove their face covering, if they have one, and to wash their hands. Then give them a medical mask (e.g., if the patient is coughing or has a fever) and ask them to wash their hands again, regardless of where in the facility the patient is being seen.
- Asymptomatic patients only need to wear medical masks at their appointments if physical distancing is impossible.
 - For people wearing a face covering and who are not showing signs that would require them to wear a medical mask, wearing a medical mask is a personal choice.
- In the waiting room:
 - Space chairs two metres apart
 - Limit the number of people in the room at the same time
 - If possible, ask people who are accompanying a patient to wait outside the clinic
 - Keep wait times to a minimum
- At the reception:
 - If staff touch an object that was used by a patient, they must perform hand hygiene each time.
 - Install a protective barrier (e.g., glass, Plexiglass, etc.) OR
 - If that is not possible, make sure reception staff wear:
 - A medical (or surgical) mask:
 - They must change the mask if it gets dirty or wet
 - A work uniform
 - Eye protection (safety glasses or face shield)



Useful tips: Wearing PPE

- Masks must completely cover the nose and mouth.
- Do not lower the mask to your chin and then put it back in place.
- Do not touch your eyes, nose, or mouth because your hands could be contaminated. Do not touch the outside of the mask.
- A medical (or surgical) mask can be worn for four hours. Change your mask if it gets dirty or wet.
- To avoid having a group of people in the waiting room, give patients a pager.



Form to use:

- **Leaflet 2A:** Screening form for patients/accompanying persons
- **Appendix 2:** Patient and accompanying persons log
- Signs for handwashing and respiratory etiquette:

- <http://www.immigration-quebec.gouv.qc.ca/en/informations/news/news-2020/covid-19.html> (available in several languages)
- https://publications.msss.gouv.qc.ca/msss/fichiers/2019/19-210-10W_8x11.pdf (in French)
- https://publications.msss.gouv.qc.ca/msss/fichiers/2019/19-210-10WA_8x11.pdf (in English)
- <https://publications.msss.gouv.qc.ca/msss/fichiers/2012/12-207-05F.pdf> (in French)
- <https://publications.msss.gouv.qc.ca/msss/fichiers/2012/12-207-05A.pdf> (in English)
- <https://publications.msss.gouv.qc.ca/msss/fichiers/2019/19-207-01F.pdf> (in French)
- <https://publications.msss.gouv.qc.ca/msss/fichiers/2019/19-207-01A.pdf> (in English)
- <https://publications.msss.gouv.qc.ca/msss/fichiers/2012/12-207-03F.pdf> (in French)
- <https://publications.msss.gouv.qc.ca/msss/fichiers/2012/12-207-03A.pdf> (in English)

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LEAFLET 4: TREATMENT ROOMS (D, H, A, T, DD)

Dental staff can use this leaflet to prepare treatment rooms and ensure the health and safety of all before, during, and after the patient's visit. While most previously established procedures for dental clinic treatment rooms will remain in effect, certain of them must be adapted in response to the COVID-19 pandemic.



Checklist:

- Ensure there is adequate ventilation in all clinic treatment rooms and common areas (see Leaflet 5).
- Treat patients in closed individual rooms when planned procedures are liable to produce aerosols from body fluids.
- In each room, provide a basket with a disposable or reusable bag, as appropriate, to deposit used gowns and/or uniforms.

At the start of the day:

- Drain the air-water syringe, turbine, and scaler for 2 minutes.
- Intermittently feed low- and high-speed suction devices (creating a swirl) with 100 ml of appropriate disinfectant solution.

Before treatment:

- Disinfect treatment rooms according to the usual established rules.
 - Disinfect all work surfaces before treatment.
 - Place a disposable protective sheath over non-sterilizable medical devices that may come into contact with the mucous membranes and cannot be properly disinfected.
 - Place covers, protective envelopes, or disinfectable barriers over anything that may be touched during treatment and that cannot be properly disinfected (e.g., computer keyboards).
- Limit the presence of paper in treatment rooms as much as possible.
 - When using a paper record, place it in a transparent sheath to be able to read all information necessary for the appointment.
- Avoid making notes in the record during treatment.
- Limit the amount of equipment in the treatment room. Take out only instruments and materials necessary for the procedure.
- Restrict access to the treatment room to just the patient:
 - In exceptional cases when the presence of an attendant is required, ask them to put on a medical or surgical mask and stay more than 2 metres from the treatment area.

However, treatment using the knee-to-knee technique can be performed with an adult residing in the same household as the child.

- If the accompanying person who must remain in the treatment room has not been in close contact with the patient, procedures liable to produce aerosols from body fluids are prohibited unless the required PPE is provided to the accompanying person (see leaflets 6 and 6A).
 - Definition of close contact (PPE not required):
 - At least 15 minutes within 2 meters of the individual
 - Repeated contact with the individual
 - Living under the same roof as the individual
 - Physical contact during body care with the individual
 - Direct contact with the individual's body fluids
- Keep the number of employees in the treatment room to the minimum required.

While the patient is in the treatment room:

- Ask the patient to drop off their personal effects at a designated location in the treatment room. Avoid using a cloakroom.
- Keep treatment room drawers and cabinets closed.**
- Perform hand hygiene and wear appropriate PPE (see leaflets 6 and 6A).
- Review the medical questionnaire and ensure that the screening form has been properly completed. If necessary, review the screening form with the patient (see leaflets 2, 2A and 3).
- Rinse the patient's mouth with antiseptic mouthwash, ideally for 1 minute (or twice for 30 seconds).
 - For children under 6, and patients at risk of swallowing mouthwash, ideally use a 4x4 soaked with mouthwash to wipe the inside of the oral cavity, or ask the patient to rinse with water.
 - After rinsing, ask the patient to let the liquid run from their mouth into the cup, or use the suction. Avoid spitting.
- The dentist must perform dental hygiene examinations between, not during, treatments liable to produce aerosols.
 - When a professional changes treatment rooms to see another patient, it is important to ensure that potential sources of cross contamination are eliminated:
 - Remove gloves and perform hand hygiene before leaving the first room.
 - If the professional has performed a procedure liable to produce aerosols from body fluids, they must:
 - Remove their gown and discard it or put it in the basket provided for this purpose, and perform hand hygiene
 - Remove eye protection and again perform hand hygiene
 - Put on new gloves, disinfect eye protection, remove and discard the gloves, and then perform hand hygiene again before putting eye protection back on
 - Keep their mask only if it is not soiled or wet
 - In the second room, the professional must put on a new gown if a procedure liable to produce aerosols from body fluids is planned. Gowns are not required for examinations.

- Put on new gloves.

After treatment:

- Ask the patient to wash their hands before leaving the treatment room.
- Complete the patient record away from the patient contact area.
- Sort waste into the usual categories (general, biomedical, pharmaceutical, etc.).
- Discard any excess material not used during treatment.
- Discard all disposable protective equipment and barriers (e.g. disposable protective sleeves, headrest).
- Perform maintenance on water and suction lines:
 - Intermittently feed low- and high-speed suction devices (creating a swirl) with 100 ml of appropriate disinfectant solution (water is normally recommended between patients).
 - Drain the air-water syringe, turbine, and scaler for 20 seconds.
- Disinfect the treatment rooms according to the usual procedure.
 - If surfaces are visibly dirty, they should be cleaned with detergent and water before disinfection.
 - Disinfect all work surfaces.
 - A broad-spectrum virucidal or intermediate-level virucidal/tuberculoidal disinfectant against enveloped viruses should be used. This information is provided on the disinfectant data sheet.
 - Use wipes or disposable paper sprayed with disinfectant.
 - Leave on for the time stipulated by the manufacturer.
 - Ensure that surfaces are visibly damp during disinfection.
- Decontaminate and sterilize instruments:
 - Presoak¹ instruments in a disinfectant solution, e.g., hydrogen-peroxide-based products. Avoid alcohol-, glutaraldehyde-, and formaldehyde-based products.
 - Clean, disinfect, and sterilize instruments according to the usual procedures.
- Following a procedure liable to produce aerosols from body fluids, wait the required amount of time based on the ventilation characteristics of the room before bringing in the next patient (see Leaflet 5 and Appendix 6).
- Remove PPE as recommended in Leaflet 6.

At the end of the day:

- Perform maintenance on water and suction lines:
 - Drain the air-water syringe, turbine, and scaler for 2 minutes.
 - Intermittently feed low- and high-volume suction lines (creating a swirl) with 100 ml of appropriate disinfectant solution.

¹This recommendation only applies during the COVID-19 pandemic. The presoak stage must be completed before performing ultrasounds. If a washer-disinfector (e.g. HYDRIM®) is used, the instrument presoak step is not required. The presoak solution is designed to reduce the viral/bacterial load of the instruments; it does not sterilize the instruments or make them completely safe to handle. The solution should be regularly replaced throughout the day.

- Remove the bag from the basket for used gowns and/or uniforms. Avoid emptying bag contents into another bag.
 - Dispose of disposable gowns with general waste.
 - For washable uniforms and gowns, avoid shaking soiled items when placing them in the washer. Avoid contact between the bag contents and your skin and/or clothing. Soiled clothing may be combined with the clothing of other household members and washed in hot water using regular laundry soap.

Once a week:

- Disinfect the suction collection container coupling with a mild bleach solution. The preparation method for a 0.5% bleach solution is one part bleach per nine parts water, prepared the day it will be used.



Reminders and special features:

Reminder about cleaning instruments after presoaking:

- When manually brushing instruments, completely immerse them a detergent or enzymatic solution.
- When cleaning ultrasonically, keep cover closed during operation.

Instructions for the use of nitrous oxide:

- Use a disposable mask.
- Tubing should be disposable or, if reusable, sterilized according to manufacturer's recommendations.



For more information:

- **Leaflet 2:** Telephone triage and screening
- **Leaflet 2A:** Screening form for patients/accompanying persons
- **Leaflet 3:** Greeting patients and physical organization of premises
- **Leaflet 5:** Dental aerosols
- **Leaflet 6:** Protection of personnel
- **Leaflet 6A:** Protection of personnel – Selecting masks and respirators
- **Appendix 6:** Transmission of COVID-19 by aerosols: Ways to minimize risks
- **Information Document on Infection Control, ODQ, OHDQ:**
<http://www.ohdq.com/docs/default-source/controlle-infection/infection-control-2009-edition.pdf?sfvrsn=0>

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LEAFLET 5: DENTAL AEROSOLS (D, H, A, DD)

Aerosol transmission of SARS-CoV-2 is not yet well understood, and, based on current scientific data, experts cannot rule out the possibility of transmission through this route. The possibility of airborne transmission under certain conditions must therefore be taken into account.

It is critical to understand that the virus is always accompanied by various elements (salts, proteins, and other organic substances and inorganic materials, including viral particles). Even though it is nanometric in size, when it circulates in aerosols it is attached to airborne particles that are micrometric in size. So even though the virus on its own is smaller than the filtration capacity of a HEPA filter or mask, the aerosolized particle containing the virus will still be filtered out, due to its size.

Current data indicates that droplets, and contact with them, represent a greater risk than aerosols for the spread of COVID-19. Droplets, which tend to fall rapidly onto surfaces, have the potential to transport more viral particles than aerosolized particles. Although aerosolized particles remain suspended in the air for a long time, they are highly diluted in the air in the rooms. The infectious potential of these diluted aerosols is considered to be very low.



Checklist:

Classification of dental procedures based on aerosol generation (see Appendix 5):

1. Low-droplet, non-aerosol generating procedures
2. Procedures that generate low levels of aerosol from body fluids
3. Procedures liable to generate aerosols from body fluids

Aerosol management

Four levels of aerosol management² are defined below, each of which reduces the risk of transmission of COVID-19 during aerosol-generating treatments. Used in combination, these four strategies considerably reduce the concentration of aerosols and their infectious potential during aerosol-generating treatments (see Appendix 6):

1. Reduce the infectious potential of aerosols through the use of antiseptic mouthwash prior to the procedure (over 90% effective):
 - Use an antiseptic mouthwash before all treatments, ideally for 1 minute (or twice for 30 seconds).
2. Reduce aerosol emissions (see Table 2):
 - Use a dental dam in all possible clinical situations.

² Aerosol management strategies are also effective in managing droplets.

- Limit the use of aerosol-generating equipment (e.g., motorized devices):
 - Limit use of air-water syringes:
 - Avoid using water and air at the same time (spraying mode).
 - Minimal, non-continuous use of the air-water syringe for short periods of time is not considered a risk for aerosol production from biological fluids, provided that spray mode is not used (e.g. brief, occasional rinsing or drying for examination of teeth).
 - It is recommended to use cotton balls, 2x2s and cotton rolls for rinsing and drying.
 - Limit the use of the high-speed handpiece:
 - Minimal non-continuous use of the handpiece at high speed for short periods of time is not considered a risk for aerosol production from body fluids (e.g., occlusal adjustments).
 - Atraumatic restorative treatments (ART) or silver modified atraumatic restorative techniques (SMART) are recommended.
 - Silver diamine fluoride (SDF) is recommended.
 - Limit use of scaler:
 - Where appropriate, use manual in lieu of ultrasonic descaling.
 - Limit use of air polisher (Prophyjet™):
 - Encourage selective polishing with a low-speed handpiece.
 - If the scaler must be used, prioritize use for stain removal.
- If an aerosol-generating treatment is undertaken, it is preferable to complete it during the same session, to avoid multiple patient movements and repeated aerosol generation.

Table 2: Reduce aerosol production by limiting the use of aerosol-generating equipment

Air-water syringe	Using high-speed suction will decrease aerosol generation by nearly 99%.
High-speed handpiece	Aerosol contamination is minimal when a dental dam is used.
Scaler	Largest source of aerosols. Using high-speed suction will decrease aerosol generation.
Air polisher	Major source of aerosols. Using high-speed suction will decrease aerosol generation.

Source: [https://jada.ada.org/article/S0002-8177\(14\)61227-7/pdf](https://jada.ada.org/article/S0002-8177(14)61227-7/pdf)

3. **Block aerosols** with the appropriate mask coupled with eye protection or a face shield (see leaflets 6 and 6A).
4. **Eliminate diluted aerosols in the air** through air changes by means of central ventilation and/or portable HEPA filters (between **90 and 99.9% effective**, depending on the wait time).

- For procedures liable to generate aerosols from body fluids, perform dental procedures in a closed room with the door closed:
 - It is possible to temporarily close off a room by using polythene sheeting or another temporary material.
 - The room does not have to be perfectly airtight.
 - If possible, open a window in treatment rooms to reduce air stagnation and accelerate the removal of aerosols to the outside.

Ventilation:

- If in doubt, consult a ventilation expert.**
- The current standard is 6 air changes per hour (ACH), 2 of which must be from fresh outside air. In rooms where anesthetic gases such as nitrous oxide are used, a minimum of 12 ACH is recommended, including 3 from outside air (see: http://www.odq.qc.ca/Portals/5/fichiers_publication/politiques/Controle_des_Infections.pdf).
- The ventilation system in place should be operated at high speed, continuously and in air change mode during operating hours. It is imperative not to use recirculation mode or energy-saving strategies.
- If the system in place does not meet the above conditions, use an additional filtration system (see below).
- Following a procedure involving the risk of aerosol production from body fluids, wait the required amount of time based on the ventilation characteristics of the room (number of air changes per hour for a rate of elimination of 99%) before entering the room without the PPE required for the procedure (see Table 3 and Appendix 6).
 - Begin to calculate the waiting time required at the end of the procedure liable to produce aerosols from body fluids.

Table 3: Estimated filtration time required (minutes) based on the number of air changes per hour (ACH) for a removal rate of 99% (table taken from the Health Canada , 2012)

ACH*	Approximate time (minutes)
	99% elimination rate
2	138
4	69
6	46
8	35
10	28
12	23

*If the number of air changes is unknown, apply the measures for two air changes per hour, i.e., a wait time of approximately 4 hours.

Filtration:

- If in doubt, consult a ventilation expert.**
- Assess the need for an additional air filtration system. The following strategy may be used to filter and evacuate aerosols in the treatment room, and thus reduce the wait time:

- Use a portable filtration system with HEPA filter, either integrated into the clinic’s existing system, or a portable system:
 - The filtration system must be as appropriate as possible for the size (volume) of the room where treatments take place.
 - For clinics with large open-plan areas, the use of multiple filtration units could be considered. It is highly recommended to consult a ventilation expert in this type of situation.
 - The filtration system must be positioned to filter contaminated air near the source.
 - If the number of air changes in the room is unknown, count only the number of air changes provided by the filtration system in determining the wait time.



Tips and tricks:

- When using a dental dam, **disinfect both the dam and the tooth** before the procedure (e.g., cotton ball soaked in povidone iodine, peroxide, or other disinfectant).
- Reduce the speed of the motorized instruments used, along with the amount of air and water generated.
- For more information on the use of silver diamine fluoride (SDF), see the following videos:
 - <https://www.youtube.com/watch?v=zxlvbhUx3QE>
 - <https://www.youtube.com/watch?v=nPyYpZYfrHQ>
- For more information on ART/SMART techniques, see the following videos:
 - ART: https://www.youtube.com/watch?v=i_BWJSeoU5w
 - SMART: <https://www.youtube.com/watch?v=XT3doMnS050>



For more information:

- **Appendix 4:** State of knowledge
- **Appendix 5:** Classification of dental procedures based on risk of aerosol generation
- **Appendix 6:** Transmission of COVID-19 through aerosols: Ways to minimize the risks
- **Guide for dental hygienists on aerosol- and droplet-generating activities – Guidelines and recommendations (COVID-19 pandemic) (in French):** <http://www.ohdq.com/communications/reprise-des-soins>

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LEAFLET 6: PROTECTION OF PERSONNEL (D, H, A, T, DD, P)

Dental healthcare professionals are at risk of exposure to SARS-CoV-2 during procedures. However, the risk is low when they use PPE correctly. It is important to use the right PPE for the type of procedure (likely or unlikely to produce aerosols) and the patient's status (asymptomatic or suspected/confirmed). During the pandemic, PPE should be used as much as possible.



Checklist:

- Healthcare personnel must remove jewellery, including watches. Nail polish and false nails are not allowed, and hair must be tied back.
- Before purchasing PPE, make sure it is certified.

To protect staff at the reception (see Leaflet 3):

- Install a protective barrier (e.g., glass, Plexiglass, etc.) OR make sure reception employees wear a medical (or surgical) mask, a work uniform, and eye protection.
- Use hand sanitizer (60% to 70% alcohol) as often as possible (between each patient if there was contact with an object).

To protect dental laboratory staff (see Leaflet 7):

- Make sure employees wear a medical (or surgical) mask if physical distancing is impossible.
- If they need to meet with a patient, workers must wear a medical (or surgical) mask, a work uniform, and eye protection.
- Use hand sanitizer (60% to 70% alcohol) as often as possible (between each patient if there was contact with an object).

To protect healthcare personnel who work with asymptomatic patients (see Leaflet 5 and Appendix 4):

- For procedures that do not produce aerosols (universal precautions) or that produce few aerosols from body fluids (universal precautions):
 - A medical (or surgical) mask, level 2 or higher
 - Eye protection (face shield or safety glasses with lateral protection)
 - Note: Corrective lenses do not count as safety glasses
 - Single-use non-sterile gloves that fit tightly and cover the wrists
 - Work uniform
 - Because so many droplets are produced during dental prophylaxis procedures, a long-sleeved gown (changed between patients) and a face shield are recommended.

- **For procedures likely to produce aerosols from body fluids (airborne/contact precautions):**
 - Certified N95 mask or similar (e.g., KN95, PFF2), with fit test (see Leaflet 6A)
 - Eye protection (face shield)
 - Single-use non-sterile gloves that fit tightly and cover the wrists
 - Disposable or washable non-sterile long-sleeved gown (changed between patients)
 - Gloves must extend over the cuffs
 - Patients must be treated in a closed room

To protect healthcare personnel while they treat suspected or confirmed COVID-19 patients (see leaflets 5 and 6 and Appendix 4):

- **For procedures that do not produce aerosols (droplet/contact precautions) or that produce few aerosols from body fluids (droplet/contact precautions):**
 - A medical (or surgical) mask, level 2 or higher
 - Eye protection (face shield)
 - Single-use non-sterile gloves that fit tightly and cover the wrists
 - Disposable or washable non-sterile long-sleeved gown (changed between patients)
 - Gloves must extend over the cuffs
- **For procedures likely to produce aerosols from body fluids (airborne/contact precautions):**
 - N95 mask with recognized fit test
 - Make sure the mask fits tightly at each use
 - Eye protection (face shield)
 - Single-use non-sterile gloves that fit tightly and cover the wrists
 - Disposable or washable non-sterile long-sleeved gown, waterproof or not (changed between patients)
 - Gloves must extend over the cuffs
 - Patients must be treated in a closed room

To remove PPE safely:

- Inside the treatment room, remove gloves then perform hand hygiene
- Remove gown (if worn) and perform hand hygiene
 - Place a disposable or reusable bag, as appropriate, in each room for staff to place soiled gowns/uniforms
- Remove eye protection and perform hand hygiene again
- Remove the mask and repeat hand hygiene
 - After a procedure likely to produce aerosols from body fluids, leave the room before taking off the respirator (see Leaflet 5)

For disinfection and sterilization after asymptomatic patients have been treated (see Leaflet 4):

- A medical (or surgical) mask, at a minimum

- The same mask must be kept on during disinfection and sterilization, unless it is soiled or wet.
- Eye protection (safety glasses or face shield)
 - Non-sterile or utility gloves when handling instruments (disinfect after each use)
 - Work uniform

For disinfection and sterilization after suspected and confirmed patients have been treated (see Leaflet 4):

- A medical (or surgical) mask, at a minimum
 - The same mask must be kept on during disinfection and sterilization, unless it is soiled or wet.
- Eye protection (safety glasses or face shield)
- Non-sterile or utility gloves when handling instruments (disinfect after each use)
- Protective gown

Dealing with work clothes at the end of the day:

- Remove work clothes (**uniform**) at the end of the shift and place them in a fabric or plastic bag. Do not shake soiled clothes as you put them in the washing machine. Do not let the contents of the bag touch your skin or clothes. Work clothes can be washed in the same load as things from other people in the household, in warm water and with regular detergent
- Remove shoes before entering the house
- Shower as soon as you get home

Assessing the risk of exposing staff to COVID-19 (see leaflets 1 and 2 and Appendix 3)

- Before their shift, all staff must confirm they are symptom free
 - If a worker starts experiencing symptoms on the job, have a process in place so they can be isolated in a room and have them wear a medical (or surgical) mask. Call 1-877-644-4545
- If the worker used the correct PPE when treating a confirmed COVID-19 case, they must perform daily self-monitoring for symptoms for 14 days after they were exposed. If the worker is asymptomatic, they can continue to come to work.
 - Temperature taken twice a day
 - Monitoring for COVID-19 symptoms
- If the worker did not use the correct PPE when treating a confirmed COVID-19 case, they must stop coming to work. They must also perform daily self-monitoring for symptoms as directed by the regional public health department. Call 1-877-644-4545



Useful tips:

- To use a medical (or surgical) mask correctly:

- Change the mask if it gets dirty or wet, then perform hand hygiene
 - A medical (or surgical) mask can be worn for four hours. Change it if it gets dirty or wet
 - If medical (or surgical) masks are in short supply, allocate two per person per day
 - Do not lower the mask to your chin and then put it back in place
 - Do not touch your eyes, nose, or mouth because your hands could be contaminated. Do not touch the outside of the mask
 - If you touch the mask, remove your gloves, perform hand hygiene, and put on new gloves
- Watch the videos below to see how to safely remove PPE (the instructions above take precedence over the videos, which are for information only):
 - <https://www.inspq.qc.ca/nouvelles/covid-19-procedure-d-habillage-deshabillage-en-milieu-soin>



Form to use:

- **Appendix 3:** Staff monitoring log



For more information:

- **Appendix 4:** State of knowledge
- **Appendix 7:** List of designated COVID-19 dental clinics for the emergency treatment of suspected or confirmed COVID-19 patients
- Anticipated or actual PPE shortages: <https://www.inspq.qc.ca/publications/2957-mesures-exceptionnelles-protection-individuelle-covid19>
- Cleaning and disinfecting eye protection between patients: <https://www.inspq.qc.ca/publications/2955-desinfection-protection-oculaire-covid19>
- Selecting eye protection: <https://www.inspq.qc.ca/publications/2956-choix-protection-oculaire-covid19>
- Lifting isolation measures for workers: <https://www.inspq.qc.ca/publications/2904-levee-isolement-travailleurs-covid19>

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LEAFLET 6A: PROTECTION OF PERSONNEL— SELECTING MASKS AND RESPIRATORS (D,H,A,T,DD,P)

The selection of appropriate PPE (see Table 4) was made by the Working Group on Dental Services During the COVID-19 Pandemic based on several considerations:

- Aerosols produced by dental treatments are a combination of the patient's body fluids and water from instruments (e.g., air-water syringe, high-speed handpiece, scaler). They therefore have a lower viral concentration than the aerosols produced through procedures carried out in a hospital environment (e.g., intubation/extubation), which consist exclusively of the patient's body fluids.
- It is difficult to assess the transmission risk of SARS-CoV-2 during dental treatment. Pharyngeal (nasopharyngeal and oropharyngeal) and respiratory secretions have been shown to deposit the virus on oral tissue, but concentration levels are not known. Current science does not recognize oral tissue as a location for the proliferation of the virus.
- Using a combination of strategies will considerably reduce the concentration levels and infectious potential of aerosols during aerosol-generating treatments:
 - Reduce the infectious potential of droplets and aerosols by using antiseptic mouthwash prior to the procedure.
 - Reduce the emission of droplets by using a dam and high-speed suction, and by limiting the use of aerosol-generating instruments.
 - Eliminate diluted aerosols in the air by exchanging air by means of central ventilation and/or portable HEPA filters.
 - Block droplets and aerosols with appropriate PPE.
- The proportion of people who have contracted COVID-19 from asymptomatic individuals is difficult to estimate and poorly documented, as is the proportion of infected people who are asymptomatic.
- To date, no team has successfully demonstrated the infectious potential of the SARS-Cov-2 virus in bioaerosols from infected people.

Table 4: Characteristics of various types of masks:

Type of mask	Filtration %	Fit test	Appropriate use
Medical or surgical mask - Minimum level 2	Variable	No fit test ³	Procedures: 1) Not aerosol-generating 2) Low risk of aerosol generation from body fluids (asymptomatic, suspected, or confirmed patient)
		Make sure to pinch the mask at the nose and cover the mouth and nose well.	
Mask equivalent to N95, e.g., certified KN95	95%	Recognized fit test may or may not need to be performed, depending on the model	Procedures liable to produce aerosols from body fluids: (asymptomatic patient)
		Fit check may or not need to be performed before each use, depending on the model ⁴	
Certified N95 mask	95%	Recognized fit test	Procedures liable to produce aerosols from body fluids: (asymptomatic, suspected, or confirmed patient)
		Check the fit before each use (fit check)	



Checklist for N95 respirators and equivalents (KN95, FFP2):

- Ensure PPE is certified before purchasing:
 - In the event of a shortage of N95 masks, other types of masks meet N95 minimum standards, including the FFP2 and KN95. A certified KN95 mask achieves a filtration rate equivalent to the N95 (95%).
 - Models that are not NIOSH-certified are not subject to the same quality control requirements (exhibiting variation among different respiratory protection devices).
 - However, use of certain masks offering equivalent protection could, for example, require new training and new fit tests or fit checks to ensure a proper seal. The same fit tests can only be used if the make, model, and size of the mask are identical. Fit tests are necessary to ensure that any infiltration liable to expose the professional to the coronavirus is limited.

³ Fit test: A test performed by a competent person designated by the employer to check the seal of a given type of mask. The same fit tests can only be used if the make, model, and size of the mask are identical.

⁴ Fit check: Test to verify the adjustment of the mask, performed by the wearer of the device every time they put it on. This test indicates whether the respirator’s positioning is correct.

- It is the employer’s responsibility to ensure that masks used as alternatives to the N95 meet protection standards for tasks employees are required to perform. To do this, they must refer to the manufacturer’s or supplier’s specifications to assess the equivalency of the protection provided by these masks versus NIOSH-certified air purifying respirators (APRs). To guide employers in selecting models, they can refer to the following NIOSH assessments of filtration efficiency: <https://www.cdc.gov/niosh/npptl/respirators/testing/NonNIOSHresults.html>

- Minimize the number of healthcare workers in rooms where respirators are required.
- N95 respirators must be properly fitted using a recognized fit test.
 - N95 respirators used without a fit test do not provide greater protection than medical masks.
 - Mask fit must be checked before each use.
 - N95 respirators cannot be used if the wearer has a beard.
 - N95 respirators cannot be reused. See the next section.

In the event o

- f a shortage, use N95 respirators that have passed their expiry date, after ensuring they are complete (e.g., elastic) and checking the fit.

- Some KN95 respirators can be used without a fit test:
 - KN95 respirators can be worn for 4 hours. Change the respirator if it becomes dirty or wet.
 - Reuse of KN95 respirators has not been documented.



Tips and tricks for reusing N95 respirators (www.inspq.qc.ca/en/publications/2921-use-expired-n95-masks-covid19)

- Each N95 respirator can be used up to 5 times, or 5 half days. Employees wear one respirator for each half day, and put it in a paper bag at the end of each half day.
- The order of use must be repeated, with a minimum of 5 days between each use:
 - These 5 days are based on the results of a study that assesses the persistence of SARS-CoV-2 on plastic, stainless steel and cardboard surfaces, showing that the virus is able to survive on average up to 72 hours.
 - All workers who have respirators must put them on, take them off, inspect them, and store them properly after each half-day.
 - Healthcare workers must handle respirators with care (even after 5 days), and follow the necessary precautions when reusing them.



For more information:

- Projected or actual shortage of N95 respirators:
 - <https://www.inspq.qc.ca/publications/2965-desinfection-n95>
 - <https://www.inspq.qc.ca/publications/2966-desinfection-protections-respiratoires-n95-covid19>
 - <https://www.inspq.qc.ca/publications/2918-reuse-respirators-n95-covid19>

- <https://www.inspq.qc.ca/publications/2921-emploi-masques-n95-expire-covid19>
- <https://asstsas.qc.ca/dossiers-thematiques/faq-respiratory-protection-responses>
- <https://www.canada.ca/en/health-canada/services/drugs-health-products/medical-devices/masks-respirators-covid19.html>
- <https://www.canada.ca/en/health-canada/services/drugs-health-products/covid19-industry/medical-devices/authorized.html>

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LEAFLET 7: ASEPTIC TECHNIQUE FOR THE LAB (D, H, A, T, DD)

This section is based on the document on infection control in dental medicine published in 2009 by Ordre des dentistes du Québec and Ordre des hygiénistes dentaires du Québec. The content was reviewed by the Working Group on Dental Services During the COVID-19 Pandemic to ensure the information was up to date.



Checklist:

- All items that enter the lab from an operating room must be sterilized, if sterilizable, or suitably disinfected.
 - Impressions (or any other material/instrument) that must be transferred to the lab must be disinfected directly in the treatment room. Gloves must be changed before leaving the operating room.
- All items that enter the lab from an external lab, even if the lab does its own disinfection, must be sterilized, if sterilizable, or suitably disinfected.
- All items that leave the lab and will be used in the mouth must be sterilized, if sterilizable, or suitably disinfected.
- All items that leave the lab for an external lab must be sterilized, if sterilizable, or suitably disinfected.

Table 5: General aseptic technique for the lab

Items	Procedure
Bite wax and impressions	<ul style="list-style-type: none"><input type="checkbox"/> Clean, rinse under running water, shake off.<input type="checkbox"/> Wet with disinfectant, place in a resealable plastic bag, and let stand two minutes (depending on the disinfectant).<input type="checkbox"/> Rinse again and cast the impression.
Bite plates	<ul style="list-style-type: none"><input type="checkbox"/> Follow the manufacturer's recommendations based on the product, method, and time.
Prosthetics and appliances	<ul style="list-style-type: none"><input type="checkbox"/> Clean and rinse under running water.<input type="checkbox"/> Immerse in a tuberculocidal solution (avoid phenolic derivatives).<input type="checkbox"/> Rinse again and let dry.<input type="checkbox"/> Disinfected acrylic prosthetics can be kept in a bag or other container filled with a diluted mouthrinse solution.
Plaster or stone casts	<ul style="list-style-type: none"><input type="checkbox"/> Wet with disinfectant until casts are completely soaked. Avoid spraying disinfectant.

Table 6: Disinfectant solutions

Items	Glutaraldehyde	Iodophor (1:213)	Bleach (1:10)
Impressions			
Alginate	-	+	+
Polysulphide	-	+	+
Silicone	-	+	+
Polyether	-	-	+*
Hydrocolloid	-	-	+
Prosthetics			
Fixed (metal/ceramic)	+	?	?
Removable (acrylic/ceramic)	-	+	+
Removable (metal/acrylic)	-	+#	+#
All metal	+	?	?

Always allow the amount of time recommended by the manufacturer. Alcohol alone is not recommended.

Legend: + Recommended method - Not recommended
 ? Insufficient data # Minimum immersion time (10 minutes)
 *Use with caution and see manufacturer's recommendations

Table 7: Disinfection and sterilization of polishing agents and different materials

Items	Actions		
	Clean and disinfect	Clean and sterilize	Discard
Articulator	√		
Burs: Carbon steel Steel Tungsten carbide Diamond		√ √ √ √	
Impression trays: Aluminum Chrome (plated) Cold-cure acrylic resin Plastic		√ √ √ when cold	√
Orthodontic materials: Arch wires and brackets		√	
Polishing agents: Garnet abrasive strips Rubber polishing cups			√ √
Polishing points, wheels, discs, and brushes: Garnet Rubber points/wheels Felt or fabric wheels Brushes		√ √ √	√
Mounted stones: Abrasives (polishing)		√	
Spatulas, bowls, bite wax	√		
Knives		√	
Colour guide	√	√ when cold	
Pumice	Mix with one of the following disinfectant solutions: bleach (1:10), iodophor, quaternary ammonium, or chlorhexidine. Prepare a new mixture for each patient.		



For more information:

- Document d'information sur le contrôle des infections en médecine dentaire (in French only), published by Ordre des dentistes du Québec and Ordre des hygiénistes dentaires du Québec.
http://www.odq.qc.ca/Portals/5/fichiers_publication/politiques/Controle_des_Infections.pdf

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LEAFLET 8: TEACHING ENVIRONMENTS (D, A, H, T, DD, P)

This leaflet can be used to better plan how clinics are organized in teaching environments. It contains additional information that applies to open-plan dental clinics with many workstations. The overarching principles set forth in this document also apply to teaching environments.



Checklist:

- Maintain physical distancing of a least two metres in the waiting room (see Leaflet 1).
- If possible, set up a one-way system to avoid close contact in the clinic (e.g., put marks on the floor to indicate the direction of foot traffic).
- Limit the presence of paper in treatment rooms as much as possible (see leaflets 3 and 4):
 - Provide an area at the entrance to each cubicle where the patient's record can be consulted if in paper format (e.g., closed plexiglass box).
 - If possible, update the record away from the patient contact zone.
- Limit the amount of equipment in the cubicle. Take out only instruments and materials necessary for the procedure (see Leaflet 4).
- Droplets generated during a dental treatment can travel an estimated two metres from the head of the patient. Therefore you must maintain approximately four metres of space between the heads of patients. If partitions or other obstacles are there to stop the droplets, this distance is optional.
- Treat patients in closed rooms when planned procedures are liable to produce aerosols from body fluids (see Leaflet 5).
 - Following a procedure liable to produce aerosols from body fluids, respect the required waiting time based on the ventilation characteristics of the room before bringing in the next patient (see Leaflet 5).
 - Consider a supplemental air filtration system such as a HEPA filter.
- Students must wear PPE as instructed in leaflets 6 and 6A.
- Provide disposable or washable non-sterile long-sleeved gowns (waterproof or not, one gown per patient) for clinicians who will be performing or observing a procedure liable to produce aerosols from body fluids (see leaflets 6 and 6A).
- Provide face shields for clinicians who will be performing or observing a procedure liable to produce aerosols from body fluids.
- When clinicians change cubicles:
 - They must remove gloves and perform hand hygiene before leaving the first room.
 - If they performed or observed a procedure liable to produce aerosols from body fluids, they must remove their gown and perform hand hygiene.

- Provide an easy-to-access basket lined with a disposable or reusable bag, as appropriate, for staff to place soiled gowns/uniforms.
 - ☐ If they have performed or observed a procedure that does not produce aerosols or a procedure unlikely to produce aerosols from body fluids, they can wear a work uniform that does not need to be changed between patients.
 - ☐ If they performed or observed a procedure liable to produce aerosols from body fluids, they must remove their face shield and perform hand hygiene a second time.
 - They must put on new gloves, disinfect the face shield, remove the gloves, perform hand hygiene again, and put the face shield back on.
 - ☐ If they performed or observed a procedure that does not produce aerosols or is unlikely to produce aerosols from body fluids, they must disinfect their face shield only if it has been touched or soiled. It is important to always take special care to avoid cross-contamination.
 - ☐ In the second room, they must put on a new gown if there will be a procedure liable to produce aerosols from body fluids.
 - ☐ Put on new gloves.
- Medical (or surgical) mask (see leaflets 6 and 6A):
 - Only change the mask if it gets dirty or wet, then perform hand hygiene.
 - A medical (or surgical) mask can be worn for four hours. Change it if it gets dirty or wet.
 - Do not lower the mask to your chin and then put it back in place.
 - Do not touch your eyes, nose, or mouth because your hands could be contaminated. Do not touch the outside of the mask.
 - If you touch the mask, remove your gloves, perform hand hygiene, and put on new gloves.



For more information:

- Anticipated or actual PPE shortages: <https://www.inspq.qc.ca/publications/2957-mesures-exceptionnelles-protection-individuelle-covid19>
- Cleaning and disinfecting eye protection between patients: <https://www.inspq.qc.ca/publications/2955-desinfection-protection-oculaire-covid19>

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LEAFLET 9: SPECIAL CONSIDERATIONS FOR IN-HOME DENTAL CARE (D, DD, A)

This leaflet provides specific guidance on arranging and providing in-home dental care. The main principles in the rest of this document also apply.



Checklist:

Before the appointment:

- When the appointment is made, use the screening form to assess whether anyone else in the household has COVID-19 symptoms or risk factors (see Leaflet 2A).
- Bring only the materials and equipment required for the patient home visit.
- Leave anything that cannot be disinfected (e.g., fabric bags and coverings) outside the home.
- When you arrive at the patient's home, leave your personal belongings in a disposable or washable bag.
- Dental staff must have with them:
 - Hand sanitizer (60% to 70% alcohol)
 - The right PPE for the patient's status and treatment
 - Disinfecting wipes

At the appointment (see leaflets 1, 3, 4, 5, 6):

- Dental staff who come within two metres of the patient must wear a medical (or surgical) mask at all times.
- Promote respiratory hygiene and etiquette among patients with a fever or cough.
- Promote community measures and social distancing.
- If there are other people in the home, they must not be in the same room as the practitioner and the patient:
 - If that is not possible, they must stay two metres away from the practitioner or wear a medical (or surgical) mask.
 - If the helper who has to stay in the treatment room has not been in close contact with the patient, procedures likely to produce aerosols from body fluids are prohibited unless the helper is given the necessary PPE (see leaflets 6 and 6A).
 - Definition of close contact (PPE not required):
 - At least 15 minutes with the person within the 2-metre limit
 - Repeated contact with the person
 - Lives under the same roof as the person
 - Physical contact while providing care for the person
 - Direct contact with the person's body fluids
- Perform the procedure in a separate room with the door closed.

- Improve air circulation in the bedroom or room where care will be delivered by opening an outside window or door.
- Disinfect surfaces used in the home before and after treatment.
- Disinfect all equipment and place used instruments in a medical container:
 - Use gel, mousse, or a spray to keep instruments moist until they are ready to be treated again reprocessed.
 - Put the medical container in a second container suitable for commercial transport (double packaging for used instruments before they are transported).

After the appointment:

- Sort waste into the usual categories (general, biomedical, pharmaceutical, etc.).
- Dental staff must remove their uniform or gown before leaving the patient's home and place it in the disposable or washable bag they used earlier for their personal belongings.



For more information:

- Guidance for healthcare workers when providing in-home care: <https://mobile.inspq.qc.ca/publications/2917-mesures-soins-domicile-covid19>
- Use of medical masks in healthcare environments with community spread: <https://www.inspq.qc.ca/covid-19/prevention-et-controle-des-infections>

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LEAFLET 10: LEGAL OBLIGATIONS AND PSYCHOSOCIAL RISKS

(D, H, A, T, DD, P)

Both employers and workers must fulfil their legal obligations with respect to occupational health and safety in the face of COVID-19. This section is drawn from the Workplace Sanitary Standards Guide – COVID-19 published by CNESST (Commission des normes, de l'équité, de la santé et de la sécurité du travail).



Employer checklist:

- Employers have the obligation to protect the health and ensure the safety and physical well-being of their workers.
 - The *Act respecting occupational health and safety* (AOHS) requires employers to take every measure necessary to achieve this (Section 51).
 - Those measures include methods for identifying, correcting, and controlling risks.
 - Employers must consider whether their usual preventive measures are appropriate in the face of COVID-19.
 - If not, they must adjust them to protect their workers against risks of contamination.
 - Employers must also inform workers about the risks related to their work, including those related to COVID-19.
 - They must provide the appropriate training, supervision, and coaching to ensure all employees have the skills and knowledge they need to do their job safely.
 - For specific requirements regarding pregnant or breastfeeding workers, see the links below under “For more information.”



Checklist for workers:

- All workers have the obligation to take the necessary measures to protect their health, safety, and physical well-being, and to ensure they do not endanger the health, safety, or physical well-being of other persons in the workplace (Section 49, AOHS).
 - To do this, they must follow the rules and measures put in place for COVID-19 just like they would follow any other rule in their workplace (Appendix 3).
- Workers must also help identify and eliminate risks. If they see risks or have suggestions to make, they must inform the health and safety committee (if there is one), their superior, or a representative of the employer.



Useful tips:

Work-related psychosocial risks

- The COVID-19 situation can be a significant source of stress for employers, workers, suppliers, subcontractors, partners, and patients alike, because of the upheaval it is causing in different spheres of society. Special attention must therefore be paid to employees' psychological health.
- No violence in any form between colleagues, hierarchical superiors, or subordinates, or from an external source (clients, patients, suppliers, subcontractors) can be tolerated. Employers are urged to post this information and inform their staff of it.
- A good work climate is essential, and in the particular context of the pandemic, special attention must be paid to keeping it healthy. Peaceful relations between the employer, workers, and clientele are paramount.
- Employers should put preventive measures in place in the workplace and communicate the information well in order to respond to employee concerns, reassure staff, and relieve their anxiety.



Form to use:

- Appendix 3: Staff monitoring log



For more information:

- Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST) document: <https://www.cnesst.gouv.qc.ca/salle-de-presse/covid-19-info-en/Documents/DC100-2146A-Guide.pdf>
- COVID-19 (SARS-CoV-2): Interim Recommendations on Preventive Workplace Measures for Pregnant and Nursing Workers: <https://www.inspq.qc.ca/sites/default/files/covid/2919-workplace-pregnant-workers-covid19.pdf>
- Les risques professionnels pendant la grossesse pour les hygiénistes dentaires et les assistantes dentaires en cabinets privés : <http://www.santeautravail.qc.ca/documents/5982116/08379013-6735-430c-b1ea-b3f810098b85>

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APPENDIX 1: THE PRECAUTIONARY PRINCIPLE

The current situation is complex, and requires us to analyze and prioritize a number of conflicting values. The government has instituted extensive measures to reduce the number of deaths in Québec because it is prioritizing the value of life. The dental industry must do the same. This document should be read with that idea in mind. This appendix explains why the precautionary principle was applied in the choice of guidelines.

The precautionary principle is the principle of “reducing or eliminating risks whenever possible and adopting an attitude of vigilance to proactively avoid any unnecessary risk. This attitude should be used both in contexts of relative certainty (prevention) and of scientific uncertainty (precaution).” (Ricard, 2003, p. 33)

As a result, when more scientific evidence about COVID-19 transmission is established, in accordance with the precautionary principle the guidelines in this document will change. Either new universal prevention measures will be adopted or the measures put in place during the pandemic will be abandoned if ultimately no scientific evidence supports their use.

If there is an anticipated or actual shortage of PPE, it is essential to use the available PPE for clinical situations at risk of transmitting COVID-19. Using PPE such as N95 masks for low-transmission-risk clinical situations may deprive professionals of the PPE they need to perform high-risk procedures or even to save lives and to protect their own. All health professionals must take care to use PPE judiciously and to conserve it for clinical procedures where it is necessary.

All guidelines issued in this document follow the precautionary principle and correspond to a reasonable risk. Zero risk does not exist in health care and has never existed in the practice of dental medicine. The current situation and the media’s treatment of it have led to a heightened awareness or hypervigilance about its risks. It is normal to feel worried. However, decisions must be made based on science and reason, as we have done in these guidelines. These guidelines were developed by the ministry’s Working Group on Dental Services During the COVID-19 Pandemic to protect workers and patients. That way dental workers can return to work with confidence and be fully prepared to fulfil their chosen role in society.

	Arrival time: Departure time:		A/P
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APPENDIX 4: STATE OF KNOWLEDGE

Epidemiology

INSPQ is responsible for documenting the evolution of COVID-19 cases in Québec. This information is available online at <https://www.inspq.qc.ca/covid-19/donnees>.

Transmission mode

- A growing body of epidemiological data on individuals confirmed as infected with COVID-19 around the world has linked cases to person-to-person transmission during close, unprotected contact with a person with respiratory symptoms, a person in the presymptomatic phase, or an asymptomatic infected person.
- Recently published studies suggest that a certain proportion of infected people remain asymptomatic (5–75%; results vary widely depending on study and subject age). Younger people are more likely to have asymptomatic forms of COVID-19.
- In symptomatic individuals, the viral load is at its highest after symptom onset. It has been suggested that approximately 44% of the infectious period occurs in this presymptomatic phase.
- Evidence seems to show that the viral load of asymptomatic or presymptomatic patients tends to be similar to that of symptomatic individuals. The proportion of people who contract COVID-19 from asymptomatic people is difficult to estimate and poorly documented, as is the proportion of infected people who are asymptomatic.
- Potential modes of transmission of SARS-CoV-2 of concern in dental healthcare are contact with droplets or with aerosols.
- It is difficult to assess the transmission risk of SARS-CoV-2 during dental treatment. Pharyngeal (nasopharyngeal and oropharyngeal) and respiratory secretions have been shown to deposit the virus on oral tissue, but concentration levels are not known. The current scientific consensus does not recognize oral tissue as a location for the proliferation of the virus.

Risk of exposure for dental healthcare personnel

- Dental healthcare personnel are at risk of occupational exposure to SARS-CoV-2 during dental procedures (OSHA, 2020). However, when PPE is used appropriately, the level of risk of exposure for dental healthcare personnel is considered low. For more details, see the following INSPQ document: <https://www.inspq.qc.ca/sites/default/files/covid/2905-prise-charge-travailleurs-sante-milieux-soins.pdf>
- There are documented cases of transmission of COVID-19 to healthcare workers at the time of PPE removal. It is therefore important to remember that **PPE removal is a crucial step in protecting dental healthcare workers**. Precise instructions are given in Leaflet 6.

Transmission through droplets (Table 1)

- According to current scientific and epidemiological data, SARS-CoV-2 is transmitted primarily through droplets during prolonged close contact, or by direct contact with droplets from respiratory secretions when an infected individual coughs or sneezes.
- Droplets from respiratory secretions carry a high viral load. The reason for this is that the virus attaches itself to the receptors of the cells lining the respiratory tract.

- For healthcare personnel, it is important to protect the mucous membranes of the respiratory tract and the conjunctiva. Wearing medical (or surgical) masks, face shields, or eye protection constitutes effective individual protection against droplets.
- Although droplets settle on surfaces, the proportion of transmission through indirect contact via contaminated surfaces is not known.

Aerosol transmission (Table 1)

- Aerosols are suspensions small enough to remain in the air for an extended period.
- Aerosol transmission of SARS-CoV-2 is not yet well understood and, based on current scientific data, experts cannot rule out the possibility of transmission via this route. The possibility of airborne transmission under certain conditions must therefore be taken into account.
- Aerosols produced by dental treatments are a combination of the patient’s body fluids and water from instruments (e.g., air-water syringe, high-speed handpiece, scaler). They therefore have a lower viral concentration than the aerosols produced through procedures carried out in a hospital environment (intubation/extubation, bronchoscopy, etc.), which are made up exclusively of the patient’s body fluids. Considering that aerosols and droplets produced during dental procedures come from the same source—the mouth—it is reasonable to assume that aerosols, due to their smaller size, have a lower viral load than droplets. It is therefore probable that aerosols pose a lower risk of virus transmission.

Table 1: Characteristics of opportunistic airborne transmission⁵ versus droplets⁶

Characteristics	Opportunistic airborne	Droplets
Definition	Infection through inhalation of an infectious aerosol (contaminated with a pathogen)	Infection by exposure of the conjunctiva or mucous membranes to droplets sprayed during coughing or sneezing, speaking, or oral or nasopharyngeal procedures.
Transmission vector	Aerosols	Droplets
Transformation into particles in air	Sufficiently small particles (< 5 microns) to remain suspended in the air for several minutes/hours, depending on room ventilation	Droplets are not suspended in the air and exhibit rapid sedimentation
Distance the microorganism can be transported	Throughout a room or area, by drafts	Short distance < 2 meters
Inoculation site	Lower respiratory tract – preferred inoculation site	Can contaminate a person by being deposited in the eyes, on the nasal or oral mucosa of the exposed individual, or on nearby surfaces

⁵ Fine droplets of aerosolized infected respiratory secretions, particularly during aerosol-generating medical procedures.

⁶ Table inspired by PCI document, CISSS de l’Outaouais, April 2020.

Contagiosity

The basic reproduction number (R_0) is an indicator of the contagiousity or transmissibility of infectious agents. The R_0 varies depending on a range of biological, socio-behavioural, and environmental factors that affect pathogen transmission. Table 2 compares the R_0 of various viral diseases, including COVID-19.

Table 2: Comparison of R_0 , various viral diseases (Flanagan, 2020)

Viral disease	R_0
MERS (Middle East Respiratory Syndrome)	0.3–0.8
H1N1 flu	1.46–1.48
COVID-19	~3 ⁷
Spanish Flu (1918)	2–3
Rubella	4–7
Polio	5–7
Smallpox	5–7
Mumps	6–7
Measles	12–18

⁷ Reference: <https://www.inspq.qc.ca/sites/default/files/covid/2983-immunite-groupe-covid19.pdf>

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APPENDIX 5: CLASSIFICATION OF DENTAL PROCEDURES BASED ON RISK OF AEROSOLS (SEE LEAFLET 5)

LOW DROPLET, NON-AEROSOL-GENERATING PROCEDURES (NON-EXHAUSTIVE LIST)

Characteristics:

- Treatment in open or closed room
- No use of air-water syringe
- No use of high-speed handpiece
- No use of scaler
- No use of the air polisher (Prophyjet™)

- Atraumatic restorative treatments: ART-SMART (see Leaflet 5)
- Topical fluoride delivery (including SDF) (see Leaflet 5);
- Taking impressions without retraction cords
- Articulations, fittings, installation and adjustment of removable prostheses
- Taking x-rays
- Teaching and demonstrating oral hygiene techniques
- Incisions or draining abscesses
- Monitoring, evaluation, and treatment of malignant and premalignant lesions
- Color choices
- Orthodontic procedures (e.g., fitting appliances)

PROCEDURES GENERATING LOW AMOUNTS OF AEROSOLS FROM BODY FLUIDS (NON-EXHAUSTIVE LIST)

Characteristics:

- Treatment in open or closed room
- Installation of dental dam when high-speed handpiece is used
- Minimal non-continuous use of the high-speed handpiece (e.g., occlusal adjustment)
- Minimal non-continuous use of air-water syringe with no simultaneous use of air and water (spraying mode)
- No use of scaler
- No use of air polisher (Prophyjet™)

- Dental examination
- Manual scaling
- Manual root planing
- Selective polishing using the handpiece with cup (due to the volume of droplets associated with this procedure, a long-sleeved gown (one per patient) and face shield is recommended)
- Application of dental sealants without ameloplasty
- Installation of temporary fillings
- Operative dentistry with dental dam

- Occlusal adjustments
- Cementing or fitting of a fixed prosthesis
- Endodontics (including emergency openings)
- Surgery without use of high-speed surgical handpiece
- Orthodontic procedures (e.g., cementing of bands)
- Placement of an implant-supported prosthesis (unitary, partial, complete), screwed or cemented, on abutment

PROCEDURES LIABLE TO GENERATE AEROSOLS FROM BODY FLUIDS (NON-EXHAUSTIVE LIST)

Characteristics:

- Treatment in a closed room
- Prolonged use of air-water syringe
- Use of the air-water syringe in spraying mode
- Prolonged use of high-speed handpiece, without dam
- Use of scaler
- Use of air polisher (Prophyjet™)

- Scaling with ultrasonic or piezoelectric scaler
- Polishing with air polisher
- Operative dentistry without dam
- Dental preparation for veneers and fixed prostheses
- Taking impressions with retracting cords
- Orthodontic procedures (e.g. decementing braces)
- Surgery requiring use of high-speed surgical handpiece
- Surgical implantology: placement of implants, treatment of peri-implantitis, etc.
- Placement of an implant-supported prosthesis that requires adjustment by sustained air/water drilling for the adjustment of an implant (abutment) or for gingival correction



For more information:

- **Guide for dental hygienists on aerosol- and droplet-generating activities – Guidelines and recommendations (COVID-19 pandemic):** <http://www.ohdq.com/communications/reprise-des-soins>

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APPENDIX 6: TRANSMISSION OF COVID-19 THROUGH AEROSOLS: WAYS TO MINIMIZE RISKS

By:

- Jean Barbeau, Université de Montréal
- Caroline Duchaine, Université Laval

Transmission of COVID-19 through aerosols

Since COVID-19 is a respiratory infection, it is logical to assume that the virus is transmitted through aerosols.

However, to assess the risk of transmission in a dental practice, we must first clarify the difference between aerosols and droplets, two terms that denote different concepts.

When a person coughs or sneezes, or when dental treatments are performed with dynamic instruments such as a high-speed handpiece or scaler, a mist of droplets and aerosols is projected into the air.

Aerosols are suspensions in the air of solid or liquid particles small enough to remain airborne for an extended period of time due to their low rate of sedimentation. The sedimentation rate in still air can be calculated: for example, a 3-metre descent takes 4 minutes for a particle measuring 20 μm (aerodynamic diameter), 17 minutes for a 10 μm particle, and 67 minutes for 5 μm particle.

In studies of bioaerosols generated by human subjects, it is important to distinguish between particles' initial diameter and their diameter after the evaporation of their water in the ambient air. The resulting dried-out particles are called "droplet nuclei." For particles with an initial diameter < 20 μm , evaporation occurs in < 1 second, and the diameter decreases to a little less than half of the initial diameter. There is basic agreement that particles with an aerodynamic diameter of 5 μm or less are aerosols, while particles > 20 μm are large droplets. Some authors define aerosols as $\leq 10 \mu\text{m}$ or even $\leq 20 \mu\text{m}$; particles between 5 and 15–20 μm are also called "intermediates." All values refer to the aerodynamic diameter. For bioaerosols, they refer to the aerodynamic diameter after evaporation.

While there is consensus that droplets can transmit disease to someone in close proximity to an infected person, transmission through aerosols—known as airborne transmission—is a grey area. Several factors must be taken into account.

Influenza studies have shown that the vast majority of infectious agents are released from respiratory mist in droplets. This is consistent with the fact that 99% of the respiratory exhalations are made up of droplets, versus just 1% for bioaerosols. In brief, about 1% of pathogens are found in bioaerosol particles produced by an infected person. It follows from this data that, as the distance between the source individual and the person they are in contact with increases, the presence of infectious particles decreases.

The viral load associated with droplets is therefore higher than that of aerosols. Viruses do not travel through the air in isolation; they do so in association with secreted droplets. Several viral particles can be associated with a given droplet. In theory, larger droplets will carry more viruses than smaller ones. However, the largest droplets fall to the surfaces before evaporating. The smallest ones quickly evaporate, becoming bioaerosols. Viral particles can, therefore, be associated with droplet nuclei. Resistance to taking on the state of droplet nuclei varies from virus to virus. Current data for the COVID-19 virus (only 2 articles as of April 24, 2020) suggests resistance to aerosolization (half-life of approximately 3 hours), but in a laboratory context. However, to date, no team has successfully demonstrated the infectivity of the SARS-Cov-2 virus in the bioaerosols generated by infected people.

Many diseases have multiple routes of exposure, unequally distributed. Current evidence suggests that droplets pose a greater transmission risk than air. Air could, under certain circumstances, play a role, but the current lack of knowledge does not permit us to demonstrate with convincing evidence that this route is significant in a “real world” context, meaning outside laboratory conditions.

It cannot be ruled out, however, that aerosols may play a sporadic but significant role in specific transmission situations (e.g., cruise ships, poorly ventilated rooms, prolonged contact, etc.).

Another factor that must be considered is the viral load of symptomatic patients, versus that of symptom-free patients. The data on this issue is constantly evolving.

These notions must be kept in mind when seeking to minimize the transmission of COVID-19 during dental treatments. These suggested means are designed to protect the dental team and patients.

Aerosols and dental treatments

When dynamic instruments such as the high-speed handpiece and scaler are used, droplets and aerosols are produced. Data shows that the majority of particles fall into the aerosol category (median diameter 0.73 µm). According to studies, the highest concentration of these elements is found approximately 1 metre from patients’ heads.

Since particles containing viruses are a complex mixture of diverse components (salts, proteins, and other organic substances and inorganic materials, including viral particles), it is critical to realize that the size of the viral particle itself has no influence on the size of airborne particles. The impact of viruses themselves on the granulometric distribution of aerosols is negligible when compared to that of aerosols as a whole. This means that viruses, even if they are nanometric in size, circulate in aerosols attached to particles that are micrometric in size.

The above information can serve as a guide for assessing risk factors for transmission of COVID-19 in dental offices but, in the absence of epidemiological data, this data does not enable us to quantify the risk.

On the other hand, it makes sense to attempt to reduce the production of droplets/aerosols and minimize their infectious potential. Since aerosols remain suspended in the air for an extended time, air purifying strategies are desirable.

Current data shows that droplets, and contact with them, represent a greater risk than aerosols for the spread of COVID-19. Droplets, which tend to fall rapidly onto surfaces, have the potential to transport more viral particles than aerosol particles. Although aerosol particles remain suspended in the air for a long time, they are highly diluted in the air in rooms. The infectious potential of these diluted aerosols is considered to be very low.

Four levels of droplet and aerosol management are defined below, each of which reduces the risk of transmission of COVID-19 during aerosol-generating treatments:

1. **Reduce the infectious potential of droplets and aerosols** through the use of antiseptic mouthwash prior to the procedure (over **90%** effective).
2. **Reduce emission of droplets and aerosols** through use of dams and high-speed suction (**90–99%** effective).
3. **Block droplets and aerosols** by wearing the appropriate mask together with eye protection or a shield.
4. *Eliminate diluted aerosols in the air* through air changes by means of central ventilation and/or portable HEPA filters (between **90%** and **99.9%** effective, depending on the wait time).

Combining these four strategies will considerably reduce the concentration and infectious potential of aerosols during aerosol-generating treatments.

Air changes and filter changes

The ventilation and air exchanger systems already in place ensure a certain number of air changes in a room or clinic over a period of time. However, the air changes per hour rate is not always easy to determine, and the data is not always reliable. In addition, there may be variations from room to room within the same clinic. Keep in mind that air changes will have little influence on the droplets, which quickly deposit on surfaces and do not remain suspended in the air.

The use of portable HEPA filters is a very good strategy to purify air through filtration. Experts suggest placing a filtration unit in each clinic treatment room, positioning it near the source of aerosols. Unit power should be selected based on the size of the room. Manufacturer’s specifications can help you determine the number of air changes per hour based on the power of the device. In large, open-plan clinics, it may be better to have more than one device.

The following information can be used as a guide for choosing the processing capacity of a mobile unit equipped with a HEPA filter:

For a room measuring 12 ft. (3.6576 m) by × 12 ft. (3.6576 m), with a 10 ft. (3.048 m) ceiling: ⇒ $V_{\text{room}} = 1,440$ cubic feet (40.8 cubic metres). Assuming that the general ventilation flow is 1 air change per hour (ACH), or 24 cubic feet/min. (0.68 cubic metres/min.).

In the following table, $\frac{C(t)}{C(t_{ini})}$ represents the ratio between the concentration of aerosols over time t and the concentration at the initial time (switching on the device). It also represents the effectiveness in reducing levels of bioaerosols in the room: a $\frac{C(t)}{C(t_{ini})}$ of 0.1 and 0.01 represent 90% and 99% effectiveness, respectively. The time in minutes from the table

corresponds to what is necessary depending on the HEPA unit and its air changes per hour (in parentheses), to obtain the desired level of effectiveness.

Processing capacity of the HEPA unit	340 l / min (1/2 CAH)	680 l / min (1 CAH)	1,360 l / min (2 CAH)	2,720 l / min (4 CAH)	5,660 l / min (8.3 CAH)
$C(t) _{C(t_{ini})} = 0.1$	92 min.	69 min.	46 min.	28 min.	15 min.
$C(t) _{C(t_{ini})} = 0.01$	184 min.	138 min.	92 min.	55 min.	29–30 min.

Table produced by Stéphane Hallé, Eng., École de Technologie Supérieure (ÉTS)

Sample processing capacity of portable device: ~5,660 l/min. to 17,400 l/min., according to the manufacturer.

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APPENDIX 7: LIST OF DESIGNATED EMERGENCY DENTAL CLINICS FOR PATIENTS WITH SUSPECTED OR CONFIRMED CASES OF COVID-19

Health professionals must contact the following designated dental clinics themselves to refer patients requiring emergency dental work and who are suspected or confirmed to have COVID-19. For triage efficiency, **patients must not contact the clinics themselves** for an appointment.

Region	Clinic
Bas-Saint-Laurent	Hôpital de Mont-Joli 800, avenue du Sanatorium, Mont-Joli Phone: 418-732-5753
Saguenay-Lac-Saint-Jean	Monastère des Augustines de Chicoutimi (ground floor) 225, rue Saint-Vallier, Chicoutimi louise.desnoyers.siege.social@ssss.gouv.qc.ca
Capitale-Nationale	Adult and pediatric dental emergencies: CHU de Québec-Université Laval – Pavillon CHUL Monday to Friday, 8 a.m. to 4 p.m., fax: 418-654-2291 At other times call 418-525-4444, ext. 0. Ask the receptionist to contact the on-call dentist. Maxillofacial emergencies: CHU de Québec – Pavillon Hôpital de l’Enfant-Jésus Phone: 418-649-0252, ext. 0. Ask the receptionist to contact the on-call resident/surgeon.

Montréal**Centre hospitalier de l'Université de Montréal (CHUM)**

1051, rue Sanguinet, Montréal

Phone: 514-890-8407

Fax: 514-412-7770

Montreal General Hospital (CUSM)

1650, avenue Cedar, Montréal

Phone: 514-934-8063

Jewish General Hospital

melschwartz@jgh.mcgill.ca

Pediatrics**Centre hospitalier universitaire Sainte-Justine**

3175, chemin de la Côte-Sainte-Catherine, Montréal

Phone: 514-345-4931 ext. 6894 or 5534

On-call dentist: 514-345-4931 ext. 4788. Ask to be put through to the on-call dentist.

Montreal Children's Hospital

Gilman Building: 1040, Atwater, Montréal (Monday to Friday to 4:30 p.m.)

Glen site: 1001, boulevard Décarie, Montréal (after 4:30 p.m. and weekends)

Phone: 514-412-4479, Fax: 514-412-4369

HMEdentaire@muhc.mcgill.ca

Outaouais	Hôpital de Gatineau Adults: Personally contact the on-call maxillofacial surgeon at 819-966-6200, ext. 0. Pediatrics: Personally contact Dr. Ouatik at 819-966-6100, ext. 0.
Abitibi-Témiscamingue	Hôtel-Dieu d'Amos f.croteau@me.com Phone: 819-727-9952
Côte-Nord	CLSC de Blanc-Sablon 1077, boulevard Docteur-Camille-Marcoux Blanc-Sablon, Qc, G0G 1W0 Phone: 418-461-2144 (611295)
Gaspésie	Hôpital de Maria 19, boulevard Perron Maria, QC G0C 1Y0 Phone: 418-759-3443

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