

Abstracts of Oral Presentations-WADEM Congress on Disaster and Emergency Medicine 2019

HEATWAVES

Helping Runners Under Extreme Heat: The 2017 Montreal Half-Marathon Experience

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Introduction: The 2017 Montreal Half-Marathon was held on September 24th despite a record-breaking, out-of-season heatwave. The Urgences-santé Corporation (USC), Quebec's largest emergency medical service (EMS), was tasked with coordinating and delivering prehospital response for over 15,000 runners at a time when the province's paramedics were on strike.

Aim: USC's mission was to ensure runner safety under extreme conditions with limited staffing. In conjunction with the event's medical teams, we implemented a new approach that oriented patients to the event's clinic with the aim of limiting ambulance transports off-site and thus optimizing resources by promoting a "treat and release" principle.

Methods: Emergency response was organized around the event's clinic, which offered a level of care comparable to proximate emergency departments, including mass-cooling capacities. This capacity allowed us to modify provincial protocols, and thus prioritize treating patients on-site instead of transporting them to a hospital. Consequently, the prehospital response on the course could be assured with only 15 ambulances (staffed by managers) and a single team deployed at the event's clinic, acting as transport officers. Heatstroke identification protocols were reinforced for the safety of the runners and spectators.

Results: A total of 1,071 participants received medical attention, including 24 who were treated for a heat-related incident. On the course, 32 were evaluated by paramedics and 20 were transported to the event's clinic. Only 7 patients were transferred from the clinic to a hospital, of which only one was for a heat-related incident. No deaths resulted from the race.

Discussion: By anticipating and preparing for the extreme heat, the coordinated prehospital response safely reduced off-site transports, minimizing treatment delays for patients, and maximizing the use of on-site resources. We attribute this success to a strong collaboration with the race organizers, the presence of an on-site clinic, and an increase in prehospital resources.

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It's Hot Today, Eh? Montreal's 2018 Heat Wave from Urgences-santé's Perspective

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Introduction: A heatwave hit the Greater Montreal area during the week of July 1 to July 8. The Urgences-santé Corporation (USC), Quebec's largest emergency medical service (EMS), saw its crews struggling to respond to a record-breaking number of emergency calls while going door-to-door to make sure the at-risk population was not overburdened by the heat.

Aim: USC's mission was to ensure its population's emergency medical care and safety under extenuating conditions. In conjunction with our municipal partners and the public health services, we deployed an aggressive communication strategy, urging people to only call 911 in the case of a life-threatening emergency, with the aim of limiting ambulance transports.

Methods: Ambulance resources were increased (> 20% compared to the same period in 2017). More than 60 media interviews were given. Paramedic supervisors were sent to emergency departments to contain the offload delays. USC's community response team was going door-to-door in pre-identified urban heat islands (UHI), bringing medical attention directly to those in need.

Results: Despite our communications efforts, a record-breaking 1,568 calls (> 37% compared to the same period in 2017) were received in a 24 hour period. Through the door-to-door campaign, 12 people in need received medical attention. More than 90 people are suspected to have died as a result of a July heat wave in Quebec, with figures showing that 60 deaths in the cities of Montreal and Laval alone may be linked to elevated temperatures.

Discussion: Through strong collaboration with our municipal and provincial partners, and the public health services, an important communication strategy and additional resources were deployed. Crews were able to prevent additional deaths. With the observed increase in extreme weather events, this strategy will definitely be useful in the future.

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The Impact of Japan Heatwave on Community Emergency Medicine in 2018

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Introduction: Due to the heatwave in Japan, the number of patients with heatstroke transported via ambulance hit the highest record according to the Tokyo fire department in 2018. Now, heatwaves are thought to be a natural disaster. Emergency

medical professionals located in a Tokyo suburb covering 40,000 individuals experienced a wide range of challenges in patient care with heatstroke.

Aim: To assess the impact of the 2018 Japan heatwave on community emergency medical service.

Methods: Patients (aged ≥ 16 years) with heatstroke and who were transported to our hospital by ambulance from June to September of 2018 were included. Data were derived from pre-hospital records and electronic medical records. Weather data was referenced from a Japanese meteorological agency.

Results: The number of all-cause cases was 1,764, and the total number of heatstroke cases was 51 (2.9%). Heatstroke cases were concentrated in July and August of 2018. The rate of males was 69%. The average age was 63 ± 23 years. Physical labor was associated with 31% of cases, such as sports in 7.8%. Hospitalization

was required in 24%. ICU admission was required in 9.8%. There was no fetal case directly caused by heatstroke in this survey.

Discussion: The risk factors of heatstroke considered to be male and elderly. About one-half of heatstroke patients were over 70 years old, and it may have been related to regional characteristics. As mentioned in the Heatstroke STUDY 2012 (Miyake, 2014), most cases which occurred inside residences were found that there was no air conditioner use. There was also an increased number of patients with heatstroke who made emergency visits by themselves. Further investigation is needed annually to estimate the effect of climate change. It is important to make a strong recommendation from public health agency about heatstroke prevention, including air conditioner use during hot weather.

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