



NEW BRUNSWICK COLLEGE
OF DENTAL HYGIENISTS
ORDRE DES HYGIÉNISTES DENTAIRES
DU NOUVEAU-BRUNSWICK

INTERIM DIRECTIVES FOR DENTAL HYGIENISTS

ALL NBCDH registrants are required to read and abide by these directives prior to returning to practice.

These directives are created using the most recent evidence and research available at this time.

Interim directives are subject to change

Effective June 18 ,2020

INTRODUCTION

These directives include updates and are to be used **in addition to the previous directives** as we move towards the reintroduction of aerosol generating procedures (AGP) in the dental hygiene practice. These provide evidence-based information on how to reduce risk for transmission of the coronavirus in dental hygiene practice. It is understood that there is a lack of current research on the coronavirus and its impact on dental hygiene practices. Some of the information in these directives is based on previous research conducted with other transmittable diseases. As more research is being carried out on the SARS-CoV 2, NBCDH will modify this document as new information becomes available.

The current evidence available at the time of writing, suggests that complete elimination of risk is likely not possible. By implementing a layered approach to the risk mitigation strategies listed in these directives, dental hygienists can reduce the impact of the known risks in their practice to protect themselves, their colleagues and their patients from infection.

During the recovery phase, it is important to understand that this is **NOT** business as usual.

Following Public Health measures and using professional judgement are critical in evaluating dental hygiene care services when incidence of disease increases in the community.

CLINICAL DENTAL HYGIENE CARE PROCEDURES

a) Splatter and Aerosols

Dental hygiene procedures often include procedures that creates aerosols and/or splatter.

Aerosols are defined as liquid or solid particles of less than 50 micrometers in diameter. Particles of that size are small enough to stay airborne for an extended period before they settle on environmental surfaces or enter the respiratory tract after inhalation. The settling time for aerosols will depend on the ventilation of the operatory.

Splatter is considered an airborne particle mixture of air, water, and /or solid substances larger than 50 micrometers in diameter, are visible to the naked- eye

and behave in ballistic or projectile manner. These particles are too large to stay suspended in the air and are airborne only briefly. Within the dental office, the aerosols and splatter generated have the potential to spread infection to dental personnel and other people in the office.

While it is almost impossible to eliminate the risks posed by dental aerosols, it is possible to minimize the potential risk by controlling aerosols and splatter.

b) Aerosol Generating Procedures (AGP)

During the COVID-19 pandemic, procedures causing aerosol production will be permitted *only if the demonstrated health benefits of providing the treatment outweighs the risk of infection to the patient* and the procedure cannot be achieved by any other method of treatment.

The following procedures are high risk for aerosol generation (AGP) and should be avoided as much as possible or limited.

- The use of three-way(tri) air-water syringe (combination of water/air together)
- Ultrasonic/power instrumentation
- Air polishing
- High-speed handpieces

c) Minimizing aerosols via a layered approach

With the reintroduction of AGP, the NBCDH is adopting a layered approach to mitigate the potential risk of transmission.

*Stephen K. Harrel, D.D.S and John Molinari, PH. D state: "It must be emphasized that no single approach or device can minimize the risk of infection to dental personnel and other patients completely. A single step will reduce the risk of infection by a certain percentage, another step added to the first step will reduce the remaining risk, until such time as the risk is minimal. This can be described as a layering of protective procedures. This layering of infection control steps needs to be followed in reducing the potential danger from dental aerosols. The dental team should not rely on a single precautionary strategy."*¹

Several factors must be applied by dental hygienists to mitigate the potential risks involved. Use **caution and professional judgement** in proceeding with treatment. The NBCDH agrees with the CDC indicating that incorporating the use of the high-volume evacuation with AGP, the use of a rubber dam (e.g., Pit and fissure sealants, restorative dentistry) and four-handed dentistry when possible will help in reducing any aerosols and spatters. ²

d) **Mitigating risks:**

To mitigate the potential risk involved with AGP, the NBCDH has adopted the following conditions and layered approach that **must be applied** if a dental hygienist is to provide any AGP in their practice:

General conditions:

- The procedure can be demonstrated that health benefits of providing the treatment outweighs the risk of infection to the client and the procedure cannot be achieved by any other method of treatment.
- Proper screening of clients.
- Consider the current health status of the client.
- If AGP are necessary for client care, minimize the time spent on the procedures and perform them closer to the beginning of the appointment to allow for any aerosols produced to settle (dependent on individual facility air clearance time).

Layered approach for AGP:

- 1- Use the **proper PPE** for the anticipated procedures. (See section on AGP PPE below)

NOTE: If appropriate PPE is unavailable, dental hygiene services must not be performed.

- 2- Use **procedural rinse** prior to any treatment (Hydrogen peroxide/ povidone-iodine)

Use a pre-procedural rinse with 1% hydrogen peroxide for 30 seconds or .5 to 2% povidone-iodine³ for 15 seconds prior to treatment.³

3- **Equipment:**

- **Use High Volume evacuation:**
When performing aerosol generating procedures or procedures that may cause splatter, the use of high-volume evacuation **must be used at all times.**
- **Use of Rubber Dam:** Use of a rubber dam in procedures such as sealants and restorative as much as possible.
- **Use of four-handed dentistry** If possible. NOTE: Currently, based on the NBDS Operational plan, dental hygienists working in a dental practice can only perform AGP **if they use four-handed dentistry.** The NBCDH would agree that four handed dentistry would be beneficial in managing the production of aerosols.

4- **Air clearance and ventilation:**

The time required for aerosol clearance is directly dependant to the ventilation system in your operatory. This **MUST** be determined before proceeding with AGP treatment.

e) Procedures at Potential Risk for Aerosol Generation (NAGP)
(See PPE required for NAGP below)

Procedures at Potential Risk for Aerosol Generation	Risk Mitigation
Intra-oral radiographs	Use extra-oral radiographs if possible, Assess patient for risk of gag response Employ strategies to avoid coughing, gagging and vomiting.
Impressions	Assess patient for risk of gag reflex Defer treatment if possible Employ strategies to avoid coughing, gagging and vomiting
Air-Water Syringe	Do not use air & water together The use of the three-way (tri) air/water syringe(combination) will cause the procedure to be considered under the AGP and will require the dental hygienists to apply AGP PPE and conditions listed above.

Polishing (selective)	Opt for selective polishing.
	Consider the use of HVE to control droplets, splatter, and potential aerosols.
	Consider using a facial shield.
	Use slow-speed handpiece only. Air polishing is considered an AGP and should be limited or avoided as much as possible.
	Use water only from the air/water syringe when rinsing.

PERSONAL PROTECTIVE EQUIPEMENT

a) Appropriate PPE for non-aerosol generating procedures (NAGP)

PPE	Before entering the operatory
Minimum ASTM Level 3 mask or superior	Put on a level 3 mask or a higher level of protection
Gown/lab coat (reusable or disposable) (Optional but recommended)	Put on a clean gown/lab coat To be changed daily or when soiled/contaminated
Eye Protection	Put on eye protection: safety glasses OR Face shield. Consider face shield for slow hand-piece polishing. Note- Personal eyeglasses alone and contact lenses are NOT considered adequate eye protection.
Gloves	Put on clean gloves. Change gloves if they become torn or heavily contaminated. *after entering the client operatory
Bouffant cap (optional)	Put on bouffant cap May be kept all day. If it has been contaminated, it is required to be changed

b)Appropriate PPE for aerosol generating procedure (AGP)

PPE	Before entering the operatory
Fitted N95 respirator mask or equivalent	Put on a N95 respirator mask or equivalent
Gowns/lab coat (reusable or disposable)	Put on a clean gown/lab coat Change between each patient.
Eye Protection	Put on eye protection: safety glasses/personal eyeglasses AND Face shield. Note- Personal eyeglasses alone and contact lenses are NOT considered adequate eye protection.
Gloves	Put on clean gloves. Change gloves if they become torn or heavily contaminated. *after entering the client operatory
Bouffant cap	Put on bouffant cap May be kept all day. If it has been contaminated it is required to be changed
Booties/disposable shoe covers (optional)	Put on booties. May be kept all day. If visibly soiled, it is required to be changed

References:

- (1) JADA, Vol. 135, April 2004, Aerosols and splatter in dentistry. A brief review of the literature and infection control implications. Stephen K. Harrel, D.D.S; John Molinari, Ph.D.
[https://jada.ada.org/article/S0002-8177\(14\)61227-7/pdf](https://jada.ada.org/article/S0002-8177(14)61227-7/pdf)
- (2) <https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html>
- (3) <https://pubmed.ncbi.nlm.nih.gov/32511851/>
[Rapid In-Vitro Inactivation of Severe Acute Respiratory Syndrome Coronavirus 2 \(SARS-CoV-2\) Using Povidone-Iodine Oral Antiseptic Rinse.](#)
Bidra AS, Pelletier JS, Westover JB, Frank S, Brown SM, Tessema B. Bidra AS, et al. J Prosthodont. 2020 Jun 8. doi: 10.1111/jopr.13209. Online ahead of print. J Prosthodont. 2020. PMID: 32511851

Other links:

<https://www.nbcdh.ca/wp-content/uploads/2020/05/NBCDH-Interim-Directives-May-2020-ENG.pdf>

<https://www.nbcdh.ca/wp-content/uploads/2017/10/NB-Dental-Infection-Prevention-Guide-FINAL11.pdf>

<http://www.cda-adc.ca/en/about/covid-19/covid-19.asp>

<http://www.cda-adc.ca/EN/about/covid-19/masks/>

<https://www.cdha.ca/>

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html>

https://www2.gnb.ca/content/gnb/en/departments/ocmoh/cdc/content/respiratory_diseases/coronavirus.html

https://www2.gnb.ca/content/gnb/en/corporate/promo/covid-19/maps_graphs.html

https://www2.gnb.ca/content/gnb/en/departments/ocmoh/cdc/content/respiratory_diseases/coronavirus.html

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/public-health-measures-mitigate-covid-19.html>

<https://blogs.cdc.gov/niosh-science-blog/2020/04/23/imported-respirators/>

<https://www.canada.ca/en/health-canada/services/drugs-health-products/medical-devices/masks-respirators-covid19.html>

<https://www.youtube.com/playlist?list=PL7ApdZUkX0i1FvICbDTNI9UviDYP2xTJK>

