The basic emergency kit for dental offices and emergency protocols have been updated to take into account the most recent approaches to medical emergency response.

For example, for hyperventilation, bag breathing has been replaced with a gentler approach that seeks first of all to reassure the patient.

The documents outlining the protocols are summaries and reference guides. They are much more than instructions to follow in emergency situations. Dentists and dental office personnel are encouraged to review them regularly to prepare for any eventuality. The duties and responsibilities of dentists are all the more significant if they use sedation in their practice.

These notes aim to answer certain questions that might arise.

Basic emergency kit for dental offices

Training and recertification

In addition to the duties relating to the equipment they must keep in their offices, dentists are required to undergo training in cardiopulmonary resuscitation (CPR), including the use of an automated external defibrillator (AED), every two years.

EpiPen or vials

If a dentist prefers not to administer epinephrine using a vial, the emergency kit can contain the number of auto-injectors equivalent to two vials of 1 mL of 1:1000 solution, in addition to the two mandatory auto-injectors (adult and child).

Emergency protocols

CPR and AED protocols

Since any emergency situation can evolve to where a patient loses consciousness, it is crucial that dentists have the reflexes and the ability to quickly (in 10 seconds) assess the patient’s breathing and circulation.

911

In serious situations, or where the emergency responses recommended in the protocols do not have the expected outcome, dentists must not hesitate to call 911. The basic kit contains first-line medications for dentists to use when responding to clinical manifestations they can observe and assess, but they must ask for help when the circumstances require it.

It is useful to know that when an emergency is reported to 911, the report retains its order of priority even if ambulance technicians are not immediately required. Once the ambulance technicians respond, they have the authority. They will carry out the emergency response, and they will decide whether or not the patient should be taken to hospital.

• Injections
  When any medication is administered by injection – no matter what kind – a 911 call is necessary and the patient should be taken to the hospital.

Hives

The dose of syrup (diphenhydramine) is 5 mL for 5-year-old children and 20 mL for 6-year-old children. This appears to be a sharp increase, but it avoids unnecessary dosage calculations, since the risk of overdose is low, no matter how much the 6-year-old child weighs.

Epinephrine – inclusion criteria

All responders need to understand the inclusion criteria for epinephrine (EpiPen), which are the basis for responses in the event of anaphylactic shock. The criteria are defined and presented in two different scenarios, which responders must be familiar with and understand.
Emergency protocols (continued)

The two scenarios have a common denominator: the patient's known or suspected contact with an allergen in the four hours preceding the crisis. This is the first question that the patient should be asked.

If this criterion is met and the patient also suffers respiratory distress or circulatory malfunction, the administration of epinephrine is indicated.

In addition to known or suspected contact with an allergen, the second scenario adds two clinical situations from the following list of four: hives (or angioedema), respiratory difficulty, circulatory malfunction expressed through excessive weakness, and gastrointestinal symptoms (cramps, nausea, vomiting). The administration of epinephrine is also indicated in this scenario.

• Distress or difficulty
  While the first list refers to “respiratory distress,” the second contains “respiratory difficulty,” and dentists must evaluate the situation accordingly. Respiratory distress is associated in particular with noise and signs of cyanosis. As for respiratory difficulty, if not accompanied by other inclusion criteria, administration of oxygen is indicated.
  The notion of “respiratory difficulty” is present in many other emergency situations: asthma, stroke, vasovagal syncope and anesthetic overdose. The administration of oxygen is necessary when blood saturation is below 94%. The use of a pulse oximeter is therefore always required.

• Circulatory malfunction
  Along the same lines, the term “circulatory malfunction” is repeated in both inclusion criteria lists. In the first, circulatory malfunction should be understood to be acute, with hypotension, cold, clammy and pale skin, and possibly signs of cyanosis and altered consciousness. This type of malfunction is sufficient to justify administering epinephrine. In the second list of criteria, dentists must determine whether the drop in pressure or excessive weakness the patient reports should be considered sufficiently severe. Dentists can base their final decision on the presence or absence of another inclusion criterion from the list.
  This inclusion criteria chart is used in all recognized emergency care training programs in Quebec, and we felt it was appropriate to reproduce it here without modification. Everyone must understand, as it says in the “warning,” that while the protocol charts are intended to support emergency responses, they cannot replace a dentist's clinical judgment.

• Prioritize epinephrine over Benadryl
  Diphenhydramine (Benadryl) is the medication indicated to treat allergic reactions. However, in crisis situations, where the patient's life is in danger, epinephrine should be prioritized. Therefore, in the response sequence for anaphylactic shock, epinephrine is administered and symptoms are observed in case a second dose is needed. Only then is diphenhydramine administered, preferably orally. The statement “Always prioritize administration of epinephrine over diphenhydramine” is a reminder of this important order of actions.

Angina - infarct

The new protocol provides more detailed information on how to manage angina attacks and infarcts, illustrating the importance of measuring blood pressure and pulse and of knowing the patient's medical history. The difference between patients who are “known to have angina” and those who are “not known to have angina” is important, particularly when it comes to the administration of nitroglycerine.
  Where the situation is under control after a first dose of nitroglycerine is administered, it is advised to wait before giving the patient aspirin. However, if a second dose of nitroglycerine is required, the patient should be asked to take aspirin if he or she is not allergic to ASA or NSAIDs, and 911 should be called.

Overdose of local anesthetic

It is important to be aware of the properties of the anesthetic products used. Dentists must therefore follow the manufacturer's instructions, as the maximum dose may vary from one product to another.

Conclusion

The protocols have been reformulated to ensure that dentists and their teams understand them better. The medications and dosages have undergone minor adjustments. For example, only the 81 mg aspirin format is referred to in the update because the 80 mg tablets are no longer manufactured or sold in Canada.
  No one is safe from an emergency. The acts that dentists perform are often invasive. When dentists and their teams are familiar with and understand emergency situations, they are able to provide a broader range of care with greater peace of mind.