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National Focal Point for IHR



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**Subject: Advisory on Prevention & Management of Heat / Sun Stroke**

In the wake of the recent wave of high environmental temperature in different parts of the country, the morbidity and mortality attributable to heatstroke may increase. It is pertinent to take necessary measures immediately in this regard. The objective of this advisory is to sensitize health-care authorities to take in time appropriate actions for preparedness, response and prevention to the events/incidents of heatstroke in their respective areas.

Heat stroke is a medical emergency and can be fatal if not managed properly. It is a form of hyperthermia in which the body temperature is elevated rapidly resulting in failure of sweating mechanism, body becomes unable to cool down consequently and the body temperature may rise to 106°F or higher within 10 to 15 minutes.

The body normally generates heat as a result of metabolism and is usually able to dissipate the heat by radiation of heat through the skin or by evaporation of sweat. However, in high environmental temperature, humidity or vigorous physical exertion under the sunlight, the body may not be able to sufficiently dissipate the heat and the body temperature rises. Another factor heat stroke is dehydration. A dehydrated person may not be able to sweat fast enough to dissipate heat, which also causes the body temperature to rise.

Common signs and symptoms of heat stroke are hot and dry skin or profuse sweating with hot red or flushed dry skin, weakness/lethargy, throbbing headache, elevated body temperature, irritability, dizziness, and decrease urine output, heat rash (red cluster of pimples or small blisters). Heat stroke can cause death or end organ damage or disability if not properly managed in time.

Infants, elderly persons (>65), diabetics, hypertensive, athletes and outdoor workers are at high risk for heat stroke.

Victims of heat stroke must be managed immediately. The following steps are recommended:

- i. If a patient represents with signs and symptoms of possible heat stroke, urgent medical treatment should be provided. The most critical step is the lowering the temperature of the patient. The patient should be moved to shady area, unnecessary clothing should be removed and cool tepid water should be applied to the skin while soaking remaining clothes with water.
- ii. Notify the emergency services immediately as severe cases often require hospitalization and Intravenous re-hydration.
- iii. Promote sweat evaporation by placing the patient before fan and ice packs under the armpits and groin.

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- iv. Encourage frequent oral fluid intake in conscious patients.
- v. Hospitalize and maintain intravenous fluids if required.
- vi. Monitor body temperature with a thermometer and continue cooling efforts until the body temperature drops to 101°F. Anti-pyretic may be given once the body temperature drops to 101°F or below.

Heatstroke is a preventable condition. Common preventive measures can be taken which may include:


- i. People should be educated through awareness messages to drink plenty of water while limiting time in direct sunlight in hot humid weather or in places with high environmental temperatures, avoid becoming dehydrated and to refrain from unnecessary vigorous physical activities in hot and humid weather.
- ii. Enhance the generalized awareness about early signs/ symptoms of dehydration and subsequent evolving signs and symptoms of heatstroke such as muscle cramps, nausea, vomiting, light-headedness and even heart palpitations.
- iii. Persons working under the direct sunlight should prevent dehydration and heat stroke by taking time out of the sun and drinking plenty of water/ fluids. The suspected persons should avoid use caffeine containing soft drinks and/or tea), which may exacerbate dehydration.
- iv. People should be encouraged to consume foods containing enough salts and mineral (Hypertensive patients should consult their consultant in this regard), wear hats and light-colored, lightweight and loose clothes during the hot humid environmental conditions.

The health authorities should arrange and equip the first-aid points in case of emergency at prominent points with sufficient essential medical supplies. The hospital should establish "Heat Stroke Centers" and stockpile enough medical supplies including intravenous fluids during or before anticipated heat wave in the area.

**Note:** Public Awareness messages, Prevention and Control measure and IEC material for public awareness is available at NIH website: <https://www.nih.org.pk/health-education/>

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**This advisory may please be widely distributed among all concerned.**

  
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