



AMERICAN SAFETY & HEALTH INSTITUTE

MEDIC First Aid

EMS SAFETY

AVERT

BASIC FIRST AID TRAINING

Including Stroke, Choking and Naloxone



alliance
An OSHA Cooperative Program

PREPARING TO HELP

Accidents &
Emergencies
Happen:

- At Home
- At Work
- At Play

Accidents and emergencies happen anywhere and anytime.

First Aid is the Initial care provided when advanced care is not readily available.

Intended to:

Preserve life

Alleviate suffering

Prevent further illness or injury

Promote recovery

FIRST AID PROVIDER SKILLS

Recognize, Assess and Prioritize the Need for First Aid

Provide Appropriate First Aid Care

Recognize Limitations

Seek Professional Medical Assistance When Necessary



**BYSTANDER
CPR MATTERS!**

Save A Life



Getting immediate CPR from a bystander can double or triple the person's survival chances, but only 32% of people with cardiac arrest get CPR from a bystander.

Source: American Heart Association



GOOD SAMARITAN LAW

Established to protect those who:

- Voluntarily provide assistance, without expecting or accepting compensation
- Are reasonable and prudent
- Do not provide care beyond training received
- Are not grossly negligent, or careless, in delivering emergency care
- Obtained consent if person is responsive

LEGAL CONSIDERATIONS

Consent

- Everyone has the right to refuse medical treatment
- If responsive, ask if person wants help before providing care

Implied Consent

- If unresponsive, assumes a person would agree to be helped

Abandonment

- Remain with person until someone with equal or greater emergency medical training takes over
- If alone, may need to leave to get help
- Return to person as soon as you can

UNIVERSAL PRECAUTIONS

Universal Precautions is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other blood borne pathogens.



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Assess the
Scene/Victim



Alert EMS/EAP



Attend to the Victim

RECOGNIZE THE EMERGENCY

(ASSESS THE SCENE)



Look for Hazards

Consider Hidden Dangers

If it is NOT safe, DO NOT Enter

If it Becomes Unsafe, GET OUT!

RECOGNIZE THE EMERGENCY

**Assess
the
Victim**

**Where is
the person
located?**

**What is
their
body
position?**

**Do they
look
sick or
injured?**

**Do they
appear
unconscious?**



CALLING FOR HELP



Calling Emergency Medical Services
(EMS) - 911

Initiating Emergency Action Plan (EAP)
at your workplace

Referring to Safety Data Sheets (SDS)
and calling Poison Control if necessary

EMERGENCY MEDICAL SERVICES

Calling for Help...How do you decide?

- Immediate Threats to Life are Present
- Significant Injury has Occurred
- Warning Signs of a Serious Illness
- Severity of a Persons Condition is Uncertain

EMERGENCY MEDICAL SERVICES

What to Expect:

- You will be asked basic information questions
 - Type of Emergency
 - Location
 - Care Being Provided
- Dispatcher will remain on the line and offer guidance until help arrives



EMERGENCY ACTION PLAN

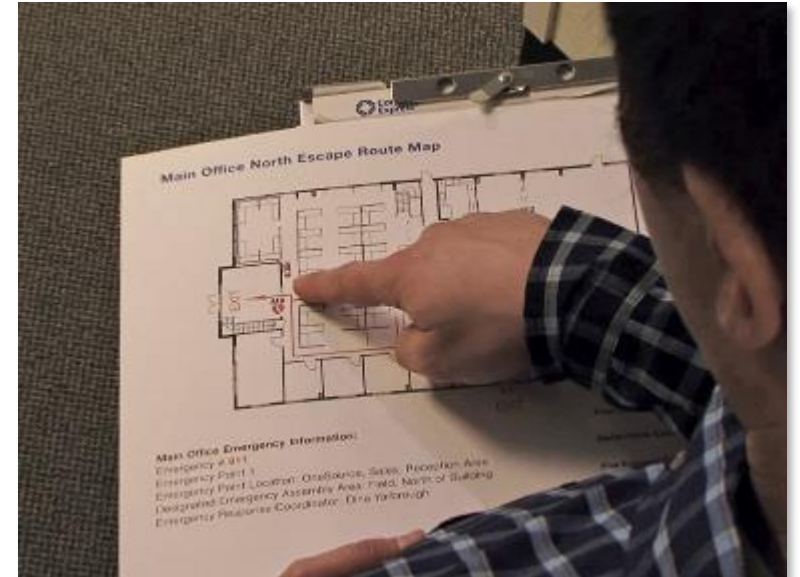
EAP's offer step-by-step procedures on how to report and respond to emergencies:

EAPs account for worksite layout, size, and features

Activating an EAP may consist of:

- Dialing 911
- Notifying centralized communications person, or
- Activating in-house emergency team

Provide information on how to report and respond to emergencies at work



POISON HOTLINE IF NECESSARY



webPOISONCONTROL®
Medical
By:National Capital Poison
Center, Inc.





EMERGENCY MOVES

Extremity Drag

Clothing Drag

Blanket Drag

Recovery Position Page 14



MANUAL HANDLING

EMERGENCY MOVES

Blanket Drag

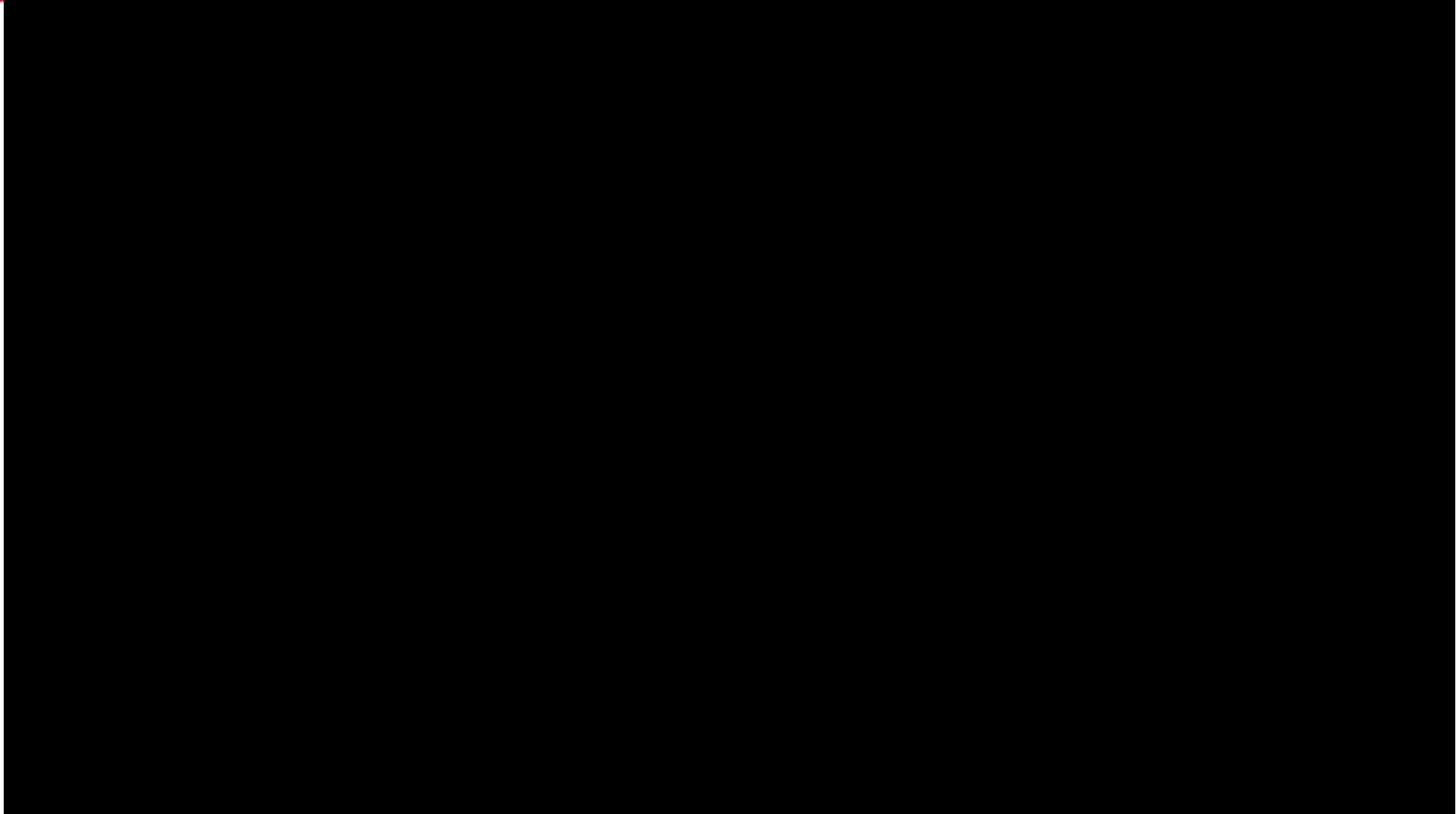


Clothes Drag



RECOVERY POSITION

PAGE: 14



H.A.I.N.E.S POSITION



PROCEDURE FOR ADULT FIRST AID

PAGE 9

Unresponsive Victim

- Activate AAA
- Open Airway
- Check for breathing
 - No breathing...CPR
 - Breathing...monitor
 - Do NOT move unless they start to asperate



RESPONSIVE VICTIM

- Activate AAA
- Identify Yourself and your Credentials.. Ask if it's OK to HELP
- Look for signs of BLEEDING
 - If found, control it immediately
- Check face for tissue color
- Touch forehead with your bare wrist
 - Normal skin feels warm and dry
 - Cool, wet skin can be an indication of shock
 - Bluish color indicates lack of oxygen

SECONDARY ASSESSMENT

SAMPLE

Signs & Symptoms

Allergies

Medications

Past Medical Problems

Last Oral Intake

Events Leading to
Problem

AWAITING FOR HELP - BE AWARE

SHOCK

- Early signs can be difficult to detect
 - Person may simply begin to appear uneasy, restless, or worried
 - More serious signs can emerge gradually
 - Person may become confused
 - Skin may become pale, cool, and sweaty
-
- Any serious illness or injury has the potential to cause shock
 - If not treated early, it can get worse and become life threatening

SHOCK FIRST AID



Help body maintain adequate oxygen

Maintain a normal body temperature

Give nothing to eat or drink

Keep as comfortable and calm as possible

WHAT MIGHT CAUSE SHOCK?



WARNING: GRAPHIC CONTENT

Sudden Injuries

Bleeding

Burns

Spinal

Head

Limbs



BLEEDING

Occurs when blood vessels are damaged

Internal

- **Typically Chest or Abdomen Blows**
- **Difficult to detect**
- **Signs of shock may be the earliest detection**

External

- **Lacerations**
- **Compound Fractures**
- **Amputations**
- **Impaled Objects**

Types Of External Bleeding

Venous bleeding can be serious, as the veins also carry a high volume of blood. Unlike arterial bleeding, blood will not usually “spurt” from a damaged vein. This is because the veins are not under direct pressure from the heart’s action. Instead, blood will flow out consistently. Venous injuries can still result in rapid blood loss.



Capillary

Slow And Oozing
Easily Controlled
Stops Spontaneously



Venous

Steady Flow
Easier To Control
Low Pressure System



Arterial

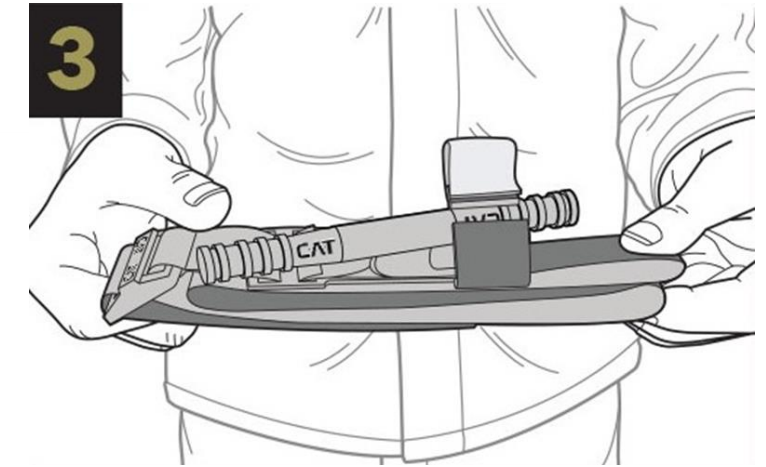
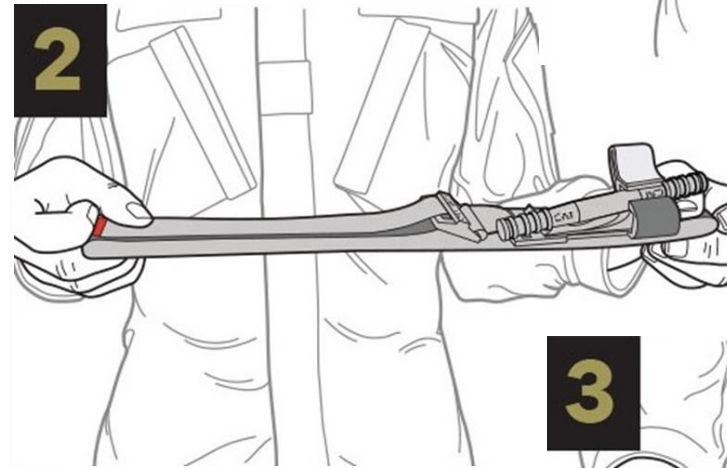
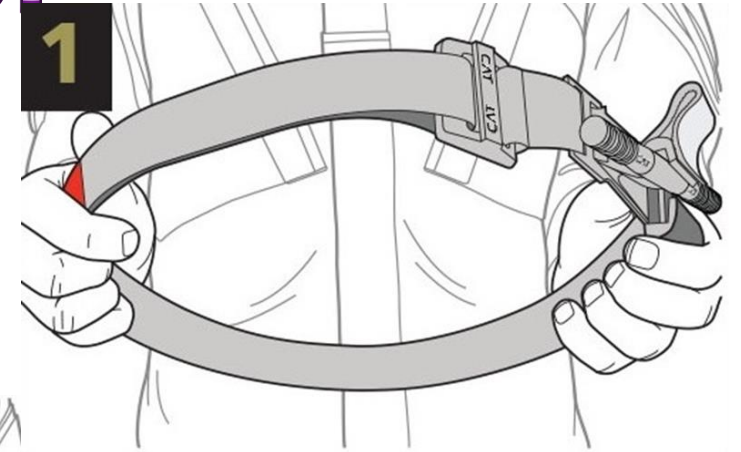
Rapid And Profuse
Spurting With Heart Beat
Most Difficult To Control

ARTERIAL BLEEDING, PRESSURE OR TOURNIQUET?

- Arterial bleeding is bright red and spurting
- The average adult has about 4 – 5 liters of blood.
- If a person loses 40-50% of their blood (2 – 2 1/2 liters) they will die.
- A person can bleed out from an arterial wound in just 3 – 4 minutes.
- Apply the tourniquet about 2 – 3 inches above the wound.
- If the first tourniquet doesn't completely stop the bleeding you can put a second tourniquet just about the first.
- Do NOT place a tourniquet on a joint.
- Both pressure and tourniquets can be used to stop arterial bleeding.



Staging & Identifying your CAT Tourniquet



BLEEDING FIRST AID SCENARIO PAGES 48-49

Demonstration

Removal of
contaminated gloves:
pg. 15



EXTERNAL BLEEDING FIRST AID

Lacerations

- Remove obstructive clothing to expose wound
- Apply direct pressure
- Wrap with bandage

Compound Fractures

- Cover open wound
- Control bleeding with gentle pressure
- Apply ice(15min.)
- Stabilize

EXTERNAL BLEEDING FIRST AID

Amputations

- Wrap severed part in sterile cloth
- Store in a watertight container
- Ice part, DO NOT rinse
- Give to EMS

Impaled Objects

- DO NOT Move or Remove Object
- With padding apply pressure around object
- Use padding to stabilize object
- If in the eye, pad and cover both eyes

F.A.S.T. Warning Signs

Use the letters in **F.A.S.T.** to spot a Stroke

F = Face Drooping – Does one side of the face droop or is it numb? Ask the person to smile. Is the person's smile uneven?

A = Arm Weakness – Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?

S = Speech Difficulty – Is speech slurred?

T = Time to call 911 – Stroke is an emergency. Every minute counts. Call 911 immediately. Note the time when any of the symptoms first appear.

Other Stroke Symptoms

Watch for Sudden:

NUMBNESS or weakness of face, arm, or leg, especially on one side of the body

CONFUSION, trouble speaking or understanding speech

TROUBLE SEEING in one or both eyes

TROUBLE WALKING, dizziness, loss of balance or coordination

SEVERE HEADACHE with no known cause

Choking First Aid

Signs of Choking:

- One or both hands clutched to the throat.
- A look of panic, shock or confusion.
- Inability to talk.
- Strained or noisy breathing.
- Squeaky sounds when trying to breathe.
- Cough, which may either be weak or forceful.
- Skin, lips and nails that change color turning blue or gray.
- Loss of consciousness.



Technique and A Tool



Heimlich Maneuver

1. Give 5 Back Blows
2. Give 5 Abdominal Thrusts
3. Repeat Until The Object Is Out

The Heimlich Maneuver (Abdominal Thrusts) is a Choking Relief Technique



IT'S AS EASY AS...



1. PLACE

Place the proper-sized mask over the nose and mouth, creating a good seal.



2. PUSH

While holding the mask in place, use your other hand to push the handle down.



3. PULL

Without breaking the seal, pull the handle upward in a short, swift motion.



HELP! I'M CHOKING ALONE! WHAT DO I DO



Howcast.com

Howcast



Opioid Overdose

**YOU CAN
SAVE _a LIFE
WITH _a SPRAY**

Naloxone,
given as a nasal spray,
can reverse the effects of
an opioid overdose and
Save a Life.

Give someone a second chance...
to recover and live.



Signs of an Opioid Overdose⁶



Cold
or clammy skin



Dizziness
and disorientation



Cannot be
woken up
or not moving



Breathing
slow or
absent



Choking
or coughing,
gurgling, or
snoring sounds

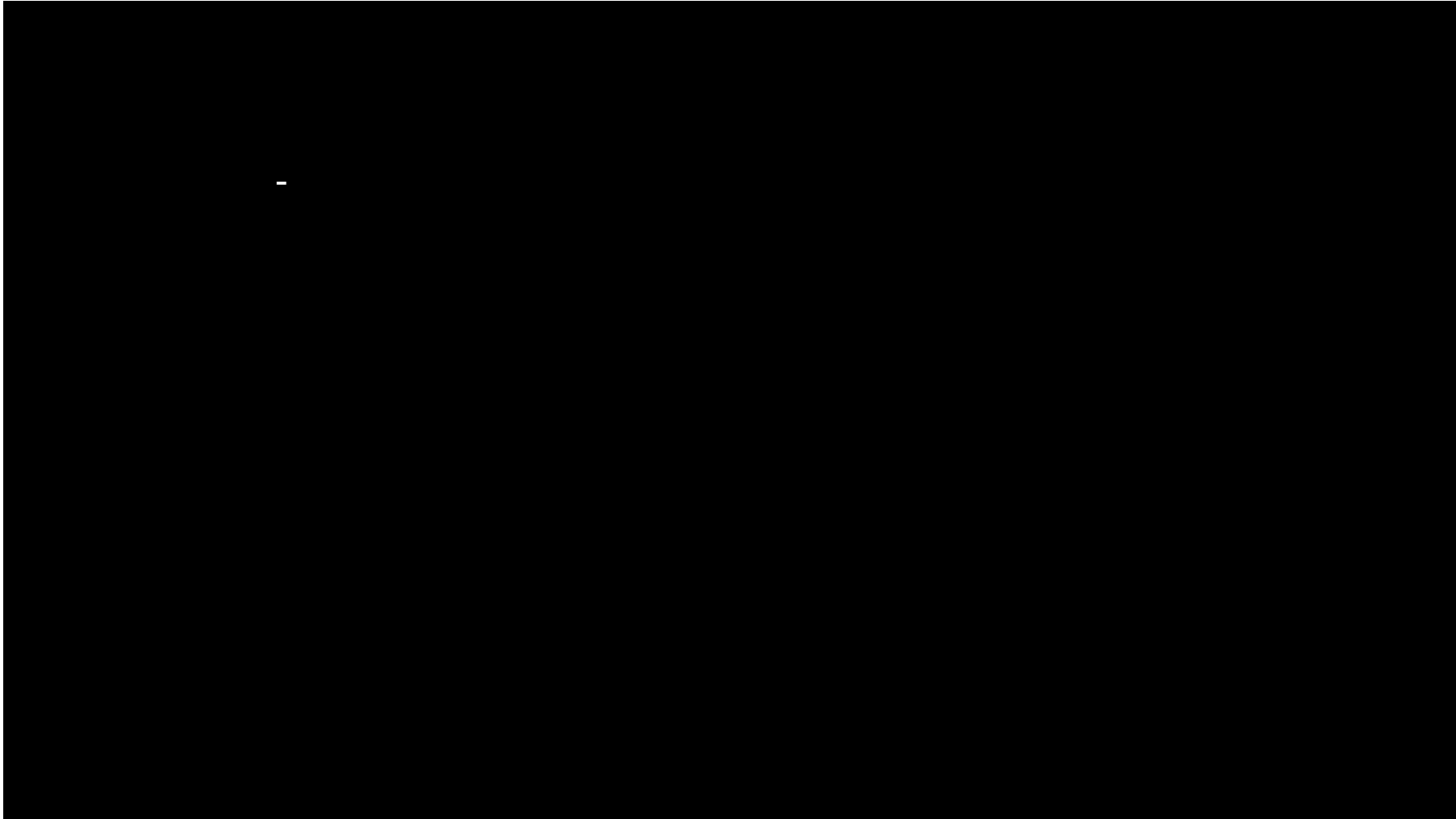


Discoloration
of lips
and nails



Pupils
extremely
small

WHAT TO DO IF SOMEONE IS OVERDOSING



Sudden Injuries

Bleeding

Burns

Spinal

Head

Limbs



BURNS

First

- Mild Sunburn. Long-term damage is rare

Second

- Outer layer of skin and dermis have been damaged

Third

- “Full Thickness Burn”, destroys 2 full layers of skin

Fourth

- Life-Threatening. Affects Skin, bones, muscles and tendons

BURNS

Thermal

Radiation

Electrical

Chemical

Friction

Cold

BURNS FIRST AID

Make sure situation is safe for you to help

If clothes or other materials are burning or on fire, act immediately to put fire out

Direct to stop, drop, and roll

Smother burning material with a coat, rug, or blanket, or douse material with water

Activate EMS if necessary

BURNS FIRST AID

Expose burned areas by removing, cutting or tearing clothing away; if stuck to burn, cut around it

Cool burn with water ASAP for at least 10 minutes

Remove jewelry near burned area

Separate fingers or toes with sterile dressings or pads

Leave blisters intact

BURNS FIRST AID

If electrical, turn off electrical current before attending to victim

Victim may need CPR/AED if electrical burn

If chemical, flush with cool water until pain dissipates

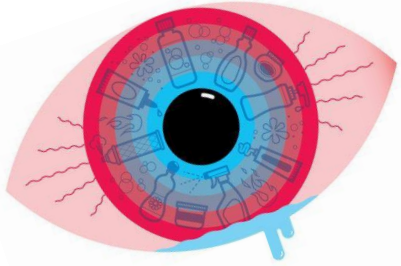
Loosely cover with dry, clean pad or sheet to keep clean and protected

Never apply butter, ointment, lotion, or antiseptic to serious burns

Give person nothing to eat or drink



BURNS FIRST AID



Corrosive chemicals splashed into an eye can quickly damage eye tissue

Affected eyes will become painful and appear red and watery

Immediately flood eye with large amounts of water

- *Flush outward from nose side of affected eye*
- If wearing contacts, have person try to remove as flushing continues
- If water not available, normal saline or commercial eye irrigating solution can be used

Hold eye open and flush continuously for at least 15 minutes or until EMS take over

Sudden Injuries

Bleeding

Burns

Spinal

Head

Limbs



SPINAL INJURY FACTS

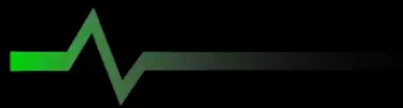


Males are four times more likely to suffer spinal injury than females

Spinal injury is often caused by motor vehicle collisions; gun shot wounds, falls, and sports injuries

Injuries to spine block brain's ability to communicate with other parts of body

HEAD NECK OR BACK INJURIES



SPINAL INJURY FIRST AID

Establishing airway is a higher priority than protecting suspected spinal injury

Tilt head and lift chin to maintain open airway or give rescue breaths

When head, neck, or back injury suspected, best to leave in position found

- If airway threatened, quickly roll person as needed to clear and protect it
- Keep head, shoulders, and torso from twisting as best you can

If you need to leave person to get help, place in a recovery position to protect airway before you go

Sudden Injuries

Bleeding

Burns

Spinal

Head

Limbs



BRAIN INJURY

Significant swelling or bleeding inside skull can result in increased pressure that damages delicate brain tissue

- Suspect brain injury when blow to head results in diminished level of responsiveness
- Stabilize head with your hands
- **DO NOT** attempt to stop flow of blood or fluid from ears or nose



OTHER HEAD INJURIES

Nosebleeds

Occur when small blood vessels inside the nostrils are ruptured

- Have person sit up straight with head tilted forward, chin down
- Pinch soft portion of nose with thumb and index finger and hold for ~10 minutes

Do not tilt head back or lie person down

Have person spit out any blood that collects in mouth

Ongoing bleeding or developing shock; seek further medical help

CONCUSSION

Suspect concussion when person

- Unable to recall events just before or after incident
- Moves clumsily
- Answers questions slowly
- Shows a change in mood or personality

Additional signs

- Looking stunned or dazed
- Headache
- Nausea
- Dizziness
- Difficulty in balance
- Visual problems



OTHER HEAD INJURIES

Injured Tooth

A blow to mouth can break, dislocate, or knock out teeth; treat without delay

- Immediate re-implantation is greatest chance of tooth survival
- Control bleeding, have person gently bite down on clean absorbent pad

Handle tooth only by chewing surface

Do not touch root, never scrub tooth or remove tissue fragments

Keeping tooth moist helps extend time for re-implantation

At a minimum, have the person spit into a cup and place tooth in the saliva; avoid storage in water

Sudden Injuries

Bleeding

Burns

Spinal

Head

Limbs



LIMB INJURIES

Strains are stretching or tearing injuries to muscles or tendons

Sprains are tearing injuries to ligaments that hold joints together

Dislocations are the separation of bone ends at a joint

Fractures are breaks in bones

LIMB INJURIES FIRST AID

Common signs include swelling, pain, and discoloration

Best treat everything as possible fracture

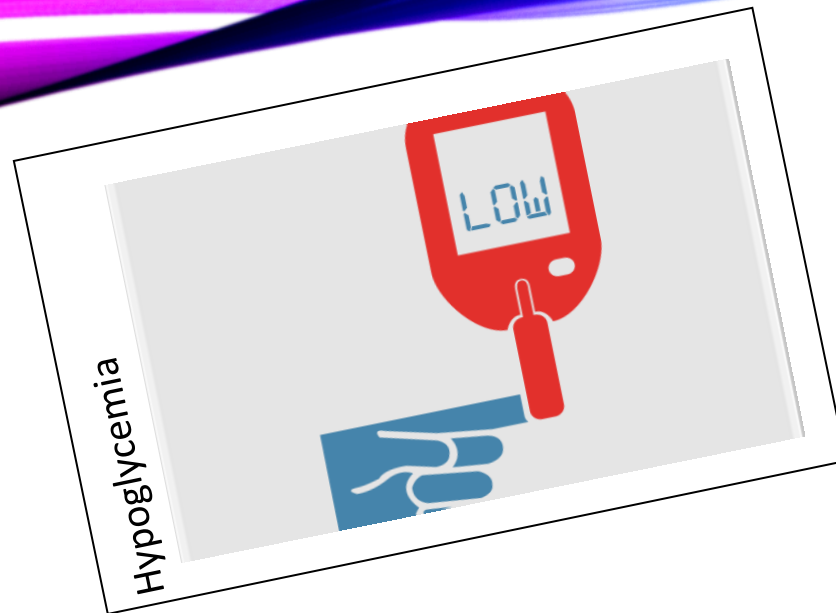
Leave limb in position found

Encourage to not move or use limb

If serious, or unsure, activate EMS

If limb becomes blue or extremely pale, circulation may be compromised

Splinting can reduce pain and prevent further injury, especially when moving



SUDDEN ILLNESS



ALTERED MENTAL STATUS

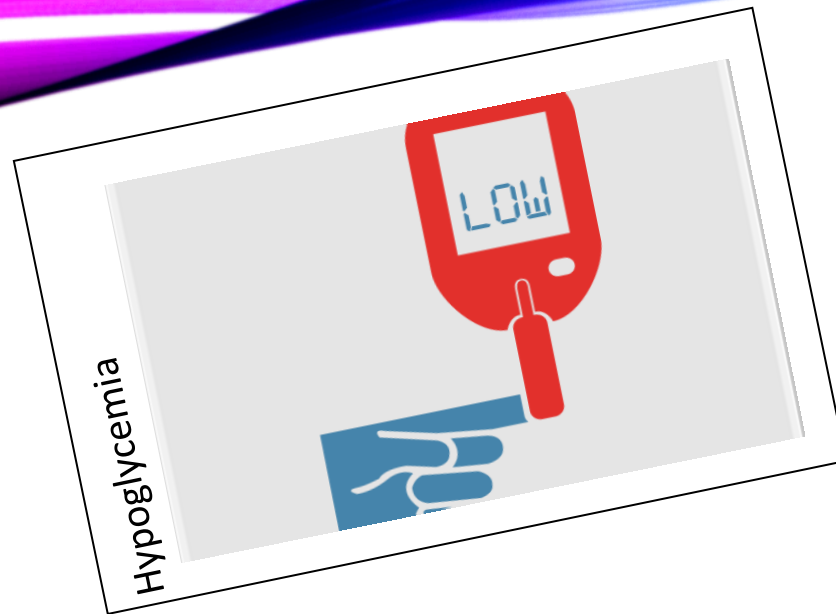
Caused by a number of medical conditions/use of alcohol, medications, or drugs

- Significant or unusual change in a person's personality, behavior, or consciousness
- Indication of a change in brain function
- Warning sign of a serious problem and is considered a medical emergency

ALTERED MENTAL STATUS FIRST AID

In case of altered mental status

- Activate EMS
- Keep warm and comfortable
- Calm and reassure as best you can
- Consider recovery position to protect airway if responsiveness becomes severely diminished
- Reassess regularly until another provider or EMS personnel take over



SUDDEN ILLNESS



FAINTING

A momentary loss of consciousness due to unexpected drop in blood pressure and blood flow to the brain, caused by

Anxiety

Fear

Pain

Stress

Standing in place too long

Rapid movements such as standing up quickly

A medication or underlying medical condition

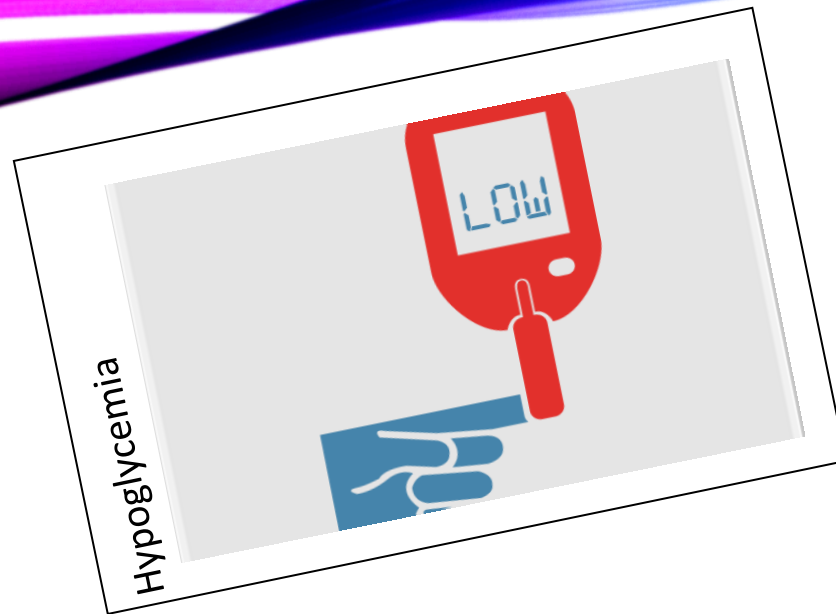
FAINTING FIRST AID

Quickly lay person flat on his or her back on the ground

Elevate feet 6-12 inches, allowing blood from legs to move back into body

- Do not elevate feet if it causes pain or you suspect person may be injured

Fainting is a temporary condition that should pass quickly



SUDDEN ILLNESS



What is Hypoglycemia?

SYMPTOMS:

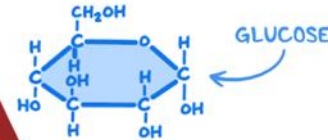
- HUNGER
- FATIGUE
- SHAKING
- SWEATING
- PALE SKIN
- HEADACHE
- DIZZINESS



- ↓
- CONFUSION
 - SLURRED SPEECH
 - BLURRED VISION
 - FAINTING
 - SEIZURES
 - COMA



LOW BLOOD SUGAR



< 70 mg/dL
in ADULTS



CAUSED BY:

(WITH DIABETES)

- TOO MUCH INSULIN
- TOO MUCH DIABETES MEDICATION

(WITHOUT DIABETES)

- EATING LESS or EXERCISING MORE THAN USUAL
- SOME MEDICATIONS
- ALCOHOL
- UNDERLYING CONDITIONS
- REACTIVE



HYPOGLYCEMIA FIRST AID

Responsive Victim

Provide ~15 to 20 grams of glucose tablets

If tablets not available, use sugar

- Orange juice, candy, fruit, or whole milk
- Artificial sweeteners will not help

If responds to sugar, mental status will improve. If no response to sugar in 10-15 minutes or condition worsens, activate EMS and provide additional glucose or sugar

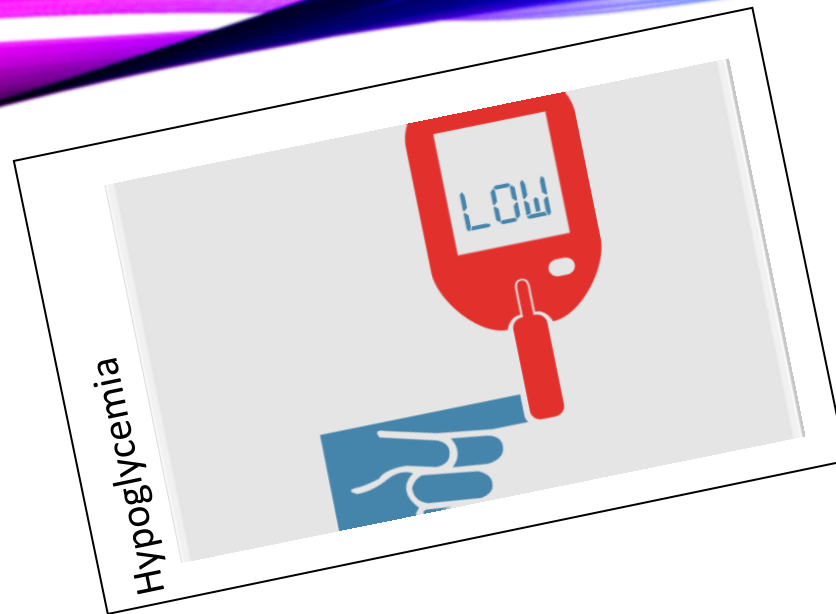
Unresponsive Victim

Quickly activate EMS

Do not give anything to eat or drink

Provide any required supportive care





SUDDEN ILLNESS

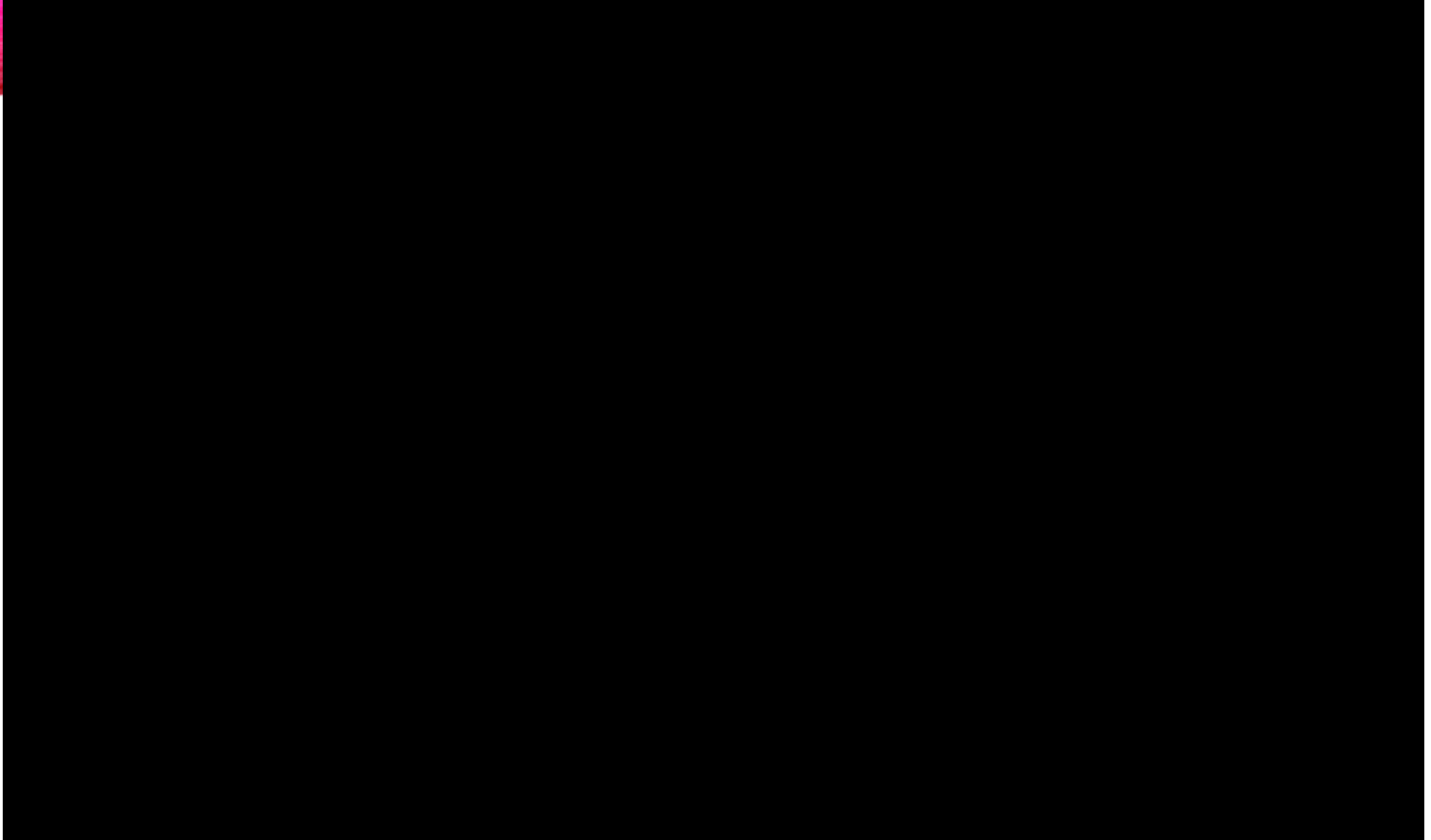


SEIZURE

Triggered by excessive electrical activity within the brain

May result in:

- Uncontrolled muscle convulsions throughout body, typically, without warning
- Jerking movements of body
- Light breathing, could appear absent
- Loss of bowel or bladder control
- Vomiting



SEIZURES

If a seizure occurs, protect head and prevent from bumping into nearby objects

Do not restrain person tightly nor place anything in mouth

Seizures generally last for a few minutes

When seizure stops, assess person's breathing and ability to respond

Provide CPR if necessary

SEIZURE FIRST AID

Most seizures last a short time and stop without any special treatment

Once stopped, place person in recovery position to protect airway

If responsiveness and breathing are absent, begin CPR and use AED

Provide privacy to minimize embarrassment

Do not allow person to perform actions that pose risk for additional injury

Continue to monitor until EMS takes over or person returns to normal

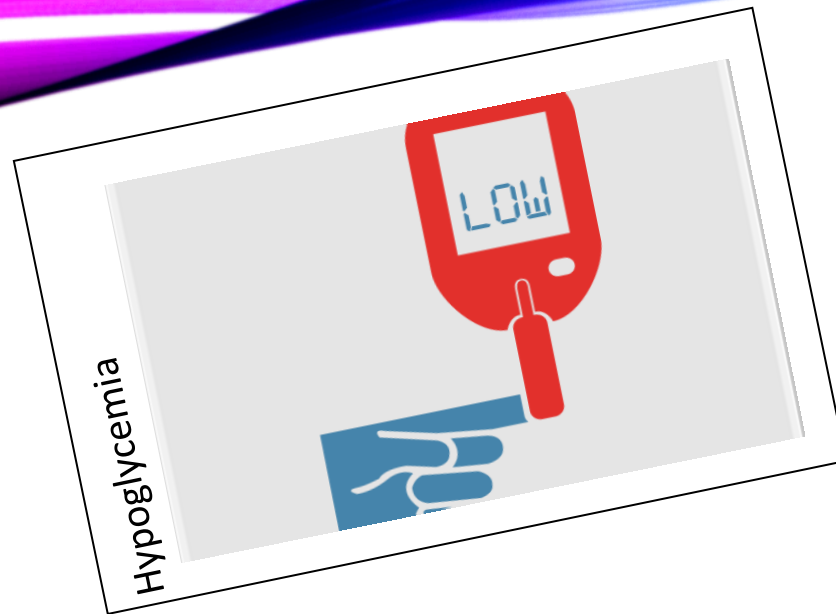
SEIZURE FIRST AID

Activate EMS if the person

Is injured or vomits during the seizure

Has no history of seizure

Has multiple seizures or continues to seize for more than 5 minutes



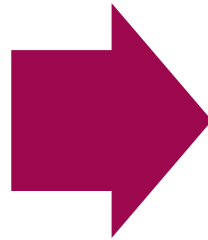
SUDDEN ILLNESS



ASTHMA

A medical condition in which certain things can trigger a physical reaction in the lungs and make it difficult for a person to breathe

If the person has a prescribed inhaler assist him or her in using it.

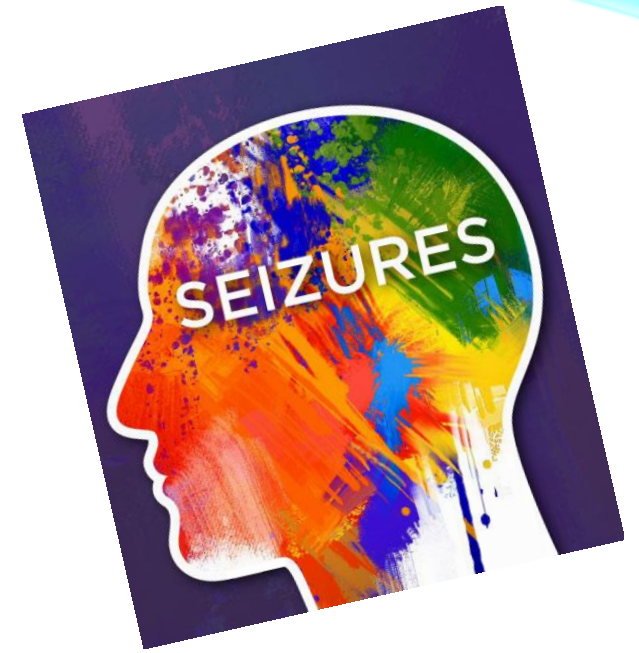
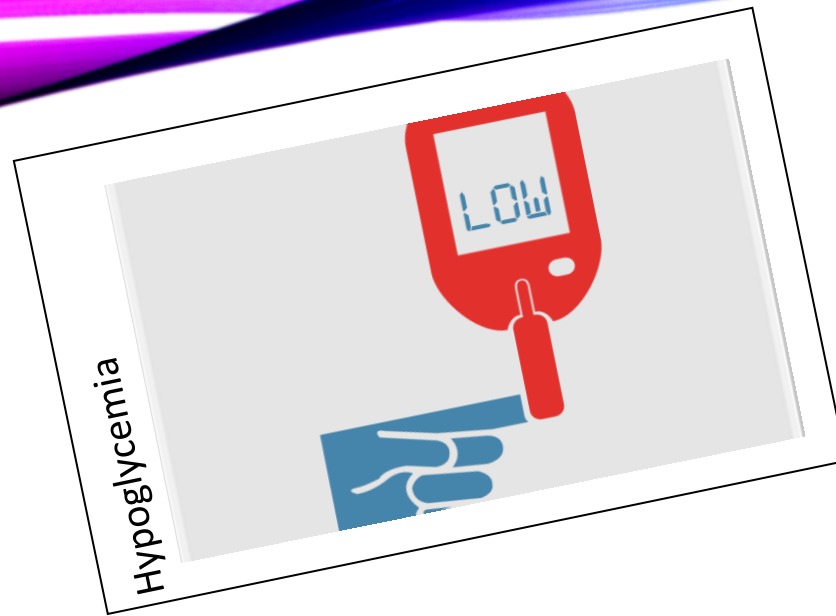


Activate EMS immediately if symptoms

- Seem serious
- Get worse
- No response to medication within 5 minutes

ASTHMA





SUDDEN ILLNESS



ANAPHYLAXIS

A severe allergic reaction potentially from:

- Bee Stings
- Foods – Peanut, Dairy, Soy, Etc.
- Medications
- Materials – Latex

ANAPHYLAXIS

Symptoms

- Wheezing
- Swelling of lips, eyelids, face
- Itchy raised lumps, or hives, on face and chest
- Nausea
- Abdominal cramping

ANAPHYLAXIS TREATMENTS

EpiPen: Epinephrine Auto Injector Pen

Neffy: Epinephrine Nasal Spray



Given in nostril



Injected into upper thigh





Save a Life



Empowered by the Disque Foundation

Bites and Stings

CPR, AED, AND FIRST AID



ENVIRONMENTAL EMERGENCIES



HEAT RELATED EMERGENCIES



HEAT EXHAUSTION



Heavy sweating

Pale, cool, sweaty skin

Nausea and vomiting

Headache

Dizziness

Feeling weak

HEAT EXHAUSTION FIRST AID

Stop activity, move to a cooler place

Loosen or remove excess clothing

Have person lie down

If uninjured, raise legs 6-12 inches

- Do not elevate the legs if it causes pain or the person is injured.

Spray water on or apply cool, wet cloths

HEAT EXHAUSTION FIRST AID (CONT.)

Use fan to increase cooling

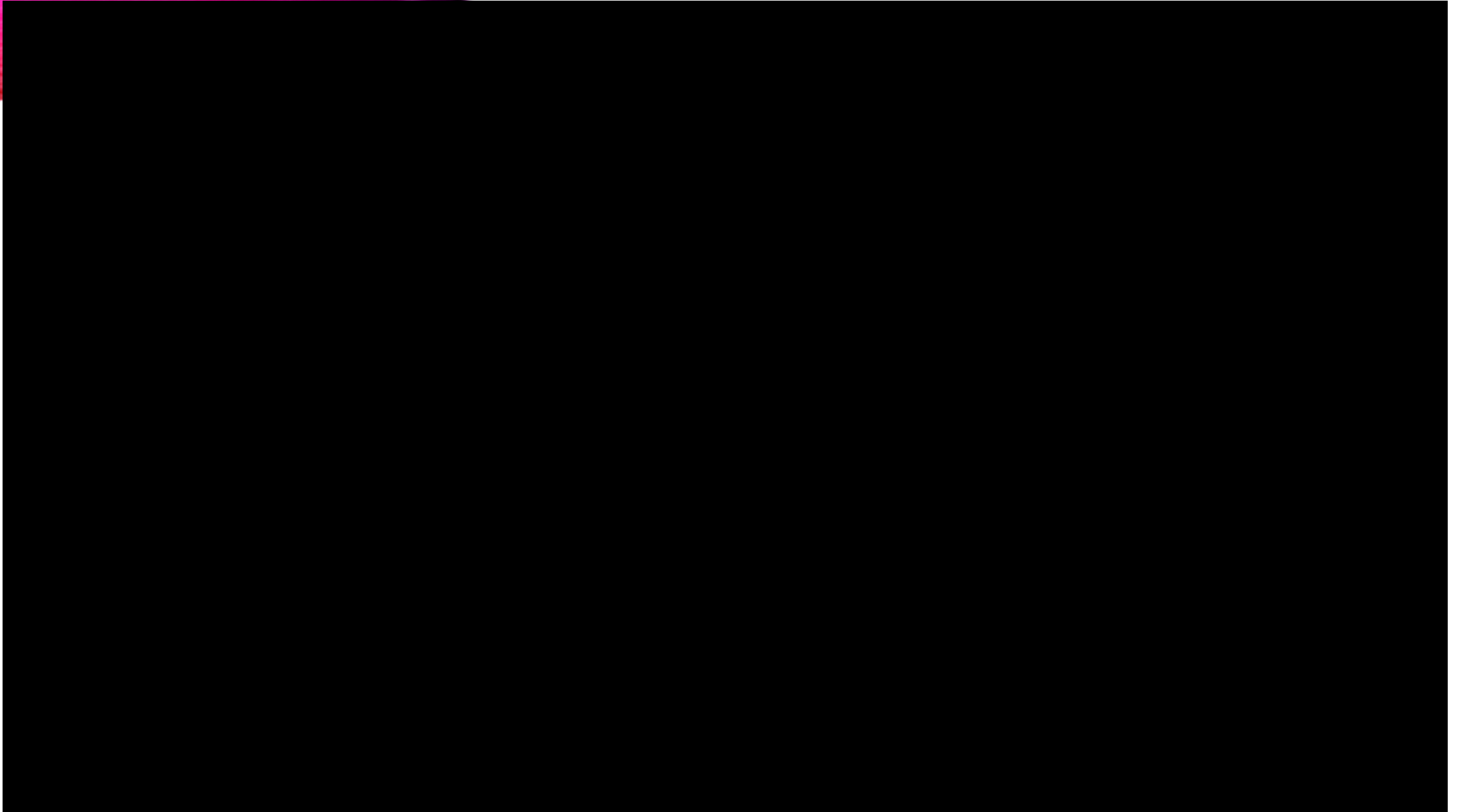
Give fluids if responsive and can swallow

- Carbohydrate-electrolyte drinks, i.e. sports drinks
- Water...Room temperature for prompt results

Activate EMS if no improvement

HEAT STRESS – WALK THE WALK

35=95f 38=100.4f 40=104f 45=113f 50=122f



HEAT STROKE



Serious medical emergency

Will be very warm or hot to touch

Usually Red, dry skin, but heavy sweating could be present

May be confused and have trouble communicating

May become unresponsive

Could experience a seizure

HEAT STROKE FIRST AID

The most important action a first aid provider can take is to begin immediate cooling with the resources available

- Immerse up to chin in cold water
- Spray or pour cold water on person and fan to increase cooling
- Apply cold packs to neck, groin, and armpits
- Cover with cold, wet sheet, and use fan to enhance cooling
- Provide continuous cooling until EMS takes over care



FROSTBITE AND HYPOTHERMIA

HYPOTHERMIA



Signs of hypothermia

- Body temperature below 95°F
- Pale, cold skin
- Uncontrollable shivering and loss of coordination

As hypothermia progresses

- Shivering may stop
- Breathing and heart rate slow down
- Body processes become impaired and may fail

HYPOTHERMIA FIRST AID

Remove wet clothing, cover with something warm and dry

Activate EMS

Cardiac arrest could occur, get AED

Move slowly to a warmer place

Cover head and neck to retain body heat

If far from medical care, begin rewarming

- **Place near a heat source**
- **Put containers of warm, not hot, water in contact skin**

FROSTBITE

FROSTBITE



Lowering tissue temperatures may cause pins-and-needles and throbbing

Using skin-to-skin rewarming may help prevent freezing

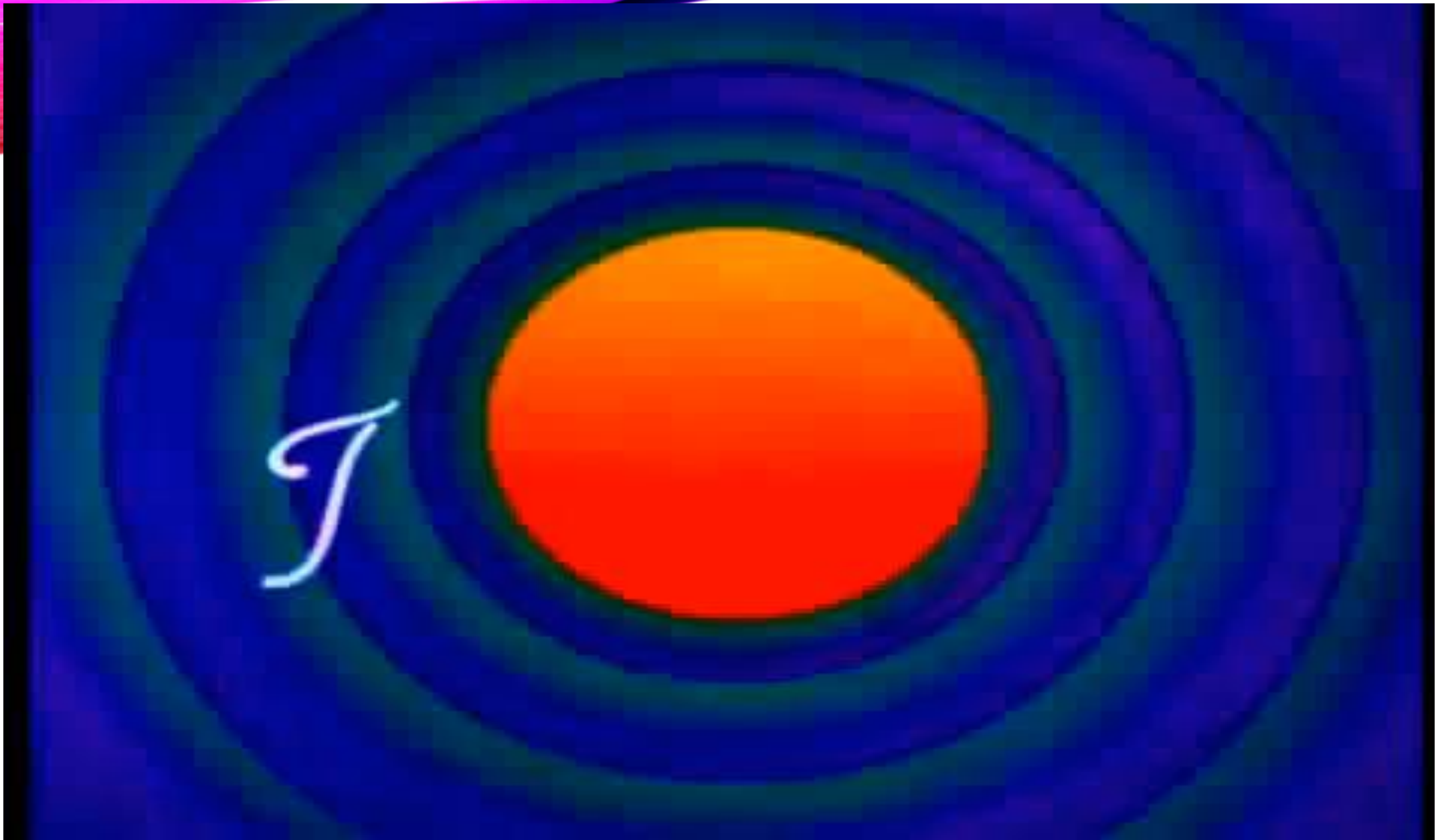
Signs of freezing

- Loss of feeling
- Firm, pale, cold, numb skin

Frostbite Firstaid

Howcast.com





Questions?



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www.scnwo.org



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MEDIC First Aid

EMS SAFETY

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