



STATEMENT

An epinephrine auto-injector containing clear solution that is not discoloured and/or does not show precipitate can be administered to a patient suffering from a severe anaphylactic reaction.

BACKGROUND

The Epinephrine Administration Position Statement 2014 replaces the Epinephrine Administration Position Statement 2010. This Position Statement was revised in order to streamline the information taught due to the increase in the number of different types of epinephrine autoinjectors on the market.

As per the Epinephrine Administration Position Statement 2010, any epinephrine auto-injector (regardless of the expiry date) can be used if the epinephrine solution is clear, not discoloured and no precipitate is present.

It has been noted in many studies that when surveyed, people who carry auto-injectors often neglected to keep them in date and/or did not store the auto-injectors according to best practice guidelines (in a dark, cool location). Simons et al tested epinephrine plasma concentrations of outdated auto-injectors versus in-date auto-injectors. Although the effectiveness of epinephrine was significantly reduced, there were no negative effects for the patient receiving outdated epinephrine solutions. Epinephrine that is discoloured (pink from oxidation or brown from the formation of Melanin) and/or has a precipitate are not productive in the treatment of anaphylaxis.

STATEMENT RATIONALE

Use of epinephrine auto-injectors is supported by the BC & Yukon Branch Medical Director and Anaphylaxis Canada in the treatment of anaphylaxis.

Before administering any epinephrine auto-injector:

- Determine the history to ensure that the patient is having an anaphylactic reaction. Signs and symptoms of anaphylaxis include:
 - Generalized itching
 - Blotchy, raised, red bumps on the skin (hives)
 - Wheezing; difficulty breathing
 - Swelling – including throat, tongue, and face

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- Dizziness, light headedness decreasing LOC or unconsciousness
- Stomach cramping, vomiting, diarrhea

Signs & Symptoms don't appear in any particular order and no two reactions are the same.

- Activate EMS. The effects of epinephrine wear off in 10 to 20 minutes, **ALL** individuals receiving epinephrine must immediately be transported to hospital.
- Only use the patient's epinephrine auto-injector to treat the anaphylactic reaction.
 - The 0.15 mg dosage is intended for patients who weigh 15 to 30 kg (33-66 pounds) and the 0.3 mg dosage is intended for patients who weigh 30 kg (66 pounds) or more.
- Assist patient to self-administer medication. If the patient loses consciousness, the rescuer can administer the epinephrine provided that the history is known.

Due to the increase in the number of different types of epinephrine auto-injectors on the market, it is important that rescuers follow the directions on the epinephrine auto-injector.

- Key treatment principles include:
 - The epinephrine solution can be seen through a window on the auto-injector casing. **DO NOT** use the auto-injector, regardless of the expiry date, if the epinephrine solution is discoloured and/or has a precipitate
 - Remove any protective caps or covers.
 - **DO NOT** touch the end of the auto-injector once the protective cap is removed.
 - Place the auto-injector against the thigh, press firmly and hold for 10 seconds. Do not inject epinephrine into any other muscle group (to include the bicep or buttocks).
 - Place the used auto-injector into a sharps container.
 - Do not apply ice to the injection site as ice can inhibit the dispersal of epinephrine into the blood stream.
 - If there is no significant improvement in the patient's condition after 10 minutes, administer a second dose if available.
- Monitor ABCs closely as the patient can experience tachycardia (rapid heart rate), palpitations (pounding heartbeat), pallor (paleness), dizziness, weakness, tremors (trembling), headache, throbbing, restlessness, anxiety and fear.
- Often a patient will be directed by their doctor to take an antihistamine (e.g. Benadryl) after their epinephrine injection. You can **assist** the patient in taking additional medication as directed by their physician.

Although Lifesaving Society programs train candidates on how to administer epinephrine autoinjector devices, *rescuers must consult, and comply with, their employer's policies and procedures* with respect to medication administration.

BC & Yukon Branch

#112 - 3989 Henning Drive,
Burnaby, BC V5C 6N5
Telephone: 604.299.5450
E-mail: info@lifesaving.bc.ca
Web: www.lifesaving.bc.ca

Epinephrine Administration

REFERENCES

King Pharmaceuticals/EpiPen www.epipen.ca

Sanofi Canada/Allerject www.allerject.ca

Paladin Labs/Twinject www.twinject.ca

Anaphylaxis Canada www.anaphylaxis.ca

Canadian First Aid Manual (2010) page 44-45

Huang SW et al. "A Survey of EpiPen use in Patients with Anaphylaxis" Journal of Allergy and Clinical Immunology 1998; 102:525-6

Simons et al. "Outdated EpiPen and EpiPen Jr.: Past their Prime" Journal of Allergy and Clinical Immunology 2000; 105:1025-30

Dr. James Helliwell – Lifesaving Society BC & Yukon Branch Medical Advisor

BC & Yukon Branch

#112 - 3989 Henning Drive,
Burnaby, BC V5C 6N5
Telephone: 604.299.5450
E-mail: info@lifesaving.bc.ca
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