

Operating Guideline # 235

Heat and Cold Stress

February 4, 2022



PURPOSE:

The purpose of this guideline is to ensure the safety of members during training and while performing their duties at emergency incidents exposed to hot temperatures and cold temperatures.

GUIDELINE:

HOT WEATHER (30 degrees Celsius)

Firefighters may suffer serious injury or death due to heat stress, during emergency response and training exercises. The following practices are to be implemented whenever temperatures are expected to exceed 30 degrees Celsius.

- 1 – Remind workers that working in direct sunlight and working when the humidity is over 50% can cause heat stress, including heat rash, heat cramps, heat stroke and fainting.
 - 2 - Remind workers to wash their skin with cool water and change into dry clothes as soon as possible after firefighting work to prevent heat rash, red bumps on skin with severe itching caused by hot humid environments and plugged sweat glands.
 - 3 - Ensure that workers drink cool, slightly salted water or a beverage with electrolytes and take more rests to prevent heat cramps, muscle pain in overworked areas such as arms, legs or stomach caused by a salt imbalance from heavy sweating. This can happen at work or later at home.
 - 4 – Avoid standing in direct sunlight, and sip cool water to prevent fainting. Should the worker faint move them to a cool place, loosen clothing and get medical attention if they go unconscious.
 - 5 – If any member is dizzy, passes out, has a surface temperature 40 degrees, sweats profusely with hot red dry skin, move the member to a cool place and call EMS to assess.
 - 6 – Officers must provide cooled spaces for members working to rest (R6 or R1), ensure that cool water is on hand and that all members are taking breaks every 20 minutes in temperatures over 30 degrees Celsius.
 - 7 – Training should be modified or postponed when temperatures over 30 degrees Celsius are expected.
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COLD WEATHER (-20 degrees Celsius)

Firefighters may also suffer injury from potential adverse effects of over-exposure to cold. These exposures may occur when firefighters are exposed to low temperatures, wind and/or moisture for significant periods of time. The following practices are to be implemented whenever temperatures drop below -20 degrees Celsius.

- 1 - Hands should be protected by gloves, members should limit their time outside to 20 minutes without proper PPE covering all exposed skin.
- 2 - Firefighters should be made aware that wearing dirty or greasy clothing have poor insulating properties.
- 3 - Firefighters should pay special attention to protecting feet, hands, face and especially head. Up to 50% of body heat can be lost when the head is exposed.

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4 - Initiate a Buddy System. Since individuals are less likely to notice their own cold stress symptoms, a buddy system approach would allow for earlier recognition of the risk of signs and symptoms, such as frostbite to the ears, cheeks and nose. Superficial frostbite is characterized by grey or yellowish patches on the affected areas. Deep frostbite is characterized by waxy and pale skin, the affected parts feel cold, hard and solid which may turn blue or purple upon thawing. Excessive shivering, slurred speech, confusion and drowsiness are signs of hypothermia.

5 - Activities that minimize blood circulation such as static, cramped positions should be reduced/eliminated, where feasible.

6 – All activity should be halted and members working should be offered a sheltered area with heat such as Rescue 1 or Rescue 6 for rehab of personnel.

7 – Training should be modified or postponed when temperatures below 20 degrees Celsius are expected.

RESPONSIBILITY:

It is the responsibility of all members to adhere to this guideline and of the Officers to enforce the application of this guideline.

REFERENCES:

Section 21 Guidance Note #3-3 Heat and Cold Related Stress