

ELLIS & ASSOCIATES

International
**LIFEGUARD
TRAINING**
Program™
4TH EDITION



Lesson Plans



Meets the most current
ECC, CPR, and MAHC Guidelines

Lesson 1: Professional and Accountable Lifeguards

Lesson Overview

This lesson teaches students how to anticipate, recognize, and manage an aquatic emergency.

Learning Outcomes

After completing this lesson, participants will be able to:

- Define what is meant by “Standard of Care” and how it relates to the job of a professional lifeguard.
- Describe how a professional lifeguard should look and act.
- Describe how a professional lifeguard should maintain personal safety.
- Describe to whom a professional lifeguard is held accountable and why.
- Explain how a professional lifeguard’s performance is audited by E&A, and why the E&A audit is important.

Approximate Time: 60 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor.

The following assumptions were made for the presented approximate time:

- 16 students in the class and a single instructor (more instructors and/or fewer students will impact overall time needed).
- Does not account for additional activities (team building, ice-breakers, etc.) or watching video content (when possible, request that video content be viewed prior to class).
- Does not account for breaks, concept transitions, or transitions between classroom and pool.

As with all portions of the ILTP® Course, accomplishment of the objectives is the ultimate requirement over an exact time.

Outline

- Quick overview of Learning Outcomes
- "Anticipate, Recognize, and Manage an aquatic emergency"
- Standard of Care and how it applies to lifeguards (segue into 10/20)
- Introduction to the 10/20 Protection Standard
- Professional Image - Discussion and Demonstrations
- Introduction to the Rescue Tube - Discussion and Demonstration
- Keeping yourself safe from environmental dangers, including disease transmission
- Lifeguard Accountability - concept and how your facility will hold guards accountable

Materials Needed

- Uniform examples (include sunglasses if appropriate)
- Medical Exam Gloves, Resuscitation Masks
- Rescue Tube (in class demonstration)
- Projector/video (optional)
- PowerPoint slides and/or Video clips (as appropriate)

Key Points

- ILTP® lifeguards learn how to anticipate, recognize and manage an aquatic emergency.
- ILTP® lifeguards are expected to perform according to an established standard of care.
- ILTP® lifeguards maintain a professional image which earns respect from guests and positively reflects upon the lifeguard's facility.

Instructor Demonstration: Demonstrate ways that a lifeguard can present a professional image by dressing students up as professional and unprofessional and have the rest of the class identify the items/behaviors that relate.

- Professional lifeguards wear a uniform that identifies them as a lifeguard, provides protection from the environment, and allows immediate access to equipment to respond with during an emergency.
- Professional lifeguards employ standard precautions to minimize exposure to potentially infectious diseases.

Participant Practice: Have participants practice using the personal protective equipment by putting on gloves (both wet and dry) and accessing the mask preparing for use. Participants should also demonstrate how to wear and hold the rescue tube properly.

- As a professional lifeguard, you are accountable to your employer, to guests, and to yourself.
- Professional lifeguards perform best when they are held accountable through operational aquatic safety audits.

Participant Practice: Have participants view audit video and discuss the process explaining how the audit helps to keep lifeguards accountable by evaluating performance under normal operating conditions.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- What does it mean to "Anticipate, Recognize, and Manage an aquatic emergency"?
- What does Standard of Care mean and how does it apply to lifeguards?
- What is the 10/20 Protection Standard?
- Lifeguards present a Professional Image by following what guidelines?
- What is the purpose of the Rescue Tube and why is it important?
- How do lifeguards protect themselves from environmental dangers, including disease transmission?
- How are lifeguards held accountable at their facility?

With this lesson complete, participants will be able to demonstrate the following skills:

- Recognizing an aquatic emergency (i.e the 10/20 Protection Standard)
- Wearing and holding the rescue tube properly
- Using Personal Protective Equipment

Instructor Notes for This Lesson

Lesson 2: THE VIGILANT LIFEGUARD

Lesson Overview

This lesson focuses on the Vigilant Lifeguard and proactive protocols that will help lifeguards and aquatic facilities avoid an unresponsive Guest in Distress in the water.

Learning Outcomes

After completing this lesson, participants will be able to:

- Define the concept of vigilance and describe how it applies to the job of lifeguarding.
- Describe and perform the 10/20 Protection™ standard.
- Describe how Zone of Protection® areas assist lifeguards in maintaining vigilance.
- Describe and perform methods of proactive scanning.
- Describe distractions that may affect a lifeguard's vigilance and strategies to avoid such distractions.
- Describe how to recognize a guest in distress.
- Describe the drowning process.
- Describe high-risk guests, locations, and times.

Approximate Time: 120 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor. The following assumptions were made for the presented approximate time:

- 16 students in the class and a single instructor (more instructors and/or fewer students will impact overall time needed).
- Does not account for additional activities (team building, ice-breakers, etc.) or watching video content (when possible, request that video content be viewed prior to class).
- Does not account for breaks, concept transitions, or transitions between classroom and pool.

As with all portions of the ILTP® Course, accomplishment of the objectives is the ultimate requirement over an exact time.

Outline

Classroom:

- Quick overview of Learning Outcomes both in classroom and pool
- The value of pre-service training and a quick overview of what additional training may be required after successfully completing this lifeguard class, if employed at this facility.
- Discussion of how the 10/20 Protection Standard is used in correlation with Zone of Protection areas. If possible, include examples of current Zone documentation (pass around class during discussion).
- Scanning patterns - Demonstration in classroom of various scanning patterns.

- Strategies to avoid Distractions while on duty - include role-playing.
- Overview and discussion of the Drowning Process.
- Overview and discussion of Higher Risk guests, locations, and times, including shallow water blackout.

Pool:

- Instructor Demonstration of Lifeguard scanning techniques on the pool deck, modeling a vigilant lifeguard.
- GiD School part 1 - Have students take turns as a lifeguard, recognizing an guest in distress
- GiD School part 2 - Have students take turns as a lifeguard, recognizing an unresponsive guest on the bottom.
- Drill lifeguard scanning using additional activities.

Materials Needed

- Rescue Tube (Pool/Deck demonstration)
 - 1 rescue tube for every 2 students
- Submersible manikin/silhouette
- Projector/video (optional)
- PowerPoint slides and/or Video clips (as appropriate)

Key Points

- The job of a lifeguard requires vigilance to effectively head off problems before they escalate.

Instructor Demonstration: Instructor Deck Demo of vigilant lifeguarding (required) – Provide the “perfect” example of lifeguard vigilance and ask students to emulate.

- The 10/20 Protection Standard is the foundation for recognizing a Guest in Distress. It is important that lifeguards are quickly able to recognize the common signs that a Guest in Distress exhibits in order to respond in the timeliest manner.

Participant Practice: GiD School (required) – Use students in the water (showing signs of a distressed swimmer) and manikins/silhouettes to illustrate guests below the surface, and have the remaining students on deck observing what a GiD looks like. Be sure that all students participate as the GiD in the water and as the lifeguard on deck.

Participant Practice: Drill Lifeguard Scanning using additional activities (10/20 Clinic).

- A Zone of Protection® area is the designated part of a pool or attraction that a lifeguard provides 10/20 Protection™ standard protection over.
- An aquatic facility may have several Zone of Protection® areas that should be based upon what a lifeguard can see and are consistent with the 10/20 Protection™ standard.
- Aquatic facilities should provide lifeguards with pre-service training that includes going over the staffing plan and documentation developed for the entire facility and specific training on each Zone of Protection® area.

Instructor Demonstration: Facility specific documents (pre-service, zone documents, etc.) pass around (optional) – during the appropriate discussion, include actual documents to help drive the points home.

- Lifeguards should determine scanning patterns that work best for them, to allow complete surveillance of the Zone of Protection® area.

Instructor Demonstration: Classroom demonstration of Scanning Patterns (required) – Instructor demonstrates various scanning patterns, has students replicate after demonstration.

- Vigilant lifeguards avoid distractions while on duty protecting a Zone of Protection® area.

Participant Practice: Classroom role play – Avoiding distractions (required) – Create role playing scenarios illustrating common distractions lifeguards may encounter while on duty and have students act them out emphasizing how they can avoid them.

- A guest in distress will have the best chance of survival if rescued and treated early in the drowning process.
- Lifeguards must be vigilant at all times while on duty but should be aware of higher risk guests, locations and times.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- The 10/20 Protection standard states that as a lifeguard you have _____ seconds to identify a guest in distress within your Zone of Protection® area and _____ seconds to reach and render aid to a guest in distress once discovered.
- Is it best practice that lifeguards utilize a specific scanning pattern and never change it?
- Is it appropriate for your supervisor to interrupt your 10/20 Protection™ standard scanning if needed, without having someone else cover your Zone of Protection® area?
- Is it possible for a lifeguard to maintain the 10/20 Protection™ standard over a Zone of Protection® area while, at the same time coaching a swim team?
- What stages of the drowning process does Guests in Distress who is experiencing passive drowning cover?
- Is it true that lifeguards can assume that shallow water is not as dangerous as deep water and therefore concentrate their scanning on the deep-water areas?
- List 3 things that a lifeguard can do to ensure that children and other guests are safe at an aquatic facility?

With this lesson complete, participants will be able to demonstrate the following skills:

- Implement the 10/20 Protection Standard and demonstrate effective scanning to recognize a Guest in Distress.
- The ability to avoid distractions while on stand and to remain vigilant at all times.
- Use Zone of Protection® area documents to define the Zone for which they are responsible for guarding.
- Demonstrate and recognize the signs a distressed swimmer may exhibit.

Lesson 3: The Lifeguard Team

Lesson Overview

This lesson focuses on the Lifeguard Team, including the basic skills that allow for operational functioning and procedures needed to respond to emergency situations.

Learning Outcomes

After completing this lesson, participants will be able to:

- Describe how professional, vigilant lifeguards function as a team.
- Demonstrate how lifeguards communicate with other staff, guests, and EMS.
- Describe the components of an emergency action plan (EAP) and why this plan is critical for lifeguard teams.
- Describe methods for continued coverage of Zone of Protection[®] areas in the event of a rescue.
- Define a rescue and an assist.
- Demonstrate how lifeguards rotate at duty stations.

Approximate Time: 60 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor. The following assumptions were made for the presented approximate time:

- 16 students in the class and a single instructor (more instructors and/or fewer students will impact overall time needed).
- Does not account for additional activities (team building, ice-breakers, etc.) or watching video content (when possible, request that video content be viewed prior to class).
- Does not account for breaks, concept transitions, or transitions between classroom and pool.

As with all portions of the ILTP[®] Course, accomplishment of the objectives is the ultimate requirement over an exact time.

Outline

Classroom:

- Quick overview of Learning Outcomes.
- Lifeguard Team overview.
- Communication System (highlight both the general practices and those that are specifically used at your facility)
- Whistle Codes and Hand Signals (overview)
- External Communications during emergencies (reference local procedures/numbers).
- EAP Overview, including Zone coverage during an emergency.

Pool:

- Instructor demonstration of Lifeguard Rotation from both deck-level and elevated-level (emphasize Proactive Bottom Scan).
- Candidates practice completing rotations in stations (deck-level and elevated-level).
- Deck activity that includes candidates performing Whistle Code and Hand Signal practice.
- Instructor demonstration of performing an assist (include all types of assists).
- Candidates practice executing assists (include all types of assists).

Materials Needed

- Rescue Tube (Pool/Deck demonstration and practice of rotations and assists)
 - 1 rescue tube for every 2 students
- Whistles for demonstration and practice
- Projector/video (optional)
- PowerPoint slides and/or Video clips (as appropriate)

Key Points

- Lifeguards often perform their duties as a member of a team.
- Whistle and hand signals are used by lifeguards as the primary means of communication.

Instructor Demonstration: Classroom demonstration of Hand Signals and Whistle Codes (required) – Instructor demonstrates each or has a means by which to demonstrate.

- An aquatic facility may have several means of communication and it is the responsibility of each lifeguard to learn them all.

Instructor Demonstration/Participant Practice: Facility specific documents (related to Communication) pass around (optional) – during the appropriate discussion, include actual documents to help drive the points home.

Participant Practice: Communication practice (optional) – Additional practice of any/all communication methods as needed (whistle codes, hand signals, site specific communications).

- During an emergency, backup should be available to provide assistance and to help ensure proper coverage of your zone.
- The EAP should provide specific detail as to how zone coverage is accomplished.

Participant Practice: Facility specific documents (related to EAP) pass around (optional) – during the appropriate discussion, include actual documents to help drive the points home.

- If you do not have a backup during an emergency to cover your Zone of Protection® area, it should be cleared and closed until a back up is available.
- Lifeguards rotate while maintaining the 10/20 Protection™ standard.

Instructor Demonstration: Classroom/Pool Deck demonstration of proper rotation (required) – Instructor demonstrates each or has a means by which to demonstrate.

Participant Practice: After demonstrating the skills, use a station method having at least 2 rotations being performed at once. Emphasize Proactive Bottom Scan and insure all candidates get practice time.

- During a rotation, the incoming lifeguard completes a proactive bottom scan before assuming control over a Zone of Protection® area and the outgoing lifeguard completes a proactive bottom scan before relinquishing control of the Zone of Protection® area.
- Lifeguards may perform assists as part of their duties.

Instructor Demonstration: Pool Deck demonstration of performing an assist (required; include all assists) – Instructor demonstrates each or has a means by which to demonstrate.

Participant Practice: After demonstrating the skills, use a stager drill to organize students and provide feedback.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- According to best practices for Emergency Action Planning, when should a lifeguard function without any assistance during an emergency?
- What is wrong with this statement: “A whistle is an optional piece of equipment for a lifeguard”?
- I would use _____ to get another lifeguard’s attention, along with _____ to indicate that I need that lifeguard to cover my Zone of Protection® area.
- When performing a rotation at a duty station, the _____ is maintained while each lifeguard positions himself or herself, and equipment is transferred (if needed). Both incoming and outgoing lifeguards must perform a _____ before the rotation process is complete.
- List 4 specific pieces of information that a good Emergency Action Plans (EAP) should include:

With this lesson complete, participants will be able to demonstrate the following skills:

- Whistle and hand signals
- Perform a proper rotation while maintaining the 10/20 Protection™ standard
 - Perform a Proactive Bottom Scan
- Perform an appropriate assist for a Guest in Distress

➤ **Instructor Notes for This Lesson**

Lesson 4: Guest Relations and Additional Responsibilities

Lesson Overview

This lesson focuses on staff training, rule enforcement, guest relations, lifejackets, weather, and other items lifeguards should be familiar with. (This lesson requires only classroom time and as such, blended courses do not need to cover this content, provided candidates have completed the entire on-line review prior to the practical portion of the class).

Learning Outcomes

After completing this lesson, participants will be able to:

- Demonstrate how to effectively enforce pool rules and policies.
- Demonstrate how to effectively CARE for and DEAL with guests.
- Describe the different ways your facility may provide you with training.
- Describe the impact of a serious incident.
- Demonstrate how to select, fit, and properly maintain lifejackets.
- Describe potential weather related incidents and response.
- Describe the types of documentation you may be asked to complete.

Approximate Time: 45 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor. The following assumptions were made for the presented approximate time:

- 16 students in the class and a single instructor (more instructors and/or fewer students will impact overall time needed).
- Does not account for additional activities (team building, ice-breakers, etc.) or watching video content (when possible, request that video content be viewed prior to class).
- Does not account for breaks, concept transitions, or transitions between classroom and pool.

As with all portions of the ILTP® Course, accomplishment of the objectives is the ultimate requirement over an exact time.

Outline

- Quick overview of Learning Outcomes.
- Overview of ongoing training for lifeguard preparation.
- Discuss the impact of a serious incident.
- Discussion, including demonstrations/role-playing for guest relations and rule enforcement.
- Discuss and demonstrate effective crowd control during an emergency.
- Discuss and practice using life jackets.
- Discuss weather and weather related facility policies and EAP.

Materials Needed

- Copies of general facility rules (optional handouts)
- Copies of specific facility rules (optional handouts)
- Policies/Procedures for dealing with guests
- Life jackets (emphasis on those used at your facility)
- Projector/video (optional)
- PowerPoint slides and/or Video clips (as appropriate)

Key Points

- Lifeguards are expected to consistently and universally enforce pool rules and policies at their aquatic facility.
- Lifeguards should use the positive approach when enforcing pool rules
- Lifeguards should remember and follow the golden rule of guest relations
- Lifeguards should use the C.A.R.E philosophy to assist in guest relations.
- Lifeguards should use the D.E.A.L approach when handling difficult situations or guests.

Instructor Demonstration: Classroom demonstration of good guest relations and rule enforcement (required) – Instructor demonstrates examples or has a means by which to demonstrate.

Participant Practice: Candidates participate/practice through role-play as a means by which to show understanding of concepts. Pre-planned scenarios with instructions and a list of facility rules should be provided.

- Lifeguards should embrace opportunities to improve and demonstrate their abilities.
- Documentation is an important secondary duty of lifeguards.
- Lifejackets that are properly fitted and worn allow children, non-swimmers, and weak swimmers a way to fully and safely enjoy your aquatic facility.

Instructor Demonstration: Classroom demonstration of proper fitting and/or use of life jackets (emphasizing those used at your facility) – Instructor demonstrates in person or has a means by which to demonstrate.

Participant Practice: Candidates participate/practice fitting life jackets on each other and/or manikins as a means by which to show understanding of concepts. Q&A session can be held while candidates practice to confirm student understanding of life jacket use.

- Lifeguards must be aware of the dangers of various weather phenomena and how to appropriately respond to protect guests.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- How are rule enforcement and customer service related to each other?
- Why do rules need to be strictly enforced, regardless of the age of the guest or time of day?
- How does knowing where the rules are posted and how they read, assist lifeguards with enforcement?
- What do the letters in “C.A.R.E” stand for?
- Why is it important to look at outcomes when dealing with difficult situations?
- After a rescue, it is important to _____ what happened, so information regarding the incident is readily available should it be needed.
- Lightning can be detected using what 3 methods:
- Lifeguards can enhance both safety and the enjoyment of guests who are non-swimmers, weak swimmers or children by: _____?

With this lesson complete, participants will be able to demonstrate the following skills:

- “CARE” for guests and “DEAL” with difficult situations.
- Select, fit, and properly maintain lifejackets.
- Properly document an incident should one occur.

➤ **Instructor Notes for This Lesson**

Lesson 5: Active Guest in Distress Rescues

Lesson Overview

This lesson focuses on responding to active Guests in Distress, using the rescue tube to facilitate a safe and effective rescue of each at various depths and circumstances. (This lesson requires only pool time and as such, you should consider having candidates watch the Active Guest in Distress rescue video clips in the electronic flipbook, prior to the class).

Learning Outcomes

After completing this lesson, participants will be able to:

- Perform the arm extension and rescue tube assists.
- Perform the compact jump and approach stroke.
- Perform the front drive rescue.
- Perform adjustments to the front drive rescue.
- Perform the rear hug rescue.
- Perform the two-lifeguard rescue.
- Perform the duck pluck rescue.
- Perform the deep-water rescue.
- Describe how you would handle a multiple guest in distress rescue.

Approximate Time: 90 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor. The following assumptions were made for the presented approximate time:

- 16 students in the class and a single instructor (more instructors and/or fewer students will impact overall time needed).
- Assumes basic demonstration/drills, and related SCW completion (evaluation of skill competency) but not extra practice time if the instructor determines it is needed to meet the objectives.
- Does not account for additional activities (water games, team building, ice-breakers, etc.) or watching video content (when possible, request that video content be viewed prior to class).
- Does not account for breaks, concept transitions, or transitions between classroom and pool.

As with all portions of the ILTP® Course, accomplishment of the objectives is the ultimate requirement over an exact time.

Outline

- On deck (or in class room prior to coming to the pool), Instructor goes over learning outcomes and objectives.
- Instructor demo, followed by candidate practice of Compact Jump and Approach Stroke

Instructor

- Instructor demo, followed by candidate practice of Front Drive, including adaptations.
- Instructor demo, followed by candidate practice of Rear Hug.
- Instructor demo, followed by candidate practice of Two-guard rescue.
- Instructor demo, followed by candidate practice of Duck Pluck.
- Instructor demo, followed by candidate practice of Deep Water rescue (pool and special facilities candidates only).
- Additional Practice time (optional) - determined by instructor based upon abilities demonstrated.
- Candidates complete SCW covering chapter 5 related objectives.
- On-deck discussion of how to rescue multiple GiDs if encountered.

Materials Needed

- Rescue Tube (Pool/Deck demonstration and practice of rescues and assists)
 - 1 rescue tube for every 2 students
- Whistles for skills practice
- Projector/video (optional)
 - Video clips of rescues (optional)

Key Points

- Lifeguards may be able to assist a guest in distress without compromising their 10/20 Protection™ scanning.

Instructor Demonstration: Pool Deck demonstration of performing an assist (required; include all assists) – Instructor demonstrates each or has a means by which to demonstrate.

Participant Practice: After demonstrating the skills, use a stager drill to organize students and provide feedback.

- The Compact Jump is used to safely enter the water when performing a rescue.
- The Approach Stroke is used to reach the guest quickly.
- The Front Drive is used to rescue a guest on the surface facing you.
- The Front Drive can be adjusted if the guest attempts to grab you or push your head under water.
- The Rear Hug is used to rescue a guest on the surface facing away from you.
- The Duck Pluck is used to rescue a guest below the surface but within arms reach.
- The Deep Water rescue is used to rescue a guest below the surface and beyond arms reach.

Instructor Demonstration: Demonstration of all Lesson 5 skills (Compact Jump through Deep Water rescue) is required. Instructor should focus on modeling techniques both slowly and at full speed to allow candidates time to understand concepts and ask questions. Shallow Water courses do not need to review Deep Water skills.

Participant Practice: Candidate drills of all Lesson 5 skills (Compact Jump through

Deep Water rescue) is required. After completing demonstrations, instructors should organize the class to allow for skills practice. Refer to “Drills” video content in menu for tips on setting up drills. Instructors may want to demo/practice each skill individually as opposed to demonstrating all skills then allowing for practice.

Instructor Demonstration/ Participant Practice: Additional Demos/Practice time (optional). If the instructor believes additional demos/practice time is necessary to prepare candidates for SCW completion, extra time should be allotted.

SCW Completion: Required once all candidates are ready to demonstrate competency of objectives related to Lesson 5.

- After completing a rescue of an active Guest in Distress, transfer care to a supervisor or another lifeguard. A rescue report will need to be completed by you or your supervisor.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- If a guest were in trouble but far away from you in the water, would you perform an assist or a rescue?
- To perform the compact jump safely, the lifeguard should keep their _____ flat and the _____ bent.
- List the 2 strokes that should be used when performing the Approach Stroke skill.
- A guest in distress who is active and facing you can best be rescued using the _____ rescue.
- A guest in distress who is active and facing you can best be rescued using the _____ rescue.
- The _____ rescue includes the combination of the Front Drive and Duck Pluck rescues.
- The key objectives to accomplish while rescuing multiple guests in distress are _____ and _____.
- To execute a Deep Water rescue on an active guest in distress, a lifeguard should perform what type of surface dive?
- When performing any rescue on an active guest in distress, lifeguards should remember to _____ with the guest to reassure and comfort them.

With this lesson complete, participants will be able to demonstrate the following skills:

- Perform the arm extension and rescue tube assists.
- Perform the compact jump and approach stroke.
- Perform all of the Active Guest in Distress rescues (surface, sub-surface, bottom).
- Execute multiple guest rescues while maintaining their own personal safety.

Lesson 6: Respiratory Emergencies

Lesson Overview

This lesson teaches students the important steps of assessment and care for unresponsive, non-breathing guests, as well as those with airway obstruction.

Learning Outcomes

After completing this lesson, participants will be able to:

- Describe how to assess a motionless guest.
- Demonstrate how to provide rescue breathing with a resuscitation mask for an unresponsive, non-breathing guest.
- Demonstrate how to care for an airway obstruction in a responsive or unresponsive guest.
- Demonstrate how to use a manual suction device.

Approximate Time: 125 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor.

Practicing the necessary skills requires:

- 1 resuscitation mask with one – way valve for every student
- 1 CPR manikin (adult/child and infant) for every two students
- 1 v-vac suction device for every 4 students

Outline

- Assessing Responsiveness (5 min)
- Assessing Breathing and Pulse (20 min)
- Opening the Airway (15 min)
- Rescue Breathing (25 min)
- Airway Obstruction (35 min)
- Suction (20 min)
- Concept and Skill Competency (5 min)

Materials Needed

- Manikins (Adult, Child, Infant)
- Barrier devices (Resuscitation mask, BVM)
- Suction devices (V-vac manual suction and cartridges)
- Manikin disinfectant - Bleach solution (1/4 cup bleach to 1 gallon water) or alcohol wipes
- PowerPoint slides
- Video clips

Key Points

Assessing Responsiveness (5 min)

- After determining that the scene is safe, assess responsiveness (consciousness).

- A talking guest is responsive. Ask the guest's name and what happened. If the guest can respond appropriately he or she is alert.
- Activate your EAP if the guest's responses are inappropriate, indicating the guest is not alert.
- If the guest is found motionless, check the guest to see if he or she will wake up. Tap the guest on the shoulder and shout "Are you Ok?"
- If the guest does not respond to your stimulus, the guest is considered to be unresponsive. Activate your EAP.

Assessing Breathing and Pulse (20 min)

- Assess breathing and pulse simultaneously. This should take no more than 10 seconds.
- Look for movement (rising and falling) of the chest that would indicate breathing.
- Agonal breaths are gasping breaths that indicate ineffective breathing. They can occur during the first few minutes of cardiac arrest.
- The presence of a pulse means the heart is circulating blood. Feel for a pulse at the same time you check for breathing
 - Carotid pulse in either side of the neck for adults and children (age 1-puberty, about age 12-14)
 - Brachial pulse in the inside of the upper arm for infants (under 1 yr of age)
- If the guest is unresponsive, not breathing (or only has Agonal breaths), and if the pulse is absent, barely detectable, or you are uncertain, provide cardiopulmonary resuscitation (CPR).

Instructor Demonstration: Demonstrate how to assess responsiveness, breathing, and pulse

Participant Practice: Have participants practice how to assess responsiveness, breathing, and pulse on fellow participants.

Opening the Airway (15 min)

- A guest who is unresponsive, not breathing (or has only occasional gasps), but has a pulse, needs rescue breathing.
- Before effective rescue breathing can be provided, the guest's airway must be opened.
- Open the guest's airway so that the tongue does not restrict the back of the throat.
- Two common maneuvers used by lifeguards:
 - Jaw thrust with head tilt
 - Jaw thrust without head tilt
- The jaw thrust with head tilt is done when no spinal injury is suspected.
- Place your index and middle fingers of both hands behind the angle of guest's jaw, and your thumbs on the cheekbones. Lift the jaw with your fingers and tilt the head back

- The jaw thrust without head-tilt is the preferred method to open the airway when a spinal injury is suspected.
- Place your index and middle fingers of both hands behind the angle of guest's jaw, and your thumbs on the cheekbones. Lift the jaw with your fingers but do not tilt the head back.

Recovery Position

- The recovery position can be used to assist an unresponsive guest who begins to vomit, or to assist a responsive, breathing guest who has just been successfully resuscitated.
- This position uses gravity to allow for the passive drainage of fluids from the mouth and keeps the airway open.
- Log roll the guest's body as a unit, moving the head, shoulders, and hips together so that the guest is on his or her side

Instructor Demonstration: Demonstrate the two methods used to open the airway on a manikin

Participant Practice: Have participants practice the two methods used to open the airway on a manikin.

Rescue Breathing (25 min)

- With the airway open, use a barrier device, such as a resuscitation mask or bag-valve mask, to provide rescue breaths.
 - Cover the mouth and nose with the resuscitation mask
 - Maintain a good mask seal
 - Provide one breath about every 5 seconds for an adult, or every 3 seconds for a child or infant.
 - Each breath should take about one second, and you should see the guest's chest rise.
- Continue providing breaths for approximately 2 minutes then recheck the guest's pulse.

Instructor Demonstration: Demonstrate the assessment steps, opening the airway, and providing rescue breathing for an adult/child and infant using a resuscitation mask.

Participant Practice: Have participants practice the assessment steps, opening the airway, and rescue breathing on adult/child and infant manikins.

Airway Obstruction in a Responsive Guest (20 min)

- Airway obstruction (choking) in a conscious adult most often results from an object, such as food, becoming lodged in the throat.
- If the guest cannot cough, speak, cry, or breathe, or is coughing weakly or making high pitched “crowing” sounds, the airway is severely obstructed, and immediate care is needed.
- Use the Heimlich Maneuver to dislodge the obstruction from an adult or child.
 - Locate the navel
 - Place a fist just above the navel
 - Grasp the fist with the other hand and give inward and upward abdominal thrusts until the object is relieved
- If a choking guest is too large and you are unable to reach around the guest to give effective abdominal thrusts, or if the guest is obviously pregnant, give chest thrusts.
- If an infant (birth to one year) is conscious and choking, use a series of 5 back slaps and 5 chest compressions to relieve the obstruction.

Instructor Demonstration: Demonstrate the hand position for the Heimlich Maneuver, to relieve airway obstruction in a responsive adult or child.

Participant Practice: Have participants practice determining hand position for the Heimlich Maneuver, and simulating abdominal thrusts.

Airway Obstruction in an Unresponsive Guest (15 min)

- If a guest becomes unresponsive while caring for choking:
 - lower the guest to ground
 - Provide 30 chest compressions
 - Look in the mouth and remove any object with a finger sweep
 - Provide 2 breaths.
 - Repeat these steps until the obstruction is relieved.
- If a breath fails to make the chest rise, it is likely that the airway was not properly opened. Follow these steps:
 - Remove the resuscitation mask and move the head toward the chest
 - Reapply the mask and open the airway
 - Reattempt your breath
 - If unsuccessful, provide chest compressions, check the airway, and repeat breaths as previously discussed.

Instructor Demonstration: Demonstrate the steps for relieving airway obstruction in an unresponsive guest.

Participant Practice: Have participants practice relieving airway obstruction in an unresponsive guest.

Using a Manual Suction Device (20 min)

- A suction device can remove fluid and vomit from the airway.
- To use a manual (handheld) suction device:
 - Roll the guest to one side.
 - **I**nstall a new cartridge if necessary.
 - Remove the protective cap from the tip of the suction catheter.
 - Open the guest's mouth and insert the tip of the device along the cheek, to the base of the tongue.
 - Squeeze the suction handle and hold until suction stops. Repeat.
 - Suction no longer than 10 seconds.
 - If the cartridge fills completely, replace the cartridge and continue care. Dispose of the cartridge properly.

Instructor Demonstration: Demonstrate the use of a manual suction device on a manikin. Use a cup of water to show the force of the suction. Demonstrate how to remove and install a cartridge.

Participant Practice: Have participants practice the use of a manual suction device, including removing and installing a new cartridge.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- Can you describe how to assess responsiveness, breathing, and pulse?
- How should you provide rescue breathing for an adult, child, and infant in respiratory arrest?
- How should you provide care for an airway obstruction in a responsive or unconscious adult, child, and infant?
- How do you use a manual suction device to remove fluid or vomit from an unresponsive guest's mouth?

With this lesson complete, participants will be able to demonstrate the following skills:

- Rescue breathing using a resuscitation mask for an adult, child, and infant
- Clearing an airway obstruction for a responsive or unresponsive adult, child, and infant.
- Using a manual suction device

Instructor Notes for This Lesson

Lesson 7: Supplemental Oxygen Support

Lesson Overview

This lesson teaches students the important steps of applying supplemental oxygen to breathing and non-breathing guests through several delivery devices.

Learning Outcomes

After completing this lesson, participants will be able to:

- Describe the benefits of using supplemental oxygen during resuscitation of a drowning guest.
- Explain the parts of a supplemental oxygen support (SOS) system.
- Demonstrate how to use an SOS system.
- Explain the safety precautions necessary when using an SOS system.
- Explain the basic care and maintenance of an SOS system.
- Demonstrate how to use a bag-valve-mask attached to an SOS system
- Demonstrate how to use a non-rebreathing mask and pulse oximeter.

Approximate Time: 105 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor.

Practicing the necessary skills requires:

- 1 CPR manikin (adult/child and infant) for every 4 students
- 1 SOS system for every 4 students (w/resuscitation mask, BVM, Non-rebreathing mask, and pulse oximeter)

Outline

- Drowning and oxygen (5 min)
- Supplemental oxygen support (SOS) system (30 min)
- Care, maintenance, and use of SOS systems (10 min)
- Bag-valve-mask (BVM) (20 min)
- Emergency Supplemental Oxygen for Responsive Guests (30 min)
- Concept and Skill Competency (5 min)

Materials Needed

- Manikins (Adult/Child, Infant)
- Barrier devices (Resuscitation mask, BVM)
- Non-rebreathing masks
- Pulse oximetry devices
- Manikin disinfectant - Bleach solution (1/4 cup bleach to 1 gallon water) or alcohol wipes
- PowerPoint slides
- Video clips

Key Points

Drowning and Oxygen (5 min)

- The greatest permanent harm in drowning incidents occurs to the brain, which cannot function without the continuous delivery of oxygenated blood.
- Supplemental oxygen should be provided to any guest experiencing a drowning incident with evidence of respiratory distress.
- Supplemental oxygen can provide a higher concentration of oxygen that benefits the guest experiencing difficulty breathing or not breathing.

Instructor Demonstration: Point out each of the features of the SOS system while discussing the key points and demonstrating the use of the SOS system in the following section.

Supplemental Oxygen Support (SOS) System (30 min)

- An SOS system meets emergency oxygen requirements for use during resuscitation with a continuous flow rate of 15 liters per minute (lpm)
- If your facility chooses to use an oxygen delivery system that is different from the equipment used in this training course, you must receive additional training from your facility in the use of its specific equipment.
- The SOS oxygen cylinder is a seamless steel or aluminum alloy cylinder filled to a working pressure of approximately 2000 pounds per square inch (psi).
- The most common sizes for portable oxygen cylinders are D and E cylinders, which can hold 350–650 liters of oxygen at 2000 psi and 70°F (21°C).
- The length of time that the oxygen in a cylinder will last depends on the size of the cylinder, the amount of oxygen in the cylinder, and the rate of oxygen flow from the cylinder.
- The Food and Drug Administration requires that oxygen systems designed for emergency use contain at least a 15-minute supply of oxygen and deliver a preset flow rate of at least 6 lpm.
- Oxygen cylinders in the United States have a distinctive green coloration and yellow diamond indicating “oxidizer.”
- The label on the cylinder points out the warnings about proper handling of the cylinder.
- Labeling also shows the requirement for cylinder hydrostatic testing every 5 years to make sure the cylinder is in good working condition and can withstand the pressure of holding the compressed oxygen.
- The cylinder has a valve that allows high-pressure gas in the tank to be delivered by a pressure regulator attached to the valve.
- The valve has three holes that allow the pressure regulator to be secured with a leak-proof connection.

- ❑ When the valve is opened by knob or wrench, oxygen enters the attached pressure regulator.
- ❑ The pressure regulator allows for the administration of oxygen at a safe working pressure and at a selected flow rate.
- ❑ Metal prongs on the pressure regulator engage matching holes on the cylinder valve.
- ❑ A plastic gasket, commonly called an “O-ring,” creates a leak-proof seal between the valve and regulator.
- ❑ Once positioned in the valve, hand-tighten the regulator, and open the valve. The regulator will tell how much oxygen is in the tank and estimated amount of time supplemental oxygen can be delivered to a guest.
- ❑ The flowmeter on the regulator controls the precise amount of oxygen to be delivered to the guest.
- ❑ A continuous oxygen flow rate of 15 lpm is recommended during resuscitation efforts.
- ❑ The SOS system at your facility likely has a preset flowmeter that allows only a flow rate of 15 lpm.
- ❑ Resuscitation masks for use with SOS systems have an oxygen inlet for easy attachment to the oxygen regulator through oxygen tubing.
- ❑ Cylinders should be changed if the gauge shows less than 15 minutes or 500 psi of oxygen remaining in the cylinder.
- ❑ To change oxygen cylinder in use:
 - Close the valve.
 - Open the flowmeter to bleed off oxygen remaining under pressure in the regulator.
 - Remove the regulator from the used oxygen cylinder.
 - Properly seat the regulator on a new oxygen cylinder and hand-tighten it down.
 - With the flowmeter off, open the valve and read the starting pressure in the cylinder, which should be approximately 2000 psi (or “full”).

Participant Practice: Have participants work in small groups to practice setting up and breaking down the SOS system.

Care, Maintenance, and Use of SOS Systems (10 min)

- ❑ Each SOS system should be checked at the beginning of each workday, as part of your facility’s opening procedures.
- ❑ Your facility’s trauma bag may contain your SOS system, including items such as bag-valve-masks, manual suction, resuscitation masks, gloves, first aid supplies, an automated external defibrillator (AED), and AED supplies.
- ❑ Follow the guidelines for proper care, maintenance, and use of your SOS system outlined in the chapter.
- ❑ Your facility should have a checklist for your SOS system

Instructor Note: Review Table 7.1 SOS Checklist, and review any specific checklist used by your facility.

Bag-Valve-Mask (30 min)

- The bag-valve-mask (BVM) is a device used to provide breaths to a non-breathing guest by attaching a resuscitation mask to one end of a self-refilling bag and the other end of the bag to the SOS system.
- When the bag is squeezed, air passes through a one-way valve attached to a mask positioned on the guest's face.
- The BVM provides a higher concentration of oxygen than rescue breathing (21% -90%)
- BVMs come in various sizes for infants, children, and adults.
- Provide rescue breaths with a resuscitation mask until a BVM attached to oxygen is available.
- The BVM is best used by two rescuers. One rescuer applies the mask and opens the airway. The other rescuer squeezes the bag enough to produce chest rise.
- If the chest fails to rise, it could be because of a poor mask seal, failure to open the airway or squeeze the bag with enough volume, or a foreign body airway obstruction.

Instructor Demonstration: Demonstrate the use of the BVM.

Participant Practice: Have participants practice using the BVM and different size masks on adult/child and infant manikins.

Emergency Supplemental Oxygen for Responsive Guests (30 min)

- It may also be appropriate to use supplemental oxygen on responsive, breathing guests when signs and symptoms of hypoxia, accompanied by respiratory distress are found.
- Respiratory distress and hypoxia may follow successful resuscitation, caused by a sudden illness, a chronic illness, or by inhaling (or ingesting) a toxic substance.
- Signs and symptoms that may indicate that a guest is suffering from respiratory distress and hypoxia, including:
 - Weak or rapid or noisy breathing
 - Prolonged coughing
 - Mouth breathing, drooling (especially in children)
 - Difficulty speaking while breathing
 - Changes in consciousness
 - Instinctively sitting up and leaning forward to aid in breathing
- A non-rebreathing (NRB) mask is a combination mask and reservoir bag system capable of delivering an oxygen concentration of about 90%.

- Oxygen fills the reservoir bag. Air passes through a one way valve to the guest. Exhaled air escapes through flapper valve ports on the sides of the mask.
- The NRB requires a flow rate of 10-15 lpm, the same as a BVM.
- To use a NRB mask:
 - Select the adult or pediatric mask.
 - Turn on the oxygen
 - Allow the reservoir bag to fill.
 - Place the mask on the guest's face, covering the mouth and nose.
 - If the guest cannot tolerate the mask against the face, hold it slightly away from the face.
 - Use a pulse oximeter to maintain normal blood oxygen level
- Evidence suggests that too much oxygen provided over an extended period can actually be harmful to some guests.
- Applying a pulse oximeter to the guest's finger (normally the index finger) can provide a measurement of oxygen saturation and heart rate.
- Supplemental oxygen should be provided to achieve a target saturation of 94–98% for most acutely ill guests, and 88–92% for those with known chronic obstructive pulmonary disease (COPD) such as emphysema.
- Discontinue supplemental oxygen if the blood oxygen level reaches or exceeds the peak of the stated ranges or the guest is feeling better.
- Continue to monitor oxygen level, and reapply oxygen if the blood oxygen level fall rapidly or is outside of the stated ranges.
- Situations that may affect the pulse oximeter from attaining an accurate reading include:
 - Carbon monoxide poisoning
 - Significant blood loss
 - Hypothermia
 - Low blood pressure
 - Guest movement
 - Direct, bright light

Instructor Demonstration: Demonstrate the use of the pulse oximeter, and how to apply the non-rebreathing mask.

Participant Practice: Have participants practice using the pulse oximeter, and how to apply the non-rebreathing mask.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- Can you describe how to set up an SOS system?

- How should you use a BVM?
- How should you apply a non-rebreathing mask?
- How do you use a pulse oximeter?

With this lesson complete, participants will be able to demonstrate the following skills:

- Set up and break down an SOS system.
- Apply a non-rebreathing mask.
- Using a pulse oximeter

Lesson 8: Cardiac Emergencies

Lesson Overview

This lesson teaches students the important steps of applying supplemental oxygen to breathing and non-breathing guests through several delivery devices.

Learning Outcomes

After completing this lesson, participants will be able to:

- Describe how the heart functions.
- Describe how to provide care for a guest experiencing cardiac arrest.
- Demonstrate how to provide cardiopulmonary resuscitation (CPR) for an adult, child, and infant in cardiac arrest.
- Describe the purpose of defibrillation.
- Demonstrate how to use an automated external defibrillator (AED).
- Describe how to handle four special considerations associated with the use of an AED.

Approximate Time: 120 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor.

Practicing the necessary skills requires:

- 1 CPR manikin (adult/child and infant) for every 2 students
- 1 resuscitation mask for every student
- 1 AED training device for every 4 students
- SOS system for every 4 students

Outline

- How the heart works (3 min)
- Cardiac arrest (3 min)
- Caring for cardiac arrest (3 min)
- Cardiopulmonary resuscitation (CPR) (50 min)
- Defibrillation (5 min)
- About AEDs (5 min)
- Using an AED (40 min)
- Special considerations for AED use (5 min)
- Concept and Skill Competency (5 min)

Materials Needed

- Manikins (Adult/Child, Infant)
- Barrier devices (Resuscitation mask, BVM)
- SOS System
- AED training devices
- Manikin disinfectant - Bleach solution (1/4 cup bleach to 1 gallon water) or alcohol wipes

- PowerPoint slides
- Video clips

Key Points

How the Heart Works (3 min)

- The heart is an organ with four hollow chambers. The two right-side chambers receive oxygen poor blood from the body and pump it out to the lungs
- The lungs remove waste products and introduce oxygen to the blood.
- The oxygen-rich blood is returned to the two chambers on the left side of the heart, and pumped out to the rest of the body
- The pumping action of the heart is controlled by special pacemaker cells in the heart emitting electrical impulses to the heart muscle cells.
- In response to the electrical stimulus the heart muscle cells contract, forcing blood throughout the body, which is felt as a pulse.
- These electrical impulses keep the heart beating regularly.

Cardiac Arrest (2 min)

- When the heart's electrical and mechanical system malfunctions, the heart can stop beating (cardiac arrest), and no signs of life are visible.
- Many sudden cardiac arrests result from an electrical malfunction of the heart.
- The two most common electrical abnormalities occur in the ventricles, the bottom two chambers of the heart: ventricular fibrillation (V-fib) and ventricular tachycardia (V-tach).
- V-fib is chaotic, disorganized electrical activity. The heart does not pump blood.
- In V-tach the ventricles beat too quickly to pump blood effectively.

Caring for Cardiac Arrest (3 min)

- Time is critical when caring for a guest in cardiac arrest. Four items must occur promptly for the guest to have the best chance of survival:
 - Activating your EAP to summon other lifeguards and supporting responders, and EMS professionals
 - Providing high quality cardiopulmonary resuscitation (CPR)
 - Providing rapid defibrillation, normally through use of an automated external defibrillator (AED).
 - Securing advanced care by paramedics on the scene and physicians and nurses in the hospital.

Cardiopulmonary Resuscitation (CPR) (50 min)

- CPR is the process of compressing the chest repeatedly to circulate blood and oxygen to all parts of the body, and providing rescue breaths to supply additional oxygen to the lungs.
- The general steps of one rescuer CPR are the same for infants (birth to 1 year), children (1 year to puberty), and adults.
 - Make sure the scene is safe. Take standard precautions.

- Check responsiveness
- Activate your EAP if the guest is unresponsive
- Check breathing and pulse simultaneously for up to 10 seconds.
 - Look for chest rise and fall and listen for breathing.
 - Check for a pulse by feeling one of the carotid arteries in the neck for adults /children; one of the brachial arteries in the upper arms for infants.
 - If breathing is absent (or only occasional gasps), and a pulse is absent (or you are uncertain), begin CPR
- Start CPR by providing 30 chest compressions
 - *How* – Rhythmically and without interruption, using 2 hands for adults; 1 or 2 hands for children; 2 fingers for infants. Keep arms straight, elbows locked and shoulders over hands for adults and children. Allow complete recoil of the chest following each compression.
 - *Location* – Center of the chest (breastbone), approximately in line with the nipples; 1 finger width below the nipple line for infants.
 - *Depth* - 2 – 2.4 inches deep for adults; 1/3 the depth of the chest for children and infants (about 2 inches for children and 1.5 inches for infants).
 - *Speed* Approximately 110 compressions / minute (range 100-120)
- Open the airway and provide 2 rescue breaths. Each breath should make the chest rise
- Repeat the cycles of chest compressions and rescue breaths until an AED and SOS system are available, or EMS personnel arrive and take over.

Instructor Demonstration: Demonstrate how to perform one rescuer CPR for adults, children, and infants. Direct students to Table 8.1 to view the similarities and minor differences when providing one-rescuer CPR to adults, children, and infants.

Participant Practice: Have participants practice CPR. Consider establishing 3 lines of manikins and rotating students through each line to practice adult, child, and infant CPR.

- Multiple rescuer CPR enables rescuers to perform CPR more effectively.
 - One rescuer provides compressions and the other rescuer provides rescue breaths.
 - Rotate compressors every 2 minutes to maintain high quality chest compressions.
 - For children and infants provide cycles of 15 compressions and 2 breaths
 - For infants, compress the chest using the 2 thumbs with hands encircling the chest.

Instructor Demonstration: Select a student to assist you and demonstrate how to perform two-rescuer CPR for adults, children, infants. Direct students to Table 8.1 to

view the minor differences when providing two-rescuer CPR to adults, children, and infants.

Participant Practice: Have participants partner up and practice two – rescuer CPR for adults/children and infants, switching roles every two minutes.

- If a guest in cardiac arrest is in the late stage of pregnancy, multiple rescuers should apply lateral uterine displacement (LUD).
 - While compressions and rescue breaths are performed by one or two rescuers, another rescuer gently moves the fetus toward the guest's right side.
 - This helps relieve compression of the blood vessels restricting blood flow to the guest's heart while the woman is on her back.

Defibrillation (5 min)

- Defibrillation delivers an electrical shock to the heart, momentarily stopping all electrical activity.
- When the electrical impulses of the pacemaker cells resume, the heart may return to normal beating and blood circulation.
- More than one shock may be necessary to produce this effect.
- In some cases defibrillation may not be successful due to heart muscle damage or other underlying factors.
- Time to defibrillation is the most critical factor affecting the outcome of a guest in sudden cardiac arrest.
- An automated external defibrillator (AED) is a device that can analyze the heart's
- rhythm, determine when defibrillation is needed (if V-fib or V-tach are present), and administer a shock to correct these electrical disturbances and end cardiac arrest.

About AEDs (5 min)

- An AED contains a cable that extends from the device to two electrode pads that are placed on the guest's bare, dry chest.
- The electrode pads enable the AED to interpret the guest's heart rhythm, known as an electrocardiogram (ECG), and deliver a shock if needed to correct V-fib or V-tach.
- There are two types of AEDs—automatic and semiautomatic.
 - Automatic AEDs analyze the rhythm, advise of the need to shock, and deliver the shock automatically, without rescuer involvement.
 - Semiautomatic AEDs require the rescuer to push a button to deliver the shock.

Instructor Demonstration: Point out the components of your AED as you cover the points that follow.

- AEDs share the following components:
 - A way to power on/off the device
 - Electrode pads and cable attached to the device
 - Hardware and software to collect and analyze data and provide defibrillation
 - Prompts and on-screen instructions that guide users
 - Battery-operated portability

Using an AED (40 min)

- Follow these steps when using your specific AED:
 - Turn on the device and follow the prompts
 - Use your “ready kit” to make sure the guest’s chest is bare, dry, and excessive hair removed before attaching the electrode pads.
- Attach the electrode pads according to the manufacturer’s instructions. For adults this involves placing one pad under the right collar bone, and the other pad beneath the left breast slightly to the left of the nipple, on the lowest rib.
- Stand clear when advised by the device to do so. The device will analyze the rhythm and advise you of the need to shock.
- With everyone standing clear, deliver the shock if advised to do so.
- Immediately after delivering a shock, provide 2 minutes of CPR.
- After 2 minutes the AED will prompt rescuers to stand clear, and will reanalyze the rhythm. This is good time to rotate compressors.
- If the AED gives a “No shock advised” prompt, then V-fib / V-tach are no longer present. Continue CPR as long as the guest has no signs of life. The AED will continue to re-analyze every 2 minutes.
- Advise EMS personnel of the guest’s condition, and the number of shocks (if any) provided.

Instructor Demonstration: With an AED training device demonstrate the steps of using the AED.

Participant Practice: Have participants work in groups of three to practice two – rescuer CPR, using the resuscitation mask attached to SOS, with the addition of the AED. Add a fourth rescuer and two of the rescuers can use the BVM attached to SOS.

Special Considerations for AED Use (5 min)

- There are several special considerations to be aware of when using an AED
 - Weather and water
 - Remove the guest from standing water. Move the guest at least 6 feet from the pool and dry the chest before applying the electrode pads.
 - Move the guest to shelter to protect the guest and rescuers from dangerous weather.

- Metal surfaces
 - It is safe to deliver a shock when a guest is on a metal surface, as long as the AED electrode pads do not contact the metal surface and no one is touching the guest during defibrillation.
- Children and Infants
 - Use special pediatric pads (for children 8 years and under) or a pediatric “key,” if available, according to the AED manufacturer’s guidelines.
 - Some devices require placement of both pads on the chest, while others require one pad to be placed on the chest and the other on the guest’s back. Follow the instructions provided by your AED manufacturer. If you do not have specific pediatric capability, use the adult electrode pads to provide defibrillation, keeping space between the pads.
- Medication Patches
 - If a medication patch is blocking proper placement of the pads, wear gloves to remove the patch and then wipe the area with a dry cloth.
- Body piercings
 - In most cases there is no need to remove body piercings and jewelry when using an AED. Only take the time to remove jewelry or body piercings if there is no other way to safely place the electrode pads.
- Implanted Devices
 - Implanted pacemakers and defibrillators are small devices placed under the skin of people with certain types of known heart conditions.
 - Avoid placing the pads directly over these devices whenever possible.
 - If an implanted defibrillator is discharging, you may see the guest twitching periodically. Wait several seconds to ensure that the patient is no longer twitching before using the AED.

Maintenance (5 min)

- Periodically inspect your AED to ensure that it has the necessary supplies and is in proper working condition.
- Verify that your AED includes all operational items:
 - Two sets of adult and pediatric electrode pads with unexpired dates
 - Pediatric key (select devices)
 - Extra battery
 - Razor, scissors, hand towel
 - Breathing device
 - Medical exam gloves
 - Alcohol wipes (for personal cleanup)

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- How does the heart work?
- How is one rescuer adult CPR performed?
- What are the differences between one rescuer adult, child, and infant CPR?
- What are the two components of CPR?

- How many compressions and breaths are given during one – rescuer CPR?
- When can CPR be stopped?
- What is the purpose of defibrillation?
- What are the two abnormal electrical disturbances that an AED can correct?
- Can you describe the steps of AED use?
- Can you describe special situations to be aware of when using an AED, and how to resolve these situations?
- What is the purpose of periodic inspection of your AED?

With this lesson complete, participants will be able to demonstrate the following skills:

- One rescuer CPR for adults, children, and infants.
- Multiple rescuer CPR for adults, children, and infants
- Using an AED for adults, children, and infants

Lesson 9: Unresponsive Guest in the Water

Lesson Overview

This lesson focuses on responding to unresponsive Guests in Distress in the water utilizing rescues that facilitate bringing the guest to the surface (as necessary) and providing care prior to extrication. Safe extrication techniques are introduced, followed by EAP response utilizing BLS skills learned in Lessons 6 – 8. (This lesson requires only pool time and as such, you should consider having candidates watch the Unconscious Guest in Distress rescue video clips in the electronic flipbook, prior to the class).

Learning Outcomes

After completing this lesson, participants will be able to:

- Demonstrate how to perform the Unresponsive Rear Hug rescue.
- Demonstrate how to perform the Unresponsive Duck Pluck rescue.
- Demonstrate how to perform the Unresponsive Deep Water rescue.
- Demonstrate how to open the airway of an unresponsive guest in the water.
- Demonstrate how to perform Rescue Breathing on a non-breathing guest in the water.
- Demonstrate how to perform a Rapid Extrication of an unresponsive guest from the water.
- Demonstrate efficiency while functioning as a member of the lifeguard team.

Approximate Time: 150 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor. The following assumptions were made for the presented approximate time:

- 16 students in the class and a single instructor (more instructors and/or fewer students will impact overall time needed).
- Assumes basic demonstration/drills, and related SCW completion (evaluation of skill competency) but not extra practice time if the instructor determines it is needed to meet the objectives.
- Assumes that all equipment is available in the ratios indicated in the equipment list. If less equipment is available, this section will necessarily take more time to complete.
- Does not account for additional activities (water games, team building, ice-breakers, etc.) or watching video content (when possible, request that video content be viewed prior to class).
- Does not account for breaks, concept transitions, or transitions between classroom and pool.

As with all portions of the ILTP® Course, accomplishment of the objectives is the ultimate requirement over an exact time.

Instructor

Outline

- On deck (or in class room prior to coming to the pool), Instructor goes over learning outcomes and objectives.
- Instructor in-water demonstration of the Rear Hug, Duck Pluck, and Deep Water rescues for an Unresponsive Guest in Distress. Instructor provides demonstration of skills followed by candidate practice of skill.
- Candidates' in-water practice of the Rear Hug rescue for an Unresponsive Guest in Distress.
- Candidates' in-water practice of the Duck Pluck rescue for an Unresponsive Guest in Distress.
- Candidates' in-water practice of the Deep Water rescue for an Unresponsive Guest in Distress. (Pool and Special Facilities candidates only).
- Instructor demonstration of in-water opening of the airway to check for spontaneous breathing, followed by Rescue Breathing utilizing a resuscitation mask to extrication point. (use extended distance)
- Candidates' in-water practice of opening of the airway to check for spontaneous breathing, followed by Rescue Breathing utilizing a resuscitation mask to extrication point (use longer distances to increase practice effectiveness).
- Rapid Extrication using a backboard, including the pool-edge technique and the carry out technique. (demonstration and practice)
- Corner Drill of complete Unresponsive Guest protocols. (see drills video)

Materials Needed

- Rescue Tube (Pool/Deck demonstration and practice of rescues and assists)
 - 1 rescue tube for every 2 students
- Whistles for skills practice
- Hip Packs (6 hip packs for every 16 candidates)
- Backboards (1 for every 10 candidates)
- Medical Exam Gloves (1 full box for every 16 candidates)
- Manikins (Adult, Child, and Infant – 1 for every 4 students)
- Barrier Devices (Adult, Child, and Infant Resuscitation Masks - 1 for every 3 candidates, and BVMs -1 for every 16 candidates)
- Fully equipped Trauma Bag (Oxygen, Manual Suction device, and AED trainer with adjuncts - 1 for every 16 candidates)
- Manikin disinfectant (bleach solution ¼ bleach to 1 gallon of water, or alcohol wipes - as needed)
- Projector/video (optional)
 - Video clips of rescues (optional)

Key Points

- A guest in distress who is unresponsive must be quickly rescued.
- Lifeguards utilize unresponsive versions of the Rear Hug, Duck Pluck, and Deep Water rescues to facilitate the beginning of care.

Instructor Demonstration: Demonstration of Rear Hug, Duck Pluck, and Deep Water rescues for Unresponsive Guests in Distress is required. Instructor should focus on modeling techniques both slowly and at full speed to allow candidates time to understand concepts and ask questions. Shallow Water courses do not need to review Deep Water skills.

Participant Practice: Candidate drills of Rear Hug, Duck Pluck, and Deep Water rescues for Unresponsive Guests in Distress is required. After completing demonstrations, instructors should organize the class to allow for skills practice. Refer to “Drills” video content in menu for tips on setting up drills.

- Lifeguards begin care in the water by placing the guest on a rescue tube and physically opening the airway.
- Rescue breathing should begin if the guest does not begin spontaneous breathing once the airway is opened.
- Rescue breathing is continued until extrication.

Instructor Demonstration: Demonstration of proper guest positioning, in water use of the resuscitation mask, and in-water Rescue Breathing is required. Instructor should focus on modeling techniques both slowly and at full speed to allow candidates time to understand concepts and ask questions.

Participant Practice: In-water Rescue Breathing drill – Utilize the length of the pool available and have each candidate work with a partner to perform simulated Rescue Breathing while holding the mask properly in place on their partners face. While simulating delivering breaths, they should rapidly swim with the guest to a designated point and then switch positions repeating the drill until desired level of competency is reached.

- Lifeguards utilize the backboard to safely and rapidly extricate an unresponsive guest.

Instructor Demonstration: Demonstration of both the pool edge and the carry out technique for Rapid Extrication (required).

Participant Practice: After demonstrating the skills, candidates should be given adequate practice time to achieve desired competency with each technique (required).

- Upon extrication, lifeguards and other staff members need to quickly and efficiently provide BLS care to the guest.

Participant Practice: Candidates should be given the opportunity to continue care on-deck once extrication is complete utilizing the equipment and skills covered in Lessons 6 – 8.

Instructor Demonstration/ Participant Practice: Additional Demos/Practice time (optional). If the instructor believes additional demos/practice time is necessary to prepare candidates for SCW completion, extra time should be allotted.

SCW Completion: Required once all candidates are ready to demonstrate competency of objectives related to Lesson 9. Utilize the Corner Drill (see video in Lesson 9 menu) and divide candidates up assigning them a number that corresponds to a particular station that covers the individual skill components. Rotate candidates between stations until all have had an opportunity to perform each associated skill. Continue drill as time allows or is needed to achieve desired competencies.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- Lifeguards must get the guest's _____ out of the water, open the _____, and deliver _____ if the guest is unresponsive and not breathing, while quickly moving the guest to the extrication area.
- The unresponsive _____ rescue is performed when an unresponsive guest is beyond reach in deep water.
- An unresponsive guest in the water must be positioned on the rescue tube so that his or her head will naturally fall back to allow care to begin when performing which unresponsive Guest in Distress rescue(s)?
- The _____ should be removed from the backboard during a rapid extrication procedure.
- To safely perform the pool edge technique for rapid extrication, how many responders are needed?
- Lifeguards should begin care on the deck _____ following the extrication of the guest.
- To properly perform the unresponsive Rear Hug rescue, a lifeguard should assume a _____ position behind the guest and pull the guest backward to remove the guest's _____ from the water.
- When performing the unresponsive Deep-Water rescue, the rescue tube should be placed _____ the guest upon breaking the water's surface.
- When performing in-water rescue breathing, lifeguards should use the _____ with _____ technique to maintain an open airway.
- To avoid delaying care upon extrication, on-deck responders should have _____ on before extrication takes place, the pulse should be checked for no more than _____ seconds, and _____ and _____ equipment should be immediately available or on its way.

➤ **Instructor Notes for This Lesson**

Instructor

Lesson 10: Spinal Injury Management

Lesson Overview

This lesson teaches students how to recognize a possible spinal injury in water attractions or on land, and the steps to take to restrict movement of the body to minimize injury and to remove an injured guest from the water.

Learning Outcomes

After completing this lesson, participants will be able to:

- Identify situations that could result in a spinal injury in aquatic facilities.
- Identify the signs and symptoms of a spinal injury.
- Demonstrate how to provide care for a guest who has a possible spinal injury in the water.
- Demonstrate how to provide care for a guest who has a possible spinal injury on land.

Approximate Time: 135- 165 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor.

Practicing the necessary skills requires:

- 1 backboard for every 8 participants.
- 1 rescue tube for every 4 participants

Outline

- Structure and function of the spine (2 min)
- Understanding spinal injury (2 min)
- Recognizing spinal injury (2 min)
- General care for spinal injury (2 min)
- Care for spinal injury in the water (58 min)
- Backboarding (58 min)
- Special situations (4 – 35 min)
- Suspected spinal injury and BLS care (2 min)
- Concept and Skill Competency (5 min)

Materials Needed

- Backboards
- Straps
- Head immobilizers
- PowerPoint slides
- Video clips

Key Points

Structure and Function of the Spine (2 min)

- Vertebrae are circular or irregularly shaped heavy masses of bone comprising the spinal column.
- Vertebrae are separated by circular cushions of cartilage called intervertebral discs.
- The spinal cord is a collection of nerves running through, and protected by, the vertebrae.
- The primary functions of the spine are to:
 - Protect the spinal nerves and several of the body's organs
 - Provide structural support and balance to maintain upright posture
 - Provide flexibility for motion
- The 5 regions of the spine from top to bottom are: cervical, thoracic, lumbar, sacral, coccygeal.

Instructor Demonstration and Note: Using a skeleton model (if available), or an assisting instructor, point out the 5 regions of the spine. Mention that injuries occurring at a certain region of the spine can cause damage from that point downward.

Understanding Spinal Injury (2 min)

- In aquatic injuries, the most common fracture of the spine occurs in the cervical region as a result of impact with a structure of the attraction, including diving board, gutter, slide, or pool bottom.
- Some ways in which a guest could injure the spinal cord in the aquatic environment include:
 - Body surfing and striking the bottom
 - Striking the head, neck or back when using a slide or diving
 - Running headfirst into walls or ladders
 - Fall from a significant height

Recognizing Spinal Injury (2 min)

- Seeing the incident occur or hearing a first-hand account of the incident, will help determine the mechanism of injury (cause) and potential for spinal injury.
- Advise a responsive guest to stay still.
- Ask the guest how he or she feels, including any pain in the neck or back, or numbness or loss of movement in any areas of the body.
- The signs and symptoms of spinal injury include:
 - Moderate to severe neck or back pain that is made worse by movement
 - Numbness, tingling, weakness, or inability to move limbs or neck normally
 - Altered level of consciousness
 - Deformity around the neck
 - Bruising around the face, head, or neck
 - Blood or bloody fluid in the ears or nose
- Other injuries might be present that cause pain that overwhelms the back or neck pain.

- If distracting injuries are present, suspect the guest has a spinal injury, based on the cause (mechanism) of the injury.
- Lifeguards must use their best judgment about the potential for spinal injuries based on the mechanism of the injury and the signs and symptoms.

General Care for Spinal Injury (2 min)

- If a spinal injury is suspected, activate your EAP and provide care that limits movement of the guest's body.
- Spinal Motion Restriction (SMR) involves restricting movement of the guest's head, neck, back, and pelvis to prevent possible further damage to the spine or spinal cord.
- This initially involves holding the injured guest in a position that restricts movement of the head and neck in the water.
- This is followed by placing the guest on a backboard and removal from the water.
- Your local protocols will guide your actions based on the type of water attraction the guest is in when the injury occurs.

Care for Spinal Injury in the Water (58 min)

- Most spinal injuries occurring in the water involve conscious, breathing guests.
- Enter the water, approach, and make contact with the guest carefully, minimizing unnecessary movement.
- If you are near the guest in calm water, gently ease into the water and move toward the guest to minimize movement.
- The vise grip technique is the primary method used in the water to maintain manual spinal motion restriction, minimizing movement of the guest's head and neck. This is done by placing the guest's arms against his or her head.
- The vise grip can be used:
 - For responsive or unresponsive guests
 - For guests who are on the surface or submerged
 - For guests who are face up or facedown
 - In any depth of water
- To use the underarm vise grip for a face-up guest in shallow water:
 - Release your rescue tube as you near the guest
 - Grasp the guest's right arm midway with your right hand, and the guest's left arm midway with your left hand
 - Slowly move the guest's arms up alongside his or her head
 - Press the arms firmly against the ears
 - Check responsiveness and breathing and move toward the backboarding and removal (extrication) area
- To use the vise grip for a face-down guest in shallow water:
 - Follow the first 4 steps for the face-up guest
 - Move the guest forward (if there is room), and roll the guest face up, into the underarm vice-grip position
 - Check responsiveness and breathing and move toward the backboarding and removal (extrication) area

Instructor Demonstration: Demonstrate how to perform the vise grip for a face-up and face-down guest. Begin the demonstrate from the pool deck, and recognize the incident, activate the EAP, enter the water with an ease in entry, approach the guest, release the rescue tube, and perform each skill

Participant Practice: Have participants partner up and practice the vise grip for face-up and face-down guests following the example set by the instructor.

- To place a guest on a backboard requires the lifeguard to switch to the overarm vise grip. To do this –
 - Press the guest toward your chest with your outside arm
 - Release your grip on the arm closest to your chest
 - Reach across the guest and grasp the outside arm.
 - Remove your other hand and move it to guest’s arm nearest your chest. Your arms are now out of the way so that a backboard can be placed under the guest.

Instructor Demonstration: Demonstrate in the water how to transition from the underarm vise grip to the overarm vise grip for backboarding.

Participant Practice: Have participants practice the transition from the underarm vise grip to the overarm vise grip.

- The same three skills can be accomplished in deep water.
- Keep the rescue tube under the arms as you reach the guest, and execute the steps in the same manner as you would in shallow water.

Instructor Demonstration: Demonstrate the three skills in deep water using the rescue tube.

Participant Practice: Have participants practice the three steps in deep water, using the rescue tube.

- If the guest is submerged beyond reach follow these steps:

- Release the rescue tube and perform a feet first surface dive to a position alongside and just above the guest.
- Apply the vise grip as previously described
- Holding the arms firmly against the head, move the guest forward and upward
- Roll the guest face up (underarm vise grip position) as you near the surface
- Check responsiveness and breathing and move toward the backboarding and removal (extrication) area
- A second lifeguard can provide flotation support for the primary lifeguard and guest by executing a rear hug on the primary lifeguard, or positioning the rescue tube under the primary lifeguard's arms.

Instructor Demonstration: Demonstrate the technique for deep water spinal injury.

Participant Practice: Have participants partner up and practice the deep water spinal technique.

Backboarding (58 min)

- When backboarding a guest:
 - Communicate with other lifeguards and the guest.
 - Minimize unnecessary movement
 - Carefully remove the guest from the water.

Two-Lifeguard Backboarding

- Two lifeguards can use a pool edge or gutter to facilitate the backboarding of a breathing guest in the water. Follow these steps:
 - The primary lifeguard moves the guest toward the extrication point and switches to the overarm vise grip
 - The secondary lifeguard prepares the equipment at the pool edge and inserts the end of the backboard into the water at an angle.
 - The primary lifeguard steps on the end of the backboard
 - Following the guidance of the secondary lifeguard, the primary lifeguard positions the guest on the center of the backboard with the head on the designated space
 - The secondary lifeguard takes control of the guest's arms, keeping the head secured
 - The submerged end of the backboard is allowed to rise, and a rescue tube can be placed under the foot of the board if desired.
 - The primary lifeguard secures the straps, beginning with the chest strap under the armpits, then attaching the straps across the hips, thighs, and lower legs
 - The primary lifeguard takes over control of the head and uses the squeeze play technique.
 - The secondary lifeguard releases the vice grip, lowers the guest's arms, and applies a head immobilizer and forehead strap

- The two lifeguards work together to pull and push the backboard, sliding it along the edge of the deck.
- Monitor the guest's condition. If the guest vomits, the lifeguards must carefully roll the backboard onto its side while supporting the guest's head.

Team Backboarding

- Team backboarding is easier than two lifeguard backboarding. The team members position the backboard under the guest and raise it to the proper position.
- The primary lifeguards exchanges control of the guest's head with the lifeguard at the head of the board.
- The team applies the straps to the guest
- The squeeze play is applied by the primary lifeguard while the lifeguard at the head applies the head immobilizer.
- The guest is carried out of the water by the team positioned equally around the backboard

Instructor Demonstration: Guide participants through the step –by – step process of 2 lifeguard backboarding, and team backboarding

Participant Practice: In groups of 3 (1 injured guest and 2 lifeguards), practice the two lifeguard backboarding in shallow water. In groups of 5 (1 injured guest and 4 lifeguards), practice team backboarding in shallow water.

Special Situations (4-35 min)

Instructor Note: The time for this segment varies based on the facility. Participants working in a facility with a slide run out will work as a team to practice the skill of spinal motion restriction.

- When a possible spinal injury occurs in deep water, attempt to move the guest to shallow water for backboarding. If this cannot be done, extra rescue tubes can be placed under the backboard for flotation in deep water.
- To provide spinal motion restriction for a guest injured in a slide run out follow these steps:
 - Manual spinal motion restriction is applied by the primary lifeguard kneeling in the slide at the top of the guest's head
 - Additional lifeguards log roll the guest to his or her side
 - Another lifeguard positions the backboard appropriately
 - The lifeguard team rolls the guest back, onto the backboard

- The lifeguard team applies the straps to secure the guest to the backboard
- The squeeze play is used to transfer control of the guest's head so that the head immobilizer can be applied.
- The lifeguard team lifts and removes the guest from the slide and applies further care.

Instructor Demonstration: Guide participants through the steps of spinal motion restriction in a slide run out if one is available at your facility.

Participant Practice: Practice the steps of spinal motion restriction in a slide run out if one is available at your facility.

- For guests with possible spinal injuries who are found standing or seated on deck or in shallow water, or lying on the deck or zero depth areas, the primary lifeguard applies manual spinal motion restriction until EMS personnel arrive and take over.
- If the standing or seated guest feels weak or light headed and is unable to stay upright, several lifeguards can assist the guest to a seated or lying position.

Suspected Spinal Injury and BLS Care (2 min)

- Spinal injury management rescues should be performed only when circumstances warrant such use.
- If a guest with a suspected spinal injury is in the water, unresponsive, and not breathing, the guest requires rescue breathing or CPR. To avoid delaying lifesaving care, the guest should be promptly removed from the water using the rapid extrication technique.
- When providing rescue breaths it may be necessary to release the head immobilizer to position your hands properly to open the airway using the jaw thrust without head tilt.
- If CPR and an AED are needed, the chest strap will need to be removed.
- If a guest vomits while secured to a backboard, lifeguards should turn the board to one side while another lifeguard supports the head immobilizer while positioned on the side.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- Can you provide examples of ways guests can suffer a possible spinal injury in aquatic environments?
- How would you recognize a guest with a possible spinal injury?
- What is spinal motion restriction (SMR)?
- How would you provide SMR to a guest found face-up, face-down or submerged in the water?
- Can you describe the steps of 2 rescuer backboarding in shallow water?
- Can you describe the steps of team backboarding in shallow water?

- What are the differences between shallow water backboarding and deep water backboarding?
- How do you provide SMR for a guest with possible spinal injury in a slide run out?
- Can you describe how to care for a guest found standing or seated on deck or in shallow water, or lying on the deck or zero depth area?

With this lesson complete, participants will be able to demonstrate the following skills:

- Manual SMR using the vise grip for guests found face-up, face down, or submerged in shallow and deep water.
- SMR with a backboard for guests found in shallow and deep water
- SMR for guests found seated, standing, or lying in zero depth water or land.
- SMR for guests with possible spinal injury in an attraction with a slide run out (if the facility has such).

Lesson 11: Injuries

Lesson Overview

This lesson teaches students how to recognize and care for a variety of injuries from scrapes and cuts to broken bones.

Learning Outcomes

After completing this lesson, participants will be able to:

- Recognize the type of injuries that commonly occur in aquatic facilities.
- Describe how to assess an injured guest.
- Describe how to care for injuries to the head, spine, chest, abdomen, pelvis, and extremities.
- Recognize and care for shock resulting from injury.
- Demonstrate how to provide care for a guest who has external bleeding.
- Demonstrate how to provide care for a guest with a muscle, bone, or joint injury.

Approximate Time: 70 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor.

Practicing the necessary skills requires:

- Bandaging supplies (gauze pad and roller gauze) for every 2 participants.
- Triangular bandage for every two participants

Outline

- Introduction (1 min)
- Scene safety (2 min)
- Assessing injuries (14 min)
- Soft tissue injuries (1 min)
- Open wounds (17 min)
- Head and spinal injuries (9 min)
- Muscle, bone, and joint, injuries (15 min)
- Chest and abdomen injuries (2 min)
- Shock (4 min)
- Concept and Skill Competency (5min)

Materials Needed

- Gauze pads
- Roller gauze
- Triangular bandages
- PowerPoint slides and/or Video clips (as appropriate)

Key Points

Introduction (1 min)

- Some of the more frequent injuries found in the aquatic environment include head and spinal injuries; muscle, bone, and joint injuries; and soft tissue injuries.

Scene Safety (2 min)

- Make sure the scene is safe before responding to an emergency.
- Do not enter an area that is unsafe until it can be made safe.
- Unsafe scenes include items such as electrical wires, toxic substances, and fire.
- Follow Standard Precautions including putting on protective items such as medical exam gloves before contacting a guest.

Assessing Injuries (15 min)

- Begin with a primary assessment to check for any immediate threats to life.
- Conduct a secondary assessment once you are certain there are no life-threatening conditions that need your attention.
- Look for signs (what you see or feel) and symptoms (what you hear)
- The acronym DOTS is used to remember what signs and symptoms of injury to look for as you check the guest:
 - Deformity
 - Open wound
 - Tenderness (or pain)
 - Swelling
- Communicate with the guest to help determine areas injured.
- Conduct a physical exam of the entire body when multiple injuries are present. Start at the head and work your way downward, finishing with the limbs. Use DOTS as your guide as you examine (look, listen, feel) these areas of the body:
 - Head and neck
 - Chest
 - Abdomen
 - Pelvis
 - Arms and legs

Instructor Demonstration: Demonstrate how to perform the physical exam.

Participant Practice: Have participants partner up and practice applying medical exam gloves and using DOTS to guide them through a physical exam of each other.

Soft Tissue Injuries (1 min)

- Soft tissue injuries include open (cuts, scrapes, burns) and closed (bruises) wounds.

- Soft tissue injuries are generally not life threatening, but may be bloody or painful.

Instructor Note: For any serious injury, including severe bleeding, also care for shock (Discussed later). Position the guest lying on his or her back (if no breathing difficulty exists). Keep the guest warm.

Closed Wounds

- Closed wounds are best cared for by following the acronym RICE:
 - Rest. Stop using the injured part.
 - Ice. Apply ice for up to 20 minutes.
 - Compression. Apply an elastic bandage for several hours.
 - Elevation. Raise an injured extremity (arm or leg).

Open Wounds (17 min)

- To care for an open wound, protect against disease transmission, control bleeding, and reduce the chance of infection:
 - Use standard precautions
 - Place a gauze pad (dressing) over the open wound and apply pressure
 - Use a gauze roll to bandage the wound, holding the dressing in place.
 - If bleeding continues and the gauze becomes soaked, apply additional gauze and bandage over the first layer.
 - Activate your EAP to summon EMS personnel if bleeding is severe or cannot be controlled.
- A tourniquet is a device that can be applied to uncontrollable bleeding of the limbs to save the guest's life.
- Emergency tourniquets may be necessary with:
 - High-velocity gunshot wounds, stabbings, or blast injuries involving the limbs
 - Serious limb injuries in rural or wilderness areas where resources are limited and transport delayed.
- A special gauze, known as hemostatic gauze, can be applied to promote quick clot formation in serious bleeding.
- If an object is embedded in the skin do not remove it. Hold it in place or apply bulky dressings and bandage it in place. Activate your EAP to summon EMS personnel.
- If a body part has been amputated, stop the bleeding. Locate the missing part and place it in a plastic bag and keep it cool if possible. Activate your EAP to summon EMS personnel.

Instructor Demonstration: Demonstrate how to apply pressure with a gauze pad to a simulated open wound, and apply a pressure bandage.

Participant Practice: Have participants partner up and practice putting on medical exam gloves, applying pressure with a gauze pad, and applying a pressure bandage.

Burns

- Burns can be caused by heat, chemicals, electricity, or radiation.
- Burns are classified according to the extent of tissue damage:
 - Superficial or first degree (mild damage; redness)
 - Partial thickness or second degree (moderate damage; blistering)
 - Full thickness or 3rd degree (severe damage; charring)
- To care for burns:
 - Stop the burning process. Apply cool water to heat burns.
 - Remove any jewelry or smoldering clothing as long as it is not stuck.
 - Do not apply pressure if blisters are present.
 - For first-degree burns, apply a moisturizer such as aloe vera.
 - For second- and third-degree burns, cover the burn loosely with a dry, nonstick gauze pad and bandage loosely.
 - For chemical burns, flush it with a large, continuous flow of water.
 - If the chemical is a dry powder and no water is available, brush the powder away.
 - For electrical burns, cover entry and exit wounds with a dry, nonstick gauze pad and bandage loosely.
 - If the guest is pulseless, begin CPR and get an AED.
 - Activate your EAP to summon EMS personnel for guests having chemical burns, electrical burns, or second- or third-degree burns.

Head and Spinal Injuries (10 min)

- Reinforce items covered in the previous lesson.
 - If a spinal injury is suspected, activate your EAP and provide care that limits movement of the guest's body.
 - For guests with possible spinal injuries who are found standing or seated on deck or in shallow water, or lying on the deck or zero depth areas, the primary lifeguard applies manual spinal motion restriction until EMS personnel arrive and take over.
 - If the standing or seated guest feels weak or light headed and is unable to stay upright, several lifeguards can assist the guest to a seated or lying position.

Concussion

- Concussion is a brain injury often caused by a blow to the head that changes the way the brain functions.
- The signs and symptoms of concussion include:
 - Loss of consciousness
 - Headache
 - Neck pain
 - Dizziness
 - Ringing in the ears

- Weakness, nausea, vomiting
- Loss of memory,
- Vision, balance and coordination problems
- Limit movement of the head and neck and activate your EAP to summon EMS personnel.

Scalp Wounds

- Scalp wounds appear as if they are serious because of the many blood vessels close to the surface of the skin.
- Care for scalp wounds in the same way you would care for external bleeding elsewhere.

Eye Injuries

- Foreign objects in the eyes, such as dirt or grains of sand, can be irritating.
- To care for such objects, hold the eye open and rinse with water.
- Chemicals in the eye can burn and cause blindness.
- To care for chemicals in the eyes:
 - Hold the eyes open and continuously flush with water.
 - If only one eye is affected, close the unaffected eye during this process.
 - Activate your EAP to summon EMS personnel
- If an object penetrates the eyeball and is withdrawn or remains embedded:
 - Hold it steady with your hand or apply bulky dressings around the object, secured in place with a bandage.
 - Have the guest close the injured eye.
 - Activate your EAP to summon EMS personnel
- For a blow to the eye, apply an ice or cold pack to the closed eyelid and surrounding area for about 15 minutes to reduce pain and swelling. Seek medical care if the condition worsens.
- An eye avulsion occurs from a blow to the eye that knocks the eyeball from its socket.
- To care for an eye avulsion:
 - Cover the injured eye loosely with a sterile or clean moistened dressing.
 - Do not try to push the eyeball back into the socket.
 - Protect the injured eye with a paper cup, held in place
 - Have the guest keep the uninjured eye closed.
 - Activate your EAP to summon EMS personnel.
- If the eyeball is cut, do not apply pressure on it. If only the eyelid is cut, apply a gauze pad with gentle pressure. Activate your EAP to summon EMS personnel.

Mouth Injuries

- To care for a bitten lip or tongue apply direct pressure and an ice pack. If the bleeding does not stop, seek medical care.
- To care for a knocked-out tooth:
 - Place a folded gauze pad in the socket to control bleeding.
 - Handle the tooth by the crown, not the root.
 - If the guest is an adult and alert, the tooth can be laid inside the lower lip, between the teeth and lip.
 - If it is not possible to place the tooth in the mouth, have the guest spit into a cup, and place the tooth in the saliva.

- Advise the person to get to a dentist promptly.
- Activate your EAP to summon EMS personnel if more serious mouth injuries exist.

Nosebleed

- These are a common occurrence in crowded aquatic facilities.
- To care for nosebleed:
 - Have the guest sit down and lean slightly forward and pinch the nostrils together for 5 to 10 minutes.
 - Activate your EAP to summon EMS personnel if bleeding cannot be controlled

Muscle, Bone, and Joint Injuries (15 min)

- Signs and symptoms of muscle, bone, and joint injuries include:
 - Pain and tenderness
 - Inability to move the affected part normally
 - Deformity
 - Bone grating (crepitus)
 - Swelling
 - Bruising
 - Bone end protruding through the skin (open fracture)
- Injuries include strains (muscles), sprains (ligaments in joints), and fractures and dislocations (bones)
- Sprains are best handled by following RICE (rest, ice, compression, elevation)
- Muscle strains should receive rest and ice initially.
- To care for possible fractures or dislocations:
 - Splint the injured area to keep it from moving. Splinting helps reduce pain and prevents further damage to muscles, nerves, and blood vessels.
- There are 3 general types of splinting:
 - Anatomic or self (Securing an injured body part to a nearby uninjured part)
 - Rigid (Using a firm object such as board or magazine to stabilize the area)
 - Soft (Using an object such as rolled towel to stabilize the area)

Instructor Demonstration: Demonstrate how to apply a splint to an injured arm (anatomic or rigid, or soft)

Participant Practice: Have participants get in groups of 3 and have each perform one of the splinting methods for a simulated injured wrist.

Chest and Abdominal Injuries (2 min)

- Serious chest injuries could include rib fractures, or open chest injury if the chest wall was penetrated by an object such as a knife or bullet.
- The signs and symptoms of rib fractures include:
 - Pain, especially when breathing or coughing

- Inability to take a deep breath without sharp pain
- Tenderness
- To care for a possible rib fracture:
 - Place the guest in a seated position to ease breathing difficulty.
 - Support the injured area with a folded towel, blanket, or pillow placed against the injured side and held in place by the guest's arm.
- For an open chest wound, cover the wound as you would other bleeding areas.
- To care for closed abdominal injuries:
 - Place the guest on his or her back with the knees bent and toward the abdomen.
 - Keep the guest warm.
 - Activate your EAP to summon EMS personnel.

Shock (3 min)

- Shock is a natural response of the body to severe injury or illness, when the body's tissues do not get enough oxygen-rich blood.
- Shock can result from severe blood loss or serious medical conditions.
- Signs and symptoms of shock include:
 - Altered consciousness
 - Anxiety and restlessness
 - Confusion
 - Pale, bluish, cool, moist skin
 - Nausea or vomiting
 - Rapid breathing and heart rate
- To care for shock:
 - Position the guest on his or her back whenever possible
 - Keep the guest warm
 - Activate your EAP to summon EMS personnel

Instructor Note: Supplemental oxygen support should not be used routinely for guests experiencing signs of shock. It should only be used if signs of hypoxia are present, supported with pulse oximetry readings, and in accordance with your local protocols for use.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- Can you identify what DOTS stands for and how this is used?
- How would you conduct a secondary exam of an injured guest?
- How do you care for external bleeding?
- How would you care for a nosebleed?
- How would you care for a guest with dirt or sand in his or eye?
- How would you splint an injured limb?
- What are the signs and symptoms of shock?
- How would you care for a person in shock?

With this lesson complete, participants will be able to demonstrate the following skills:

- Secondary assessment head to toe physical exam.
- Bleeding control through direct pressure and pressure bandage.
- Splinting using any of the 3 methods.

Lesson 12: Medical and Environmental Emergencies

Lesson Overview

This lesson teaches students how to recognize and care for a variety of acute medical conditions and environmental conditions that can occur in aquatic environments and require rapid assessment and care.

Learning Outcomes

After completing this lesson, participants will be able to:

- Recognize the type of medical and environmental emergencies that commonly occur in aquatic facilities.
- Describe how to care for medical emergencies that include asthma, heart attack, stroke, seizure, fainting, allergic reactions, poisoning, and diabetic emergencies.
- Describe how to care for environmental emergencies that include heat and cold illnesses, and bites and stings.

Approximate Time: 50 minutes

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor. Practicing the necessary skills requires:

- Epinephrine auto injectors (2 for every 3 participants).

Outline

- Medical emergencies (1min)
- Heart attack (3 min)
- Stroke (3 min)
- Allergic reactions (10 min)
- Fainting (3 min)
- Seizures (3 min)
- Diabetic emergencies (3 min)
- Asthma attack (3min)
- Poisoning (3 min)
- Alcohol and other drug emergencies (3 min)
- Environmental emergencies (10 min)
- Concept and Skill Competency (5min)

Materials Needed

- Epinephrine auto-injector trainers
- Projector/video (optional)
- PowerPoint slides and/or Video clips (as appropriate)

Key Points

Medical Emergencies (1 min)

- Medical emergencies found in the aquatic environment can include heart attack, stroke, fainting, seizures, diabetic emergencies, asthma attacks, allergic reactions, and poisoning.
- In addition to the guidelines presented in this lesson, always follow the procedures specifically established for your aquatic facility.

Heart Attack (3 min)

- A heart attack occurs when the blood supply to the heart is severely reduced or stopped and the heart muscle tissue dies.
- If the heart stops beating, it is known as cardiac arrest, which has previously been discussed.
- The signs and symptoms of a heart attack include:
 - Chest pressure or pain that lasts for more than a few minutes and that may spread to the shoulders, neck, jaw, or arms.
 - Breathing difficulty
 - Dizziness
 - Sweating
 - Nausea
 - Fatigue
- To care for a guest having a heart attack:
 - Activate your emergency action plan (EAP) to summon emergency medical services (EMS) personnel.
 - Have the guest rest in the most comfortable position, often seated or reclined
 - If the guest has a prescribed heart medication, such as nitroglycerin, assist the guest with its use.
 - Provide 1-2 low dose aspirin if available

Instructor Note: Provide supplemental oxygen support only if signs of hypoxia are present, supported with pulse oximetry readings, and in accordance with your local protocols for use.

Stroke (3 min)

- A stroke occurs when blood flow to part of the brain is disrupted due to blocked or ruptured arteries in the brain.
- The signs and symptoms of stroke include:
 - Weakness or numbness on one side of the body,
 - Vision problems
 - Problems speaking
 - Dizziness or loss of balance
 - Confusion,
 - Sudden severe headache.

- To care for a guest having a stroke:
 - Activate your emergency action plan (EAP) to summon emergency medical services (EMS) personnel.
 - Have the guest rest in the most comfortable position, often on the back with head and shoulders elevated.
 - If vomiting occurs, roll the guest onto his or her side (recovery position) to keep the airway clear.

Allergic Reactions (10 min)

- There are several common substances that can result in an allergic reaction:
 - Food, such as shellfish and nuts
 - Insect stings, such as those of honeybees and ants
 - Medications, such as aspirin, penicillin, and sulfa drugs
- Mild allergic reactions usually involve annoyances such as sneezing and minor itching. Care for mild allergic reactions with an antihistamine, such as Benadryl.
- Anaphylaxis is a severe allergic reaction and a form of shock that can be life-threatening.
- Signs and symptoms of anaphylaxis can come on rapidly:
 - Hives spreading over the body
 - Swelling of the face, neck, mouth, and tongue
 - Bluish discoloration to the lips
 - Chest tightness
 - Shortness of breath
 - Wheezing
 - Dizziness
 - Loss of consciousness
 - Weak pulse
 - Respiratory arrest
- To care for anaphylaxis:
 - Activate your EAP to summon EMS personnel.
 - Position the guest in the most comfortable position for breathing. This is usually a seated position.
 - Open or loosen any restrictive clothing.
 - If the guest has his or her prescribed epinephrine auto-injector, help the guest with its use.

Instructor Note: Provide supplemental oxygen support only if signs of hypoxia are present, consistent with pulse oximetry readings, and in accordance with your local protocols. Similar to asthmatic emergencies, guests may not tolerate a NRB mask against the face. Hold the mask slightly away from the face.

- Follow these steps if you must administer the injection to the guest:
 - Verify that the medication is not expired and not discolored (check the small window in the center of the device – It should be clear)
 - Hold the device firmly in the middle. Keep fingers off of the ends of the device

- Remove the safety cap
- Support the guest's thigh to avoid movement during injection.
- Position the tip (needle end) of the injector near the outer thigh, about midway between the knee and hip
- Push firmly until the device clicks, and hold the device in place for about 10 seconds (according to the manufacturer's guidelines). The device will penetrate normal clothing
- When the device is withdrawn the needle will have a protective cover so the lifeguard cannot be inadvertently stuck by a used needle.
- Note the time in which the injection was given. Provide the used device to EMS personnel upon arrival.

Instructor Note: At the time of this publication, the talking epinephrine injector, Auvi-Q, had been voluntarily recalled by Sanofi US. This applied to all devices sold in the USA (approximately 400,000 devices). There is no indication if this product will be return to the US market at a later date.

Instructor Demonstration: Using an epinephrine auto-injector trainer, demonstrate the proper use of the device.

Participant Practice: Guide participants through the use the training injector on themselves and then on a partner.

Fainting (3 min)

- Fainting occurs when the flow of oxygen to the brain is temporarily disrupted.
- Early warning signs or symptoms of an impending fainting episode can include nausea, weakness, chills, abdominal pain, dizziness, or headache.
- Causes of fainting include:
 - Hyperventilation (rapid breathing)
 - Hypoglycemia (low blood sugar)
 - Heart problems
 - Heat /Dehydration
 - Blood loss
 - Psychological stress
- To care for fainting:
 - Assist the guest to lie down on a flat surface. If a guest has already fainted, look for signs of injury from a fall.
 - Check responsiveness, breathing, and pulse.

- If the guest vomits, roll the guest into the recovery position. Use manual suction of an unresponsive guest as needed to keep the airway clear.
- Loosen any restrictive clothing.
- Activate your EAP to summon EMS personnel.

Seizures (3 min)

- Seizures are sudden, involuntary changes in a person's brain cell activity due to a massive electrical charge.
- Some seizures can have significant muscle rigidity and convulsions, while others are more like day dreaming.
- Common causes of seizures include:
 - Drug overdose
 - Hypoglycemia (low blood sugar)
 - Fever
 - Head injury
 - Infection
- To care for seizures:
 - Protect the guest from injury. Move any items away that might cause injury (e.g., sharp objects).
 - Roll the guest onto one side to help keep the airway clear.
 - Place a thin, soft object (such as a folded towel) between the guest's head and the floor.
 - Activate your EAP to summon EMS personnel.

Diabetic Emergencies (3min)

- A person with diabetes must carefully regulate blood sugar and insulin levels through a combination of medication, diet, and exercise.
- Any significant imbalance between blood sugar and insulin levels can result in one of two types of diabetic emergencies: hypoglycemia or hyperglycemia.
- Hypoglycemia = low blood sugar level and high insulin level.
- Hyperglycemia = high blood sugar level and low insulin level.
- Signs and symptoms of diabetic emergencies include:
 - Diminished level of consciousness
 - Weakness
 - Hunger or thirst
 - Vision difficulty
 - Breathing difficulty
 - fruity breath odor
- A guest with hypoglycemia needs to get sugar into the bloodstream quickly to balance the effects of high insulin.
- To care for diabetic emergencies:
 - Have the guest rest in a comfortable position.
 - For a conscious guest who is able to swallow, ask the guest to describe any specific treatment needs. Diabetics often carry glucose tablets or gel. If these are not available, candies with sugar or fruit juice can be used.
 - If the condition is hyperglycemia, the guest's condition should improve rapidly.

- Activate your EAP to summon EMS personnel for an unresponsive guest, or if the guest's condition does not improve rapidly.

Asthma Attack (3 min)

- Asthma is a chronic condition in which passageways to the lungs narrow and airway tissues produce excessive amounts of thick mucus and result in breathing difficulty
- Common causes of asthma attacks include:
 - Infections
 - Excessive exercise (exercise – induced asthma)
 - Allergies
 - Drug sensitivity
 - Cold weather
 - Secondhand smoke
 - Stress
- Signs and symptoms of asthma attacks include:
 - Difficulty breathing
 - Rapid, shallow breathing
 - Coughing
 - Whistling or wheezing
 - Fatigue
- To care for asthmatic emergencies:
 - Help the guest move into an upright or slightly bent-forward position.
 - Assist the guest in using his or her prescribed medication or inhaler if available
 - Activate your EAP to summon EMS personnel.

Instructor Note: Provide supplemental oxygen support only if signs of hypoxia are present, consistent with pulse oximetry readings, and in accordance with your local protocols. Guests may not tolerate a NRB mask against the face. Hold the mask slightly away from the face.

When using an inhaler, make sure the guest exhales forcefully first, and then inhales deeply while depressing the medication button, and holds the medication in the lungs for several seconds.

Poisoning (3 min)

- A poison is a substance that can cause an unintended symptom, and can including medicines, lighter fluid, furniture polish, insecticides, cleaning products, chemicals, carbon monoxide, and exhaust fumes.
- Signs and symptoms of poisoning emergencies vary based on the route of the poison, and the exact substance:
 - Severe headache
 - Nausea and/or vomiting
 - Mouth burns
 - Burning sensation in the throat or chest

- Discoloration of the lips
- Difficulty breathing
- Coughing
- Bloody spit
- Altered level of consciousness
- Dizziness
- To care for poisoning by ingestion (solids or liquids):
 - Determine the type and quantity of poison ingested and at what time.
 - For an unresponsive guest, place the guest in the recovery position. If the guest vomits, use suction to help keep the airway clear. Activate your EAP to summon EMS personnel.
 - For responsive guests, contact Poison Control (800-222-1222), and follow the care steps provided.
- To care for poisoning by inhalation (sprays and gases):
 - Secure the safety of the scene.
 - Move the guest to fresh air.
 - Provide supplemental oxygen if available.
 - Call Poison Control (800-222-1222), and follow the care steps provided.
 - If advised by Poison Control, activate your EAP to summon EMS personnel.

Instructor Note: Poisoning as a result of contact with dry or wet chemicals should be cared for like chemical burns. Flush the area continuously with water and activate your EAP to summon EMS personnel.

Alcohol and Other Drug Emergencies (3 min)

- The signs and symptoms of alcohol intoxication or drug overdose can include:
 - The odor of alcohol on a person's breath or clothing
 - Unsteadiness, staggering
 - Confusion
 - Slurred speech
 - Nausea and vomiting
 - Flushed face
 - Drowsiness, anxious, agitation
 - Hallucinations
- To care for alcohol intoxication or drug overdose:
 - If the guest is responsive, check breathing and call Poison Control for advice.
 - If the guest becomes violent, leave the area and call 9-1-1.
 - If the guest is unresponsive and breathing, roll the guest into the recovery position.
 - Activate your EAP to summon EMS personnel.
 - Begin cardiopulmonary resuscitation (CPR) if the guest is unresponsive, not breathing, and pulseless.

Instructor Note: Opioid overdose (medicinal or illegal) is now an epidemic in the USA. New intranasal and intramuscular auto-injectors are becoming widely available without prescription in many states, for use by anyone. If a guest is an abuser, he or she may have such a device, or family members of the abuser may have the device. The ILCOR 2015 CPR and ECC Guidelines want all first aiders to be aware of these devices, as they can quickly reverse respiratory depression/arrest prior to cardiac arrest.

Environmental Emergencies (10 min)

Bites and Stings

- Bees, wasps, hornets, yellow jackets, mosquitos, fire ants, spiders, and ticks can all bite or sting.
- To care for insect stings:
 - For bee sting, scrape away the stinger quickly using fingernail or card edge
 - Wash the affected area with soap and water
 - Apply an ice pack
 - Provide an over-the-counter pain reliever such as ibuprofen or acetaminophen
 - Use topical hydrocortisone cream to relieve itching
 - Watch for allergic reactions that could become severe.
 - Activate your EAP to summon EMS personnel at the first sign of anaphylaxis.
- Spiders of greatest concern in the United States are the black widow and the brown spiders, such as the brown recluse, or the hobo spider.
- The signs and symptoms of a black widow spider bite include:
 - Pinprick
 - Progressing dull, numbing pain
 - Small fang marks may be noticeable
 - Cramps, muscle rigidity, and severe pain often occur.
 - Fever, chills, headache, dizziness, and nausea are also common.
- Brown recluse spider bites are rarely felt initially. Hours later, pain develops at the site of the bite, along with swelling, itching, and redness.
- Several days later, a blister develops that eventually scabs over and then opens back, repeating this process several times over weeks or months.
- Initial care for a black widow or brown recluse spider bite:
 - Wash the site with soap and water and disinfect it with an alcohol swab.
 - Apply ice to control swelling and aid with pain relief.
 - Provide an over-the-counter pain medication such as ibuprofen or acetaminophen
 - Activate your EAP to summon EMS providers
- Ticks carry diseases such as Lyme disease, Rocky Mountain spotted fever, and tick paralysis.
- To care for a guest with a tick embedded in the skin:
 - Remove the tick with tweezers, being certain to grasp the tick as close to the skin as possible. Lift gently and hold until the tick releases.
 - Wash the area with soap and water and disinfect the site with an alcohol swab.
 - Apply an ice pack for any swelling or pain.

- Advise the guest to be alert to any flulike symptoms, rashes, or joint pain that are commonly seen within a month after an infected tick bites a person, and to seek medical attention if these occur.

Heat Emergencies

- 3 types of heat emergencies: heat cramps, heat exhaustion, and heatstroke.
- Signs and symptoms of heat emergencies include:
 - Muscle cramps (most common in the legs and abdomen)
 - Dizziness
 - Nausea/vomiting
 - Fatigue
 - Severe headache
 - Extreme thirst
 - Hot skin (either wet or dry)
 - Rapid pulse
 - Mental confusion (including unconsciousness)
 - Seizure
- Care for heat emergencies:
 - Rest in a cool location
 - Gently stretch any affected muscles if heat cramps are suspected
 - Remove any heavy or restrictive clothing
 - If alert and not nauseated, drink cool water or a commercial sports drink
 - Cool the guest any way possible (fan, Air conditioning, wet towels, ice packs)
 - Activate your EAP to summon EMS personnel if the guest's condition is not improving

Cold Emergencies

- Hypothermia is general cooling of the body that develops when the body's internal temperature drops to about 95°F (35°C).
- Signs of hypothermia include:
 - Uncontrolled shivering
 - Confusion
 - Sluggishness (lethargy)
 - Cold skin

Instructor Note: Cold water can induce hypothermia faster than air, and also lead to hypothermia induced drowning.

- Care for hypothermia:
 - Get the guest out of the cold
 - Replace any wet clothing with dry clothing and blankets
 - Provide non-caffeinated, warm, sugary beverages if alert and able to swallow
 - Activate your EAP to summon EMS personnel if the condition is worsening or severe (as indicated by rigid muscles, lethargy, or confusion).

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- Can you identify the signs and symptoms for each of these medical emergencies: asthma attack, heart attack, stroke, seizure, fainting, allergic reactions, poisoning, alcohol and other drug emergencies, diabetic emergencies?
- How would you provide care for each of these medical emergencies: asthma attack, heart attack, stroke, seizure, fainting, allergic reactions, poisoning, alcohol and other drug emergencies and diabetic emergencies?
- Can you identify the signs and symptoms for each of these environmental emergencies: insect bites and stings, spider bites, tick bites, heat and cold emergencies?
- How would you provide care for each of these environmental emergencies: insect bites and stings, spider bites, tick bites, heat and cold emergencies?

With this lesson complete, participants will be able to demonstrate the following skills:

- Use of training injectors to simulate the administration of epinephrine through an intramuscular auto-injector.

Instructor Notes for This Lesson

Lesson 13: Open-Water Lifeguarding

Lesson Overview

This lesson focuses on responding to Guests in Distress in open water environments and is therefore only required for “Special Facilities with Open Water” classes. Candidates should be required to review Chapter 13 in the textbook prior to attending this session. This Chapter covers content that will require both classroom time and time in Open Water similar to the (or the actual) Open Water environment where they will perform their duties if they successfully pass the class.

Learning Outcomes

After completing this lesson, participants will be able to:

- Describe the 10/3 Protection standard.
- Describe how surveillance techniques of an open-water facility differ from those of a pool.
- Describe potential hazards and how to mitigate them.
- Describe designated swim areas and how they are created.
- Describe how lifeguards communicate with guests in an open-water environment.
- Describe basic emergency response systems used in an open-water environment.
- Describe the various rescue equipment options that may be available to lifeguards at an open-water swim area.
- Demonstrate how to perform a rescue of a guest in distress, using equipment in the designated swim area.
- Demonstrate how to use watercraft to assist with a rescue.
- Demonstrate how to use equipment to locate a missing guest in the designated swim area within 3 minutes

Approximate Time: 180 minutes (90 minutes classroom/90 minutes open water)

Time Assumptions

The time allotted for this lesson is based on several factors that could vary for each instructor.

The following assumptions were made for the presented approximate time:

- 16 students in the class and a single instructor (more instructors and/or fewer students will impact overall time needed).
- Assumes basic demonstration/drills, and evaluation of skill competency. If additional practice time is needed to meet the objectives, chapter content time should be extended.
- Assumes that all equipment is available in the ratios indicated in the equipment list. If less equipment is available, this section will necessarily take more time to complete.
- Does not account for additional activities (water games, team building, ice-breakers, etc.) or watching video content (when possible, request that video content be viewed prior to class).
- Does not account for breaks, concept transitions, or transitions between classroom and pool.

As with all portions of the ILTP® Course, accomplishment of the objectives is the ultimate requirement over an exact time.

Outline

Classroom:

- Quick overview of learning outcomes and objectives (classroom and open water portions).
- Instructor led discussion on the 10/3 Protection standard and its relationship to the 10/20.
- Instructor led discussion on potential hazards may exist (or do exist at the facility).
- Instructor led discussion on Facility safety.
- Instructor led discussion Guest communication.
- Overview of Rescue equipment and rescue techniques that will be utilized.
- Overview of Three-minute Missing person search procedure.

Open Water Environment:

- Instructor demonstration and subsequent practice by candidates of Open-water rescue techniques with equipment and extrication procedures.
- Instructor demonstration and subsequent practice by candidates of a Three-Minute Missing person search in a designated swim area using equipment and procedure.
- Scenarios covering all skills (include: active rescues, suspected spinal injury procedure, three-minute missing person searches followed by unresponsive guest protocols on shore).

Materials Needed

- Rescue Tube (demonstration and practice of skills)
 - 1 rescue tube for every 2 students
- Whistles for skills practice
- Hip Packs (6 hip packs for every 16 candidates)
- Backboards (1 for every 10 candidates)
- Medical Exam Gloves (1 full box for every 16 candidates)
- CPR Manikins (Adult, Child, and Infant – 1 for every 4 students)
- Submersible Manikin
- Net Drag Equipment
- Masks, snorkels, and fins
- Rescue Board/Water Craft (if used)
- Barrier Devices (Adult, Child, and Infant Resuscitation Masks - 1 for every 3 candidates, and BVMs -1 for every 16 candidates)
- Fully equipped Trauma Bag (Oxygen, Manual Suction device, and AED trainer with adjuncts - 1 for every 16 candidates)
- Manikin disinfectant (bleach solution ¼ bleach to 1 gallon of water, or alcohol wipes - as needed)
- Projector/video (optional)
 - Video clips of rescues (optional)

Key Points

- An open-water lifeguard understands the differences between pool and open-water lifeguarding.
- An open-water lifeguard knows the common causes of incidents at open-water facilities.
- Open-water lifeguards are aware of how environmental changes can impact open-water facilities and how to deal with those changes.
- Open-water lifeguards use a variety of equipment to help scan and rescue guests in distress.

Instructor Demonstration: Demonstrate the varied equipment that a lifeguard can use in an Open Water environment to assist them in recognizing and/or rescuing a Guest in Distress.

Participant Practice: Allow students hands-on time with the equipment.

- Open-water lifeguards scan the surface of the swimming area within 10 seconds and, when a guest in distress is spotted, rescue that guest as quickly as possible.

Instructor Demonstration: Demonstration of all rescue techniques in the Open Water environment is required. Instructor should focus on modeling techniques and explaining the Open Water application of the skills learned in the pool to allow candidates time to understand differences and ask questions.

Participant Practice: Candidate drills of all rescue techniques is required. After completing demonstrations, instructors should organize the class to allow for skills practice.

- The mask, fin, and snorkel swim search is used to search deeper water.

Instructor Demonstration: Demonstration of the Mask, Fin, and Snorkel Search and Rescue procedure is required. Instructor should focus on illustrating the techniques using video/or images in the classroom, and then modeling those techniques in the Open Water environment to allow candidates time to understand concepts and ask questions.

Participant Practice: In-water candidate drills of Mask, Fin, and Snorkel Search and Rescue techniques is required. After completing demonstrations, instructors should organize the class to allow for skills practice.

- The net drag search is used to search a zone that is shallow.

Instructor Demonstration: Demonstration of the Net-Drag search and rescue procedure is required. Instructor should focus on illustrating the techniques using video/or images in the classroom, and then modeling those techniques in the Open Water environment to allow candidates time to understand concepts and ask questions.

Participant Practice: In-water candidate drills of the Net-Drag search and rescue techniques is required. After completing demonstrations, instructors should organize the class to allow for skills practice.

- If a guest is missing within a zone or has slipped below the surface of the water within a zone, the lifeguard team has 3 minutes to search and rescue the guest using the Net-Drag search and rescue procedure, the Mask, Fin and Snorkel search and rescue procedure, or a combination of both as outlined in the EAP.

Instructor Demonstration: Demonstration of the complete EAP 3-Minute Search and Rescue procedure is required. Instructor should focus on illustrating the techniques using video/or images in the classroom, and then modeling those techniques in the Open Water environment to allow candidates time to understand concepts and ask questions.

Participant Practice: In-water candidate drills of EAP 3-Minute Search and Rescue techniques is required. After completing demonstrations, instructors should organize the class to allow for skills practice.

Instructor Demonstration/ Participant Practice: Additional Demos/Practice time (optional). If the instructor believes additional demos/practice time is necessary to prepare candidates for skill competency evaluation, extra time should be allotted.

Concept and Skill Competency

With this lesson complete, participants will be able to answer the following questions:

- Describe how Open Water lifeguarding procedures differ from those used at a pool.
- Open Water lifeguarding provide a unique challenge due to the fact that lifeguards cannot easily see _____ the _____ of most open-water-designated swim areas.
- Flags can be used by Open Water lifeguards to _____ with swimmers.
- Open Water lifeguards have access to rescue _____, but are still required to use the rescue _____.
- Open Water lifeguards should begin _____ in open water if the guest is unconscious and not breathing, once the guest is at the surface and securely on the rescue tube.
- The rescue tube may be secured around the _____ of a lifeguard and allowed to _____ behind the lifeguard when swimming toward a guest.
- When performing the Net-Drag search the net must be pulled _____ to help ensure a guest in distress will be detected.

- When performing a Mask, Fin and Snorkel search lifeguards should perform a _____ _____ to the bottom and swim a predetermined number of strokes in a straight line forward while keeping their hands in front of them in a sweeping motion.

