

Instructor Notes



- Sign-In Sheets, Evaluations, Chapter Quizzes, Presentation Handouts



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BEMS # 16702C

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A SKILLS APPROACH



Medical First Responder **Module 7 – EMS Operations**

Chapter 31

Water Emergencies



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Objectives



- Near Drowning
- Scene Size-Up
- Patient Assessment
- Emergency Care (with and without Spinal Injury)
- Swift-Water Rescue
- Warm Water vs. Cold Water
- Diving Emergency
 - Air Embolism
 - Decompression Sickness



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Drowning



- Wet vs. Dry
 - Fluid Aspirated vs. Severe Muscle Spasm of Larynx
 - 10% - 40% are Dry Drowning
- Warm vs. Cold
 - Cold Water <68 Degrees F
 - Cold Drowning has been resuscitated after up to an Hour
 - Hypothermia and Diving Reflex Help



Scene Size-Up



- Patient Condition
 - Responsiveness, Injuries, Surface or Submerged
- Water Condition
 - Visibility, Temperature, Moving Speed, Depth, Other Hazards
- Resources on Hand



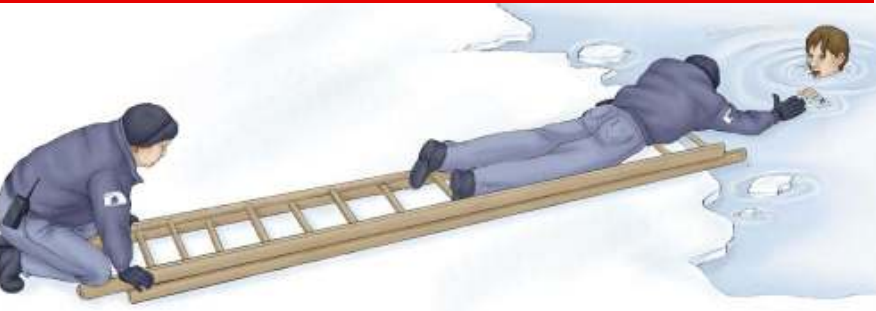
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Access Patient



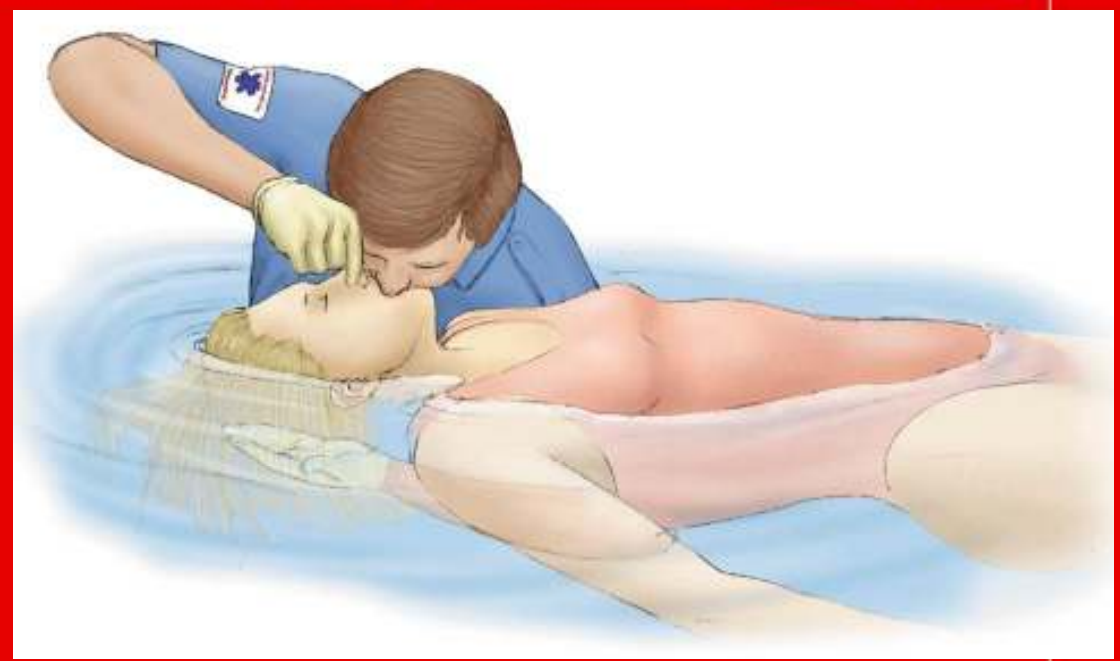
- Reach
- Throw
- Row
- Go, if:
 - Good Swimmer,
 - Training in Water Rescue,
 - Wearing PFD, *and*
 - Have Buddy



First Responder Care – No Spinal Injury



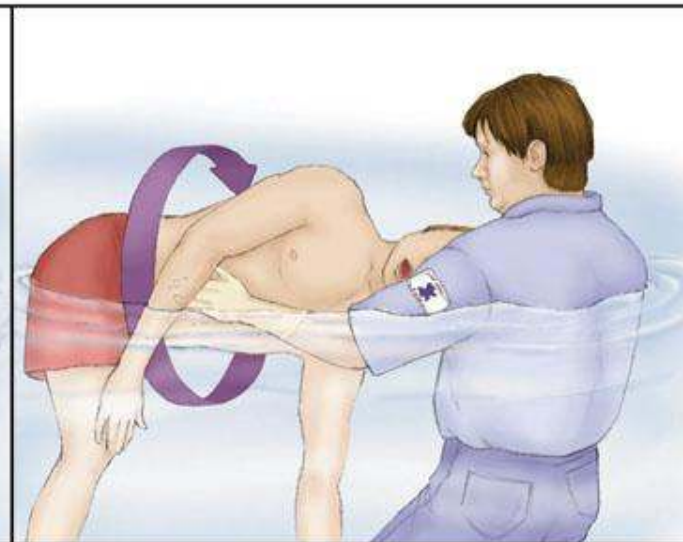
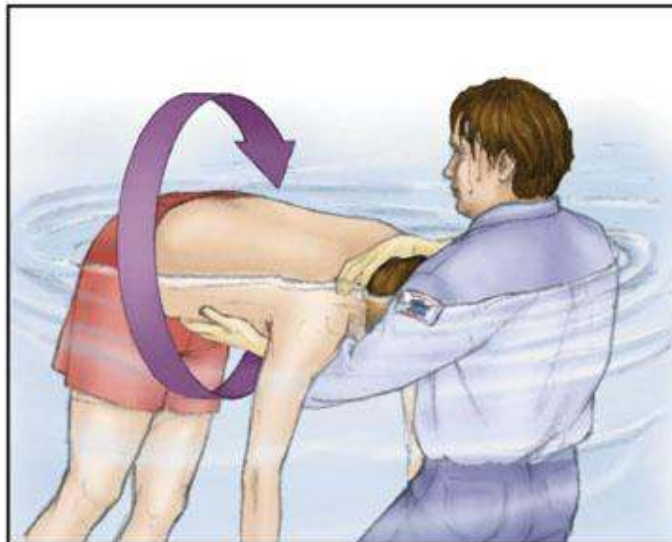
- Remove from Water
- Initial Assessment
- Oxygen and Suction
- Conserve Body Heat
- Physical Exam
- Patient History
- Always Transport – Could be Life-Threatening
Up to 72 Hours After Near-Drowning



First Responder Care – Spinal Injury



- Get Alongside Patient
- Use Arms to form Cervical Splint
- Move Patient along Axis of Body
- Submerge Backboard and Package before removing from Water (unless life-threatening)



Swift-Water Rescue Situations



- Strainers
- Obstructions
- Holes
- Low-Head Dams
- Extremity Entrapment

- **DO NOT ENTER WATER UNLESS SPECIALLY TRAINED FOR SWIFTWATER RESCUE!**



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Swift-Water Rescue



- NEVER wear Fire Gear
- ALWAYS wear PFD
- Lay on Back with feet Downstream



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Barotrauma



- Deep-Water Diver Surfaces too Quickly
- Air Embolism
 - Air Bubble Enters Bloodstream
- Decompression Sickness (The Bends)
 - Nitrogen Bubbles form in Bloodstream
- The Squeeze
 - Trapped Air Expands (Usually in Sinuses)



Air Embolism Signs and Symptoms



- Within 15 Minutes of Dive
- Dyspnea
- Blotching and Itching of Skin
- Frothy Blood in Nose and Mouth
- Muscle and Joint Pain
- Chest or Abdomen Pain
- Extremity Numbness
- Convulsions
- Dizziness
- Vomiting
- Blurred Vision
- Loss of Memory
- Slurred Speech
- Uncoordinated
- Unresponsiveness
- Cardiac or Respiratory Arrest
- Behavioral Changes



Decompression Sickness Signs and Symptoms



- 12 – 48 Hours After Dive
- Blurred Vision
- Dyspnea
- Hallucinations
- Chest Pain
- Ringing of Ears
- Itchy, Mottled Skin
- Numbness
- Swelling of Tissues
- Dysuria
- Joint and Muscle Pain



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The Squeeze Signs and Symptoms



- Immediate or During Dive
- Pain in Area
- Blood or Fluid from Nose or Ears
- Bleeding from Eyes
- Dizziness
- Disorientation
- Nausea
- Ear Pain, Ringing, and/or Deafness



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Medical First Responder **Chapter Quiz**

Chapter 31

Water Emergencies



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Chapter Quiz Review



1. D
2. A
3. B
4. B
5. A



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