



No.F.1-22/Advisory/CDC/2025
Center for Disease Control (CDC)
National Institute of Health, Islamabad
Ministry of National Health Services, Regulations & Coordination
Phone: (92-051) 9255237 Fax: (92-051) 9255099

National Focal Point for International Health Regulations

1372 April 2025

Subject: **Advisory for Prevention and Treatment of Heat/Sun Stroke**

Introduction:

Pakistan is experiencing severe climate changes due to global warming, resulting in increased morbidity and mortality due to heat stroke. Immediate measures are necessary to prevent and treat heat-related illnesses. The World Health Organization (WHO) has highlighted the impact of climate change on human health, including increased frequency and severity of heat waves. Heat-related illnesses are a significant public health concern, particularly in regions with high temperatures and humidity.

Pakistan has experienced severe heat waves in recent years, resulting in significant morbidity and mortality. The country's healthcare system faces challenges in responding to these events, particularly in rural and underserved areas. Heat-related illnesses can have a disproportionate impact on vulnerable populations, including the elderly, children, and those with pre-existing medical conditions.

Objectives:

The objective of this advisory is to sensitize health care authorities to take in time appropriate actions for preparedness and prevention of heatstroke.

Background:

Heat stroke is a medical emergency and is a form of hyperthermia in which the body temperature is elevated dramatically and can be fatal if not promptly and properly treated. The body's temperature rises rapidly, the sweating mechanism fails and the body becomes unable to cool down. Consequently, the body temperature can 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 sun, the body may not be able to sufficiently dissipate the heat and the body temperature rises. Another cause of 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.

Clinical presentation:

Common signs and symptoms of heat stroke include profuse sweating or the absence of sweating, with hot red or flushed dry skin, weakness/lethargy, chills, throbbing headache, high body temperature, hallucinations, confusion/ dizziness and slurred speech. Heat stroke can cause death or permanent organ damage or disability if not properly treated in time. Infants, elderly persons, individuals with certain comorbidities, athletes, pregnant females and outdoor workers are at high risk for heat stroke.

Management:

Victims of heat stroke must receive immediate treatment. The following steps are recommended:

- i. If a person shows signs of possible heat stroke, professional medical treatment should be obtained immediately. The most critical step is the lowering of the temperature of the patients. The patients 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.
- iv. If the patient is able to drink liquids, he/ she should be given plenty of cool water or other cool beverages that do not contain alcohol or caffeine.
- v. Maintain intravenous fluids and hospitalize if required.
- vi. Monitor body temperature with a thermometer and continue cooling efforts until the body temperature drops to 101°F to 102°F. Antipyretics may be given once the body temperature drops to 101°F or below.
- vii. Soft/sugary drinks and caffeine drinks must be avoided as these hinder absorption and may worsen dehydration.

Preventive measures:

Heat/sun stroke is a preventable condition. Following common preventive measures can be taken by the health authorities including:

- a) Public 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 vigorous physical activities in hot and humid weather.
- b) Public should be made aware of early signs/ symptoms of dehydration and subsequent evolving signs and symptoms of heat/sun stroke such as muscle cramps, nausea, vomiting, light-headedness and even heart palpitations.
- c) Persons working under the sun should prevent dehydration and heat stroke by taking time out of the sun and drinking plenty of water/ fluids. The patients should avoid use of alcohol and caffeine containing soft drinks and/or tea), which may exacerbate dehydration.
- d) Public should be encouraged to consume salty foods, wear hats and light-colored, lightweight and loose clothes during the hot/humid environmental conditions.

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



(Dr. Mumtaz Ali Khan)
Chief, CDC-NIH

Distribution overleaf

Distribution List:

1. Federal Secretary, M/o Climate Change and Environmental Protection, Govt. of Pakistan, Islamabad
2. Secretary, Environment & Climate Change Department, Government of the Punjab, Lahore
3. Secretary, Environmental, Climate Change & Coastal Development Department, Govt. of Sindh, Karachi
4. Secretary, Climate Change, Forestry, Environment & Wildlife Department, Govt. of KPK, Peshawar
5. Secretary, Climate Change & Environment, Government of Balochistan, Quetta
6. Secretary, Forest, Wildlife & Environment Department, Government of Gilgit-Baltistan, Gilgit
7. Secretary, Health Department, Government of the Punjab, Lahore
8. Secretary, Health Department, Government of Sindh, Karachi
9. Secretary, Health Department, Government of KPK, Peshawar
10. Secretary, Health Department, Government of Balochistan, Quetta
11. Secretary, Health Department, Government of AJK, Muzaffarabad
12. Secretary, Health Department, Government of Gilgit-Baltistan, Gilgit
13. Chief Executive Officer, Islamabad Healthcare Regulatory Authority, Islamabad
14. Chief Executive Officer, Punjab Healthcare Commission, Lahore
15. Chief Executive Officer, Sindh Healthcare Commission, Karachi
16. Chief Executive Officer, KPK Healthcare Commission, Peshawar
17. Director General Health Services, Government of the Punjab, Lahore
18. Director General Health Services, Government of Sindh, Hyderabad
19. Director General Health Services, Government of KPK, Peshawar
20. Director General Health Services, Government of Balochistan, Quetta
21. Director General Health Services, Government of Gilgit-Baltistan, Gilgit
22. Director General Health Services, Government of AJK, Muzaffarabad
23. Director General, NEHS, Islamabad
24. Director General, Environmental Protection Agency, Govt. of Punjab, Lahore
25. Director General, Environmental Protection Agency, Govt. of Sindh, Karachi
26. Director General, Environmental Protection Agency, Govt. of KPK, Peshawar
27. Director General, Environmental Protection Agency, Govt. of Balochistan, Quetta
28. Director General, Environmental Protection Agency, Govt. of AJK, Muzaffarabad
29. Director General, Environmental Protection Agency, Govt. of GB, Gilgit
30. Executive Director, Pakistan Institute of Medical Sciences, Islamabad
31. Executive Director, Federal Government Polyclinic Hospital, Islamabad
32. Executive Director, Capital Hospital CDA, Islamabad
33. Executive Director, Federal Government TB Hospital, Rawalpindi
34. Executive Director, National Institute of Rehabilitation Medicine (NIRM), Islamabad
35. Director General Health Services, Capital Development Authority, Islamabad
36. Director General, PAEC Hospital, Islamabad
37. Director General, KRL Hospital, Islamabad
38. Director General, NESCOM Hospital, Islamabad
39. Director, Border Health Services-Pakistan, Islamabad
40. District Health Officer, ICT, Islamabad
41. Director, Nuclear Oncology & Radiotherapy Institute (NORI), Islamabad
42. Commandant, PAF Hospital, Islamabad
43. Commandant, Naval Complex Hospital, (PNS Hafeez), Islamabad
44. Medical Superintendent, Social Security Hospital, Islamabad
45. Director, Federal General Hospital, Park Road, Islamabad
46. Executive Director, Shifa International Hospital, Islamabad
47. Executive Director, Quaid-e-Azam International Hospital, Islamabad
48. Executive Director, Maroof International Hospital, Islamabad
49. Commandant, Combined Military Hospital (CMH), Rawalpindi
50. Commandant, Military Hospital (MH), Rawalpindi
51. Medical Superintendent, Cantonment General Hospital, Rawalpindi
52. Medical Superintendent, District Headquarter Hospital, Rawalpindi
53. Medical Superintendent, Fauji Foundation Hospital, Rawalpindi
54. Medical Superintendent, Holy Family Teaching Hospital, Rawalpindi
55. Medical Superintendent, Benazir Bhutto Hospital, Rawalpindi
56. Medical Superintendent, WAPDA Hospital, Rawalpindi
57. Medical Superintendent, Railway Hospital, Rawalpindi
58. Medical Superintendent, IHITC, Islamabad
59. Officer In-charge, Provincial Disease Surveillance & Response Unit (PDSRU) at Provincial Health Directorates, Lahore, Hyderabad, Peshawar, Quetta, Gilgit and Muzaffarabad
60. All Deputy Commissioners with the request to direct all concerned departments at district level.

C.c:

1. Chief Secretary, Govt of Punjab, Sindh, KPK, Balochistan, GB and AJK.
2. Surgeon General Pakistan Army, GHQ Rawalpindi
3. Chief Commissioner, ICT Administration Islamabad
4. WHO Country Representative, Islamabad
5. SPS to Federal Minister of Health, M/o NHR&C, Islamabad
6. SPS to Secretary, M/o NHR&C, Islamabad
7. PS to Director General Health, M/o NHR&C, Islamabad