

## HEATRELATED ILLNESS - PREPAREDNESS - PREVENTIVE REMEDIES

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Humans have efficient heat regulatory mechanisms which cope with increases in ambient temperature upto a particular threshold that varies by individuals depending on age, fitness and acclimatization .As the temperature is increasing day by day in this hot & humid summer in valley,there is every chance people may suffer from heat related illnesses, especially the children and Elderly because of the immature thermoregulatory mechanism in children and compromised in Elderly population. To alert the people in this regard, Is the prime responsibility of the metrological departmentthroughout the Globe, but in this part of the world are we getting these warnings from concerned department. Is a million dollar question?

HEATWAVES: is considered only after maximum temperature of a station reaches at least 40 0 C for Plains and at least 30 0C for hilly regions.

Globally, heatwaves are responsible for impacting on human health on annual basis:these impacts have been widely documented. During 1994,there were 3000 heat-related deaths in S.Korea .In 1995 there were 700 deaths in Chicago.In 2003, European heatwave resulted in 71000 excess deaths including 15000 in Paris alone. More recently, a heatwave across India & Pakistan has resulted in excess of 3000 deaths, particularly in the Elderly and poor.

To tackle this situation a Heat-Health Watch Alert System must be operated in Met.department so that different level of alert are transformed to the People in the State, so that heat related cases are kept at minimum.The heat alerts based on thresholds determined by the Indian metrological department use the following color signal system shall be issued If the warnings are called on timely,

especially the level 3, we may be able to minimize the heat related casualties. Hope Regional MetrologicalDepartment will take coznise of these warnings levels in the upcoming days.

Effects of heat stress.

As many as 14 disorders resulting from exposure to heat have been recognized and documented. The important ones are:

1. Heat stroke: This is attributed to failure of the heat regulating mechanism in the body. It is characterized by very high body temperature which may rise to 1100F (43.3 0C) with profound disturbances in the nerves system of the human being and can present as delirium, convulsions and partial or complete consciousness. The skin is dry and hot. Classically sweating is absent or diminished, but many victims of clear cut heat stroke perspire profusely. The outcome is often fatal, even when patients are bought quickly to medical attention; death, case ratios of 40% or more have been reported. The treatment consists of rapid cooling of body in ice water bath till the rectal temperature falls 102 0F (38.93 0C). Further treatment is supportive and is directed towards the money potential complications of hyperthermia.The patient should be kept in the bed for several days until the temperature control becomes stable.
2. Heat hyperpyrexia (heat high grade fever): This is attributed toimpaired functioning of the heat regulating mechanism in the brain of human being but without characteristic features of heat stroke. It is arbitrarily defined as a temperature above 106 0 F, it may proceed to heat stroke.
3. Heat exhaustion: It is a minor illness than heat stroke and is caused primarily by the imbalance or inadequate replacement of water and salts lost in perspiration due to thermal

stress. It typically occurs after several days of high temperature. Body temperature may be normal or moderately elevated, but it is uncommon to exceed 102 °F. The symptoms are dizziness, weakness and fatigue. It may be severe enough to require hospitalization especially in elderly patients. Treatment is directed towards normalizing fluid and electrolyte balance.

4. Heat Cramps: Occur in persons who are doing heavy muscular work in high temperature and humidity, they present as painful and spasmodic contractions of the skeletal muscles. The cause of heat cramps is loss of sodium electrolytes in the blood.
5. Head Syncope: This is common ill effect of heat, in its milder form the person standing in the sun becomes pale, his BP falls and he collapse suddenly. The condition results from pooling of the blood in lower limbs due to dilatation of blood vessels, with the result that the amount of blood returning to the heart is reduced, which in turn is responsible for lowering of BP and lack of blood supply to the brain. This condition is commonly seen in soldiers. Treatment is quite simple. The patient should be made to lie in the shade with the head slightly down; recovery usually comes within 5 to 10 minutes.

#### **General preventive measures:**

The ill effects of high temperature may be prevented by observing the following precautions:

1. Replacement of water: Persons working under the conditions of high temperature and humidity should be encouraged to drink cool water. For a sedentary person the requirement is half a liter of water per hour in very

hot humid conditions. Studies have shown that the normal intake of salt in the Indian diets is far more than actually needed, therefore, there is no need to add salt to water. However, extra salt is needed by unacclimatized persons during the first 10 days of their travel to hot climate.

2. Regulation of work: The duration of exposure to hot environment should be cut down. There should be periods of rest in-between intense work. Working hours in Offices must be changed from 10am to 4pm to 8am to 2pm as we are having such working schedule in Jammu Division.
3. Clothing: The clothing worn should be light, loose and of light colors.
4. Protective devices: Protective goggles, shields and helmets are helpful.
5. Work Environment: The temperature and humidity in the work environment may be controlled by proper ventilation and air conditioning.

Thanks to the State Govt. for announcing summer vacations in all educational establishments in Jammu so the heatwave is not faced by our children while I am watching our toddlers & kids going to their respective kindergarden in Srinagar...

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