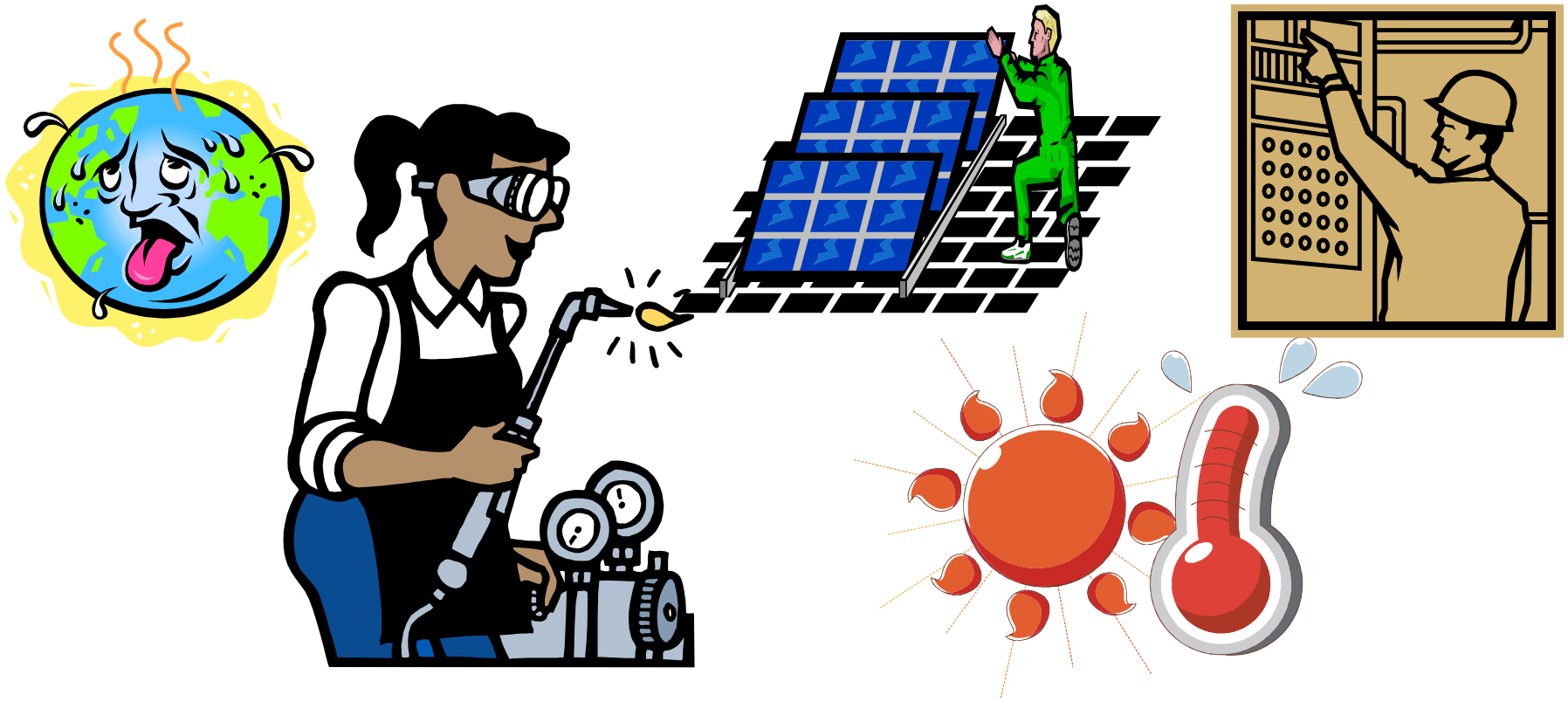
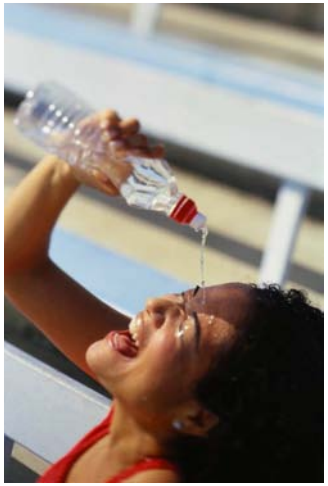
SURVING THE HEAT & AVOIDING HEAT STRESS



WHAT IS DEHYDRATION?

- The human body is nearly 60 percent water by weight. That means a 180-pound person would consist of 108 pounds in water weight alone. This is a remarkable amount of water and losing just a small amount can have devastating effects. Dehydration occurs when a person takes in substantially less fluid than they have lost. An average of 2.5 liters of water is lost each day just through normal body processes.



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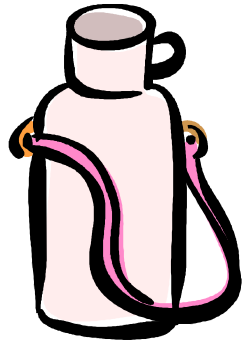


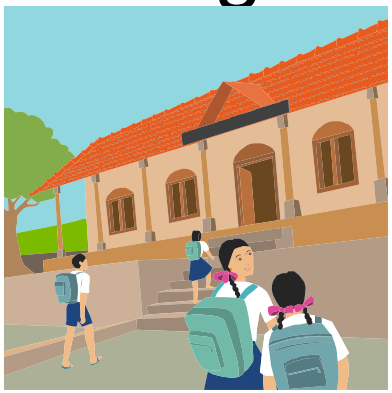
- Quarts of water the average guy sweats out hourly while working/exercising in the heat.
- When a persons body mass falls 2 percent due to dehydration, his performance becomes compromised.
- Drink 16 ounces of water for every pound lost. (weigh yourself before you work/exercise & then see the difference in weight loss).

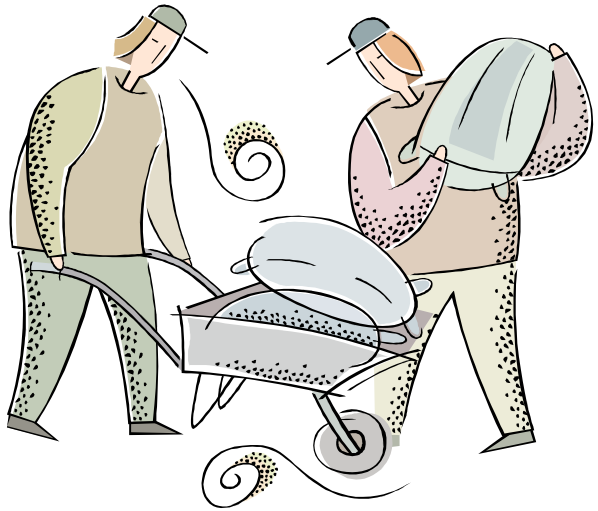
IF YOUR FEELING THRISTY…

- You likely already are in some state of dehydration. The thirst sensation often becomes apparent after you have reached a dehydrated condition. So while thirst is an indicator that you need to drink something, it is possible you already are somewhat dehydrated.

Going in & out of air-conditioned buildings is harmful….

FALSE…… big temperature swings don't make you vulnerable to colds. A buildings air won't harm you, but its surfaces might. Some viruses can survive on surfaces like doorknobs for days. Thus, wash your hands regularly.





9 WATER ALTERNATIVES

1. **SKIM MILK**….it actually hydrates better than Gatorade. Its sodium content is slightly higher than Gatorade's. the fat in milk can delay absorption, so reach for low fat or skim milk for faster fluid replacement or better yet, reach for chocolate milk. It has a effective combo of protein, carbs, sodium & antioxidants

2. **V8**…. It's a perfect blend of sodium, calories & carbs to hydrate you. Its recommended that anyone doing a lot of sweaty work get at least 500 milligrams of sodium per hour. This juice has almost that much in just 8 ounces. (Gatorade Endurance has a similar formula)

9 WATER ALTERNATIVES

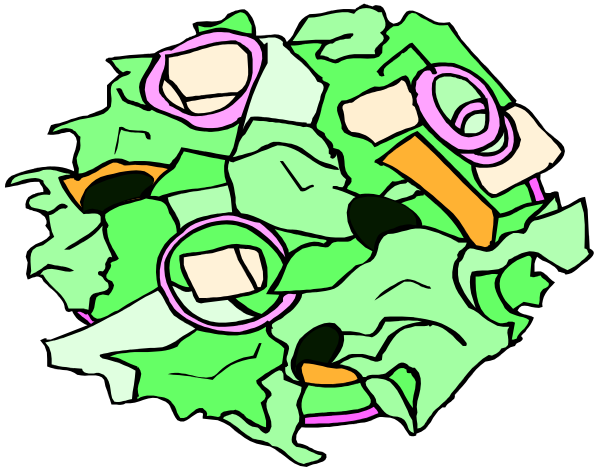
3. **Chicken Noodle Soup…** Mom's flu fighting formula can seriously hydrate you if needed. Each cup has 840 milligrams of sodium & 14 grams of carbs to help you absorb it.

4. **WATERMELON**… Most of this fruit is made of 92% water (hence the name) a the 12 grams of carbs helps your body absorb the water. With the 173 milligrams of potassium helping to absorb the sodium to keep you hydrated. (Oranges or Grapefruits if you don't like melons)

9 WATER ALTERNATIVES

5. ***POPSICLES***…besides feeling like a kid again, it'll refill your fluids, cool you down, and boost your energy.

6. **Salad**… Lettuce is 90% H2O, don't like veggies, then add chicken or salmon to mask the rabbit-food flavor and the added protein is even better.



9 WATER ALTERNATIVES

7. **RICE**… It absorbs the water is cooked in thus replenishing the fluids. The carbs help your body absorb them. Plus, the seasonings traditionally used in Chinese cooking give you plenty of salt to hang on to all the water in rice.

8. **Soda**… The caffeine, sugar & water combo can make a great post work drink. Diet or regular wont make a difference. Just add some healthy pretzels or a brat to help your body hold on to the fluids.

9 WATER ALTERNATIVES

9. **Ice Cream**…

it will hydrate you & cool you off. Just keep it to one serving size.

Who is most susceptible to heat related emergencies?

- **The elderly:** Older people may be unaware of their limitations. Due to limited mobility, they may be forced to spend too much time exposed to heat as a result of slow ambulation.
- **The very young:** Infants and young children have thermo-regulatory systems that still are immature and their bodies may not be able to cool off naturally.
- **Those with certain Infirmities:** They may not be able to get out of heated areas, such as apartments with no air conditioning or fans. Asthma patients who forget to take their medication out with them also are at risk during hotter, more humid weather.
- **Outdoor workers:** People who spend the majority of their time working outside, such as farm workers, landscapers, firefighters, police officers, construction workers, sanitation workers and road crews.

HOT WEATHER TIPS:

- Wear breathable lightweight, light-colored clothing.
- Limit your exposure to the heat and the sun and to places without proper ventilation.
- Know your limitations. This may not be the week to begin your new outdoor exercise program. Limit exercise and outdoor activities to cooler periods early in the day or later in the evening.
- Check on elderly and disabled family members, friends and neighbors.
- Drink plenty of fluids, preferably water (sports drinks are OK), before, during and after any outdoor activity. Avoid alcoholic beverages; although quite refreshing, they can have an adverse affect on your body's ability to regulate heat. Most of all hydrate, hydrate and hydrate.
- If you can, go to the beach or to locations that traditionally are cool such as a city or community pool, a movie theater or mall or bowling alley.

MORE THAN FLUIDS IS NEEDED

- ***Education*** of employees is the most critical element in reducing heat stress related accidents in the workplace
- **It can take as much as 24 hours for the body to absorb enough fluid to fully rehydrate.**
- **Work may need to be curtailed while fluid is replaced, or the dehydration rate must be slowed by using personal cooling methods such as misting fans, ice vests or active cooling products that pump cooled fluid through tubing or a bladder sewn to a garment that the employee wears under the protective clothing.**

CONTROL SWEATING….

- A body's natural response to excessive heat is sweating. Although sweating helps to cool the body, large losses of water can result in a rise in body temperature. That's why it's important to ensure your employees are hydrated.
- **To paraphrase an old saying, "Lead your employees to water and urge them to drink!"**

WORK PRACTICES…

- **Schedule maintenance and repair jobs in hot areas for cooler months.**
- **Schedule hot jobs for the cooler part of the day.**
- **Reduce the physical demands.**
- **Use relief workers or assign extra workers for physically demanding jobs.**
- **Provide cool water or liquids to workers; avoid caffeine, alcohol or sugary drinks.**
- **Provide rest periods in cool areas with water breaks.**
- **Monitor workers who are at risk of heat stress**
- **Provide heat stress training.**

PREVENTION IS THE BEST MEDICINE

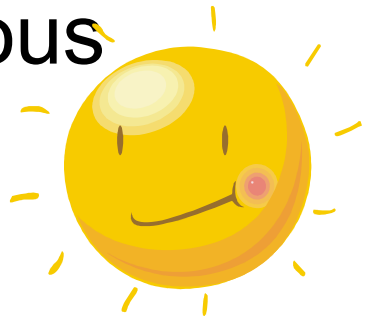
- Keep large jugs of water and ice readily available.
- Ensure that the water is fresh, well-filtered and tastes good.
- Ensure that water jugs are cleaned often to prevent bacterial growth.
- Advise employees to drink water often, before work shifts, during breaks and whenever thirsty.
- Encourage employees to bring their own water bottle to work, or provide them with one.
- Provide ample restroom facilities to encourage continual hydration.
- Create an education plan to remind your employees to get hydrated and stay hydrated. Inform personnel of the danger signs of dehydration and have them work in a buddy system in order to provide support.
- Make hydration a habit and lead by example.

YOU COULD BE AT EXTRA RISK…

- Take certain medications,
- Are obese,
- Use alcohol or drugs,
- Have certain medical conditions,
- Had a heat-induced illness in the past, or
- Wear personal protective equipment.

Strategies to manage heat stress:

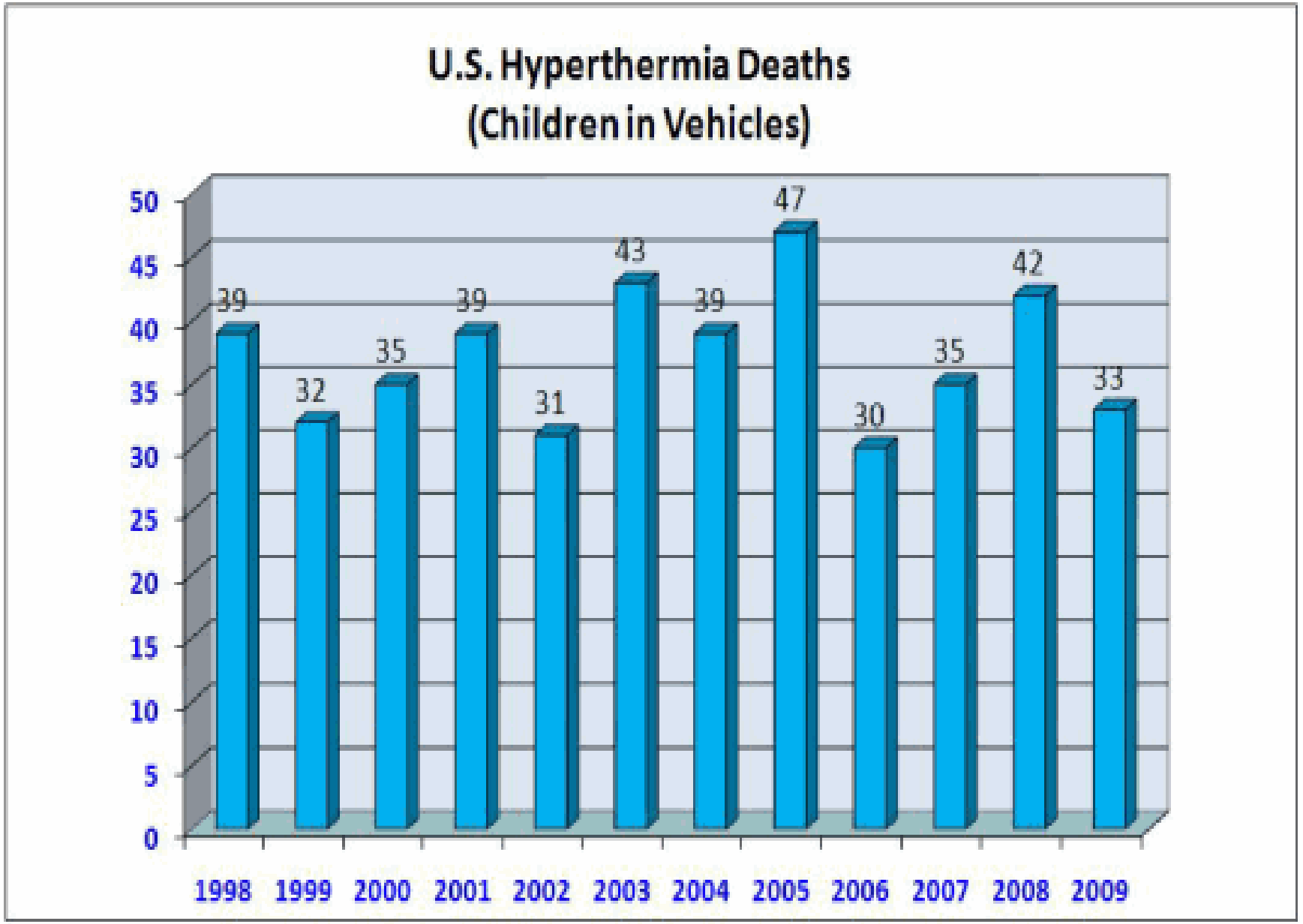
- Reschedule labor-intensive jobs to cooler parts of the day and, in some cases, to cooler parts of the year
- Postpone nonessential tasks
- Permit only those workers acclimatized to heat to perform the most strenuous tasks
- Provide additional workers
- Rotate workers who work in strenuous jobs.



5 MINUTES

- How long it takes to chill water/soda by using this tip…. To keep a coolers contents extra cold, pour a cup of seawater over 10 pounds of ice. The salt melts some of the ice, reduces its freezing point to below 32F degrees & in effect, creates colder ice. (add a cup of salt to bring the ice down to 15F degrees).

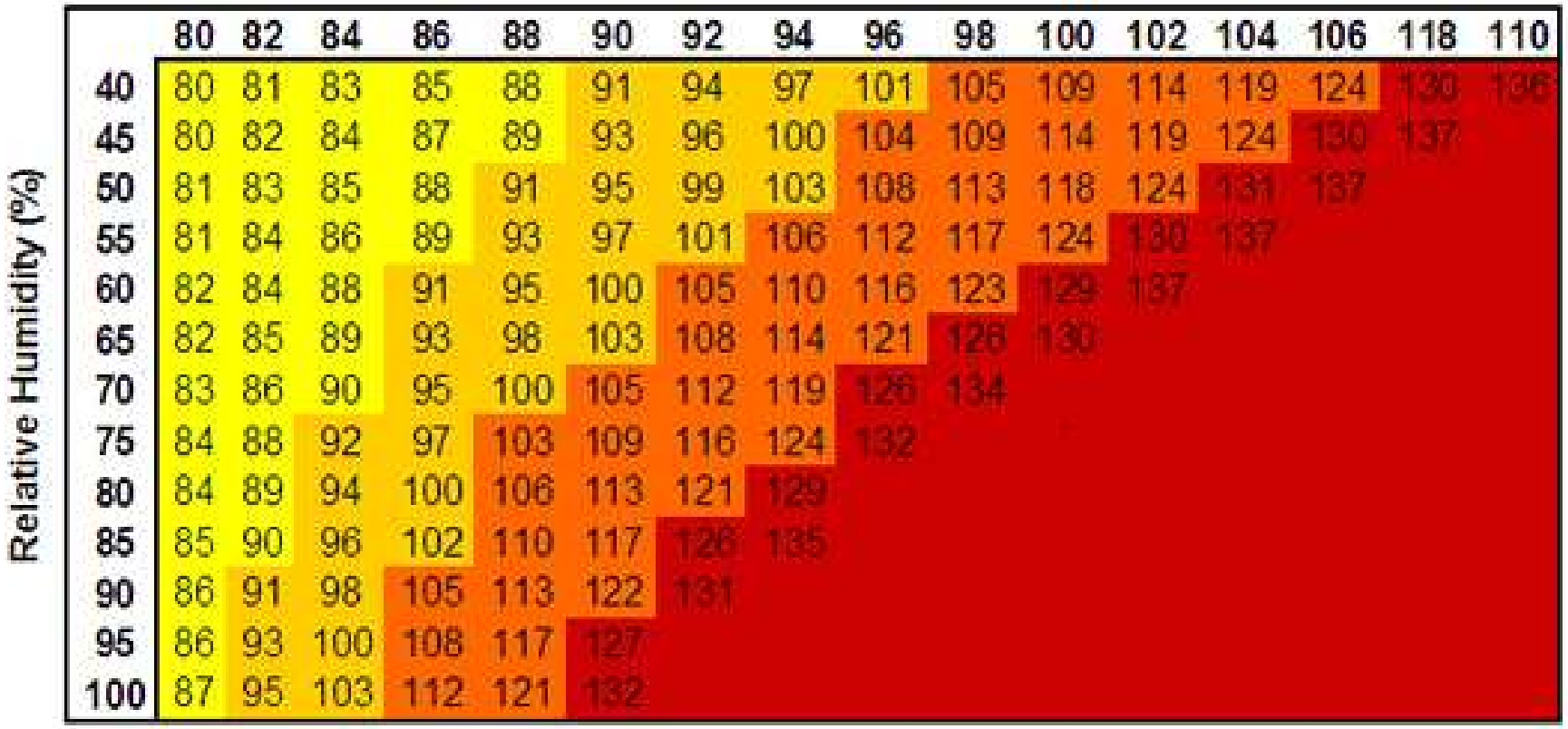

TEMPERATURE
80
OUTSIDE
123
INSIDE
ELAPSED TIME
60
MINUTES


U.S. Hyperthermia Deaths
(Children in Vehicles)
50
45
40
35
30
25
20
15
10
5
0
39
32
35
39
31
43
39
47
30
35
42
33
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

NOAA's National Weather Service

Heat Index

Temperature (°F)



Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	118	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	126	130					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Streuous Activity

Caution Extreme Caution Danger Extreme Danger

- **OSHA Heat Information (All Principals - For Your Information)** Risk Management would like to remind everyone to be safe in the heat. It is easy to become dehydrated and suffer ill effects when temperatures are in excess of 100 degrees. Whether you are working inside or outside it is helpful to know how to recognize the symptoms of heat related illnesses, how to treat those symptoms, and how to avoid more serious complications. We encourage everyone to take the online course in Pathlore titled "Protecting Employees from the Effects of Heat". Simply log on to Pathlore and select online content. You can search by typing "heat" or the course number is RMOSHA0001. We also suggest that staff keep a copy of the attached information close at hand. For statistics on weather related deaths visit the NOAA's National Weather Service website at www.nws.noaa.gov.
- Be safe and enjoy your summer! For questions, please contact Risk Management at 799-2967.