



Mini-Series Part Two- Health & Safety; Hazard Assessment

In a pandemic, clinical practitioners are having to make decisions guided not only by patient-centered practice, but also guided by public health considerations, and often this can cause tension. Managing an outbreak of an infectious disease may require reviewing the standard of care that is possible to provide patients; thereby, justifying a different approach. The CDHM Code of Ethics is an essential guiding document when working through these decisions. The CDHM IPC Interim Guiding document, used in conjunction with the CDHM Code of Ethics, will assist dental hygienists in thinking through decisions that need to be made. Most often, either document alone can answer individual clinical decisions, but together, they help address the difficult issues by weighing competing interests and assist problem-solving to reach appropriate decisions.

Central to many of the decisions being made in your practice during this pandemic, is the assessment of risk and hazard. Dental hygienists are exposed to a variety of workplace hazards while performing treatment. The type and degree of exposure is dependent on the type of treatment, the type of patients and the specific tasks performed. Key to providing safe care is identification and management of risks to the patient, self and colleagues.

As a follow-up to the case scenarios provided in Part 1 of the Mini-Series, tools to aide in decision-making regarding hazard assessment for dental hygiene procedures in a pandemic, are explained below.

**The following resources have been adapted with permission from the CRDHA document for 'Navigating Occupational Health and Safety during the COVID-19 Pandemic'. This resource is not a definitive guide and does not exempt readers from their responsibilities under applicable legislation. In case of inconsistency between this resource and any other legislation, the legislation is considered correct.*

Hazard Assessment

Step One: Identify the Hazard(s)

SARS-CoV-2, the virus responsible for COVID-19, has been identified as a biological hazard. To better prepare for the hazard assessment, familiarize yourself with the identified hazard

Step Two: Identify the Task(s)

List all work-related tasks and activities that may put anyone in the workplace at risk of exposure to SARS-CoV-2. When identifying tasks, look at all the ways that the virus may be transmitted (clinical area, shared staff areas, reception areas, bathrooms, etc.).

Step Three: Identify the Risk Level

Adapted from OSHA regarding general risk of exposure for dental and dental hygiene practices.
<https://www.osha.gov/SLTC/covid-19/dentistry.html>



Dental Hygiene Activities Associated with Exposure Risk Levels Lower (caution)	Medium	High
<ul style="list-style-type: none"> ✦ Performing administrative duties in non-public areas of dental or dental hygiene facilities, away from other staff members. 	<ul style="list-style-type: none"> ✦ Providing non-aerosol generating procedures, to well clients (i.e., to members of the general public who are not known or suspected COVID-19 patients). ✦ Working at busy staff work areas within a dental facility. 	<ul style="list-style-type: none"> ✦ Performing aerosol-generating procedures on well clients. ✦ Providing emergency dental care, not involving aerosol-generating procedures, to a known or suspected COVID-19 client. ✦ Entering a known or suspected COVID-19 client's room or care area.

Step Four: Identify Hazard Controls

Once the hazard has been identified and the level of risk has been assigned to each procedure or task, the next step in the hazard assessment is to identify the appropriate levels of controls to mitigate the risk.

According to the Canadian Centre for Occupational Health and Safety (CCOHS), there are several ways to control workplace hazards, including the risk of exposure to viruses such as the novel coronavirus. One strategy is to use the National Institute of Occupational Safety and Health (NIOSH) hierarchy of controls. The hierarchy is a strategy that originates from the “NIOSH Prevention Through Design” national initiative to determine how to implement effective hazard control solutions.

The hierarchy, commonly depicted as an inverted triangle, is divided into five sections. The control methods on the top of the triangle are considered by NIOSH to be more effective, while the methods at the bottom are considered less effective.

Hierarchy of Controls

Elimination (including substitution):

Remove the hazard from the workplace, or substitute (replace) hazardous

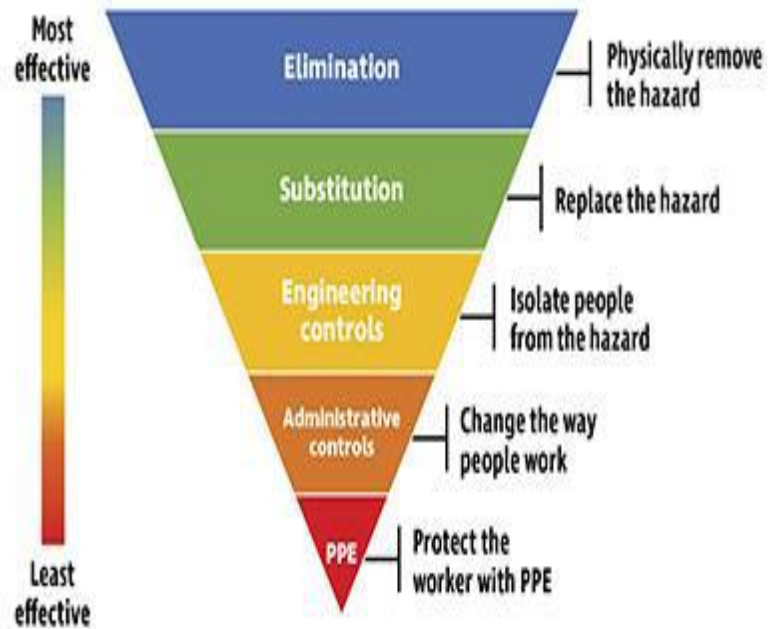
materials or machines with less hazardous ones e.g., screening. Elimination is the most effect control.

Engineering Controls: Includes designs or modifications to practices, equipment, ventilation systems, and processes that reduce the source of exposure.

Administrative Controls: Controls that alter the way the work is done, including timing of work, policies and other rules, and work practices such as standards and operating procedures

Personal Protective Equipment (PPE): Equipment worn by individuals to reduce exposure such as contact with chemicals or exposure to noise. It is important to remember the PPE is at the bottom of the hierarchy of control and that it is the least affective of all the controls.

NIOSH HIERARCHY OF CONTROLS



Example:

Step 1: Identify the hazard

Biological hazard: SARS-CoV-2 transmission through aerosols

Step 2: Identify task

Use of ultrasonic scalers for debridement

Step 3: Identify risk level

High

Step 4: Identify controls

Elimination

Substitution

Engineering controls

Administrative controls

PPE



Example: List of Dental Hygiene Activities (Including Risk Level and Hazard Controls)

Tasks that May Result in Transmission of Biological Hazard (SARS-CoV-2)	Risks Associated with Task Related to COVID-19	Elimination/ Substitution	Engineering Controls	Administrative Controls	Personal Protective Equipment
High Level of Risk Activities					
Powered instrumentation (e.g. ultrasonic scaler) Risk level = HIGH	Aerosol production that may create airborne transmission of SARS-CoV-2 Spray, spatter that may provide for droplet/contact transmission	Eliminate by deferring treatment Substitute with hand instrumentation	High volume evacuation 4-handed dentistry technique Determine aerosol clearance by identifying air changes per hour (ACH) for facility Take into consideration facility layout considerations (e.g. floor-to-ceiling walls, doors to operatories that close)	Policy and staff training to guide practitioners to appropriate use of HVE Staff training for Point-of-Care Risk Assessment (PCRA) to assist practitioners in determining risk in specific client case presentation Policy and staff training to leave operatory undisturbed for time required for ACH before cleaning and disinfection, and for enhanced cleaning and disinfection to include all surfaces after AGP	N95 mask or equivalent o If N95 mask is unavailable, use a Level 3 surgical mask with a face shield Protective clothing (gown or alternative) Bouffant/head covering Gloves Eye protection