



# Preparedness in the Dental Office

Building Resilience  
When Deviating  
from Business-as-Usual

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## Executive Summary

The novel coronavirus SARS-CoV-2 (COVID-19) started as an outbreak in Wuhan, China in December 2019 and rapidly spread across the globe. It was declared a pandemic by the World Health Organization (WHO) in March 2020. The impact of the pandemic was unprecedented. From countrywide lockdowns to closures of schools and businesses, this pandemic caused significant political, economic, and social downturn in the world. The livelihoods of individuals in different professions were affected, including dentistry.

At the beginning of the pandemic, dental offices in some provinces and territories in Canada were temporarily shut down, while others limited their services to providing emergency and/or urgent care under the guidance of provincial health authorities and provincial dental regulatory bodies. As the pandemic progressed, the profession's advocacy efforts resulted in dentistry being recognized as an essential service. This, combined with protection from vaccines, allowed dental professionals to resume practice with rigorous infection prevention and control (IPAC) protocols, which in many jurisdictions continue to still be in place.

Based on the experiences of dental practitioners, it was apparent that IPAC protocols were successful in preventing the transmission of COVID-19 in the dental office.<sup>1</sup> While oral health care providers were at risk of contracting the virus, evidence suggests that during the pandemic, the transmission of the virus between an infected patient and a provider, as well as among the dental team, has been minimal, especially compared to other health care providers.<sup>1-3</sup>

The success of being able to maintain a safe environment throughout the pandemic shows that the dental profession is adaptable to deliver safe oral health care during times of crisis. However, anecdotal accounts suggest adaptation wasn't easy. Personal protective equipment (PPE) and staff shortages, vaccine hesitancy among some members of the dental team and resistance and/or an inability to meet the heating, ventilation and air-conditioning (HVAC) requirements set out by some

regulatory bodies are just some examples of the issues faced by dental professionals across the country when they resumed practice.

These issues demonstrated that while dentistry can handle pandemics in relation to certain diseases, for example those transmitted through direct contact, there is a need to improve preparedness in relation to preventing diseases transmitted through other routes, notably airborne. Scholars believe that the incidence of disease outbreaks has increased over the last century,<sup>4</sup> and that the question to ask is no longer "will another pandemic happen?" but rather "how prepared are we for when the next pandemic happens?"

The looming threat of another pandemic, combined with ongoing social, technological, environmental, economic and political instability led us to consider how prepared the dental profession is, not just for a pandemic, but for any crisis that may pose a threat to an oral health care provider. The Canadian Dental Association (CDA) consulted its stakeholders as well as practicing dental professionals through focus group discussions and collected lived experiences from across the country to inform this resource. We hope that it will be utilized by Provincial and Territorial Dental Associations, CDA affiliate (individual) members, partners at the Canadian Dental Hygienists Association and Canadian Dental Assistants' Association as well as practicing dental professionals across Canada to better prepare for a future crisis.

This resource is intended for use by dentists and their teams, henceforth referred to as oral health care providers. The first section of this resource, titled "Risk Inventory," outlines different instances and events that could pose a risk to a provider. The second section provides information on a possible framework for how "Risk Assessment" can be done and how the framework can be used to determine the level of preparedness required. The final section called "Risk Mitigation" provides strategies to prepare for and mitigate negative outcomes related to different risks and scenarios.



## Part A. Risk Inventory

When thinking about crisis preparedness, the first question to ask is: “What is our risk?”

Think of risk as the possibility of something that, if it happened, would have a negative impact (on you and/or your dental office).

Oral health care providers face many risks. These can range from a small disagreement between colleagues to a natural disaster impacting the entire region to something much larger/ widespread. Risks can come from anywhere. Some may relate to others and build upon each other. For example, during the pandemic, COVID-related risks also led to the risk of employee burnout and mental health issues due to isolation and increased demands in the workplace.

When the above question was posed as “What is a risk to an oral health care provider?”, the participants in the focus groups gave many examples. CDA reviewed participant responses and open-source literature to create a risk classification for oral health care professionals.

While no such list can capture every possible risk scenario, we hope this classification will help providers think about preparedness and increase their awareness of the various risk situations that a dental professional may encounter. From there, mitigation and response become easier.

### “What is a risk to an oral health care provider?”

#### Personal

Health issues, mental health issues, disease exposure, fear/anxiety, stress, strained relations with patients and/or colleagues, unhappiness with career, home-based issues (harassment, violence, other negative living conditions), income instability, change in working pattern, practice license suspended.

#### Dental office-related

**Structural/Mechanical risk:** Structural collapse, arson/fire, chemical spill/splashes (e.g., developer, cleaning fluid), gas/water pipe leak, explosion, animal attack/infestation, supply chain issue, dental equipment malfunction, turbidity in drinking water, boil water advisories.

**Technological risk:** Lost internet connection, power outage, cyber-security attack/ransomware, privacy breach, insurance coverage/audit.

**Human risk:** Medical emergency (drug overdose, allergic reaction, stroke, heart attack, etc.), workplace injury (needle stick, trips, slips, musculoskeletal disorders, etc.), excessive workload, radiation exposure, reaction to dental equipment/material (mercury vapors, polymers, latex, etc.), armed/unarmed intruder, robbery, dental team-related (preparedness, safety, employment, lack of support, dispute, shortage, etc.), harassment/workplace violence (bullying, sexual assault, etc.), discrimination (gender, racial, ethnic etc.).

#### Patient-related

Access to care, access to information, changes in patient demographic (e.g., aging population, institutionalized patients, etc.), complaints because of unmet needs/demands, fear, change in patient flow, change in treatment experience (more prescriptions, antibiotic resistance, switch to hand scaling to reduce aerosol generation, etc.), communication challenges, compromised patient confidentiality.



### Profession-related

Diminishing trust in experts, (perceived) lack of collaborative guidance from organized dentistry, mis-/dis-information, evolving standards, adoption of standards that are ill-adapted to the oral healthcare environment, lack of knowledge translation from academia to individual oral health care provider, changes in the dental care environment (new dental care programs, new policies, evolving models of care, corporatization of care, etc.).

### Regional, national, or international

**Diseases:** Bacterial, viral, fungal, parasitic, prion; transmission—directly (contact/droplet) or indirectly (airborne/vehicles/ vector-borne).

**Natural disasters:** Earthquake, volcanic activity, extreme temperature, fog, storm (hail, thunderstorm, tornado, hurricane, sandstorm, blizzard, etc.), flood, landslide, drought, wildfires, tsunamis.

**Other crisis:** War, nuclear/terror attack (e.g., 9/11), political instability (change in priorities, policy decisions, etc.), economic instability (recession, inflation, etc.), loss of utilities, civil unrest (protests, labor strikes, etc.), armed insurgency, transport issues (accidents/strikes/ closures blockades).





## Part B. Risk Assessment

After reviewing possible risks, the next step is to ascertain which risks are most pertinent to a provider. The following considerations may help determine what the likelihood of a risk affecting a dental professional might be, and whether preparations should be made to mitigate the impact of that risk.

### Location

Local geography and a practice's situation relative to its surroundings are important to determine risk likelihood. Examples include:

- Living or working in a coastal area or floodplain puts a provider at a greater risk for natural disasters such as flooding, heavy rains and tsunamis.
- In regions that are prone to earthquakes, the provider should find out whether their practice is located in a [seismic hazard zone](#). This may be important in determining the extent to which an area may be affected by an earthquake. Similar considerations regarding the effect of earthquake would apply if the dental office were located in a built-up, densely populated area (i.e., there could be more chances of collapse/debris) vs. a rural community.
- If a dental office is located within a mall, an office building, or a shared space, then taking measures to help mitigate the risks would be different compared to providers who work in spaces where only their dental practice is located.

### Past experience as a predictor of the future

Past crises may help determine the potential risks of another crisis/event. Some examples include:

- During the September 11 terror attacks on the United States, downtown Ottawa went into a lockdown, which meant that any practice located within downtown Ottawa was closed. A similar situation could occur if a practice is located near any government building or an embassy during an attack, or if there is an explosion or shooting in the vicinity of the practice.
- Provinces such as British Columbia are more prone to occurrences like floods, earthquakes and wildfires and, therefore, businesses should prepare for these events. Climate changes may exacerbate certain risks or contribute to their frequency.
- If a crisis has happened before or is likely to reoccur, then it is probable that local and provincial governments, as well as national agencies such as the Public Health Agency of Canada, have these situations on their radar for response and may have resources available upon request. Reminder: keep track of public announcements and activities from local, provincial and national authorities.
- The recurrence of a crisis could also be in relation to past incidents that have happened in the dental office. These can serve as learning experiences to gauge the scale of the damage that is possible (structural, financial, mental, etc.) and inform ways to prepare and appropriately respond to such crisis if they occur again (e.g., pipe burst).

### Duration

Certain crises may be very time-limited while others may last much longer. Knowing how long a situation may persist can help a provider determine the level of risk to their patients and practice, and guide preparedness.

### Determining trade-offs

Determining risks that are most pertinent and most likely to occur can help focus a provider's finite resources. Assessments can be used individually or in combination with one another to determine how much risk preparation a provider needs and possible mitigative steps.



**Personal risk tolerance**

Deciding the level of preparation that is required involves assessing a provider’s risk tolerance. A lower tolerance means more preparation is required. The following considerations can be used in this assessment:

Consideration	Personal Risk Tolerance			
	Low			High
<b>Duration of career:</b> greater the number of years in practice, greater the provider’s experience and stability thus more tolerance to risk.	Less than 10 years	10–20 years	20–30 years	More than 30 years
<b>Finances:</b> the greater the financial stability of a provider, the greater the tolerance to risk.	Have sufficient funds to continue to operate without generating revenue for a short period (e.g., less than a month).	Have sufficient funds to continue to operate without generating revenue for an intermediate period (e.g., one–three months).	Have sufficient funds to continue to operate without generating revenue for an extended period (e.g., three–six months).	Have enough funds to continue to operate without generating revenue for a long period. (e.g., more than six months).
<b>Personal characteristics:</b> greater the level of personal preparedness and mental resilience of a provider, the more likely they are to tolerate the risk.	Can mitigate if the risk persists for a very short period (e.g., less than one week)	Can mitigate if the risk persists for a short period (e.g., 1–4 weeks)	Can mitigate if the risk persists for an intermediate period (e.g., 4–12 weeks).	Can mitigate if the risk persists for an extended period (e.g., more than 12 weeks)
<b>Additional life considerations</b>	The following may also influence personal risk tolerance: <ul style="list-style-type: none"> <li>• Being an associate versus owner</li> <li>• Age or stage of life of the provider</li> <li>• Starting or having a family</li> <li>• If the provider is a parent of school-aged child</li> <li>• Having a desire to seek higher education (e.g., graduate school or seeking dental specialty credentials)</li> <li>• The strength of provider’s social support system</li> </ul>			



**Practice risk tolerance**

This can be assessed based on what a provider’s trade-offs are, i.e., what is the maximum amount of loss that a provider can sustain due to the impact of a risk, and what is the threshold beyond which it may not be possible for them to recover without prior preparation. Below is a template that may help in reaching a decision.

Level of Preparedness			
Likelihood of occurrence	Trade-offs if the risks were to happen: What are the <i>impacts</i> and the resultant <i>losses</i> ?		
	Loss that can be sustained without recovery (A)	Loss that can be sustained but must be recovered (B)	Loss that cannot be sustained/ should be prevented (C)
Unlikely to occur	1	1	2
May occur	1	2	3
Likely to occur	2	3	4
Certain to occur	3	4	4

- 1 = No preparation is needed to mitigate.
- 2 = Minimal preparation is needed to mitigate.
- 3 = Moderate preparation is needed to mitigate.
- 4 = Significant preparation is needed to mitigate.

To apply the above framework, assess the risk’s likelihood of occurrence. The provider may refer to the list of risks identified in the [Part A — Risk Inventory](#). Next, think of the possible damage and recovery that may happen if the risk occurs. Following are two examples.





1. It is widely accepted that another global pandemic is **likely to occur**. (Note: this example uses an aspect of personal risk tolerance to assess tolerance to practice risk)

Level of Preparedness			
Likelihood of occurrence	Trade-offs if a pandemic was to happen: <i>Impact: Shutdown of dental practice for 3 months.</i> <i>Loss: Revenue in relation to personal risk tolerance.</i>		
	A	B	C
	There are sufficient reserve funds for 3 months or greater such that the amount of revenue lost will not impact financial well-being.	There are enough reserve funds for 1-3 months but to ensure financial well-being any lost revenue after 3 months must be recovered.	Reserve funds will last less than a month and it is not possible to sustain revenue loss any longer
<b>Likely to occur</b>	Consider consultation with financial management experts. Depending on available funds, the provider can continue to keep the practice closed during the pandemic. Retrofit the practice to meet the minimum regulatory IPAC requirements in preparation of opening.	The practice can be retrofitted to ensure that regardless of mode of transmission of disease a safe environment to deliver dental care can be created once opening restrictions are lifted.	Besides retrofitting the practice, put efforts in advocacy (e.g., collaborate with local dental societies, reach out to local health authorities, etc.) to prevent shutdown when the pandemic occurs. Consider saving and/or having alternate sources of revenue if the shutdown becomes inevitable.
A: Loss that can be sustained without recovery; B: Loss that can be sustained but must be recovered; C: Loss that cannot be sustained/should be prevented.			



2. The area where the dental office is situated may be at risk of flooding.

Level of Preparedness			
Likelihood of occurrence	Trade-offs if a flood was to happen: <i>Impact: Dental office gets flooded.</i> <i>Loss: Structural damage.</i>		
	<b>A</b>	<b>B</b>	<b>C</b>
	Flooded floors.	Leaks in the walls and water contamination.	Structural damage (sagging roofs, fissures in walls, etc.)
	Review insurance coverage for floods		
May occur	No structural changes are needed but the provider may wish to bring in a cleaning service.	Identify potential sources of seepage, use water-resistant paints, and consider installing a filtration system.	Apart from structural changes, a provider can review what their insurance covers and consider having off-site IT back-ups.
A: Loss that can be sustained without recovery; B: Loss that can be sustained but must be recovered; C: Loss that cannot be sustained/should be prevented.			



## Part C. Risk Mitigation

The next step in risk preparedness is mitigation. Although it is not possible to fully mitigate every risk, nor to prepare for every possible scenario, this section proposes a ‘negative impacts’ lens to risk mitigation. Providers may wish to deviate if they are aligned to local/provincial/territorial regulations, and/or if the dental office is part of a corporate dental practice and/or is in a shared space (e.g., hospital, office building, military base, mall, etc.).

### Table 1—Dental team-related concerns

**Risks that can cause impact:** Preparedness, safety, employment, lack of support, dispute, shortage, etc.

Several issues can arise in relation to the dental team during a crisis. Outlined below are some of the issues that could happen and examples of how these issues could be addressed.

#### 1.1 Preparedness

##### Preparation

- The first issue is lack of preparedness to deal with a crisis. Thus, it is critical to have a section on emergencies in the office manual.
- Have a written plan and checklists on what to do in different crisis situations. Recommendations provided in this table and subsequent tables can be used as a reference when making these plans and checklists for the office.
- Consider developing the plan in a collaborative effort with the dental team. This will promote teamwork and cooperation among the team members and help ensure that all members are familiar with the plan and comfortable with assigned responsibilities.
- Assign a team member who will lead the response. Responsibilities can be divided into medical and rescue responsibilities and be distributed as per the job profile of team members.
- For example, the responsibility of doing first aid/CPR can be assigned to a regulated dental professional, while the responsibility of calling emergency services and promptly directing emergency personnel into the office can be assigned to the team member who’s working the front desk.
- Note that legal advice and labour laws of the province/territory should be taken into account when assigning team members with additional responsibilities that go beyond their job description (e.g., medical responsibilities that are outside scope of practice, transporting casualties, removing debris, etc.).
- The plan should also address who would take up important responsibilities if the designated person is affected/injured or is not present/has to leave the practice at the time of crisis.
- Discuss aspects of the emergency plan periodically (e.g., in staff meetings, during downtime, through quizzes, etc.) and run mock emergency drills at least once a year to improve staff awareness as well as to test the plan and detect any flaws.
- After the drill, ask team members to provide their thoughts and feedback. Encourage them to ask questions.
- In case of a change of staff, the assignment of responsibilities in the plan should be updated with the new names or roles.
- Review the emergency plan and their responsibilities with new hires during onboarding.
- Encourage preparedness and continued self-improvement among the staff. Organize emergency training sessions for team members to take together (e.g., CPR, fire safety, webinars, etc.). These sessions can be organized in collaboration with local public safety departments (emergency, fire, police, etc.) to improve networking and build relationships.

Table 1.1 continued ►



- Awareness can be improved by having resources posted in the office (posters, infographics, etc.) and if time permits, engaging in role playing.
- The dental team members can sign up to be health care volunteers in disaster recovery and rescue teams, not only to gain experience but also to build useful networks with local public health and safety officials as well as the community so they can be reached for help in times of an emergency.
- Strengthen networks by being involved with local public health officials, such as inviting them to celebrate any dental office landmarks (e.g., opening a new clinic) or inquiring about opportunities to conduct dental camps in community settings.
- If the office is part of a corporate dental practice or if the practice is in a shared space, please follow the emergency plans developed by the corporate management or the building management, respectively.

### Mitigation

- During a crisis, follow the procedures that have been outlined in the emergency plan of the office manual.
- The team member leading the response should communicate with the remaining members and distribute responsibilities as per the plan.
- Depending on the crisis, some team members may need to confirm their family's safety, and if that is the case, then responsibilities should be reassigned to the backup person indicated in the plan.
- Each team member should check in with the member leading the response to update them of the situation with regards to their responsibility.
- When the crisis is over, it is recommended that the dental team sit together and take time to review their response to the situation.
- Discuss lessons learned, as well as deviations in the response from what was written in the plan.
- Discuss how the dental team could have responded better and augment the plan accordingly.
- If the office is in a shared space, then during a crisis, additional help can be sought from surrounding offices. Further, there can be a joint effort in responding to the crisis as well as planning for future preparedness.

## 1.2 Safety

### Preparation

- Safety of dental team members should always be a top priority when preparing for emergencies in the dental office.
- Safety could be in relation to adverse physical health outcomes (e.g., medical emergencies, workplace injuries, etc.), adverse mental health outcomes (e.g., stress, harassment, etc.) or it could be ensuring safety during a crisis and creating a general environment where the team feels safe and at ease at work.
- Develop safety measures to help manage adverse [physical](#) and [mental](#) health outcomes. These measures should be included as part of the emergency plan.
- Consider appointing a member of the dental team as the safety officer. Ideally, this should be someone who is well-versed in the emergency plan and safety measures of the office.

Table 1.2 continued ►



- Consider providing the safety officer with access to additional training to enhance their emergency response knowledge and how to model appropriate behaviours for maintaining safety that others can learn from and follow.
- To further enhance safety, an employer can provide insurance coverage for work-related injuries for employees. This coverage is mandatory in some provinces (e.g., WorkSafeBC) and available as an option in others (e.g., Workplace Safety and Insurance Board Ontario).

#### Mitigation

- Ensure that the dental team responds to an adverse physical or mental health outcome in accordance with the safety measures in the emergency plan.
- While dental team members may have been assigned certain responsibilities during a crisis, their safety should be given priority over their responsibilities.
- If the safety officer feels that the lives of team members may be in danger if they continue to respond during a crisis, then the safety officer can direct the team to stop the response and leave the premises immediately ([refer evacuation](#)).
- During and after any crisis, it is important that the dental team feels that they are working in a safe environment. The safety officer can do periodic check-ins to determine if this is the case.
- Repair any damage in the dental office, retrofit the office as needed in accordance with regulatory body requirements and enhance the office environment to improve mental and physical health.
- Take feedback from the safety officer when deciding and implementing changes.
- In some provinces and territories, the dental team can refuse to come to work if they don't feel safe, in which case the employer will have to investigate the cause of concern. If the concern is reasonable and not resolved, then the Ministry of Labour may conduct an inspection.<sup>5</sup>

### 1.3 Employment

#### Preparation

- A crisis can result in reduced revenue or closure of the dental office for an extended period. Examples of such situations include a terror attack, pandemic, natural disaster, or provider related reasons like license to practice being suspended, audit, etc.
- While dealing with shutdowns is discussed in later [tables](#), this section specifically discusses aspects related to change in employment during a crisis.
- Address policies regarding employment and pay with each member of the dental team during times of decreased revenue or shutdown. Regulated oral health care professionals in the team should also be informed about their obligations if their license to practice is suspended.
- It is necessary to have an employment contract for each member of the dental team. This contract should be drawn up under legal advice (e.g., employment lawyer) while keeping in mind labour laws.
- The contract could include clauses on what would happen to employment during a crisis (such as reduced hours, temporary layoffs, changes in work, etc.). These clauses should be discussed with each team member before the agreement is signed.
- Ensure that the employment contracts are updated periodically to reflect changes in the pay and work pattern, as well as any changes in labour laws.

Table 1.3 continued ►



- Having a contract in place will not only prevent any legal liability issues between the employer and team member but will also ensure transparency of process and improve trust and sense of security among all parties.

### Mitigation

- If an oral health care provider's license to practice has been suspended, they should inform their colleagues, stop treating and being present where patients are being treated, and comply with any investigations conducted by their regulatory body. If needed, consider shutting down offices and diverting patients to other providers and/or avenues of care.
- For other crises, if there is a decrease of revenue for an extended period and the employer does not have enough reserve funds or doesn't wish to shut down, discuss the course of action with the team and consider reducing the hours of some or all team members temporarily, as per their contracts.
- Note that if reduced hours result in less than 50% of regular wages per week for a team member, this could be considered a layoff as per the Employment Standards Act in some provinces.<sup>5</sup>
- Review the insurance policies in place for the practice. Some insurers may provide coverage for income loss during a crisis such as a natural disaster, which can be used to cover (partially or fully) the dental team's pay.
- The employer can search if the dental team members are eligible for any government subsidies or programs.
- If closure of practice is unavoidable, consider continuing the employment status and pay of the team members during the closure, if possible.
- If continuing the above is not possible, determine how the pay and employment of the team will be affected as per their contracts.
- If temporary layoff is considered as an option, having a layoff beyond the time specified by the Employment Standards Act may result in the dismissal of the team member and caution should be taken.<sup>5</sup>
- Anecdotal evidence during the COVID-19 pandemic suggests that laying off team members was not a good option as it was very hard to get them back. This may be exacerbated during times of labour shortages.
- Following an office shutdown, there may be an increase in the number of patients to be seen. To keep up with the patient flow, consider asking the team to work additional hours, as per their contracts.
- When reopening after a crisis, the employer may not have enough funds to pay all team members. To help facilitate gradually bringing team members back to work, consider creating a new agreement with the team member for a change in responsibilities and/or pay.
- If there is no mention of changes in employment status during and after an emergency (reduction or addition in hours, temporary layoff, etc.) in a team member's contract, then any decision made must be agreed upon by the employer and the team member.
- Note that if the employer implements changes without the agreement of the team member, and if the member is unhappy about the changes, they can pursue a claim of constructive dismissal.<sup>5</sup>
- If no agreement is reached, then the employer may have to consider terminating the employment of the team member and providing them with their entitlements on dismissal.<sup>5</sup>
- If a decision to terminate employment has been made, then the employer can give the team member a period of time to search for alternate employment, and if feasible, support the employee during that period.



### 1.4 Disputes/Support/Shortage

#### Preparation

- During a crisis, there may be situations where team members may not agree with one another on what the course of action should be.
- One way to help prevent disagreement is to ensure that the emergency plan and the employment contract outline the roles and responsibilities of each member of the dental team during a crisis.
- Prior to beginning employment, each dental team member should know and agree to their commitments.
- To help prevent disputes and improve overall team collaboration and support, review and discuss all emergency measures in the dental office with the dental team periodically as a best practice.
- The aim of preparedness is to build resiliency among team members in the event of a deviation from business-as-usual.

#### Mitigation

- Once a crisis occurs, the dental team should sit together and discuss what their options are and what the next steps should be.
- In case the guidelines provided by the regulatory bodies of the team (e.g., dentists, hygienists, etc.) are different for a particular crisis (as was seen momentarily during the COVID-19 pandemic), it is important that the entire team agree upon which guidelines to follow to avoid unnecessary conflict and stress.
- Keep all members of the dental team informed when any decisions are made. It is unprofessional to exclude team members when a sudden decision has been made without informing them.
- A time of crisis is a difficult time for everyone. Regardless of concerns with the duty assigned, safety or the outcome of employment status during an emergency, as long as the employer makes an effort, and the dental team feels that their opinions are valued and their safety is considered, it is highly likely that they will want to continue their employment and continue working in the profession.
- Share experiences and lessons learned with colleagues and provincial and territorial dental association following crisis situations.



**Table 2—Adverse physical health outcomes**

**Risks that can cause impact:** Medical emergencies, provider health issues, disease exposure, radiation exposure, workplace injury, other physical injuries, etc.

For all adverse physical health outcomes outlined below, consider keeping a detailed record of the incident (exposure, isolation situations, etc.) to assist in discussion and learning for the dental team, as well in case of any legal or liability issues.

**2.1 Medical emergencies**

**Preparation**

- Dental offices in Canada should be prepared to deal with medical emergencies such as anaphylaxis, cardiac arrest, etc.
- Regulated dental care professionals should be trained in Basic Life Support (BLS CPR Level HCP) and they are expected to be recertified periodically (requirements may vary depending on jurisdiction). This information can be maintained on file for all team members.<sup>6</sup>
- Preparedness can be further improved by taking additional training courses such as Advanced Cardiovascular Life Support (ACLS) and Pediatric Advanced Life Support (PALS),<sup>6</sup> or by shadowing in the emergency department of a hospital.
- The dental office should have an emergency kit which includes materials to deliver first aid, along with drugs such as oxygen, epinephrine, nitroglycerin, diphenhydramine, salbutamol inhalation aerosol and aspirin for medical emergencies. Offices which provide sedation and general anesthesia can have additional emergency drugs.<sup>6,7</sup>
- Ensure that the kit is stored in proper condition. Check oxygen tank, oxygen delivery system and the expiry of drugs in the kit monthly and update as needed. Also check the battery of the Automated External Defibrillator (AED) machine regularly.<sup>7</sup>
- All members of the dental team should be familiar with the location of the emergency kit, and it should be preferably kept in a readily identifiable and accessible place.<sup>6</sup>
- Keep a list with all emergency service contact numbers next to the phone.<sup>7</sup>
- The dental office should consider having a medical emergency response plan and the dental team should be aware of the plan. Scenario-based and hands-on training (e.g., using dummies) can be done using the emergency kit in the office once a year to improve awareness.<sup>8</sup> These training courses can be organized by the dental office, or the regulator/association can be contacted for course recommendations.
- The plan should list the responsibilities of each individual, as well as contingencies for when a dental team member is absent, or a team member has their own medical emergency.<sup>7</sup>
- Some of the responsibilities include assigning a team leader, and persons responsible for monitoring vital signs and setting up oxygen supply, preparing an emergency cart or drugs if needed, calling emergency services, and getting help and recording events.<sup>8</sup>
- Unannounced drills can be conducted quarterly to test the plan and the team’s ability in performing their duties.<sup>7</sup>

**Mitigation**

- Discuss medically compromised patients’ medical histories with the dental team in the morning of appointment.





- Before beginning a procedure, always review the patients' medical history (even if it's a patient recall). Ask patients what medication they are currently taking.
- If a patient is willing to share information but is unable to recall it correctly then try contacting their pharmacist about the drugs they have been prescribed. (Note: getting information from the pharmacist that patient is unwilling to share can be considered a breach of patient's privacy.)
- Visually inspect patients for abnormal skin color, breathing patterns and gait, and check their blood pressure and record vital signs.<sup>8</sup>
- If any visual or vital sign abnormalities are detected, or if the patient has a previous history of allergies, bleeding, shortness of breath, chest pain, etc. then the treatment may need to be modified accordingly.<sup>8</sup>
- In case of a medical emergency, do not panic. Communicate calmly with the team and direct them to respond as per the emergency plan of the office.
- Identify the cause of the emergency and administer the appropriate drugs as per recommended doses.<sup>6,7</sup>
- If deemed necessary, call emergency services as quickly as possible.

## 2.2 Disease exposure

### Preparation

- While an in-depth discussion on prevention of transmission of pathogens in a dental office is beyond the scope of this resource, it is recommended that dental offices have well-established protocols for how to deal with common disease exposures noted in literature or in their region.
- Be familiar with the most updated version of the list of communicable diseases that have been reported in the locality of the office.
- Follow procedures outlined later in this resource in case there is a risk of disease exposure due to an injury from sharp objects such as [needle stick injuries](#).
- Have policies in place for duration of isolation in case a dental team member is exposed. Review the requirements with the dental team so that they are aware of when they have to return to work.
- Review insurance policies. There may be an infectious disease clause which can be claimed in case business is affected due to exposure to an infectious disease in a dental office.

### Mitigation

- During an outbreak, epidemic or pandemic of an infectious disease, modify the infection prevention guidelines of the dental office as per recommended guidelines from regulatory bodies and public health agencies. For example, in case a boiled water advisory is issued, either use boiled tap water or switch to saline or distilled water for use during dental procedures.
- Ensure that the dental team members are aware of these modifications and that they follow the modifications in the office.
- While screening patients for known infectious disease may be effective, it is important to keep in mind their overall medical history before making a diagnosis.



- If the office is not equipped with the appropriate measures to prevent transmission, consider transferring a patient with an infectious disease to another equipped dental office or hospital for urgent care.
- In case of exposure to a reportable infectious disease (e.g., Ebola), contact the local health department for reporting, getting instructions for quarantine, etc.

### 2.3 Radiation exposure

Preparation
<ul style="list-style-type: none"><li>• Radiation exposure in a dental office occurs at a safe level when equipment is in proper working condition and the procedure is properly conducted.<sup>9</sup></li><li>• Although the health risk from exposure during a properly conducted procedure is small, there is some evidence to suggest a correlation between prolonged exposure and adverse health outcomes, such as cancers.<sup>9, 10</sup></li><li>• In order to prevent health risks, it is important to ensure that radiographs (X-rays) be prescribed only when needed, the patient be exposed to as minimum of a dose as possible, the patient and personnel be protected from excessive radiation, and individuals in the vicinity of the facility be protected from stray radiation.<sup>9</sup></li><li>• To achieve the above, the provider can do the following:<ol style="list-style-type: none"><li>1. The equipment should have active Canadian Medical Device License at the time of purchase and be maintained regularly.</li><li>2. The facility and equipment should comply with regulatory requirements and be inspected periodically.</li><li>3. Dental radiography must not be carried out at nominal X-ray tube voltages below 60 kilovolts.</li><li>4. Personnel using the equipment should be trained and their qualifications maintained.</li><li>5. The facility can have radiation safety and quality assurance programs, and personnel should not be exposed to doses beyond certain limits.<sup>9</sup></li></ol></li></ul>
Mitigation
<ul style="list-style-type: none"><li>• Refer to the below recommendations, which are current at the time of writing, to reduce risk of radiation exposure, and refer <a href="#">Radiation Protection in Dentistry—Recommended Safety Procedures for the Use of Dental X-Ray Equipment—Safety Code 30</a> for additional and/or updated information.</li><li>• When doing the X-ray procedure (considering that every radiation exposure can be a risk if not done properly):<ol style="list-style-type: none"><li>1. The X-ray control panel should be properly shielded. If it is not properly shielded, then the operator should be 2 metres from the X-ray source.</li><li>2. All persons except necessary individuals should leave the room.</li><li>3. The team member operating the X-ray machine should be able to see the patient and communicate with them.</li><li>4. Patients (especially children) can be provided with a thyroid shield if it will not interfere with the examination.</li><li>5. If the patient attendee is beside the patient during the procedure, then a protective apron should be given to them.<sup>9</sup></li></ol></li><li>• All team members who are likely to be exposed to more than 1 millisievert (mSv) annually (computed through baseline examinations in first year) must be declared radiation workers and a personal dosimeter should be used to monitor their exposure.<sup>9</sup></li></ul>

Table 2.3 continued ►



- Readings from the personal dosimeter for all team members should be maintained for the lifetime of the dental office.<sup>9</sup>
- If unusually high radiation exposure compared to previous records is noted for any radiation worker, then the cause should be inspected by a radiation safety expert (e.g., medical physicist, biomedical engineer, radiation protection physicist, physical engineer, or radiation protection specialist) and corrective action should be implemented.<sup>9</sup> (e.g., refresher training, repairing equipment, retrofitting facility, etc.).
- If a radiation worker is pregnant, then additional consultation with radiation safety experts can be taken before they are allowed to continue their work.<sup>9</sup>

### 2.4 Musculoskeletal disorders (MSDs)

#### Preparation

- Dental professionals are at risk of musculoskeletal disorders (MSDs) causing discomfort and pain in the neck, back, hand and shoulders due to repetitive work-related stress in these parts of the body.<sup>11</sup>
- Preventing MSDs is important as once diagnosed, MSDs are often hard, as well as expensive, to treat.
- One way to prevent MSDs is to avoid overworking or performing repetitive movements. It is important to have a balanced work and rest schedule.<sup>11</sup>
- Find the optimum working posture where the provider’s muscles are in a relaxed, well-balanced, and in a neutral position, and have optimum access, visibility and comfort when treating patients.<sup>11</sup>

#### Mitigation

- If a provider starts developing periodic minor pain and discomfort, do not ignore it. Get it checked by a primary physician and have a specialist consultation, if needed.<sup>11</sup>
- If left unattended for a prolonged period, the cumulative physiological damage can lead to an injury or a career-ending disability.<sup>11</sup>
- Once diagnosed, it is important to identify and adjust the cause of discomfort. This could be done through making equipment changes (e.g., getting adjustable chairs, using loupes, etc.) as well as taking ergonomic training.<sup>12</sup>
- A combination of medication and rehabilitation can be used to treat MSDs. Rehabilitation can include maintaining general fitness and stretching and exercising the affected area.<sup>12, 13</sup>

### 2.5 Other workplace and physical injuries

#### Preparation

- Apart from MSDs, workplace injuries can be caused due to sharps injury (e.g., needle sticks), trips, slips, etc.



- While normal first aid may suffice for injuries due to a sharp object, the dental office should have procedures in place as part of the overall emergency plan for preventing and managing those sharps injuries where the sharp object could be contaminated with bodily fluids (e.g., a needle stick injury).<sup>14</sup>
- Needle stick and other such injuries can expose providers and/or patients (depending on who gets injured) to blood borne viruses such as hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV).<sup>14</sup>
- In case of a risk of possible disease exposure, ensure that there are well-defined communication protocols to deal with patient-to-provider events and provider-to-patient events.
- For preventing slips and trips, assess the dental office for potential risk sources such as:  
**Slips:** wet or oily surfaces, occasional spills, unanchored rugs or mats, slippery flooring, etc.  
**Trips:** poor lighting, clutter, uncovered cables, bottom drawers not being closed, uneven walking surfaces, etc.<sup>15</sup>
- For the above risk sources, the provider can ensure measures in relation to housekeeping, flooring, proper footwear and adequate walking pace and space.<sup>15</sup>
- Other sources of injuries in a workplace can include harm in an attack, harassment/violence, natural hazards, etc. (these situations are discussed in later sections).

#### Mitigation

- Once a sharps injury occurs, stop all procedures. Wash the injury (soap or disinfectant) and apply pressure to induce bleeding.<sup>14</sup>
- Perform a risk assessment to determine the depth of the injury, whether the sharp object was contaminated by bodily fluids before the injury happened and to assess the history of the individual whose bodily fluid the sharp object was contaminated with (e.g., HIV, HBV, HCV, travel history, sexual history, etc.).<sup>14</sup>
- If necessary, ask the individual for a blood sample.<sup>14</sup>
- Once the risk assessment is done, contact the local emergency department or primary physician for further instructions. Connecting with the appropriate experts is important in case diagnosis reveals a need to obtain post-exposure prophylaxis at the earliest (e.g., HIV).<sup>14</sup>
- For injuries due to slips or trips or any other causes, assess the injury and provide first aid, if necessary.
- If the patient has lost consciousness, check their breathing and pulse. If the patient is breathing, check for signs of a concussion or fracture, and then call emergency services if needed.
- If the patient has stopped breathing, start CPR and call emergency services immediately.
- If the employer has purchased work-injuries insurance coverage for employees (e.g., WorkSafe BC) then the incident may have to be reported to apply for a claim.



**Table 3—Adverse mental health outcomes**

**Risks that can cause impact:** War, terror attack, armed/unarmed intruder, change in work pattern, excessive workload, harassment/violence, discrimination, strained relations with patients and/or colleagues, stress, unhappiness with career, etc.

**Preparation**

- Life threatening situations such as an attack, harassment, violence etc., as well as any change, strain or discontentment in professional life (increase online meetings, changing practice guidelines, etc.) or personal life (uncertainty about the future, reduced time for self, etc.) can affect the mental health and well-being of providers.
- Some of the measures discussed previously, in relation to avoiding dental team related concerns ([preparedness](#), [safety](#), [employment](#)) and adverse physical health outcomes ([MSDs](#)), may help in augmenting the mental health of dental team members.
- If a member of the dental team feels mentally abused, threatened, intimidated, assaulted, demeaned or humiliated by the words or actions of another (at the workplace, or anywhere else), it can also impact their mental health.<sup>16</sup>
- To prevent these situations in the dental office, an employer can do a workplace assessment. Determine if the office has any risks related to the following:
  1. Work structure, activities, conditions, etc.
  2. Influencers such as location, type of patients, history of violence, etc.
  3. Employee concerns about safety.<sup>16</sup>
- Safety measures to address adverse mental health outcomes in the dental office include:
  1. Explain regulatory requirements and define clearly what compromises safety in the office.
  2. Outline the repercussions of inappropriate behaviours and actions on part of a team member (termination of employment, legal action, etc.).
  3. Outline the procedures for dealing with inappropriate behaviours and actions of patients (refusing treatment, asking them to leave, transferring to another office, etc.).
  4. Have reporting and confidentiality processes in place (who to report to and how, no reprisals against reporting employees, etc.).
  5. Outline procedures for investigating and resolving complaints and incidences.
  6. Connect with Employee Assistance Programs (EAP) if needed.
  7. Train employees in safety measures and review them regularly.<sup>16</sup>
- Apart from policies and procedures, the employer can help promote mental health of the team by:
  1. Encouraging them to be physically active (e.g., going for a short walk during lunch or coffee break).
  2. Providing healthy snacks (nuts, dry fruits, etc.) and beverage options (e.g., juice, green tea, etc.) for the team in the office.
  3. Ensuring that the work pattern and hours can allow the team members to have adequate time for rest, self-care, and to maintain a healthy work life balance.
  4. Creating an environment where team members feel motivated to communicate freely and collaborate and support each other.
  5. Encouraging participation in social and recreational activities.<sup>17</sup> These can be a source of relaxation as well as aid in building relationships with the community.



## Mitigation

- If the provider feels that they are not safe in the dental office due to the actions of another team member (harassment, bullying, violence, discrimination, etc.):
  1. Keep a personal record of the date, time, witness, and summary of all instances.
  2. Keep copies of any emails, texts, memos, etc. that can serve as evidence.
  3. Approach the colleague and inform them that their behaviour and/or actions are concerning.
  4. Take the help of a trusted team member or superior/employer to approach if the provider feels anxious to do it alone.
  5. When speaking, remain calm and confident, use simple words, be ready to listen and be objective about the matter.
  6. Ask them to be mindful of their conduct going forward.
  7. If the concern is not resolved, do not retaliate, as this may invite further aggression. Instead, report the colleague by following appropriate reporting procedures.<sup>18, 19</sup>
- If the provider has been subjected to inappropriate actions by a patient, then it may be advisable to refuse treatment to the patient and direct them to another office. If the provider (and the employer if applicable) agree, further actions, such as consulting police or lawyers can be taken as per safety measures.
- If the provider has noticed that another team member in the dental office is troubled, it is important to find the cause for their troubled behaviour and provide the necessary help.
- Warning signs that a person could be troubled include a change in behaviour patterns (crying, sulking, tantrums, mood swings, etc.), intimidating behaviour (abusive language, invading personal space, etc.), increasing stress, frequently being absent or late to work, disregard for colleagues, decreasing job performance, physical signs (sweating, fatigue, anxiety, violence, etc.) and social isolation.<sup>20</sup>
- A troubled individual can cause a dangerous situation. Do not ignore their condition.
- If the reason for a team member's troubled behaviour is related to something occurring in the dental office, then address the matter promptly.
- If the team member is not comfortable talking to the provider, then encourage them to talk to a trusted superior.
- The provider can report the matter and serve as witness, if required. Investigate the cause as per safety measures and try resolving the issue before things further escalate.<sup>18</sup>
- If necessary, an impartial third party can be involved in the resolution process.<sup>18</sup>
- Sometimes providers themselves, or another team member, may be troubled because of personal issues. Although these issues may not be related to work, it can affect their ability to work and should be addressed.<sup>21</sup>
- For example, there may be issues at home (e.g., domestic violence) that a team member is dealing with, or they may be mentally disturbed in the aftermath of a dangerous encounter (facing an intruder, etc.).
- Such issues not only impact the affected individual but can also cause distress to other team members.
- It is likely that these issues can be brought up in the day-to-day interactions between team members and it is important that the dental team be sensitive in recognizing these issues.<sup>21</sup>
- The dental office can be a place where a team member can find help in the form of a support group (i.e., a supervisor, another trusted team member, human resources, Employee Assistance Program (EAP), provider, etc.). The employer can also direct the members to relevant services (e.g., counselling) available in the area.<sup>21</sup>  
(Refer to <https://www.ccohs.ca/oshanswers/psychosocial> for additional and/or updated information).



**Table 4—Facilities, dental equipment and material concerns**

**Risks that can cause impact:** Pandemic, conflict, civil unrest, armed insurgency, transport issues, natural disasters, etc.

Preparation
<ul style="list-style-type: none"> <li>• Preparing for shortage of supplies is important because in the time of a crisis, not only may access to dental equipment and materials (DEM) be limited, but the prices of available DEM may rise significantly, and it may not be possible for a provider to procure enough to keep the dental office running smoothly.</li> <li>• Be familiar with the manufacturers of the DEM that are used in the dental office. Ensure that the manufacturer and/or product has a valid and current license from the relevant authority (e.g., Health Canada).</li> <li>• Determine if there is any DEM which has been difficult to procure in the past, is typically in short supply, is no longer being produced (e.g., parts of old model autoclaves) or is redundant.</li> <li>• For any of these DEM, as well as for DEM that is bought from international manufacturers, keep in mind alternatives (preferably local) that can be obtained faster.</li> <li>• Stock up on all supplies and make a list of key supplies which cannot be replaced quickly during a shortage and those items that a dental office cannot function without. Have at least two months of stock for these items. Examples of key supplies include masks, gloves, local anesthetic needles, local anesthesia, etc.</li> <li>• Ensure that masks are fitted for all the staff at the practice, and fit testing is done regularly, preferably once a year.</li> <li>• Do regular maintenance of dental equipment, especially if the practice is in a remote area where it is difficult for technical help to reach the office during times of crisis.</li> <li>• For maintenance of structural facilities such as HVAC, identify the person or company responsible for servicing (if the provider is not the landlord) and service the facilities and equipment regularly. If not serviced for an extended period, the wear and tear may reach a point where it is no longer serviceable.</li> <li>• Complete an HVAC assessment to ensure that the equipment is operating as per the IPAC requirements set by the provincial/territory regulatory body and retrofit the dental office if needed.</li> </ul>
Mitigation
<ul style="list-style-type: none"> <li>• In case of a shortage of DEM, look for and switch to local alternatives, when possible.</li> <li>• Get in touch with the local dental society, provincial or territorial dental association, or with sales representatives to find out if there are offices who may be able to share/loan supplies. For PPE such as masks, medical gowns, etc. consider switching to reusable options. Ensure that these products are licensed by Health Canada and that manufacturer’s instructions are followed when sterilizing and reusing them.</li> <li>• In case a DEM in the office has been deemed inappropriate for use (by Health Canada or by the manufacturer) and/or is being recalled, look for guidelines from the manufacturer, regulator and/or public health.</li> <li>• Depending on the guidelines the provider may have to submit the supply for inspection, return it to the manufacturer or discard it.</li> </ul>



- Assess how many patients the inappropriate DEM has been used for and in case there may be harm because of the DEM call and inform these patients immediately.
- If the DEM has been placed in the patient’s mouth (e.g., filling, implant screw, etc.) then schedule appointments for these patients at the earliest. Remove the inappropriate DEM and retreat the tooth with alternate materials. In some cases, a change in the treatment plan may also be required.
- If the PPE shortage persists and impacts the number of patients that can be treated safely, consider reducing the number of patients in the practice as per the amount of PPE available and/or declining care.
- If any concerns surrounding DEM cannot be addressed promptly, then consider postponing appointments or collaborating with another dental office/ transferring patients to a hospital in case urgent care is needed.





**Table 5—Shutdown of practice**

**5.1 Short-term**

(Few hours to few days—assuming provider is in the dental office at the time of crisis)

**Risks that can cause impact:** Terror attack, armed/unarmed intruder, natural disaster, chemical spill, etc.

**Note:** The procedures described in this section are primarily for a single dental office. If the practice is in an office building, hospital, or any shared space, then these procedures have to be developed collaboratively with the other occupants and may vary.

Preparation	Mitigation
<ul style="list-style-type: none"> <li>• Have a mechanism in place to alert all staff members of a crisis. For example, have a keyword or phrase to indicate that an emergency is happening. This could be particularly useful if the situation requires only the attention of the dental team, and patients are not required to respond in any manner.<sup>22</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Alert all team members of the crisis.</li> <li>• If required, alert patients and attendees to the situation. Stop treatment and ensure that there are no instruments left in the patient’s mouth.</li> </ul>
<ul style="list-style-type: none"> <li>• To safeguard against a conflict happening outside the practice, have a partial and/or full lockdown procedure in place.<sup>23</sup></li> <li>• A full lockdown is advised in case there is a threat (e.g., armed or unarmed intruder) in the dental office. This will help move team members away from threats and/or prevent the intruder from accessing the office.<sup>23</sup></li> <li>• To prepare for a full or partial lockdown, designate one of the rooms in the dental office as a safe room and equip it with an emergency kit with at least 3 days<sup>24</sup> of necessary supplies (e.g., food, water, medicine, communication equipment, flashlights etc.) for the entire dental team plus two additional people. This kit can also be prepared if hazards (e.g., storms, earthquakes, etc.) are likely.<sup>25, 26</sup> The kit should be checked at least once a year for expired and/or non-functional contents.</li> </ul>	<ul style="list-style-type: none"> <li>• If there is a conflict outside the office, lock all the entry/exit points, turn off the lights, shut all windows, draw the blinds, and direct all individuals in the office to a safe room. Once inside, lock the safe room, stay away from the windows, and try not to make any sounds or noises. Wait for further updates or clearance from the police department before exiting the office.<sup>23</sup></li> <li>• If the threat is in the office, assess the situation, and see if it is possible to move to a safe room. If possible, take the same precautions as described previously.<sup>23</sup></li> <li>• To safeguard against a hazard happening outside the practice (e.g., wildfire, storms, contaminant in the air, etc.) take shelter in the office. Ensure that all openings to the office (doors, windows, vents, etc.) are closed, keep the lights on and pack an emergency kit with valuables that can’t be replaced if evacuation is ordered. Avoid driving until the situation is more stable and listen to communication from local authorities for updates such as safe water services, road conditions/closures, safe to come out, etc. (radio, TV, social media, weather alerts, etc.).<sup>23, 27</sup></li> <li>• If inside the practice during an earthquake, ask all patients to move out of the dental chair, drop to the ground, take cover under a heavy piece of furniture and hold on to it, and stay away from windows and heavy objects.<sup>28</sup> A dental team member may be designated to assist a person with disability to do the same.</li> </ul>

Table 5.1 continued ▶



<ul style="list-style-type: none"> <li>To safeguard against chemical spills, prepare a spill response and ensure that staff are trained. Important considerations include preventing contamination of the environment (air, water, etc.), method of disposal, and who to call for additional support. A list of all hazardous materials in the dental office can be made.</li> </ul>	<ul style="list-style-type: none"> <li>In case of a chemical spill, follow the spill response plan. Contact the appropriate provincial/territorial authority (e.g., Spills Action Centre – Ontario, HealthLink BC, etc.) in case of potential exposure or as needed.</li> </ul>
<ul style="list-style-type: none"> <li>To safeguard against an emergency that requires leaving the premises such as fire/explosion, or hazards like wildfires, storms etc. where authorities have ordered evacuation, prepare an evacuation plan.</li> <li>Designate an individual who will lead the team and patients during an evacuation (e.g., <a href="#">safety officer</a>), and who must do a headcount once everyone is outside.</li> <li>Determine the order of evacuation and designate team members who may need to stay behind to mitigate the risk<sup>22</sup> (e.g., operate fire extinguisher, call emergency services/police, switch off water, gas, electricity, evacuate elderly or people with disability, check if the building is clear, etc.).</li> <li>Designate primary and secondary evacuation routes and hold evacuation drills to ensure dental team familiarity with the routes. Designate an external location where the team is expected to meet-up after evacuation.<sup>22</sup></li> <li>Consider designating a vehicle, ensure that it has an emergency kit and is properly fueled if evacuation requires moving away from the premises.<sup>27</sup></li> </ul>	<ul style="list-style-type: none"> <li>In the event of a crisis requiring leaving the premises, start the evacuation process immediately.</li> <li>Team members should carry out designated responsibilities. Evacuation should be done through designated routes. Once the team has arrived at the designated meet-up location, each member and patient should be accounted for and/or contacted to ensure that they are safe.</li> <li>After evacuation, stay away from bodies of water and go to shelter areas if needed in case of a storm or hurricane.<sup>25, 26</sup></li> <li>Once the provider has reached safety, report the crisis and/or any missing individuals to the relevant authorities, if needed.<sup>22</sup></li> </ul>
<ul style="list-style-type: none"> <li>Keep the names and contact information of all team members to get in touch to confirm safety and update it yearly. Also consider keeping the contacts with family members of staff.<sup>22</sup></li> <li>Designate a team member(s) who will inform patients and reschedule appointments.</li> <li>To avoid confusion and ensure consistent information, designate a team member who can be contacted for any concerns, and who will give the rest of the team regular status updates on the situation (e.g., employer or safety officer).</li> </ul>	<ul style="list-style-type: none"> <li>Consider using cellular phones instead of landlines in case of storms, hurricanes and wildfires.<sup>25-27</sup></li> <li>If cellular lines are faulty:             <ol style="list-style-type: none"> <li>Limit the number and duration of calls/messages to the same number and try making only emergency calls or using SMS (texting).</li> <li>Wait for a little bit before redialing.</li> <li>If no communication through cellular phones is possible, use other mediums such as radio to listen to communication from authorities.<sup>29, 30</sup></li> </ol> </li> <li>If possible, inform patients about the situation, postpone appointments, and collaborate with another dental office that is in a safe zone in case patients need to be transferred for urgent care.</li> </ul>



- The provider should be familiar with the insurance coverage for the dental office. Keep the insurance policy in a secure location and take the time to understand the terms, coverage, deductibles and note any exclusions. An Insurance Advisor is a valuable resource to address any questions that the provider may have about the policy.
- Insurance Tips:
  1. When purchasing insurance, consider insurance plans that are already being used by the majority of the provider's peers. This may help when collectively negotiating rates or a claim.
  2. As time passes, it's important to review the coverage regularly to make sure the provider is adequately protected. For example, is the office insurance coverage sufficient to account for the increased cost of dental equipment and supplies, office furniture, or to cover any leasehold improvements made? The provider can get new quotes from suppliers to find out the current cost of equipment and can review the coverage accordingly.
- In case of hazards such as fire or extreme low temperatures, the well water system may get damaged, and water contaminated. The system and well water should be inspected before using it again after the hazard.<sup>31</sup>
- Depending on the crisis, it may be necessary to [access the office](#) with caution and to get in touch with emergency services, insurance carrier, cleaning services, electrical services, or construction and repair services.
- In the unfortunate event that the provider needs to make an insurance claim, following these general steps are essential for a smooth process and a successful resolution:
  1. Report the Incident — Contact the insurance carrier as soon as the provider discovers the incident. Have the policy number ready and provide any relevant documentation, such as a police report if one was filed.
  2. Document the Damage — Create a detailed inventory describing the extent of the damages and losses. If possible, take photographs or videos that clearly capture the damage.
  3. Keep all receipts for important purchases and avoid disposing of any damaged personal property without notifying the insurer.
  4. Contact the Insurance Adjuster — Once the potential claim has been reported, the insurer will assign an insurance adjuster to handle the case. It's crucial to reach out to the adjuster promptly. The adjuster acts on behalf of the insurer and plays a pivotal role in assessing the damage, determining the value of the loss, and obtaining repair estimates. Be prepared to provide invoices, receipts, photos, owner's manuals, warranties, and lists of lost or damaged items as requested.<sup>32</sup>



**5.2 Long-term**

(Few weeks to few months)

**Risks that can cause impact:** War, pandemic, natural disaster, etc.

Preparation	Mitigation
<ul style="list-style-type: none"> <li>• Keep a list of government assistance programs that a provider may be eligible for in case their business is affected.<sup>33</sup> Review insurance policies pertaining to long-term closure of business.</li> <li>• During a crisis, local public departments may remove contact information of officials to prevent being overwhelmed by calls and questions. Consider connecting with local officials in various sectors (public health, fire department, emergency services, police services, etc.) and prepare a list of contact numbers beforehand and update it at least once a year.</li> <li>• In a time of crisis, always contact the appropriate authority (e.g., regulatory authority) for guidance, information and resources. Be patient and wait for a response before proceeding.</li> </ul>	<ul style="list-style-type: none"> <li>• Reach out to personal contacts who may be working in public health, healthcare, government etc. to try to get more information.</li> <li>• In case of a natural hazard, sign up for news and weather alerts, look for updates from local/provincial/territorial/national public health bodies and emergency broadcast systems to continuously assess the situation.</li> <li>• If war or a nuclear/terror attack has caused the shutdown of the dental office, it is recommended to access the office only when government or military clearance has been given.</li> </ul>
<ul style="list-style-type: none"> <li>• If the dental office is the only one located in a community, assess where patients can be diverted to if the office has to remain shut for an extended period due to any reason (e.g., connect with colleagues and/or refer to a dental office in another area for urgent care).</li> <li>• Coordinate with emergency departments and hospitals to determine what oral health-related care can be provided by them.</li> </ul>	<ul style="list-style-type: none"> <li>• Call patients to provide them with the status of the dental office and consider tele-dentistry such as providing emergency care over the phone if needed.</li> <li>• If pain management is required, consider other professionals who can prescribe patients with pain medication. However, be careful of overprescribing and consider other treatment options.</li> </ul>
<ul style="list-style-type: none"> <li>• Refer to the <a href="#">risk assessment</a> frameworks to determine the preparation needed for a long-term shutdown of the dental office, as well as for reopening after the shutdown.</li> <li>• If the office is in a shared space (e.g., mall), consider the reopening process of other offices in the space and/or the entire building. There may be other impacts to the dental office that should be taken into consideration.</li> </ul>	<ul style="list-style-type: none"> <li>• Depending on the outcome of the conflict, the provider may have to prepare for and practice under a new regime. Stay alert for changes in the legislature as well as guidance from dental regulators and associations.</li> <li>• Ensure physical and mental well-being (periodic check-ins with the dental team, regular exercise, healthy eating, avoiding anxiety/stress, etc.) during a long-term shutdown so that the provider is ready to open the dental office once clearance has been given by the relevant authorities.</li> <li>• Consider retrofitting the dental office based on the guidance provided by the province’s/territory’s dental regulatory body before re-opening. Even if retrofitting the office may require a significant investment, remember that it will be useful and perhaps necessary in the long run, especially if the office is the only one in the area (e.g., rural community).</li> </ul>



Table 6—Access to care

**6.1 Physical access to dental office**

**Risks that can cause impact:**

1. **Structural damage:** Natural disaster, explosion, arson, nuclear/terror attack, a crash into the office, garage under office collapses, etc.
2. **Access to practice location:** Natural disasters, terror attack, civil unrest, transport issues, etc.

Preparation
<ul style="list-style-type: none"> <li>• Keep a list of government assistance programs that a provider may be eligible for in case their business is affected.<sup>33</sup></li> <li>• Review insurance policies to determine what is covered in case of different crisis situations and if there are any exclusions.</li> </ul> <p><b>Structural damage:</b></p> <ul style="list-style-type: none"> <li>• If the practice location is prone to earthquakes, consult a seismic engineer for structural enhancement (e.g., shock absorber) and have a seismic plan. Engineering consultation may also be required if there is a risk of landslide.<sup>34</sup></li> <li>• To prevent movement during an earthquake or blowing away during a storm ensure that all furniture and equipment is secured in its position and heavy objects are placed at a lower level.<sup>25, 35</sup></li> <li>• If hazards such as wildfires, storms, drought etc. are likely, stay informed of weather alerts (e.g., <a href="#">Alert Ready</a>) and advisories.<sup>27</sup></li> <li>• If fires are a known threat, consider removing potential fire hazards such as dried out branches, leaves and debris from the surroundings. Consider having a working sprinkler nearby, check functioning of smoke detectors (replace batteries regularly) and fire extinguishers, run mock drills, and get inspected by the local fire department and/or private company to ensure proper fire procedures are in place if the provider is at the practice when the fire happens.<sup>27</sup> Ensure that the dental team is aware of the location of fire extinguishers and how to use them.</li> <li>• Consider getting in touch with real estate agents if the office or its surrounding area is no longer a safe space to practice.</li> </ul>
Mitigation
<p><b>Structural damage:</b></p> <ul style="list-style-type: none"> <li>• The premises should be safely <a href="#">evacuated</a> if the provider is at the practice location when crisis happens, and at first sight of structural damage which could cause collapse. Follow evacuation plans.</li> <li>• In case of certain crises such as fire or hazardous materials spills, it may not be possible to gain access the building without permission from the respective authority (e.g., fire inspector).<sup>33</sup></li> <li>• Once the situation has stabilized, be cautious of aftershocks (earthquake), debris toppling from the ceiling, broken power and gas lines, and shards of glass when accessing the office.</li> <li>• If needed, don appropriate PPE such as helmets, rubber boots, masks etc. before entering the premises.<sup>33</sup></li> <li>• It is advisable to make an inventory of all the damage and take pictures and videos of the same. It is also advisable to dispose of any perishable goods.<sup>33</sup></li> </ul>

Table 6.1 continued ►



- Be careful while walking if vision is blocked due to excessive amount of dust, smoke, or soot. Smoke odours can be removed using vinegar, vanilla or activated charcoal, although repeated rounds of cleaning are required to completely get rid of the odour.<sup>33</sup> The air quality of the area can be checked if needed (e.g., [IQAir](#)).
- Depending on the crisis, it may be necessary to contact emergency services, the insurance carrier, cleaning services, electrical services, or construction and repair services.
- If a crisis such as a natural disaster has caused collapse of the physical building, then a similar situation may also have arisen at the provider's home. If family members cannot be reached, contact the local Red Cross office for support.<sup>33</sup> (<https://www.redcross.ca/how-we-help/emergencies-and-disasters-in-canada/get-help-disaster-relief-and-recovery>)
- If applicable, consider informing the mortgage company about the damage and implement any necessary procedures that the company may deem necessary.<sup>33</sup>

**Access to practice location:**

- If the crisis happens when the provider is away from their dental office, first ensure your and your family's safety. Follow the same mitigation procedures as described for if the provider were at the dental office ([lockdown](#), [evacuation](#), etc.). Wait for the situation to stabilize and once the situation is better, access the office with caution as described above.
- Inform patients about the situation, postpone appointments, and collaborate with another office in a safe zone, or accept help from the local dental society, provincial or territorial dental association, or local hospitals should patients need to be transferred for urgent care.

**6.2 Patient access to care**

**Risks that can cause impact:** Patient demographics, access to information, reduced patient flow, dental insurance, economic instability, etc.

**Preparation**

- Even when not in crisis, it is important to take additional precautions when treating certain population groups, e.g., institutionalized patients, persons living with disabilities, etc.
- During a crisis, patient access to information can be improved by developing patient communication templates to inform them about the situation.
- For ease of contacting, email addresses and phone numbers from all patients can be gathered.
- If the practice is open during or after a crisis, there could be a reduction in the flow of patients. For example, in the pandemic, adhering to IPAC protocols often resulted in reducing appointments for many dental offices.
- Give consideration to how to manage the office (e.g., getting new patients, reducing fees, etc.).
- Look at the dental office's clientele when preparing for emergencies. Think about the differences in experiencing a crisis that could arise for patients belonging to various socioeconomic status.
- Determine which patients have dental benefits or can access care if a disaster happens.



- It may also be helpful to analyze the local economy where the office is located. The economy can be diverse, supported by a variety of earning pathways or it can be focused, comprising of a certain type of workforce (e.g., mining town).
- The state of the economy will determine the risks and impact of a crisis on a community. Note that in times of economic instability, it is normal that a community may be more concerned with securing day-to-day needs as opposed to accessing dental care, so patient flow may be reduced significantly.

#### Mitigation

- If the dental office’s clientele comprises of institutionalized patients, then additional safety precautions, such as securing entry and exit points, not allowing other patients to be in the office, etc., can be taken when providing care.
- If the practice is frequented by persons living with disabilities, ensure the office and the team is equipped to receive this patient population (e.g., access for physically disabled, common knowledge in [working with patients with special needs](#). See CDA’s [Getting Started printable resources](#), which provide tips for Parents, Caregivers and the Dental Team, and more.).
- During a crisis, alert patients of the status of the dental office and their appointments. Software systems can be used to send out regular automated notifications about the situation to all patients.
- When the office opens, the provider may consider retrofitting their practice to improve access for patients and attract new patients.
- Try diverting patients to the nearest local hospital or to community clinics, university clinics or public dental care programs.
- Reach out to the community and explain the need to receive regular oral health care as oral health issues without treatment will worsen over time. Get involved in the dental association’s advocacy efforts to the public and the government.



**Table 7—Flooding in dental office**

**Risks that can cause impact:** Natural disaster, leaking pipes, flooding in surrounding spaces (above floors or adjacent office), etc.

Preparation
<ul style="list-style-type: none"> <li>• Preparation for floods varies depending on the likelihood of it occurring.</li> <li>• If the practice has a higher chance of being flooded, then it is a good idea to be aware of flooding coverage in insurance policies. Consider getting a consultation if unsure of coverage and contact the insurance carrier/advisor.</li> <li>• Consider incorporating structural changes like tiling floors, using water-resistant building materials, such as lime-based plaster on the walls, and raising fixtures, sockets, shelves etc. to at least 5 feet off the floor.<sup>36</sup></li> <li>• Check for leaks and areas where water could penetrate (e.g., window, ceiling) and prevent it.</li> <li>• Store all paper records in high-quality and preferably water-resistant boxes.<sup>36</sup></li> <li>• Map out water supply system and if possible, install water filtration systems and monitor water system equipment and sewer system for overflows.<sup>37</sup></li> <li>• Have a flood plan, designate exit and transportation routes and talk about this with the dental team and the community.<sup>37</sup></li> </ul>
Mitigation
<ul style="list-style-type: none"> <li>• In case of flooding in the dental office, raise all electronic devices to a higher level and move them away from areas where water can penetrate.<sup>38</sup></li> <li>• Cover equipment and move all paper records to a safe place.<sup>36</sup></li> <li>• Do not touch electrical outlets when standing in water and be careful of objects that can't be seen under water.<sup>36</sup></li> <li>• Once the office is secure, shut down the power supply and move away from the flooded area.</li> <li>• If unable to move, then sit on a higher level, do not touch/clean after touching the flood water. Call for help as soon as possible.<sup>36</sup></li> <li>• It may be necessary to get physical and biological safety clearance from local authorities and/or city engineers before re-entering the premises.</li> <li>• Flooding may damage the equipment of the water system (e.g., well pump) as well as contaminate the water. After a flood, do not start the water system immediately. Have the system inspected by certified professionals and contact local authorities to get the water tested.<sup>31</sup></li> <li>• Assistance from cleaning services and/or construction services may be required depending upon the extent of flooding and damage.</li> </ul>





**Table 8—Power outage**

**Risks that can cause impact:** Natural disaster, nuclear/terror attack, etc.

Preparation
<ul style="list-style-type: none"> <li>• Know who to contact in case of a power outage, e.g., have contact information and location of the hydro office (e.g., BC Hydro) at hand.</li> <li>• Know where the electric circuit of the dental office is located and maintain it regularly.<sup>39</sup></li> <li>• If the office is prone to power outages and contains heat-sensitive materials (e.g., composite) or equipment such as immunization refrigerator, consider installing a back-up generator or having a portable battery powered fridge.</li> <li>• If the office has a completely electronic administrative system (e.g., patient records, billing, X-rays, etc.), consider backing up data on an external device regularly and have a way to access it if an outage occurs.</li> <li>• Contact service providers (e.g., telephone, internet, fire alarm, etc.) for information on how these services will operate during and after a power outage.<sup>39</sup></li> <li>• Stock flashlights, emergency lights and extra batteries for maintaining lighting when looking for any damage and during treatment procedures.</li> <li>• For all powered dental equipment (chair, X-ray machine, anesthesia machine, etc.), know about the power/battery supply, backup power options, and the reserve time the machine will work in case the battery dies or there is no power.<sup>40</sup></li> <li>• If the office is in a predominantly cold area, consider keeping battery powered heaters.<sup>41</sup></li> <li>• If procedures requiring deep sedation, general anesthesia, or intubation are frequently performed in the office, regularly check oxygen sources, the ventilation and vitals monitoring equipment, and confirm the immediate availability of a resuscitation bag. Have the technician for these equipment on call in case of an emergency.<sup>40</sup></li> <li>• If the water supply in the office is from a well, then it may get contaminated in an outage, especially if the outage lasts for a long time.<sup>31</sup> If such a situation is likely, consider alternate ways to provide safe water (e.g., bottled water, water filtration system powered by generator, etc.) or prepare to collaborate with an office in another location.</li> </ul>
Mitigation
<ul style="list-style-type: none"> <li>• Check to see if neighbouring lights are out. If they are not, check the power circuit of the office.<sup>41</sup></li> <li>• If there is no power in the neighbourhood, then it may be a widespread power outage. Call the local health department to check if the water quality is safe.</li> <li>• Open the windows/doors for ventilation in case the operatory ventilation has been compromised, provided the outside temperature is not freezing.</li> <li>• Check if telephone lines and mobile connections are working. Contact the relevant local department (city, hydro, etc.) or look at their websites to get more information.</li> <li>• If the provider has a generator, first turn off equipment not connected to the generator and then switch the generator on.<sup>39</sup></li> <li>• Possible signs of a power outage: initially the overhead procedure lights may begin to flicker, there may be a noticeable surge of power, and air conditioning may stop. Sometime later, procedure lights may go out, machines will still run depending on battery life/reserve power.<sup>40</sup></li> </ul>

Table 8 continued ►



**When treating a patient:**

- Remain calm and ensure that there is clear communication with the team.
- Determine if the procedure needs to continue or if it can be suspended. If the procedure cannot be suspended, complete the necessary temporary treatment, ensure the patient is not in pain, and provide the patient with another appointment.
- If the patient is sedated, see if the procedure can be completed (e.g., extraction). It is recommended to stop the treatment in the case of surgical procedures.
- If treatment has been stopped, then allow the patient to wake up. Inform the patient of the situation and ask their preference on continuing treatment.
- If treatment must continue (either to manage pain, prepare the patient for future treatment or to complete the procedure), then secure the patient.
- Check to see if the patient is comfortable and if all vital signs are stable.
- Check if the anesthesia machine is functioning and call the anesthesia technician, if needed. Certain machines must be reset before they can properly function again.
- If there is uncertainty about delivering inhalational agents, discontinue these modes of anesthetic delivery and consider using IV anesthetic.<sup>40</sup>
- If the patient has been intubated, check the ventilation machine. If it is not functioning, disconnect the patient and switch to manual ventilation. The provider can connect a manual bag valve resuscitation device to the supplemental oxygen source on the anesthesia machines.<sup>40</sup>
- Once the patient has been secured, continue with the procedure only when adequate lighting can be maintained and if equipment needed for the procedure is functioning. Use flashlights/emergency lights as well as manual instruments (e.g., chisel for extraction) if needed.
- Ensure that patient vitals are monitored manually or through a battery powered device.
- It may be in the best interests of the patient and team members to remain at the location and avoid traveling if roads are dark.
- If your water supply is from a well, then water may get contaminated in a power outage. When power is restored, call local authorities to get the well water tested.<sup>31</sup>
- If there is a water filtration system ensure that it is running properly once the power is back on.<sup>31</sup>



**Table 9—Animal attack / infestation**

Preparation
<ul style="list-style-type: none"> <li>• Animal attacks, although not common, can happen at the dental office. For example, the animal may enter the office, may loiter around the premises or cause damage to the office or surrounding areas.</li> <li>• First, it is important to scan the surroundings before taking any action. If there are wild animals (e.g., skunks, squirrels, bears, etc.) in the vicinity, then it may be advisable to plan to deal with animal damage.</li> <li>• Know the provincial laws around animal welfare. Some provinces and territories may have regulations for specific species or animal welfare aspects.<sup>42</sup></li> <li>• Know who to call in the event of animal-related emergencies. It is important to note that if you harm animals, even in case of an attack, you can be penalized.<sup>43</sup></li> <li>• Apart from animal attacks, pests (microorganisms, insect and rodent) infestations can occur in the practice.<sup>44</sup></li> <li>• It is important to keep track of changing climate and surrounding environment to determine the likelihood of an infestation. For example, bed bugs are becoming a bigger problem in North America.<sup>45</sup></li> <li>• Infestations from different organisms can be prevented in the practice by taking common precautions such as:             <ol style="list-style-type: none"> <li>1. Avoid constant high humidity or saturation.</li> <li>2. Ensure that there are no cracks or leaks in the building structure.</li> <li>3. Ensure that there are no sources of standing contaminated water.</li> <li>4. Avoid having furniture that clutters the office.</li> <li>5. Ensure cleaning and sanitation of the practice (daily vacuuming, remove food debris, human tissue remnants, etc.).<sup>44</sup></li> </ol> </li> </ul>
Mitigation
<ul style="list-style-type: none"> <li>• Different provinces and territories have different protocols on how to deal with situations related to animal welfare.</li> <li>• As an example, in Ontario:             <ol style="list-style-type: none"> <li>1. <b>Local animal control</b> needs to be contacted in case a wild or domestic animal is roaming on public property or if a wild animal is in distress, injured or deceased.</li> <li>2. <b>Emergency (911)</b> for an animal attack or illegal animal activity.<sup>43</sup></li> </ol> </li> <li>• Damage to the dental office caused by animals will require repairing and possibly unique considerations for prevention (e.g., putting a fence, removing any means such as trees which the animal can climb to reach upper levels, etc.).</li> <li>• In case of an infestation, it is important to detect it early. In many cases, annual inspections are recommended depending on the risk.<sup>44</sup></li> <li>• If the infestation is relatively small, appropriate pesticide application can be carried out, followed by thorough cleaning to help in finding new outbreaks.<sup>44</sup></li> <li>• Pest specific control tips can be found at <a href="https://www.canada.ca/en/health-canada/services/pest-control-tips.html">https://www.canada.ca/en/health-canada/services/pest-control-tips.html</a></li> </ul>



- If the infestation has spread, call for professional help (e.g., Pest Control Canada).
- While there is a likelihood of transmission of infectious diseases from certain pests, such as bed bugs, evidence is lacking. The provider can treat a patient who comes from a mildly infested setting. Further, the patient can be counselled (how to get rid of pests, public health support, etc.) and referred to a primary physician for treatment, if necessary.<sup>46</sup>
- In case a patient's home is heavily infested, precautions (e.g., postponing treatment) can be taken as the pests can reach the dental office via the patient's clothing or belongings.<sup>46</sup>



**Table 10—Cybersecurity concerns**

**Risks that can cause impact:** Cyberattack, (malware, phishing, ransomware, etc.), natural disaster, etc.

Preparation
<ul style="list-style-type: none"><li>• Safe guarding data, especially patient data, no matter what the emergency may be, is top priority for a dental office.</li><li>• There are several steps that the provider can take to strengthen cybersecurity in the dental office.</li></ul> <p><b>Train the dental team in security principles:</b></p> <ul style="list-style-type: none"><li>• Establish basic security practices and policies for team members, such as requiring strong passwords and changing passwords regularly.</li><li>• Develop appropriate Internet use guidelines and detail consequences of not adhering to these.</li><li>• Outline rules of behaviour on handling and protecting customer information and other vital data.</li></ul> <p><b>Protect information, computers, and networks from cyberattacks:</b></p> <ul style="list-style-type: none"><li>• Keep clean machines: having the latest security software, web browser, and operating system are the best defenses against viruses, malware, and other online threats.</li><li>• Set antivirus software to run a scan after each update. Install other key software updates as soon as they are available.</li><li>• Use services that can initiate simulated attacks for preparing for cyberattacks like phishing.</li></ul> <p><b>Provide firewall security for the Internet connection:</b></p> <ul style="list-style-type: none"><li>• A firewall prevents outsiders from accessing data on a private network.</li><li>• Make sure the operating system’s firewall is enabled or install free firewall software available online.</li><li>• If the dental team does any work from home, ensure that their home system(s) are protected by a firewall.</li></ul> <p><b>Create a mobile device action plan:</b></p> <ul style="list-style-type: none"><li>• Mobile devices can create significant security and management challenges, especially if they hold confidential information or can access the corporate network.</li><li>• Require team members to password-protect their devices, encrypt their data, and install security apps to prevent criminals from stealing information while the phone is on public networks.</li><li>• Be sure to set reporting procedures for lost or stolen equipment.</li></ul> <p><b>Make backup copies of important business data and information:</b></p> <ul style="list-style-type: none"><li>• Regularly backup the data on all computers.</li><li>• Critical data includes word processing documents, electronic spreadsheets, databases, financial files, human resources files, and accounts receivable/ payable files.</li><li>• Backup data automatically if possible, or at least weekly and store the copies either offsite or in the cloud.</li></ul>



**Control physical access to the computers and create user accounts for each employee:**

- Prevent access or use of business computers by unauthorized individuals.
- Laptops can be particularly easy targets for theft or can be lost, so lock them up when unattended.
- Make sure a separate user account is created for each team member. Each requires a strong password.
- Administrative privileges should only be given to key personnel.

**Secure the Wi-Fi networks:**

- If there is a Wi-Fi network for the dental office, make sure it is secure, encrypted, and hidden.
- To hide the Wi-Fi network, set up a wireless access point or router, so it does not broadcast the network name, known as the Service Set Identifier (SSID) and password protect access to the router.

**Employ best practices on payment cards:**

- Work with banks or processors to ensure the most trusted and validated tools and anti-fraud services are being used.
- There may also be additional security obligations pursuant to agreements with the bank or processor.
- Isolate payment systems from other, less secure, programs and do not use the same computer to process payments and surf the Internet.

**Limit employee access to data and information, limit authority to install software:**

- Do not provide any one team member with access to all data systems. Access should be given only to the specific data systems that they need for their jobs.
- Employees should not be able to install any software without permission.

**Authentication:**

- Consider implementing multi-factor authentication that requires additional information beyond a password to gain entry.
- Check with vendors that handle sensitive data, especially financial institutions, to see if they offer multi-factor authentication for the dental office’s account.
- Any business that stores or processes sensitive information should consider cyber liability insurance (i.e., cybersecurity insurance or cyber risk insurance).
- Cyber liability insurance protects the business from the cost of cyber threats or breaches involving computer systems and data that can include sensitive customer information, such as credit card numbers, health records and patient information.

**Mitigation**

- It is important to recognize when a cyberattack has happened.
- Indicators of a cyber threat: the screen may appear to be locked, data may appear to be encrypted, data or system files may start getting deleted on their own or there may be images/messages being displayed on the screen.<sup>47</sup>
- In the above circumstances, do not panic. Call the IT support for the dental office immediately.
- Disconnect the system from Wi-Fi to prevent further damage. Thereafter, it is recommended to not do anything until IT support has a look at the issue.



- If the provider has purchased cyber liability insurance, report the incident immediately to the insurance carrier. Depending on the coverage, they may most likely provide IT and other follow-up services.
- It is important to note that in order to claim cyber liability insurance, the provider may be asked to demonstrate that the dental team has received adequate training and has done their due diligence in safeguarding cybersecurity.
- After contacting IT services and/or insurance carrier, the provider can check their credit card and bank statements for any unrecognizable charges, as well as credit reports for any new accounts or loans that the provider didn't open.<sup>48</sup> This is especially important in case of a cyberattack (e.g., phishing) where personal information has been voluntarily provided or can be accessed easily.
- Apart from safeguarding their own personal information, providers must do their due diligence in handling the personal information of their patients.
- A provider may have to report security breaches resulting in unauthorized access or disclosure of personal information as per the Personal Information Protection and Electronic Documents Act (PIPEDA) or equivalent provincial/territorial laws depending on the province or territory.<sup>49</sup>
- The provider may have to do a risk assessment to determine whether the type of information leaked and the probability of misuse of information will result in any harm to a patient or a dental team member.<sup>49</sup>
- Harm can include financial loss, identity theft, negative effects on the credit record, damage to reputation or relationships, etc.<sup>49</sup>
- Depending on the risk of harm, the provider may also have to notify patients and/or team members whose personal information has been leaked (this may vary by province or territory).<sup>49</sup>
- Keep a record of all security breaches in the dental office. The record can contain information such as date of the breach, general description of the incident, nature of information compromised, and whether the Privacy Commissioner of Canada or relevant authority/individuals were notified.<sup>49</sup>



**Table 11—Complaints from patient**

**Risks that can cause impact:** Unmet demands, fear, change in patient flow, change in treatment experience, compromised patient confidentiality, etc.

Preparation
<ul style="list-style-type: none"> <li>• When reopening a practice following a crisis, prepare resources and handouts to educate patients that it is safe for them to return to their dental home for their oral health care and treatment depending (e.g., after pandemic the need for IAPC protocols).</li> <li>• In case there are circumstances wherein the provider feels that the patient may take legal action against the provider, contact the respective provincial/territorial regulatory body for guidance and support.</li> <li>• From an insurance perspective, the provider can do the following for risk management to fortify their “defensibility”:             <ol style="list-style-type: none"> <li>1. Obtain informed consent—obtain written, signed consent for treatments.</li> <li>2. Chart, chart and chart. The more thorough the records, the better the chance of success should any litigation occur.</li> <li>3. Legibility and understandability. If the charts or other notes are not clearly legible, their value as evidence may be compromised.</li> <li>4. Clear dates on all notes and patient communications, X-rays (particularly for non-digital images) and other diagnostic results.</li> <li>5. Provide statements of services delivered and fees charged and payable in the insurance claims of patients that are factually accurate and aligned with the information recorded in their charts.</li> <li>6. Don’t make promises. It’s natural to want to be reassuring and optimistic with patients, but they tend to have long memories, and sometimes, unreasonable expectations. Anything approaching a guarantee is never a good idea.</li> <li>7. Screen for oral cancer. The CDA and most provincial and territorial dental associations are now recommending annual screening for oral cancer. Litigation is now more prevalent when possible oral cancers are not investigated.<sup>32</sup></li> </ol> </li> <li>• It is up to the individual provider to assess the level of preparedness in case a patient gives negative reviews on an online media or social media platform. Think about whether you/the provider want to or already have a high public presence, how important a public image is, and to what extent patients would be influenced by reviews.</li> <li>• To prepare for dealing with negative reviews on an online or social media platform, find out how to monitor (especially during a crisis where these may increase) and get alerted about these, and how to get these posts removed.</li> <li>• When dwelling into online marketing, always check and adhere to the any related guidelines that the provincial/territorial regulatory body may have. The provider can also refer to their association’s resources (if any) on appropriate social media use and how to respond to negative reviews.</li> <li>• Regardless of the situation, it is an oral health care provider’s obligation to protect patients’ right to privacy and ensure that patient confidentiality is always maintained. Always use secure services to transfer patient records and proceed with caution and take consultation (regulatory body, lawyer, etc.) whenever there may be a need to disclose confidential patient information.</li> </ul>
Mitigation
<ul style="list-style-type: none"> <li>• If a patient gave negative reviews in-person, allow them to express their thoughts freely. Be professional and empathetic when responding.<sup>50</sup></li> <li>• Depending on the nature of the complaint, the provider could consider transferring the patient to another provider.<sup>50</sup></li> </ul>

Table 11 continued ►





- Some important things to remember when dealing with legal matters include contacting the respective provincial/territorial regulatory body, keeping confidentiality, keeping separate legal notes, avoiding altering records and not offering compensation or accepting liability before taking advice.<sup>50</sup>
- If a negative review on an online or social media platform is noticed, the provider, if possible, can reach out (call or meet in-person) to the patient and discuss their concerns.
- The provider can reply to the review online on the same platform.
- Be respectful, caring and empathetic in the response. Using derogatory and demeaning language, being argumentative or replying in a defensive way can complicate matters and may further tarnish the provider's reputation.



## References

1. Araujo MWB, Estrich CG, Mikkelsen M, Morrissey R, Harrison B, Geisinger ML, et al. COVID-19 among dentists in the United States: A 6-month longitudinal report of accumulative prevalence and incidence. *The Journal of the American Dental Association*. 2021;152(6):425-33.
2. Froum SH, Froum SJ. Incidence of COVID-19 Virus Transmission in Three Dental Offices: A 6-Month Retrospective Study. *Int J Periodontics Restorative Dent*. 2020;40(6):853-9.
3. Natapov L, Schwartz D, Herman HD, Markovich DD, Yellon D, Jarallah M, et al. Risk of SARS-CoV-2 transmission following exposure during dental treatment - A national cohort study. *J Dent*. 2021;113:103791.
4. Piret J, Boivin G. Pandemics Throughout History. *Front Microbiol*. 2020;11:631736.
5. Rudner Law. COVID-19 Pandemic: Information For Dentists And Dental Practices. 2020 [cited 2023 Aug 25]. Available from: <https://www.rudnerlaw.ca/covid-19-pandemic-dentists-dental-practices/>.
6. Royal College of Dental Surgeons of Ontario. Frequently Asked Questions—Medical Emergencies. 2024 [cited 2024 Aug 27]. Available from: <https://www.rcdso.org/en-ca/standards-guidelines-resources/rcdso-news/frequently-asked-questions/information-on-medical-emergencies>.
7. Rosenberg M. Preparing for medical emergencies: the essential drugs and equipment for the dental office. *J Am Dent Assoc*. 2010;141 Suppl 1:14s-9s.
8. Morrison AD, Goodday RH. Preparing for medical emergencies in the dental office. *J Can Dent Assoc*. 1999;65(5):284-6.
9. Government of Canada. Radiation Protection in Dentistry - Recommended Safety Procedures for the Use of Dental X-Ray Equipment—Safety Code 30. 2022 [cited 2023 Aug 30]. Available from: <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/radiation/radiation-protection-dentistry-recommended-safety-procedures-use-dental-equipment-safety-code-30.html>.
10. Hwang SY, Choi ES, Kim YS, Gim BE, Ha M, Kim HY. Health effects from exposure to dental diagnostic X-ray. *Environ Health Toxicol*. 2018;33(4):e2018017.
11. Shaik AR, Rao SB, Husain A, D'sa J. Work-related musculoskeletal disorders among dental surgeons: A pilot study. *Contemp Clin Dent*. 2011;2(4):308-12.
12. Roll SC, Tung KD, Chang H, Sehremelis TA, Fukumura YE, Randolph S, et al. Prevention and rehabilitation of musculoskeletal disorders in oral health care professionals: A systematic review. *J Am Dent Assoc*. 2019;150(6):489-502.
13. Kumar DK, Rathan N, Mohan S, Begum M, Prasad B, Prasad ER. Exercise prescriptions to prevent musculoskeletal disorders in dentists. *J Clin Diagn Res*. 2014;8(7):Ze13-6.
14. Smith AJ, Cameron SO, Bagg J, Kennedy D. Management of needlestick injuries in general dental practice.
15. Canadian Centre for Occupational Health and Safety. Prevention of Slips, Trips and Falls. 2023 [cited 2023 Aug 29]. Available from: [https://www.ccohs.ca/oshanswers/safety\\_haz/falls.html#:~:text=wet%20or%20oily%20surfaces,loose%2C%20unanchored%20rugs%20or%20mats](https://www.ccohs.ca/oshanswers/safety_haz/falls.html#:~:text=wet%20or%20oily%20surfaces,loose%2C%20unanchored%20rugs%20or%20mats).
16. Canadian Centre for Occupational Health and Safety. Violence and Harassment in the Workplace. 2023 [cited 2024 Aug 27]. Available from: <https://www.ccohs.ca/oshanswers/psychosocial/violence.html>.
17. Government of Canada. Self-Care for Caregivers. 2011 [cited 2023 Aug 29]. Available from: <https://www.canada.ca/en/public-health/services/reports-publications/responding-stressful-events/self-care-caregivers.html>.
18. Canadian Centre for Occupational Health and Safety. Bullying in the Workplace. 2020 [cited 2023 Aug 31]. Available from: <https://www.ccohs.ca/oshanswers/psychosocial/bullying.html>.
19. Canadian Centre for Occupational Health and Safety. Violence and Harassment in the Workplace - Dealing with Negative Interactions. 2023 [cited 2023 Aug 31]. Available from: [https://www.ccohs.ca/oshanswers/psychosocial/violence\\_negative.html](https://www.ccohs.ca/oshanswers/psychosocial/violence_negative.html).
20. Canadian Centre for Occupational Health and Safety. Violence and Harassment in the Workplace - Warning Signs. 2023 [cited 2023 Aug 31]. Available from: [https://www.ccohs.ca/oshanswers/psychosocial/violence\\_warning\\_signs.html](https://www.ccohs.ca/oshanswers/psychosocial/violence_warning_signs.html).



21. Canadian Centre for Occupational Health and Safety. Violence and Harassment in the Workplace - Intimate Partner and Family Violence. 2024 [cited 2024 Aug 27]. Available from: [https://www.ccohs.ca/oshanswers/psychosocial/violence/violence\\_domestic.html](https://www.ccohs.ca/oshanswers/psychosocial/violence/violence_domestic.html).
22. U.S. Department of Labor, Occupational Safety and Health Administration. How to Plan for Workplace Emergencies and Evacuations. 2001 [cited 2023 Aug 31]. Available from: <https://www.osha.gov/sites/default/files/publications/osha3088.pdf>.
23. City of Toronto. Lockdown Procedures. 2016 [cited 2023 Sep 1]. Available from: <https://www.toronto.ca/city-government/accountability-operations-customer-service/city-administration/corporate-policies/people-equity-policies/lockdown-procedures/>.
24. City of Ottawa, Health and Public Safety, Emergency Preparedness. Ottawa. 2024 [cited 2024 Aug 27]. Available from: <https://ottawa.ca/en/health-and-public-safety/emergency-preparedness>.
25. Government of Canada. Get Prepared, Severe Storms — What to do? 2022 [cited 2023 Aug 3]. Available from: <https://www.getprepared.gc.ca/cnt/rsrscs/pblctns/svrstrms-wtd/index-en.aspx>.
26. Government of Canada. Get Prepared, Hurricane — Get Prepared. 2024 [cited 2024 Nov 18]. Available from: <https://www.getprepared.gc.ca/cnt/hzd/hrrcns-prp-en.aspx?wbdisable=true%22>
27. Government of Canada. Get Prepared, Wildfires — Get Prepared. 2024 [cited 2024 Aug 27]. Available from: <https://www.getprepared.gc.ca/cnt/hzd/wldfrs-prp-en.aspx#s1>.
28. Canadian Red Cross. Earthquakes: Before, During & After. 2023 [cited 2023 Aug 15]. Available from: <https://www.redcross.ca/how-we-help/emergencies-and-disasters-in-canada/types-of-emergencies/earthquakes>.
29. Canadian Red Cross. When you can't phone home: what to do when phones are down. 2022 [cited 2023 Sep 2]. Available from: <https://www.redcross.ca/blog/2017/9/when-you-cant-phone-home-what-to-do-when-phones-are-down>.
30. United States Government. Federal Communications Commission. Tips for Communicating in an Emergency. 2023 [cited 2023 Sep 6]. Available from: <https://www.fcc.gov/reports-research/guides/tips-communicating-emergency>.
31. Government of Canada. Well water and health: Well safety during and after emergencies. 2024 [cited 2024 Aug 27]. Available from: <https://www.canada.ca/en/health-canada/services/environment/drinking-water/well/safety-during-after-emergencies.html>.
32. CDSPI.
33. Canadian Red Cross. Emergencies and Disasters, Types of Emergencies - Wildfires. 2024 [cited 2024 Aug 27]. Available from: <https://www.redcross.ca/how-we-help/emergencies-and-disasters-in-canada/types-of-emergencies/wildfires>.
34. Government of Canada. Get Prepared, Landslides — Get Prepared. 2024 [cited 2024 Aug 27]. Available from: <https://www.getprepared.gc.ca/cnt/hzd/lndslids-prp-en.aspx?wbdisable=true>.
35. Government of Canada. Get Prepared, Earthquakes — Get Prepared. 2024 [cited 2024 Aug 27]. Available from: <https://www.getprepared.gc.ca/cnt/hzd/rthqks-prp-en.aspx>.
36. Gordon K. What to Do if the Dental Office Floods from Hurricanes. 2015 [cited 2023 Aug 2]. Available from: <https://karengordondmd.com/what-to-do-if-the-dental-office-floods-from-hurricanes/>.
37. World Health Organization. Checklists to assess vulnerabilities in health care facilities in the context of climate change. 2021 [cited 2023 Aug 2]. Available from: <https://apps.who.int/iris/handle/10665/340656>.
38. Government of Canada. Get Prepared, Floods — Get Prepared. 2024 [cited 2024 Aug 27]. Available from: <https://www.getprepared.gc.ca/cnt/hzd/flds-prp-en.aspx?wbdisable=true>.
39. BC Hydro. Prepare your business for a power outage. [cited 2023 Aug 15]. Available from: <https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/safety/power-outage-plan-for-businesses.pdf>.
40. Yasny J, Soffer R. A case of a power failure in the operating room. *Anesth Prog*. 2005;52(2):65-9.
41. Government of Canada. Get Prepared, Power outages — Get Prepared. 2024 [cited 2024 Nov 18]. Available from: <https://www.getprepared.gc.ca/cnt/hzd/pwrtgs-prp-en.aspx%22>



42. Government of Canada. Provincial and territorial legislation concerning welfare of livestock. 2024 [cited 2024 Aug 27]. Available from: <https://inspection.canada.ca/animal-health/humane-transport/provincial-and-territorial-legislation-concerning-/eng/1358482954113/1358483058784>.
43. Government of Ontario. Animal welfare. 2024 [cited 2024 Aug 27]. Available from: <https://www.ontario.ca/page/animal-welfare>.
44. Government of Canada. Agent of Deterioration: Pests. 2022 [cited 2023 Sep 7]. Available from: <https://www.canada.ca/en/conservation-institute/services/agents-deterioration/pests.html>.
45. Centre for Disease Control and Prevention. About Bed Bugs. 2024 [cited 2024 Aug 27]. Available from: [https://www.cdc.gov/bed-bugs/about/?CDC\\_AAref\\_Val=https://www.cdc.gov/parasites/bedbugs/faqs.html](https://www.cdc.gov/bed-bugs/about/?CDC_AAref_Val=https://www.cdc.gov/parasites/bedbugs/faqs.html).
46. College of Dental Hygienists of Ontario. Fact Sheet: Bed Bugs. 2019 [cited 2023 Sep 7]. Available from: <https://cdho.org/factsheets/bed-bugs/>.
47. Government of Canada. An introduction to the cyber threat environment. 2022 [cited 2023 Sept 28]. Available from: <https://cyber.gc.ca/en/guidance/introduction-cyber-threat-environment>.
48. U.S. Department of Homeland Security. Ready. Cybersecurity. 2022 [cited 2023 Sept 28]. Available from: <https://www.ready.gov/cybersecurity>.
49. Office of the Privacy Commissioner of Canada. What you need to know about mandatory reporting of breaches of security safeguards. 2021 [cited 2023 Sept 28]. Available from: [https://www.priv.gc.ca/en/privacy-topics/business-privacy/safeguards-and-breaches/privacy-breaches/respond-to-a-privacy-breach-at-your-business/gd\\_pb\\_201810/](https://www.priv.gc.ca/en/privacy-topics/business-privacy/safeguards-and-breaches/privacy-breaches/respond-to-a-privacy-breach-at-your-business/gd_pb_201810/).
50. Royal College of Dental Surgeons of Ontario. Risk Management, Dealing with patients and the threat of litigation. 2019 [cited 2023 Aug 3]. Available from: <https://plp.rcdso.org/risk-management/dealing-with-patients-and-the-threat-of-litigation>.