

Welcome

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

﴿ شروع اللہ کے نام سے جو بڑا مہربان نہایت رحم والا ہے۔ ﴾

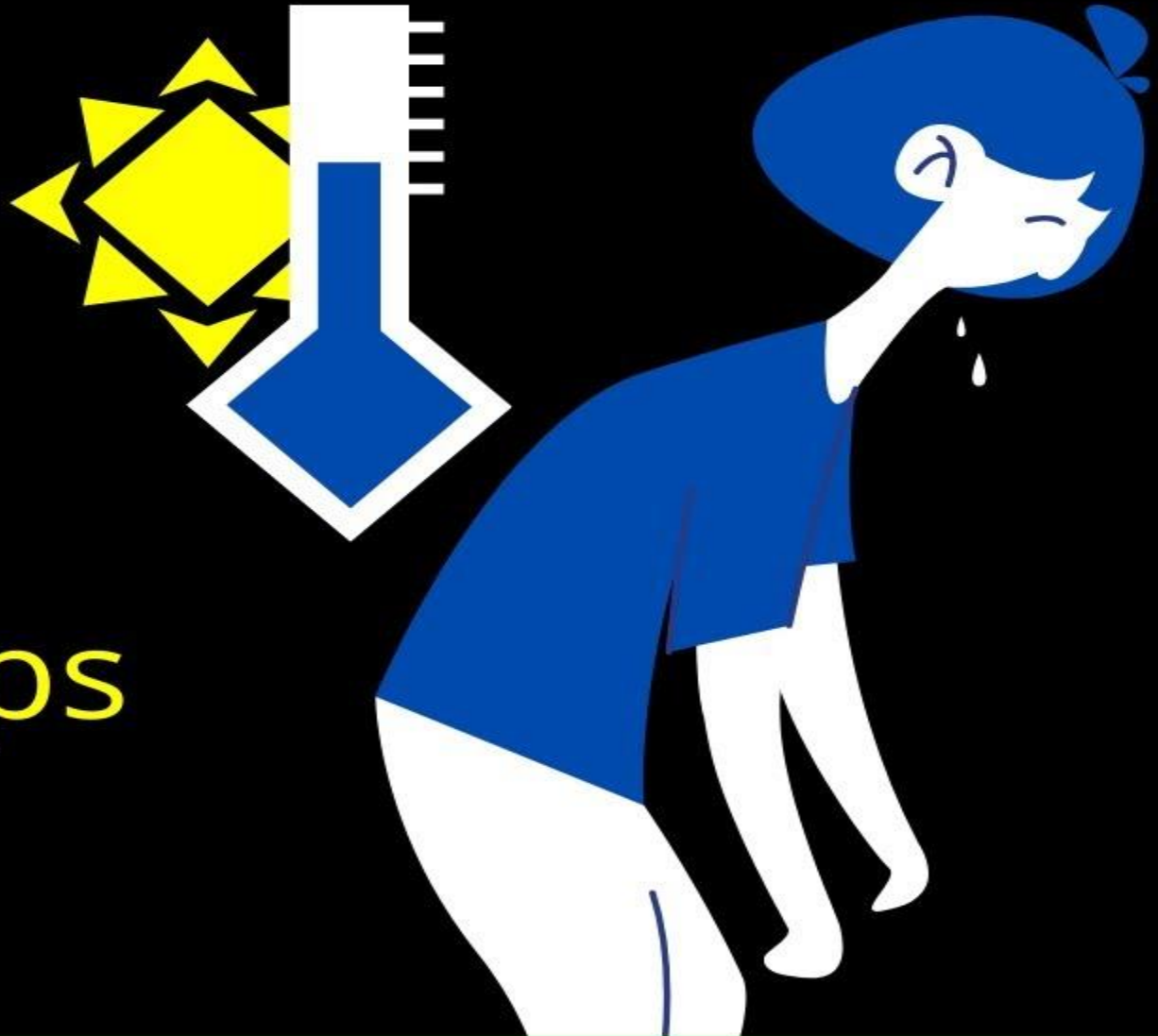
HEAT STRESS TRAINING

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What to Discuss?

HEAT STRESS

- 1- Symptoms
- 2- Causes
- 3- Prevention Tips
- 4- First Aid



What is Heat Stress?

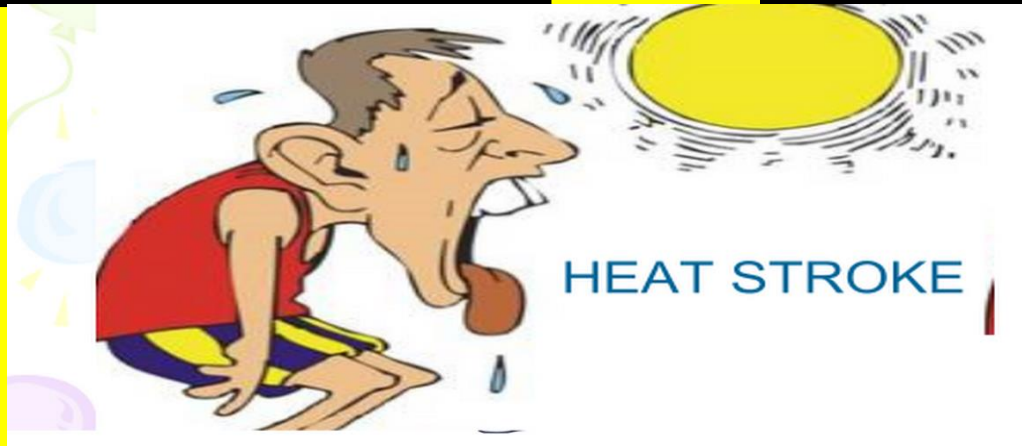
- **When work is being performed in elevated temperatures and our body system failed to maintain the normal body temperatures**



- **When the body loses fluids become unable to cool itself by sweating & several heat induced illness such as heat stress or heat exhaustion and the more severe heat stroke can occur and can result in death**

Heat Stress Serious Forms

- The two most serious forms of heat-related illness are Heat Exhaustion and Heat Stroke which could be fatal.



- Signs or symptoms need immediate attention.
- Recognizing those warning signs and taking quick action can make a difference in preventing a fatality.

Factors leading to Heat Stress:

- High temperature and humidity
- Direct sun or heat
- Limited air movement
- Physical exertion
- Poor physical condition
- Air Temp.
- Thermal Radiation
- Humidity
- Air flow
- Workload
- (Standard: Arabian Gulf Oil & Gas Industry Aug.2008. P 31-36 from American Society of Safety Engineers)



Heat Stress Prevention Risk Factors

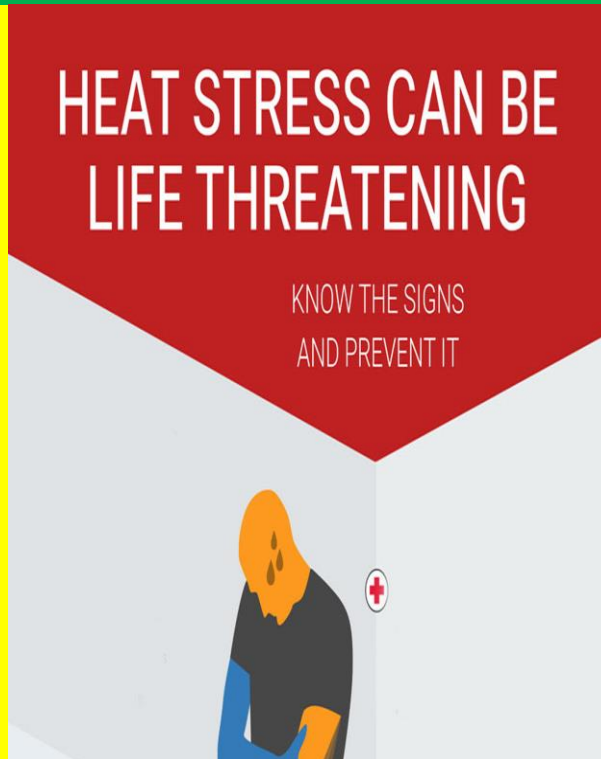


There are many factors that increase a person's chance of getting Heat Stress:

- Excess weight (body fat insulates)
- Small body size (less surface area for evaporation)
- Lack of Nutrition, skipping meals, dieting
- Out of shape (muscle must work harder – generate more heat)
- Previous Heat Illness
- New to working in Heat Stress conditions (new to Florida climate)
- Age (>40)

General Symptoms of Heat Stress

- Headache,
- Dizziness,
- Weakness,
- Nausea,
- Fainting,
- Colored urine,
- Inability to think straight,
- Mental confusion,
- Upset stomach,
- Clammy skin,
- Moist skin,
- Mood change such as irritability or confusion, hot dry skin, red skin
- If you find these type of symptoms immediately take medical help otherwise it may be Dangerous for individual life
- People can take precautionary measures to avoid the heat stress



SYMPTOMS OF HEAT EXHAUSTION

- Headaches,
- dizziness
- Lightheadness or fainting
- Weakness and moist skin
- Irritability or confusion
- Upset stomach or vomiting

SYMPTOMS OF HEAT STROKE

- Dry, hot skin with no sweating
- Mental confusion or loss of consciousness
- Seizures or convulsions

Forms and Symptoms of Heat Stress



Heat Rash

The mildest form of heat sickness, heat rash results in red bumps and itchy skin



Heat Syncope

Characterized by dizziness, light-headedness, and fainting



Heat Cramps

Symptoms include heavy sweating and spasms of large muscle groups



Heat Exhaustion

Identified by nausea, headaches, dizziness, weakness and irritability



Heat Stroke

Can cause confusion, seizures, loss of consciousness and death

Mild

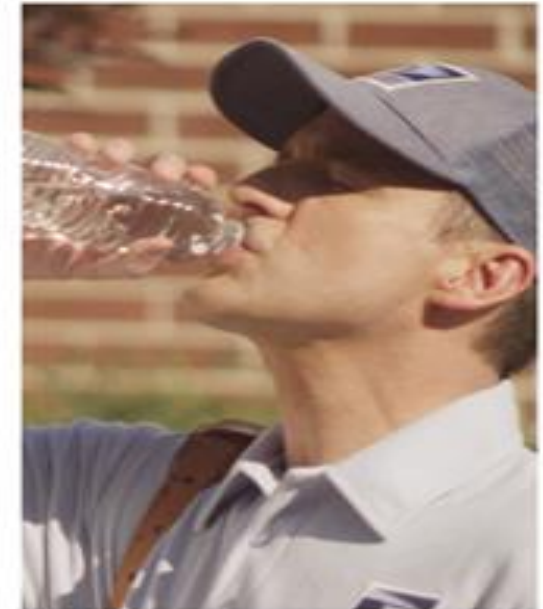
Severe

Preventing Heat Stress

- Drink plenty of water 2 cup of cool water every 30 minutes even not thirsty
- Avoid to take Tea, Coffee, Alcohol and soft drinks which can dehydrate your body
- Incorporate vegetables & fruits in your food
- Encourage people to wear light weight, light colored & loose fitting cloth
- Plan your job make heavier job in morning hour
- Take frequent short brakes / rotate tasks
- Prevention is better than cure
- Avoid to take heavy meal
- Sleep as much as possible
- Take ORS (oral rehydration salt)
- Heavy work take 12 liters of water a day

**DID YOU
KNOW** 

You can
**prevent heat
stress** by
drinking a
cup of
water every
15 minutes.



Preventing Heat Stress

- Drinking water frequently and moderately
- If possible avoid direct sunlight exposure or other heat sources
- Do more strenuous jobs during cooler time
- Utilize ventilation or fans in enclosed area
- Rest frequently in cool, shaded areas
- Avoid alcoholic or caffeinated beverages and eat lightly
- Wearing loose, lightweight, light-colored fitting clothes
- Compliance on Mid-Day break rule
- Closely supervise new employees for the first 14 days

CONCLUSION:

- In the event recognize these symptoms in yourself or a co-worker, immediately notify your supervisor and if required contact emergency personnel Control room / clinic for immediate assistance



BEAT THE HEAT

Prevent Heat Stress



Eat

DONT START WORK WITHOUT HAVING YOUR FOOD



Drink

PLENTY OF WATER



Stay Cool

Keep Yourself Cool and have rest when its necessary

Urine Color Chart

Urine Color	Possible Meaning
Clear	Good hydration, overhydration or mild dehydration
Pale Yellow	Good hydration or mild dehydration
Bright Yellow	Mild or moderate dehydration or taking vitamin supplements
Orange, Amber	Moderate or severe dehydration
Tea-Colored	Severe dehydration



NO COLOR. TRANSPARENT.

You're drinking a lot of water.
You may want to cut back.



PALE STRAW COLOR.

You're normal, healthy and well-hydrated.



TRANSPARENT YELLOW.

You're normal.



DARK YELLOW.

Normal. But drink some water soon.



AMBER OR HONEY.

Your body isn't getting enough water.
Drink some now.

What to do a victim:

- Move the worker to cool & shaded area
- Loose and remove heavy clothing
- Provide cool drinking water
- Fan & mist the worker with water

Treating a Heat Stress Victim

- Notify the Supervisor and / or the HSE Officer immediately
- Remove the employee from the heat and/or sunlight
- Ice packs or wet towels at neck, armpits, groin area
- Loosen clothing
- Sipping cool water, juice, or sports drinks if tolerated



Heat Exhaustion

- Move the victim to a cool shaded area to rest; **do not leave him or her alone**
- Loosen and remove heavy clothing
- Give cool water to drink, about a cup every 15 minutes
- Fan the person, spray with cool water, or apply a wet cloth to his or her skin
- **Get medical help immediately,**
- Remove from hot environment work that day

Heat Stroke (medical emergency)

- **Get medical help immediately,**
- Move the victim to a cool shaded area; **do not leave him or her alone**
- Lay the person down
- Loosen and remove heavy clothing
- Fan the person, spray with cool water, or wipe with a wet cloth or cover with a wet sheet
- Place icepacks under the armpits and in the groin area

Acclimatization

- **Employees who are new or who have been out of the heat for 5 or more days may notice that they may not be adjusted to the heat in the same manner as before**
 - **May notice symptoms such as**
 - Slightly higher body temperature
 - Higher pulse rate
 - General discomfort and fatigue
 - Profuse sweating
 - **These symptoms are considered to be “normal” as the body gets adjusted to the heat, which may take from 3 – 14 days**

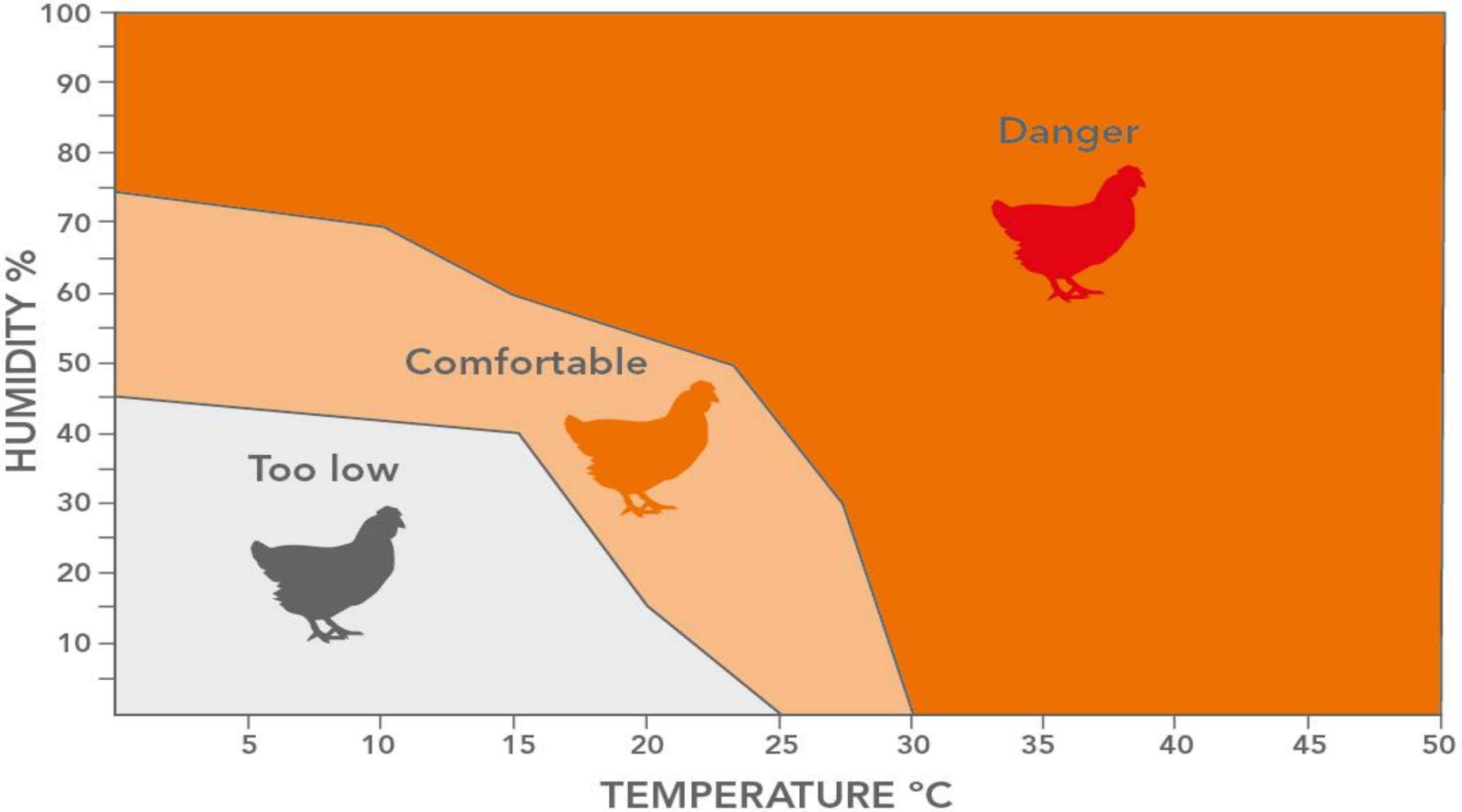


Re-Acclimating

- **After long absences**
 - 50% exposure on day back
 - 20% per day increase for the next 2 days
 - Final 10% on the 3rd day



Blood Pressure Category	Systolic mm Hg (upper #)		Diastolic mm Hg (lower #)
Normal	less than 120	and	less than 80
Prehypertension	120 – 139	or	80 – 89
High Blood Pressure (Hypertension) Stage 1	140 – 159	or	90 – 99
High Blood Pressure (Hypertension) Stage 2	160 or higher	or	100 or higher
<u>Hypertensive Crisis</u> (Emergency care needed)	Higher than 180	or	Higher than 110



QUIZ

1. Increased air movement in the workplace (for example, from fans or the wind) can reduce heat stress because it increases evaporative cooling of the skin.

A. True..

B. False



QUIZ

2. The main way the body loses heat is through evaporative cooling of moisture on the skin surface.

A. True..

B. False

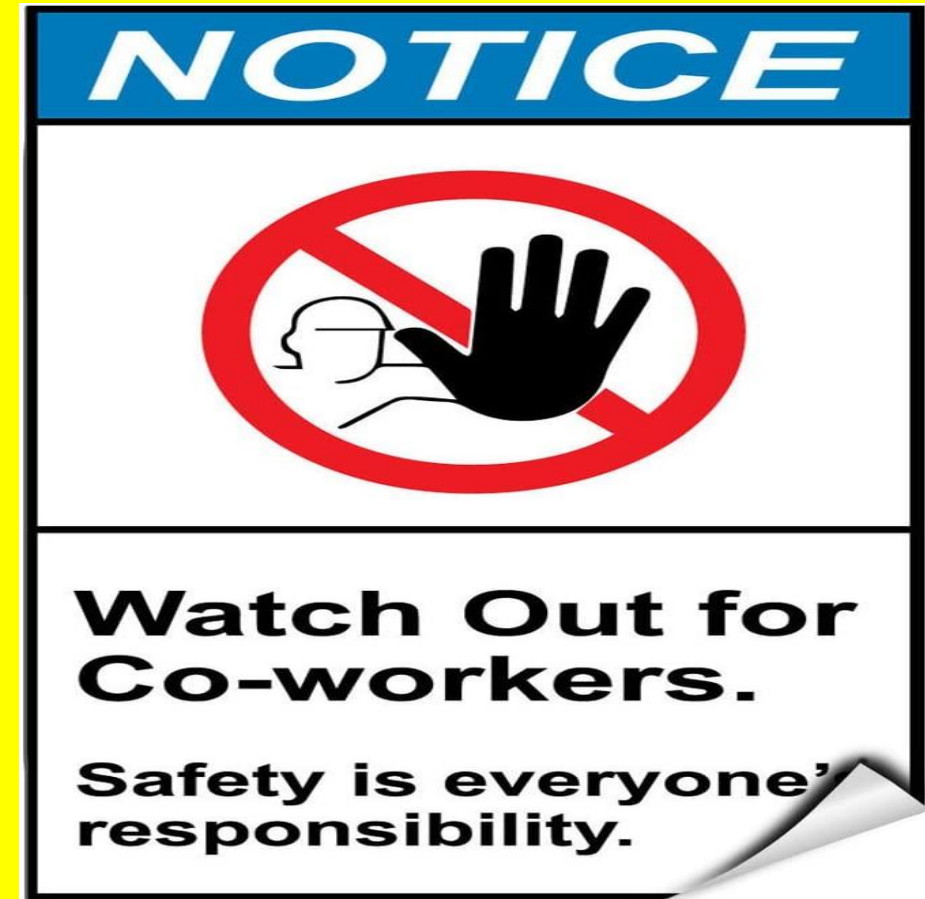


QUIZ

3. Employees have no role in preventing heat-related illness among their coworkers.

A. True

B. False..



QUIZ

4. The risk of heat stress from working indoors at 90°F is equal to the risk working outdoors in direct sunlight at 90°F.

A. True

B. False..



QUIZ

5. High humidity in the air increases heat stress by interfering with evaporative cooling of the skin. Moisture on the skin evaporates much more quickly when the air is dry.

A. True..

B. False



QUIZ

7. Heat stress may result from the buildup of muscle generated heat in the body.

A. True..

B. False



Heat-Related Illness

- Heat stress is the buildup in the body of heat generated by the muscles during work, plus heat coming from warm and hot environments.
- When the body becomes overheated, less blood goes to the active muscles, the brain and other internal organs. Workers get weaker, become tired sooner, may be less alert, and less able to use good judgment.
- As the stress from heat becomes more severe, there can be a rapid rise in body temperature and heart rate.
- Heat exhaustion and heat stroke result when the body is subjected to more heat than it can cope with, causing decreased mental performance, organ damage, convulsions, and death.
- During hot weather, heat-illness can be the underlying cause of other injuries, such as heart attacks on-the-job, falls, and equipment accidents arising from poor judgment.

QUIZ

8. By wearing loose-fitting, light colored clothing to work, you can lower your risk for a heat related illness.

A. True..

B. False



QUIZ

9. The best thing for a person suffering from heat exhaustion is an energy drink to help revive them.

- A. True
- B. False..



QUIZ

10. P.A.S.T. Stands for:

- Plan to Work in the heat,
- Access to water fluids,
- Shade access for breaks
- Training for employees.

A. True..

B. False



Answers: 1.True 2.True 3.False 4.False

5.True 6.True 7.True 8.True 9.False 10.True

Why it's Happened?



شكرا

Thank you



أي سؤال؟