

Chapter 18 – Environmental Emergencies Presentation Notes

Factors Affecting Exposure

- _____
- _____
- _____ and _____
- _____

Loss of Body Heat

- _____ - _____ of _____ from _____ to _____ object
- _____ - _____ of _____ through _____
- _____ - _____ of _____ through _____
- _____ - _____ of _____ directly into a _____ environment
- _____ - _____ of _____ during _____
- _____ and _____ of _____ or loss can be modified in three ways:
 - _____ or _____ heat _____.
 - _____ to _____ area where _____ is increased or decreased.
 - Wear _____.

Hypothermia

- _____ of the body temperature below _____ °F (_____ °C)
- _____ does not have to be _____ for hypothermia to occur.
- _____ persons and _____ are at _____.
- People with other _____ and _____ are _____ to hypothermia.

Signs and Symptoms of Mild Hypothermia

- _____
- _____ and _____
- _____, _____, _____ skin

Signs and Symptoms of More Severe Hypothermia

- _____.
- _____ activity _____.
- _____ activity _____.
- Eventually, _____ activity _____.

Core Temperature Less Than _____ °F

- Patient may _____ (or in a _____).
- _____ assume that a _____, _____ patient is _____.

Scene Size-up

- Note _____.
- Identify _____ such as _____ roads, _____, or wet _____.

Initial Assessment

- _____ temperature on patient's _____.
- _____ can be affected.
- Ensure _____.
- _____, _____ helps warm from inside out.
- _____ for _____ pulse; wait _____ – _____ seconds.
- Transport _____ or move to _____ location.

Focused History and Physical Exam

- If _____, do a _____.
- If _____, attempt to obtain _____ history.
- Determine _____ the patient was exposed to the cold.
- _____ can affect the patient's _____.
- Focused physical exam
- _____ on areas of body directly _____ by _____.

Baseline Vital Signs

- Can be _____ by _____.
- Monitor for _____ in _____.
- Check for _____.

Interventions

- _____ from _____ environment.
- _____ patient to _____, _____, use any _____, or _____ or _____.
- _____.
- Place _____ and _____ patient.
- Handle _____.
- _____ extremities.
- Give _____.

Detailed Physical Exam

- Aimed at determining _____ and _____ of _____ injury
- Evaluate _____, _____, and _____.

Ongoing Assessment

- _____ can be _____; monitor carefully.
- Communicate _____ at _____, _____, changes in _____.

Local Cold Injuries

- _____
- _____ of the _____ but not the _____
- _____ (_____) _____
- _____ to _____
- _____
- _____ of a _____, usually an _____

Emergency Care for Local Cold Injury

- _____ the patient from _____ to the cold.
- _____ the _____ part _____.
- _____.
- _____ any _____ or _____.
- _____ the area.
- Do not _____.
- Transport.

Warm-Water Bath

- _____ temperature should be between _____ - _____ °F.
- _____ water temperature and _____ to circulate.
- Keep body part in _____ until _____ and _____ returns.
- Dress with _____, _____.

Cold Exposure and You

- EMT-Bs are at risk for hypothermia when working in a cold environment.
- Stay _____ of _____ conditions.
- _____ appropriately and be prepared.
- Vehicle must be _____ and _____.
- Never _____ to become a _____!

Heat Exposure

- _____ temperature is _____ °F.
- Body attempts to maintain _____ temperature despite _____ temperature.
- Body _____ itself by _____ (evaporation) and _____ of blood vessels.
- _____ and _____ effectiveness of _____.

Heat Cramps

- Painful _____
- _____ the patient from _____.
- Rest the _____.
- _____ by _____.
- If _____ persist, _____ the patient to hospital.

Signs and Symptoms of Heat Exhaustion

- _____, _____, or fainting
- _____ while _____ or _____ in _____
- In _____ people and _____, onset may occur while at _____ in _____, _____, and _____ ventilated areas.
- Cold, _____ skin
- _____ tongue and _____

- Patients usually have _____, but _____ can _____ and blood pressure can _____.
- _____ or _____ body temperature
- _____

Emergency Medical Care

- _____ extra clothing and remove from _____.
- Give patient _____.
- Have patient _____ down and _____.
- If patient is _____, give _____.
- Be prepared to transport.

Signs and Symptoms of Heatstroke

- _____, _____, _____ skin
- Change in _____ leading to _____
- _____ rate is _____, then _____.
- _____
- _____ can occur if the patient is _____.

Care for Heat Stroke

- _____ patient out of the _____.
- Provide _____ at a _____ setting.
- _____ the patient's _____.
- Give the patient _____.
- Apply _____ to the patient's _____, _____, and _____.
- _____ the patient with _____ or _____.
- _____ the patient.
- _____ transport patient.
- Notify the hospital of patient's condition.

You are the Provider

- You are dispatched to the Green Valley Mobile Home Park for a sick person.
- An older woman found her husband on the couch not responding.
- You note that it is very hot with no source of ventilation.
- The man is on the couch and conscious but disoriented.
- Patent airway, breathing shallow at 22 breaths/min
- Skin is red, hot, and dry.
- What medical emergency could the patient be experiencing?

Scene Size-up

- Do _____ assessment.
- _____ yourself from _____ and _____ hazards.
- ALS may need to give _____.
- Your partner applies high-flow oxygen via nonrebreathing mask; you call for ALS backup.
- _____, _____ pulse; _____ BP; _____ pupils; temp 104°F
- No signs of traumatic injury
- You _____ constricting _____, jewelry.
- You move patient into ambulance.
- Is this patient a priority?

Why or why not? _____

Initial Assessment

- The _____ altered the _____, the more _____ the exposure.
- Keep airway patent.
- _____ may _____.
- _____, _____, or _____ skin may indicate _____ core temperature.
- _____ for _____.
- If any signs of _____, transport immediately.

You are the Provider (continued)

- You set A/C on high, remove patient's clothing, apply cool packs.
- Patient's wife states that husband came in after working outside 2 hours.
- Complained he was hot and dizzy.
- She made him a sandwich and went to the neighbor's for a few minutes.
- He has an allergy to milk and cats.

- Takes Lasix twice a day and a medication for high BP.
- Do you expect this patient's blood pressure to be high?

Focused History and Physical Exam

- Note _____ / _____ that may make patient _____ to _____ - _____ problems.
- Determine _____ and _____ to symptoms.
- Assess for _____, _____.
- Examine for _____, skin temperature, _____.

Baseline Vital Signs

- May be _____ or _____
- In _____, patient may have _____ temp; may also be _____ and _____.
- In _____, patient will have _____.

Interventions

- _____ from _____ environment.
- Give _____ by mouth.
- Cover with sheet and soak with cool water.
- Set _____ on high.
- Place _____ on _____ and _____.
- Fan _____.

Detailed Physical Exam

- Pay attention to skin temperature, _____, _____.
- _____ = skin's _____ to _____
- In _____, skin will _____ when _____ on back of hand.
- Perform careful _____.

You are the Provider (continued)

- ALS is 25 minutes away.
- You choose to rendezvous.
- En route, you:
 - Elevate the patient's legs.
 - Cover patient with wet sheet.
 - Fan him.
 - Reassess.
- What actions should you take during transport to the hospital?

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Ongoing Assessment

- Watch for deterioration.
- Reassess vital signs every 5 minutes.
- Do not cause shivering.
- Document weather conditions and activities prior to emergency.

Drowning and Near Drowning

- _____
– _____ as a result of _____ after submersion in water
- _____
– _____, at least temporarily, after _____ in water

Drowning Process

Spinal Injuries in Submersion Incidents

- Suspect spinal injury if:
 - _____ has resulted from a _____ or _____ or _____.
 - Patient is _____.
 - Patient complains of _____, _____, or _____.

Spinal Stabilization in Water

- Turn the _____.
- _____ the _____ and begin _____.
- _____ a _____ the patient.
- _____ the patient from the water.
- _____ the patient with a _____.

Resuscitation Efforts

- _____ can _____ vital organs from _____.
- Documented case of a _____ of a _____ - minute _____ water _____
- _____ may cause heart rate to _____
- Define diver's reflex. _____

Diving Problems

- _____ problems
- Usually due to the _____ in _____ on the _____ as the _____
- _____ problems
- Not commonly seen
- _____ problems
- _____ and _____

Signs and Symptoms of Air Embolism

- _____
- _____ at the _____ and _____
- _____ pain in _____, _____, or _____
- _____ and/or _____
- _____, _____, and _____
- _____
- _____ with _____
- _____ and/or _____
- _____ pulse or _____

Decompression Sickness - (The Bends)

- Occurs when _____ of _____ obstruct _____ vessels
- Can result from rapid _____
- Most common symptom is _____ and/or _____ pain.
- _____ may develop after _____.
- Treatment is BLS and _____.

What is a hyperbaric chamber? _____

Scene Size-up

- Never _____ through _____ water; be cautious driving through still water.
- _____ attempt _____ without _____ and _____.
- Consider _____ and _____ stabilization.
- Check for additional patients.

Initial Assessment

- Pay attention to _____, _____, _____, complaints of sensory changes.
- Be suspicious of _____ use.
- Maintain _____; _____.
- If pulse cannot be obtained, begin _____ per guidelines.
- Evaluate for _____ and adequate _____.
- Treat _____.

Transport Decision

- Always _____ near-drowning patients to hospital.
- _____ sickness and _____ must be treated in _____.
- Perform interventions en route.

Focused History and Physical Exam

- If responsive, perform exam on _____ and _____ sounds.
- If _____:
 - Look for signs of _____ or _____.
 - Check _____ for indications of _____ or bends.
 - Focus on pain in _____ and _____.

–Check for signs of _____; complete Glasgow Coma Scale score.

Baseline Vital Signs/SAMPLE History

- Check pulse _____, _____, _____.
- Check _____, central pulses.
- Check for _____, reactivity.
- Determine _____ of time patient was _____ or time of onset of symptoms.
- Note _____, alcohol/drug use, other medical conditions.
- Determine _____ in history depth, time, previous dive activity.

Drowning Interventions

- Begin _____ as soon as possible.
- _____ and _____ spine.
- Maintain _____.
- If there is no _____, turn patient on side to allow _____ from _____ airway.
- Make sure _____ is _____, especially after cold-water immersion.

Diving Interventions

- _____ patient from _____.
- Begin BLS; administer _____.
- Place patient in _____ position with head down.
- Provide prompt transport to nearest _____ facility.
- Administer _____ and provide _____ transport.

Detailed Physical Exam

- Examine _____, _____, _____ systems.
- _____ circulatory, sensory, and _____ function tests determine extent of injury.
- Examine for _____ pulses, _____, and _____, _____, pain, numbness/ _____.

Ongoing Assessment

- May _____
- Assess _____ frequently.
- Document:
 - Circumstances of _____ and _____
 - Time _____
 - _____ of _____
 - _____ of _____
 - Possible _____
- Bring dive _____, dive _____, and dive _____ to hospital.

Other Water Hazards

- _____ from water immersion
- _____ - holding _____
- _____ from recreational equipment or _____

Prevention

- _____ should be surrounded with appropriate _____.
- _____ involved in _____ and _____ drownings.

Lightning

- Strikes _____, _____, _____, anyone in _____, _____ area
- _____ and _____ are common.

• Three categories of lightning injuries

- _____: Loss of consciousness, amnesia, tingling, superficial burns
- _____: _____, _____, _____, _____ (spontaneously resolves), _____
- _____: _____

Emergency Medical Care

- _____ yourself.
- Move patient to _____ area or stay _____ to ground.
- Use _____.
- Treat as for other _____.
- Transport to _____ facility.

Spider Bites

- Spiders are _____ and _____ in the US.
- Many species of spiders _____.
- Only the _____ and the _____ spider deliver serious, even life-threatening bites.
- Your _____ is of paramount importance.

Black Widow Spider

- Found in all states except _____
- _____ with _____ - _____ marking in hourglass shape on abdomen
- _____ to _____ tissue
- _____ patient transport as soon as possible

Brown Recluse Spider

- Mostly in _____ and _____ US
- _____ - _____ body has _____ - _____ mark, _____ to _____ in color, on its _____.
- _____ causes _____.
- Area becomes _____ and _____, with _____, _____.
- Requires patient transport as soon as possible.

Snake Bites

- _____ to _____ reported _____ bites in the US annually.
- _____ bites in the US come from _____ snakes.
- _____ from snake bites is _____.
- About _____ occur each year in the US.

Four Types of Poisonous Snakes in the US

- _____
- _____, _____, and _____
 - Store _____ in _____ behind _____
 - _____ to victim through _____

Signs and Symptoms of a _____ Bite

- Severe _____ at the bite site
- _____ and _____ discoloration
- _____ at various _____ sites
- Other signs may or may not include:

– _____ – _____
– _____ – _____

Care for Pit Viper Bites

- _____ the patient.
- _____ bite and _____ the area.
- _____ apply _____.
- _____ area to _____ movement.
- Watch out for _____ caused by _____.
- _____ give anything by _____.
- If the patient is bitten on the _____, lay the patient _____ and transport quickly.
- Monitor patient's _____.
- Mark the _____ with a _____.
- Care for _____ if signs and symptoms develop.
- _____ the _____ to hospital if it has been _____.

Coral Snakes

- Small snake with _____, _____, and _____ bands
- “_____ on _____ will _____ a fellow, _____ on _____, _____ will _____.”
- _____ with _____,
- Uses a _____ that leaves puncture wounds
- Causes _____ of the _____

Care for Coral Snake Bites

- _____ and _____ the patient.
- _____ the area with _____ to _____ quarts of _____, _____ water.
- _____ apply _____.
- _____ the extremity.
- Check and monitor _____.
- Keep the patient _____ and _____ the lower extremities to help prevent shock.
- Give supplemental _____ if needed.
- Transport promptly. Give _____ to hospital of coral snake bite.
- Give the patient _____ by _____.

Scorpion Stings

- _____ and stinger found in the _____ end.
- Mostly found in _____ US
- With one exception, the _____, most stings are only painful.
- Provide BLS care and transport.

Tick Bites

- _____ attach themselves to the _____.
- Bite is not painful, but _____ exposure to _____ organisms is dangerous.
- Ticks commonly carry _____ or _____.
- Rocky Mountain _____ develops _____ to _____ days after bite.
- Symptoms include:
 - _____,
 - _____
 - _____

–Possible _____ collapse

• _____ disease has now been reported in over _____ states.

•Lyme disease symptoms may begin _____ days after the bite.

•Symptoms include:

– _____ - _____ pattern

– _____

– _____ of the _____

Caring for a Tick Bite

•Do not attempt to _____ or _____ tick.

•Use fine _____ to grasp tick by the body and pull it _____ out.

• _____ the area with _____ and save the tick for identification.

•Provide any necessary _____ and transport.

Injuries from Marine Animals

• _____ are responsible for more _____ than any other _____ animal

What is a Coelenterate? _____

•Have _____ cells called _____

•Results in _____, _____

•Symptoms include _____, _____, _____, and _____.

Care for Marine Stings

•Limit further _____ by _____ patient _____.

• _____ by applying _____.

• _____ the remaining _____ by _____ them off.

•Provide transport to hospital.