



The following material is provided to inform all HUHS athletes and parents/guardians about sudden cardiac arrest, brain injury/concussion, environmental risk factors and weight and nutrition. Although there is an Athletic Health Care Team in place at Hartford Union High School, athletes and parents/guardians need to be educated on the potential benefits and risks in sports and well as their responsibilities. Reading and understanding this material is very important because it educates the athlete and parent/guardian on these topics and helps to keep the athlete safe while participating in sport related activities.

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## HEALTHY EATING PLATE

**HEALTHY OILS**  
Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

**WATER**  
Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

**VEGETABLES**  
The more veggies – and the greater the variety – the better. Potatoes and French fries don't count.

**WHOLE GRAINS**  
Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

**FRUITS**  
Eat plenty of fruits of all colors.

**HEALTHY PROTEIN**  
Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.

**STAY ACTIVE!**  
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## Cutting Weight: Safe Approaches to Stay Strong

### What about cutting weight?

Sometimes a teen athlete or a coach feels that weight loss would help with performance. Sometimes a certain weight is needed to compete.

Cutting weight can be tricky for teen-agers because you are still growing and maturing. The best time to make weight changes is in the off-season for your sport.

Over-concern with weight may affect self-esteem or occasionally lead to disordered eating behaviors.

Remember that it is more important to feel well, perform well and stay strong than to look a certain way or reach a certain weight.



### Healthy Eating Approaches:

- Eat breakfast daily
- Do not skip meals
- Move away from sugary, high calorie beverages such as sodas, energy drinks and fruit juice
- Eat less fried food
- Eat mindfully – eat slowly, enjoy meals and snacks, focus on hunger and fullness cues
- Focus on fruits and vegetables
- Go light on gravies, sauces and extras such as shredded cheese and dressing
- Whenever possible, let a regularly scheduled meal serve as pre-game or recovery nutrition
- If you aren't sure that you are taking a healthy approach, check in with a Registered Dietitian

# Healthful Ways to MANAGE WEIGHT

Athletes often associate appearance and weight with performance. Sports such as wrestling, youth football, rowing and boxing use weight classifications to ensure healthy, safe and fair participation. With activities such as dance, distance running, gymnastics and cycling, the athlete's body composition is believed to influence their performance physically and aesthetically. While there are performance and health benefits associated with lean body mass and lower levels of body fat, there are negative outcomes associated with excessive weight loss.



**Unsafe weight management practices** can compromise athletic performance and negatively affect health.

**What is Unsafe?:** Engaging in problematic weight-control behaviors such as not eating, binge eating, purging, limiting caloric intake and restricting fluids.

**Athletes can feel pressured** to control their weight from various sources, such as parents, coaches, society and judging criteria, which can place them at risk of developing unrealistic weight goals and problematic weight-control behaviors.

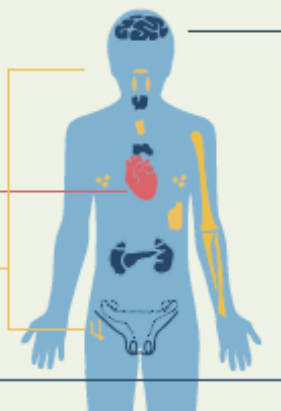
**Athletes who take unhealthy steps to manage their weight** can experience reductions in energy, aerobic performance, recall, visual understanding, reaction time and planning time.

**Extremely low-caloric diets can negatively impact the:**

**Cardiovascular system**

**Immune system**

**Endocrine system**



**There are healthy ways athletes can achieve their ideal weight and body composition.**

**Athletes should talk to their athletic trainer, family physician or a registered dietitian** about creating reasonable, individualized weight and body composition goals.

**A proper weight management plan** should include diet and exercise, and should be designed to meet the athlete's specific needs.



## Diet:

Caloric intake should be based on lean body mass, desired body composition, goal weight and sports or activity requirements.

- A healthy meal plan should include essential energy-producing nutrients—protein, carbohydrates and fats—and non-energy-producing nutrients—vitamins, minerals and water.
- A healthy diet should be maintained throughout the year.



## Exercise:

Weight and body composition adjustments ideally should occur before competitive seasons.

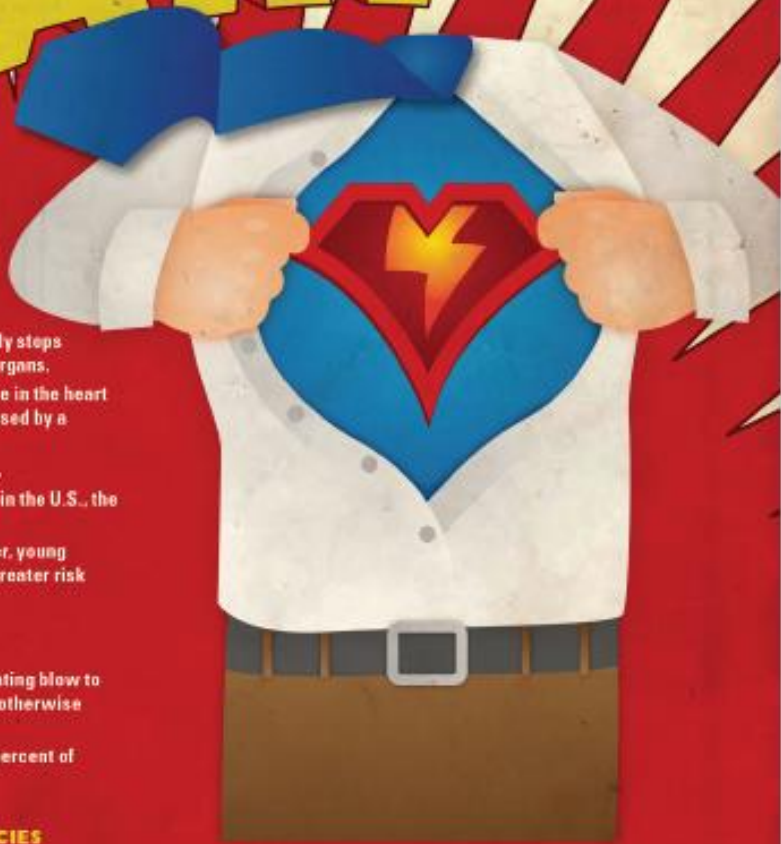
- During competitive seasons, focus on performance, strength, power and training intensity.
- During off-season preparatory periods, focus on physical conditioning, developing lean body mass, aerobic capacity and muscular endurance.

**Any body composition adjustments** should be gradual and shouldn't include any excessive restrictions or use of unsafe behaviors or products.

**The goal** should be to lose one to two pounds and no more than 1.5 percent body weight a week—a higher rate can indicate unsafe behaviors that can negatively affect performance and health.



# MATTERS OF THE HEART



## SUDDEN CARDIAC ARREST

- SCA is a condition in which the heart unexpectedly stops beating, halting blood flow to the brain and vital organs.
- SCA is usually caused by an electrical disturbance in the heart that disrupts pumping, while a heart attack is caused by a blockage of blood flow to the heart.
- SCA results in death if not treated within minutes.
- 2,000 patients under age 25 die of SCA every year in the U.S., the Center for Disease Control estimates.
- The cause of SCA in athletes is unknown, however, young athletes with underlying heart conditions are at greater risk during vigorous exercise.

## COMMOTIO CORDIS

- Commotio Cordis is caused by a blunt, nonpenetrating blow to the chest. It induces ventricular arrhythmia in an otherwise structurally normal heart.
- Commotio Cordis accounts for approximately 20 percent of sudden cardiac deaths in young athletes.

## PREPARING FOR CARDIAC EMERGENCIES

- Schools, clubs and sports facilities should have emergency action plans that include a response plan for SCA events.
- All facilities where sports are played should have automatic external defibrillators (AEDs) within 1-3 minutes.
- Schools, clubs and sports facilities should have someone on staff trained in CPR.
- When CPR is provided and an AED shock is administered within the first 3 to 5 minutes after a collapse, reported survival rates from cardiac arrest are as high as 74%.

## SCREENING ATHLETES FOR CARDIOVASCULAR ISSUES

- Athletes should undergo cardiovascular screening before athletic participation.
- A minimum standard of cardiovascular screening should include a comprehensive medical history, family history and physical exam.
- An electrocardiogram (ECG) can help identify underlying cardiac conditions that put athletes at greater risk. However, it's not a universal standard right now because of cost, physician infrastructure and sensitivity and specificity concerns.

## SIGNS AND SYMPTOMS OF CARDIAC ARREST IN ATHLETES

MALE ATHLETES	FEMALE ATHLETES
Chest, ear or neck pain	Center chest pain that comes and goes
Severe headache	Lightheadedness
Excessive breathlessness	Shortness of breath with or without discomfort
Vague discomfort	Pressure, squeezing, fullness
Dizziness, palpitations	Nausea, vomiting
Abnormal fatigue	Cold sweat
Indigestion, heartburn	Pain or discomfort in arms, back, neck, jaw or stomach

NOTE: Many young cardiac arrest victims have no symptoms until the cardiac arrest occurs.

Sources: NATA, Korey Stringer Institute, American Heart Association  
 Infographic provided by the National Athletic Trainers' Association

# BEAT THE HEAT


Summer's high temperatures put student athletes at increased risk of heat illness. There are several types of heat illness. They range in severity, from heat cramps and heat exhaustion, which are common but not severe, to heat stroke, which can be deadly. Although heat illnesses can be fatal, death is preventable if they're quickly recognized and properly treated.

## DEHYDRATION AND HEAT ILLNESSES




As a rule-of-thumb, most athletes should consume 200 to 300 milliliters of fluid every **15 MINUTES OF EXERCISE.**

It takes only **30 MINUTES** for cell damage to occur with a core body temperature of 105 degrees.



Currently, 13 states have heat-acclimatization policies, for secondary school athletics with New Jersey being the first.



Exertional heat stroke is one of the top three killers of athletes and soldiers in training.

- From 2010-15, 20 athletic heat stroke fatalities were reported.
- It takes seven to 14 days for a body to adapt to exercising in the heat.
- Dehydration at levels of 3 to 4 percent body mass loss can reduce muscle strength by an estimated 2 percent.

### SAFETY TIPS



- Have sports drinks on hand for workout sessions lasting longer than an hour.
- Keep beverages cold – cold beverages are consumed 50 percent more than warm beverages.
- Hydrate before, during and after activity.


Remove unnecessary equipment, such as helmets and padding, when environmental conditions become extreme.




Clothing worn by athletes should be light colored, lightweight and protect against the sun.

- For the first week or so, hold shorter practices with lighter equipment so players can acclimate to the heat.
- Follow a work-to-rest ratio, such as 10-minute breaks after 40 minutes of exercise.
- Get an accurate measurement of heat stress using a wet-bulb globe temperature, which accounts for ambient temperature, relative humidity and radiation from the sun.
- If someone is suffering from exertional heat stroke, remember to cool first and transport second.
- Have large cold tubs ready before all practices and games in case cold water immersion is needed to treat exertional heat stroke.


## SIGNS OF MINOR HEAT ILLNESS



Dizziness

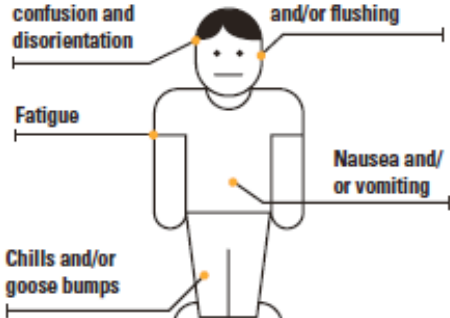


Cramps, muscular tightening and spasms



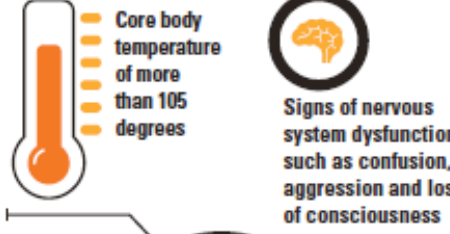
Lightheadedness, when not associated with other symptoms

### EARLY WARNING SIGNS OF EXERTIONAL HEAT STROKE



- Headache, dizziness, confusion and disorientation
- Excessive sweating and/or flushing
- Fatigue
- Nausea and/or vomiting
- Chills and/or goose bumps

## SIGNS OF EXERTIONAL HEAT STROKE



- Core body temperature of more than 105 degrees
- Signs of nervous system dysfunction, such as confusion, aggression and loss of consciousness
- Rapid breathing
- Increased heart rate
- Seizures
- Low blood pressure

Sources: Korey Stringer Institute, American Medical Society for Sports Medicine, NATA

# ENVIRONMENTAL COLD INJURIES

## SYMPTOMS:

- **Mild:** Vigorous shivering, increased blood pressure, fine motor skill impairment, lethargy, apathy and mild amnesia
- **Moderate or severe:** No more of shivering, very cold skin, depress vital signs, impaired mental function, slurred speech, unconsciousness and gross motor skill impairment

## WHAT TO DO:

- Remove wet or damp clothing then insulate the body, including the head, with warm, dry clothing or blankets.
- Move the athlete to a warm shelter, protected from wind and rain.
- Apply heat only to the trunk and heat transfer areas of the body, such as armpits, chest wall and groin.
- Don't rewarm the extremities – it could send cold blood to the core and lead to a drop in core temperature, which may cause cardiac arrhythmias and death.
- Provide warm fluids and foods.
- Avoid applying friction massage to tissue, which can increase damage if frostbite is present.

## Hypothermia

OCCURS WHEN THE CORE BODY TEMPERATURE REACHES BELOW 95 DEGREES.



## SYMPTOMS:

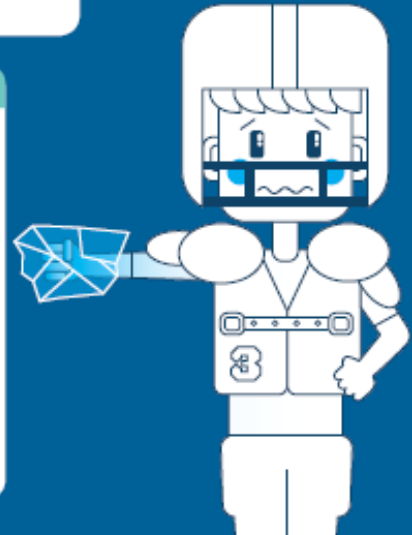
- **Mild:** Swelling, redness or mottled gray skin appearance, stiffness and momentary tingling or burning
- **Deep:** Edema, mottled gray skin appearance, tissue that feels hard and does not rebound, blisters and numbness or loss of sensation

## WHAT TO DO:

- Rule out the presence of hypothermia.
- Rewarm the tissue if there isn't a chance of retreating.
- Immerse the affected tissue into a warm bath of gently circulating water for 15 to 30 minutes.
- Rewarming should be done slowly, so water temperature shouldn't exceed 99 degrees.
- Thawing will be complete when the tissue is pliable and color and sensation have returned.
- Note that rewarming can be painful, so a physician may prescribe pain medication.

## Frostbite

- THE FREEZING OF BODY TISSUE.
- A LOCALIZED RESPONSE TO A COLD, DRY ENVIRONMENT THAT CAN BE WORSENERD BY SWEAT COOLING THE TISSUE.



## SYMPTOMS:

Small red bumps, swelling, tenderness, itching and pain

## WHAT TO DO:

- Remove wet or constrictive clothing.
- Gently wash and dry the area.
- Elevate the area and cover with warm, loose, dry clothing or blankets.
- Don't disturb the blisters or apply friction massage.
- Avoid lotions, creams or high levels of heat.
- Avoid any weight bearing on the affected area.

## Chilblain

- A NONFREEZING INJURY OF THE EXTREMITIES.
- OCCURS WITH EXTENDED EXPOSURE TO COLD, WET CONDITIONS.



## SYMPTOMS:

Burning, tingling or itching, loss of sensation, bluish or blotchy skin, swelling, pain or sensitivity, blisters, skin fissures and maceration

## WHAT TO DO:

- Thoroughly clean and dry the feet.
- Apply warm packs or soak the affected area in warm water for approximately five minutes.
- Put on clean dry socks.
- Allow footwear to dry before reusing.

## Immersion Foot

- A NONFREEZING INJURY OF THE EXTREMITIES ALSO KNOWN AS "TRENCH FOOT."
- OCCURS WITH PROLONGED EXPOSURE TO COLD, WET ENVIRONMENTS.



Staying warm, staying safe

- Wear insulated clothing that also allows moisture to evaporate.
- Dress in layers that can be adjusted with changes in the weather.
- Use external heaters.
- Take regular indoor breaks.

- Maintain a well-balanced diet
- Stay hydrated with water or sports drink.
- Have extra shoes, socks and gloves available to replace wet clothing.

- Athletes who are young, old, diabetic, women or African-American should take extra precaution as they are at greater risk.

Source: National Athletic Trainers' Association