



TITLE: GUIDELINES FOR PREVENTING HEAT STRESS

NUMBER: BUL-963

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Student Health and Human Services

DATE: April 1, 2004

ROUTING
All Employees
All Locations

POLICY: To counteract heat stress, all District personnel must pay attention to weather conditions and use common sense and good judgment for modifying activities and/or school days.

MAJOR CHANGES: This bulletin replaces Bulletin No. Z-52, of the same subject, issued by Student Health and Human Services, dated August 4, 1998. The content has been updated to conform to the new format for written communications

GUIDELINES: The following guidelines apply.

I. Introduction

Heat stress is the overall effect of excessive heat on the human body. Prolonged exposure to high air temperatures or to high humidity at even more moderate temperatures may cause the body temperatures of people of all ages to rise and produce one or more of the signs of heat stress affecting the ability to learn, work, or even play.

Those at highest risk are the very young, the elderly, people with acute or chronic health problems, and people using certain medication or taking illicit drugs. For various reasons, not all people tolerate heat to the same extent.

To counteract heat stress, all District personnel must pay attention to these contribution factors:

- air temperature
- humidity
- air circulation
- radiant heat
- air pollution
- classroom temperature
- classroom location
- medical problems and use of medications
- fluid intake
- appropriate clothing
- physical conditioning
- acclimation to heat
- intensity, type and duration of exercise

COMMON SENSE AND GOOD JUDGMENT MUST ALWAYS BE



APPLIED BY STAFF WHEN ANALYZING SITE CONDITIONS
II. Weather Conditions For Modifying Activities Or School Day

Authorities in the fields of medicine, environmental and occupational hazards, and safety have thoroughly studied heat stress and have issued guidelines pertaining to modifying physical activity and school or work schedules. It is recommended that temperature and humidity readings be obtained from the National Weather Bureau, (213) 554-1212. Readings for local areas may be obtained by contacting the appropriate District/Unit/Division Office. Local news reports on radio and television also carry this information.

The following chart provides guidelines for consideration in modifying instructional programs, physical activity, and school schedules:

Category *	Temp. (F°)	Possible Heat Stress Effects	SUGGESTED ACTION	
			Humidity less than 50%	Humidity 50% or greater
Normal	82° or less	•Good learning conditions. No effect.	•Regular school day	•Regular school day.
Alert	82°-92°	• Learning may decrease with long exposure. • Fatigue may increase after 4-6 hours.	•Regular school day. •If near 50% humidity, limit intensity of or modify physical activity and monitoring.	•Regular school day. •Limit duration & intensity of or modify physical activity & monitor closely.
Caution	92° - 95°**	•Early heat stress and cramps possible. •Heat exhaustion or heat stroke possible with long exposure.	•Regular school day. •Limit duration & intensity of or modify physical activity & monitor-closely.	•Regular school day •Limit duration & intensity of & modify physical activity & monitor closely.
Extreme Caution	95° or above**	•Heat stroke or heat exhaustion possible.	•Consider schedule change. •Prohibit or limit duration & intensity of, modify physical activity, & monitor closely.	•Consider schedule change. •Prohibit physical activity.



* Air pollution alerts MUST be obeyed in all categories.

**If air circulation (or wind velocity) is 10 mph or greater, the effects of temperature may be less severe.

PLEASE NOTE:

STUDENTS WITH CERTAIN HEALTH PROBLEMS MAY REQUIRE MORE ATTENTION. IF STUDENTS COMPLAIN ABOUT THE HEAT, ALLOW THEM TO REST OR SEE THE SCHOOL NURSE WHO MAY WANT TO HAVE THEIR HEALTH STATUS CLARIFIED BY A PARENT OR GUARDIAN.

EMPLOYEES WITH SPECIFIC HEALTH PROBLEMS SHOULD MAKE THEM KNOWN TO SITE ADMINISTRATORS.

III. Procedures For Conducting Classroom Activities

On very hot, humid days, administrators, teachers, and other staff should be aware of the following procedures to help minimize possible heat stress.

- A. Faculty and staff must be informed at the beginning of each semester/track, and as needed thereafter, about the school's program for preventing heat stress and the most efficient methods for reducing heat and maximizing ventilation in classrooms.
- B. Doors and windows must be closed in air-conditioned rooms, and any air-conditioning equipment malfunction should be reported at once.
- C. When possible, all air-conditioned rooms should be used as classrooms.
- D. Non-air conditioned classrooms should be surveyed by teacher or principal's designee when temperatures require that maximum cooling efforts be instituted, including:
 - Windows, doors, transoms, and venetian blinds should be adjusted for maximum ventilation and air circulation.
 - Electric fans, where available, should be placed to bring in fresh air and exhaust stale air rather than just blowing it around the room. Fans should be placed in or next to an open window at one end of the room to bring in air, and a window or door (not one that opens into a hall) at the opposite end of the room should be opened to exhaust air. For rooms with unusual heat problems, installing an electric fan in one window or transom and covering the opening with a security screen should be considered. Fans should be turned on as early as possible.
 - Adjusting custodial hours should be considered to permit early entry



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into classrooms to open doors, windows, transoms, and turn on fans.

- Precautions should be taken to ensure that when fans, coolers, or other devices are used they meet safety standards and that cooling strategies do not place an overload on existing electrical systems.

- E. When classroom temperatures exceed 92°, consideration should be given to moving students to cooler rooms or other appropriate areas, such as the auditorium, multipurpose room, library, or shaded outdoor areas. When possible, classes should be combined in air-conditioned rooms.
- F. Teachers, especially at the elementary level, may adjust their programs to use the cooler early hours for physical activity.
- G. Water must be available. Personal water containers are recommended for use when heat is excessive as a means to prevent dehydration. Use at other times should be a local school option. School sites and secondary physical education departments should establish policies for use of water containers and inform students and parents.

A personal water container is a firm, non-breakable plastic receptacle which is no more than 9" high and 4" wide that will hold no more than 32 ounces of water. The container may have a pressure seal, screw or pop-up cap, or a straw drink device on its top. The use of all other types of personal water containers is prohibited. The following are recommended precautions:

- For health reasons, water containers should not be shared.
- For safety reasons, students should not run with straws or containers in mouth.
- For safety reasons, containers may not be used while riding District buses.
- Students should not bring containers to physical education activity areas unless given permission by the physical education teacher.

- H. Staff and all personnel supervising physical activities, including Youth Services personnel, should observe students during activity periods and modify activities as recommended in Section II. Students known to have health problems should be closely observed and their activity modified or restricted.

IV. Precautions For Outdoor Activities

During times of excessive heat, the following precautions need to be taken for



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outdoor physical activity which includes recess, physical education, recreation, and competitive sports:

- A. The intensity of exercise activities must be limited or they must be modified whenever air temperature and humidity are above caution levels (refer to Section II).
- B. Smog alert warnings must be obeyed. See the most recent Reference Guide issued by the Office of Environmental Health and Safety titled "Health Advisory/Air Pollution Episodes and Procedures."
- C. Adequate water must be available. If adequate water is not available, physical activity must be modified. Prior to prolonged physical activity, a person should be fully hydrated. During the activity, periodic drinking of water every 15 to 30 minutes should be encouraged. Use of salt tablets is not advised, and commercially available replacement fluids for athletes are not usually necessary. Sugary and alcoholic beverages cause dehydration. Carbonated beverages may cause abdominal pain.

If water fountains are not located near the place of activity, large urns from the cafeteria may be filled with water and placed in strategic locations.

- D. Proper clothing should reflect heat, permit freedom of movement, and allow free perspiration. Clothing should be light colored, lightweight, loose, and limited to one layer of absorbent material in order to facilitate evaporation of sweat and expose as much skin as possible, yet still be appropriate for the school environment.

Sweat-saturated garments should be replaced by dry ones. Rubberized sweat suits should never be used to produce loss of weight. Sunscreen, proper clothing, and hats should be used to prevent sunburn.

- E. Staff and all personnel supervising physical activities, including Youth Services personnel, should observe students during activity periods and modify activities as recommended in Section II. Students known to have health problems should be closely observed and their activity modified or restricted.
- F. Teachers must observe students closely and know signs and symptoms of heat stress, emergency first aid, and how to obtain medical help. (See Attachment A)



- G. The intensity and duration of a strenuous exercise program should be adjusted initially for students who are not acclimated to the climate. The intensity and duration of the program can then be gradually increased over a period of 10 to 14 days to allow the students to adapt to the effects of heat.
- H. Marked differences between indoor and outdoor temperatures may precipitate physical problems.
- I. Secondary and adapted physical education teachers should modify the type, duration, and intensity of exercise. For suggestions refer to “Inclement Weather Program” in the Secondary Physical Education Curriculum, Grade 6-12, Publication No. SC-957, 1990, page 49 or the appropriate elementary guide.
- J. Rest periods should be provided during activity.
- K. Activities must be followed by the proper cool-down (for example, jogging should be followed by walking) and rest.
- L. Athletes engaging in competitive sports must have their activities closely observed for all of the above considerations.
- M. Other strenuous student activities--such as drill team, marching band, cheerleading, and the like--must be closely observed by teachers, coaches, and other certificated personnel assigned to supervise such activities.

V. Additional Strategies For Preventing Heat Stress

- A. The contents of this bulletin should be reviewed annually and as otherwise needed. Teachers, staff, parents, and students should be instructed by school nurses regarding awareness of signs and symptoms and first aid for problems attributable to excessive heat. Teachers should explain precautions to students. Information on heat stress (see Attachment A) should be sent home to parents.
- B. A “cool room” should be established for use by students showing early signs of heat stress. This room should provide maximum coolness possible. During an emergency, if an air-conditioned classroom is to be used as a “cool room” and is occupied by students, the students should be moved to another location. During excessive heat the “cool room” should be available for use at all times during the school day.



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If possible, the “cool room” should be located near restrooms and should be equipped with chairs, cots, or mats; running water or adequate amounts of cool dispensed water; telephone or functioning communication with the main office; refrigerator or ice chest with ice and cold compresses; and basic first aid supplies. It should be supervised by staff trained to recognize signs and symptoms of heat stress and administer first aid.

Students showing any signs of heat stress should be cared for using the guidelines in Attachment A.

- C. Prior to boarding buses, traveling students should be encouraged to drink water and be given time to drink cool water located near the pickup areas. For safety reasons, personal water containers may not be used while riding District buses. When the temperature is 95° or hotter and the humidity is 50% or greater, schools may consider providing large moist towelettes for use by students without intervention by the driver.

References:

Data used in this bulletin was adapted in part from:

1. American Academy of Pediatrics, Committee on School Health, “Heat Stress and School Closings,” Pediatrics, Vol. 74, No. 2, 1984
2. American Academy of Pediatrics, Committee on Sports Medicine, “Climate Heat Stress and the Exercising Child and Adolescent,” Pediatrics, Vol. 10 No. 1, July 2000.

AUTHORITY: This is a policy of the office of the Assistant Superintendent, Student Health and Human Services.

ASSISTANCE: For assistance or further information please contact the Director, Student Medical Services at (213) 763-8342; or Barbara Fiege, Director, Interscholastic Athletics, at (213) 745-1980.

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Student Health and Human Services

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ATTACHMENT A

HEAT STRESS SIGNS, SYMPTOMS, AND FIRST AID

PHYS. DISORDER	SIGNS AND SYMPTOMS	FIRST AID
Early Heat Stress	<ul style="list-style-type: none"> • Fatigue • Lethargy • Decreased productivity • Normal body temperature • Sweating • Pallor • Headache • Nausea • Nosebleeds • Heat rash 	<ul style="list-style-type: none"> • Send person to a cool place. • Have person sit or lie down and rest. • Supervising adult should be able to observe person frequently or assign someone to monitor or assist. • Give generous amounts of cool water. • Giving salt is usually not necessary. • Loosen or remove excess clothing. • Sponge down or immerse the person in cool or cold water. • Check temperature periodically. • Watch for cessation of sweating. • Notify parent or guardian as needed. • Recommend medical care if needed.
Heat Cramps	<ul style="list-style-type: none"> • Painful spasms of abdominal wall and heavily used skeletal muscles 	<ul style="list-style-type: none"> • Treat as above. • Commercially available replacement fluids for athletes may be used if on hand. • Having person stretch (not massage) muscles may help. • Notify parent or guardian if needed.
Heat Exhaustion	<ul style="list-style-type: none"> • Normal/slightly elevated body temperature • Sweating/moist, clammy skin • Extreme weakness • Nausea/vomiting • Fainting • Dizziness • Headache • Loss of consciousness in extreme cases 	<ul style="list-style-type: none"> • Obtain medical care at once. • If possible, remove person to a cool location or protect from exposure to direct heat. • Have person lie down with head low. • Give water if conscious and able to swallow. • Watch for progression to heat stroke. • Notify nurse and administrator • Paramedic may need to be called (911). • If school nurse is not available, call paramedics (911) • Notify parent or guardian at once.
Heat Stroke	<ul style="list-style-type: none"> • Elevated body temperature (above 103°) • No sweating • Hot, dry, red skin • Vomiting/diarrhea • Mental confusion • Agitation • Convulsions • Loss of consciousness • Death or permanent brain damage if not treated immediately 	<ul style="list-style-type: none"> • <u>CALL PARAMEDICS (911). THIS IS MEDICAL EMERGENCY. DELAY COULD BE FATAL!</u> • If possible, remove person to a cool location or protect from exposure to direct heat. • Immediately cool body by immersing in cool water, spraying with cool water, fanning the body, or any other means available while awaiting transfer to a hospital. • Notify nurse and administrator. • Notify parent or guardian at once.

