



SUBJECT: Epinephrine Autoinjectors on Fire Apparatus

TO: Committee of the Whole

FROM: Fire Department

Report Number: BFD-03-19

Wards Affected: All

File Numbers: 755-05

Date to Committee: October 7, 2019

Date to Council: October 28, 2019

Recommendation:

Approve the addition of epinephrine autoinjectors on fire emergency response apparatus.

Purpose:

Delete those statements that are n/a and then click and type here to describe your choices.

A Healthy and Greener City

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Background and Discussion:

Research has shown anaphylaxis due to food, environmental and/or insects are on the rise. The number of Emergency Room visits and hospitalizations due to anaphylaxis has doubled over a four-year period (year to year) and have increased by **350%** in the last decade.

Definition: Anaphylaxis is a serious allergic reaction that can be life threatening; it requires avoidance strategies and immediate response in the event of an emergency.

“Seven percent (7%) of Canadians are at risk of anaphylaxis due to food allergies alone”, says Dr. Wasserman, who is an Allergist at Hamilton Health Sciences and St. Joseph’s Firestone Institute of Respiratory Health. Some statistics show as much as one in thirteen Canadians are affected by food allergies. 70% of deaths occur between the ages of 12 and 21 with 85% of the reactions occurring away from home. These statistics, along with the increase of environmental and insect allergies, has prompted medical doctors and first aid agencies to support the implementation of epinephrine autoinjectors in public facilities and emergency response units. It has also encouraged emergency responders and civilians to learn how to intervene during life threatening anaphylaxis reactions.

Some signs and symptoms of anaphylaxis include swelling of the lips, tongue and/or throat, lowered blood pressure, shortness of breath, increased confusion and lightheadedness. During a severe anaphylactic reaction seconds count. The use of an epinephrine autoinjector can mean the difference between life and death for individuals with life threatening allergies, known and sometimes unknown.

Epinephrine autoinjectors are prescribed worldwide and are quickly becoming prevalent in public facilities, schools, emergency response units and in homes.

Many fire departments across Canada already carry epinephrine autoinjectors as part of their basic medical first aid equipment. Some of the fire departments in Ontario that carry Epinephrine autoinjectors are; Mississauga, Oakville, Hamilton, Toronto, Guelph, and Whitchurch-Stouffville, to name a few.

Epinephrine autoinjectors are available in two (2) different dose amounts.

1. **Junior** dose is 0.15mg of Epinephrine and is given to people weighing **less** than 30kg.
2. **Senior** dose is 0.30mg of Epinephrine and is given to anyone **equal or greater** to 30 kgs.

In an emergency either dosage can be given to an individual who weighs over 15 kg and is showing signs of anaphylactic shock and/or allergic reaction.

Definition: Anaphylactic shock is an extreme, often life-threatening allergic reaction to an antigen to which the body has become hypersensitive.

Laws/ Acts

Good Samaritan Act, S.O. 2001, c.2 of Ontario protects individuals who provide emergency first aid assistance to a person who is ill, injured or unconscious as a result of an accident or other emergency situations.

Authority under the Medical Director's license:

Dr. M. Boucher oversees, approves and provides medical direction for all medical training, procedures and equipment used by the Burlington Fire department through a formalized Medical Director Agreement.

Burlington firefighters provide medical interventions under the direction, authority and guidance of Dr. Boucher. A training program and guidelines have been developed and are ready to be implemented for firefighters who respond to patients having anaphylactic reactions (see attached flow chart in appendix 1).

Support by doctors and specialists:

Several medical directors support the use of epinephrine autoinjectors in public facilities. First Aid and CPR training agencies provide training on how to use epinephrine autoinjectors as part of their basic first aid courses. It is, for the most part, harmless if used incorrectly, but if not used at all could potentially lead to death.

Dr. Michael Boucher, medical director for the City of Burlington Fire department, supports the implementation and use of Epinephrine autoinjectors on all emergency response fire apparatus. He has approved procedures and training plans for Burlington firefighters.

Allergist Dr. Susan Wasserman, with Hamilton Heath Sciences and St. Joseph's Firestone Institute of Respiratory Health feels *"Epinephrine autoinjectors should be added to all first aid kits"*.

Allergist Dr. Paul Keith, investigator with Hamilton-based research network AllerGen and president of the Canadian Society of Allergy and Clinical Immunology, states that *"Food anaphylaxis is rising in prevalence. Many people who are food allergic don't carry their EpiPen even though they should and so having it in a first-aid kit would make it available."*

St. John's Ambulance and Heart and Stroke both provide training on the use of Epinephrine autoinjectors for citizens taking basic first aid courses.

Strategy/process

Fire department staff continuously assess and evaluate the needs of the everchanging community. Leading practices and cost-effective methods of providing services to citizens is always on the forefront of strategic planning models. The increasing number of citizens with allergies has prompted emergency response services to look at interventions to address this emerging issue. The use of epinephrine autoinjectors is quickly becoming normative as is basic first aid, CPR and defibrillation.

Burlington firefighters are already tiered to respond to serious, time critical, medical incidents. Adding Epinephrine autoinjectors to their medical kits may provide a vital additional life saving device for use at such incidents. In addition it also offers firefighters timely access to a device that may be required for one of their own, should a firefighter suffer a similar reaction.

Financial Matters:

It is recommended that two (2) Epinephrine autoinjectors be added to each Burlington fire emergency first aid kits, starting October 2019.

1. A Junior Epinephrine autoinjector (for people weighing less than 30kgs) and,
2. A Senior Epinephrine autoinjector (for people weighing 30 kgs or more).

A total of 16 Junior and 16 Senior Epinephrine autoinjectors will be required to outfit all emergency apparatus as noted.

Each Epinephrine autoinjector costs approximately \$100. The total cost of initially outfitting emergency response fire apparatus with Epinephrine autoinjectors is approximately \$3,200.

Epinephrine autoinjectors expire after 18 months and will need to be replaced at that time. An annual operating budget to cover for replacement of expired units and for the replacement of used doses should be allocated.

Total Financial Impact

\$3,200 per 18 months.

Source of Funding

Operating Budget (520100 Fire Suppression)

Other Resource Impacts

Under the Medical Director Agreement, Burlington Firefighters will receive ongoing training by fire department Training Officers, who are qualified to provide this training.

Connections:

Discuss connections to other strategies, assets or partners e.g. BPL.

Public Engagement Matters:

None

Conclusion:

Epinephrine autoinjectors can improve survivability rates when administered early during an anaphylactic reaction. They are available to the public without a prescription and are commonly provided on emergency response apparatus. Adding Epinephrine autoinjectors to fire apparatus will give firefighters the ability to provide lifesaving emergency interventions in a timely manner when seconds count.

Staff are recommending the addition of Epinephrine Autoinjectors on emergency fire apparatus.

Respectfully submitted,

David Lazenby

Fire Chief

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Appendices:

None

Notifications: (if none delete section)

Dr. Boucher, Medical director

Report Approval:

All reports are reviewed and/or approved by Department Director, Director of Finance and Director of Legal. Final approval is by the City Manager.