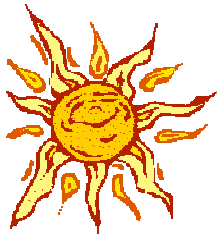
TIPS TO SURVIVE THE WEST TEXAS SUMMER

- ***INTRODUCTION***
  - **Since 1936, according to the National Safety Council, 30,000 people have died from heat related illnesses.**
  - **On the average, 384 people die each year from heat stroke.**
  - **Heat related injuries seem to occur often with the elderly; people who are not in good physical condition; or acclimatized to the heat.**

THE HEAT IS ON

- **There are two main ways in which our bodies produce heat:**

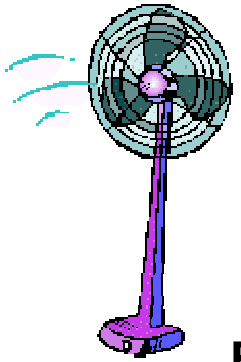
<u>Metabolic Heat</u> - the body generates heat through the digestion of food, work and exercise.



•<u>Environmental Heat</u> - body absorbs heat from the surrounding environment, whether it is the hot sun or a hot room.

THE HEAT IS ON

- **There are three methods in which our bodies can be cooled.**



<u>Convection</u> - is the transfer of heat through the circulation of air.

<u>Evaporation</u> - process which occurs when a liquid changes into a vapor.

<u>Radiation</u> - heat is naturally emitted from the body surface.

CONDITIONS AFFECTING THE COOLING SYSTEM

- **<u>Acclimation</u> - the biological process through which our bodies adapt to the environment -- basically getting used to the heat.**
- **<u>Air Temperature</u> - heat flows from warmer objects to cooler objects.**
- **<u>Air Movement</u> - moving air speeds the evaporation process.**

CONDITIONS AFFECTING THE COOLING SYSTEM

- **<u>Humidity</u> - the amount of water vapor in the air affects the rate of evaporation.**
- **<u>Clothing</u> - the type of clothing affects the amount of heat our bodies absorb and retain**.

HEAT RELATED HEALTH PROBLEMS

- **<u>Heat Rash</u> - also known as Prickly Heat, occurs in hot, humid environments where sweat can't easily evaporate from the skin.**
  - **This condition produces a rash which in some cases causes severe pain.**
  - **The procedures to prevent or minimize this condition is to rest frequently in cool places and bathe regularly ensuring to thoroughly dry the skin.**

HEAT RELATED HEALTH PROBLEMS

- **<u>Heat Cramps</u> - painful muscle spasms that result from the loss of salt and electrolytes due to excessive sweating.**
  - **The cramps will usually affect the stomach, the arms and legs.**
  - **This condition can be treated by drinking fluids containing electrolytes such as calcium, sodium and potassium.**
  - **This condition usually precedes heat exhaustion.**

HEAT RELATED HEALTH PROBLEMS

- **<u>Heat Exhaustion</u> - is a state brought on by the loss of fluids lost during excessive sweating.**
  - **Individuals with heat exhaustion still sweat, but they experience extreme weakness and may even collapse.**
  - **They may experience nausea and headache. Their skin is clammy and moist, their complexion is usually pale and the body temperature is usually normal or slightly higher.**
  - **This condition is best treated by taking the patient to a cool place, applying cool compresses, elevating the feet and giving the individual plenty of fluids.**

HEAT RELATED HEALTH PROBLEMS

- **Heat Stroke - is a severe medical emergency which could result in death.**
  - **Heat stroke results when the body's core temperature gets too high and the body is no longer able to cool itself.**
  - **An individual suffering from heat stroke will have hot and dry skin, their pulse will be high and their blood pressure will fall.**
  - **This condition must be treated by immediately cooling the victim's body with water or wrapping them in cool wet sheets. Immediately seek medical attention.**

PREVENTING HEAT-RELATED HEALTH PROBLEMS

- **<u>Acclimation</u> - accustom yourself to the weather prior to long durations of physical activity.**
- **<u>Maintain Body Fluids</u> - Fluid intake must be maintained throughout the course of physical activity.**

  - **Do not rely on thirst as an indicator of dehydration because your body loses water faster than you realize.**
  - **Alcohol should be avoided because it is a diuretic, which increases dehydration and can interfere with heat loss.**

PREVENTING HEAT-RELATED HEALTH PROBLEMS

- **<u>Proper Diet</u> – Eat light and stay away from heavy foods. They increase metabolic heat production and also increase water loss. Eat smaller, well-balanced meals more often.**

<u>Rest Periods</u> - Pace your work activities at a slower rate during high temperatures and take frequent rest periods in a shaded area and drink plenty of fluids.

PREVENTING HEAT-RELATED HEALTH PROBLEMS

- **<u>Dress Light</u> – Lightweight, light-colored clothing reflects heat and sunlight and helps your body maintain normal temperatures.**
- **Wear loose-fitting clothes such as cotton which lets air move over your body.**
- **Wide brimmed hats should also be worn.**

HOW HOT IS IT?

HEAT INDEX CHART

TEMPERATURE F°	RELATIVE HUMIDITY								
	10 %	20%	30%	40%	50%	60%	70%	80%	90%
104°	98	104	110	120	>130	>130	>130	>130	>130
102°	97	101	108	117	125	>130	>130	>130	>130
100°	95	99	105	110	120	>130	>130	>130	>130
98°	93	97	101	106	110	125	>130	>130	>130
96°	91	95	98	104	108	120	128	>130	>130
94°	89	93	95	100	105	111	122	128	>130
92°	87	90	92	96	100	106	115	122	128
90°	85	88	90	92	96	100	106	114	122
88°	82	86	87	89	93	95	100	106	115
86°	80	84	85	87	90	92	96	100	109
84°	78	81	83	85	86	89	91	95	99
82°	77	79	80	81	84	86	89	91	95
80°	75	77	78	79	81	83	85	86	89
78°	72	75	77	78	79	80	81	83	85
76°	70	72	75	76	77	77	77	78	79
74°	68	70	73	74	75	75	75	76	77

Directions: Locate the current temperature on the left column and then locate the relative humidity on the top row. Follow the temperature across and the humidity down until they meet; this measurement is the heat index. The heat index will increase 15 degrees in direct sunlight.