

Lifeguarding Skills

Preface

It is strongly encouraged that you read the descriptions to better understand the concepts and reasoning behind the techniques demonstrated. Most descriptions will present what the skill is, and when or why you would use it. Once read, then look at the pictures to better understand the technique. The Art of Lifeguarding involves many techniques, and due to the variety of situations that can occur, sometimes there isn't an exact solution as to which technique to use. Depending on the situation, there are sometimes multiple methods which would be correct, sometimes there is only one. It is up to the rescuer to decide. Therefore, being familiar with all the techniques will aid you in making the right choice.

ENTRIES

ENTERING THE POOL FROM THE DECK –

When entering the pool from the deck it is essential to use an entry that will allow you to quickly reach the victim without losing visual contact of that victim. Always keep in mind the depth of water you are entering. The depth of the water will determine if you jump, dive, or slip into the water. Remember that entering the water improperly can lead to injuries. The rescuer must also be sure that the area in front of him/her is clear of all patrons and obstacles.

LONG SHALLOW DIVE –

What: To perform this dive step to the edge of the pool, slightly spread your feet, and to help prevent slipping, place your toes over the edge. Bend your knees enough to make your back parallel to the water's surface by crouching down. Lean forward and swing your arms back in preparation to spring outward. Press against the pool edge with your toes and simultaneously extend your legs and swing your arms forward until they are directly above your head. Make sure not to pike or elevate your hips. Tuck your chin inward slightly, allowing your hands to enter first and your feet to enter last. Upon entering the pool, place your hands in a 45 degree angle towards the bottom of the pool or you will go to the surface. Do not angle your hands towards the bottom of the pool or you will go too deep.

When/Why: This dive provides a shallow angle and should be used only where the water depth is at least five feet. This entry provides a rapid means to reach the victim.



Long shallow dive. Note the toes curled over the edge, to prevent slipping.

STRIDE JUMP –

What: In the stride jump, the rescuer takes a giant step forward with his/her arms elevated just above shoulder height. The rescuer's shoulders should be ahead of the hips with one leg extended forward and the other back. To simplify, the rescuer should take a giant step while leaning forward with his/her arms extended outward and to the side, just above shoulder height. Upon contact with the water the body should be kept at an angle, which will help keep the rescuer's face above water. To stop possible sinking action and help the rescuer's head stay above water, the legs should squeeze together using a scissor or frog kick underwater, while the arms press vigorously downward. Additional stroking of the arms and legs will help keep the rescuer's head above water while also providing forward momentum.

When/Why: This entry should be used in semi-deep/deep water. It provides constant eye contact with the victim; should the victim go underwater, the rescuer has at least an idea of where the victim went down.



Stride jump. Body position is the key: arms out, legs spread, torso leaning forward, chin up, eyes looking out towards the victim.

RUN AND DIVE (DEEP) –

What: When you are deck guard and spot a swimmer in distress at the opposite end of the pool in deep water, the run and dive is the best method of entry. The reason for using this method of entry is it would be much quicker than diving or jumping in at the point of initial observation versus trying to sprint across the pool to get to the victim. While in route to the victim, try to remove all excess equipment that could interfere with the rescue. If possible, your hat, sunglasses, and footwear should be removed before diving in, to assure a smooth entry. Upon diving in make sure your chin is ducked in and your hands are directly above your head. Don't dive in too deep so you can immediately surface to resume eye contact with the victim.

When/Why: This entry should be used in semi-deep/deep water, to quickly reach the victim.



Run and dive sequence.

EASE INTO SHALLOW WATER

What: To properly execute this maneuver, start by sitting on the side of the pool; place both hands on the deck to support your weight, and then slowly ease into the water. Approach your victim as quickly as possible without creating excessive waves. Keep your eyes on the victim at all times.

When/Why: If the victim is in shallow water and fairly close to your point of entry or when waves created by jumping or diving into the water could cause additional injury.

JUMP INTO SEMI-DEEP WATER

What: When jumping into semi-deep water, upon entry, keep your feet together and make sure you land on the balls of your feet. Flex your feet to cushion the impact with the bottom. Next, vigorously push off the bottom in a dolphin like manner, keeping your eyes fixed on the victim. Proceed to the victim using a front surface approach.

When/Why: This entry should be used in semi-deep water, when you are relatively close to the victim.

ENTERING AND EXITING LIFEGUARD TOWER

What: Proper entry and exit into and out of a lifeguard tower is necessary because of the rotating system used by L.A. City Lifeguards. Rotations occur at set times depending on the number of lifeguards on duty and the amount of lifeguard towers at a facility. The most important element in entering a lifeguard tower and executing a proper tower exchange is that there must be no break or delay in the surveillance of the area of responsibility. The lifeguard coming in should first take a position next to the stand and observe the area of responsibility. The incoming lifeguard should always be positioned on the side where the equipment is located. Before entering the lifeguard tower, you should attempt to remove all equipment (Hat, fanny pack, and shoes) that can potentially interfere with a rescue. Care should be taken in climbing into the towers, making sure that the rungs are not loose, slippery, or shaky. Once in the tower, begin the 10 second scans of the pool.

When/Why: Entering the lifeguard tower is a routine part of a lifeguard's job, but maintaining constant surveillance and safely entering the tower is key.

LIFEGUARD ROTATIONS

What: When relieving the guard in the tower, the primary responsibility of both tower and deck guards is to maintain constant surveillance of the area of responsibility. The relief guard should be positioned on the side where the equipment is located. All of the equipment mentioned above should be removed prior to entering the tower (Hat, fanny pack, and shoes). Next, carefully climb up the ladder and position yourself next to the lifeguard in the tower. Once he/she has stepped aside, while maintaining surveillance of the patrons in the pool, the tower guard exits the lifeguard chair and stops on the side of the lifeguard tower, mirroring the new relief guard. Next, the relieving guard assumes the tower guard position and begins the 10-second scans of the pool. The tower guard becomes the deck guard. The new deck guard must carefully climb down the unobstructed side of the tower, put on his/her hat, fanny pack, and shoes, and maintain constant surveillance of the pool. It is essential that both lifeguards maintain constant surveillance of the pool throughout the entire exchange.

When/Why: Tower rotation is again a routine part of a lifeguard's job, but maintaining constant surveillance and safely entering and exiting the tower is key.

ENTERING POOL FROM LIFEGUARD TOWER

On many occasions it is most appropriate for the tower guard to execute a rescue. The following are procedures practiced when these situations arise:

CLIMBING DOWN FROM THE TOWER AND ENTERING POOL **What:** In this situation the tower guard is the lifeguard closest to the victim. The tower guard must always carefully climb down the side that is unobstructed by equipment. Simply stated, lifeguards exiting the tower must always carefully use the side that is unblocked by the shepherd's crook and the ring buoy. Keep your eyes on the victim at all times.

When/Why: This would be used when it is quicker for the lifeguard to climb down the tower and run to the victim, as opposed to diving or jumping in and sprinting across the pool to the victim. It would also be used in a situation where there is a suspected spinal injury.

TOWER JUMP (SHALLOW WATER) –

What: When jumping from the tower into shallow water it is very important to keep your knees slightly bent and your arms extended out to the side. Keeping your arms extended out to the side will decrease your body speed when your feet hit the bottom of the pool. Landing on the balls of your feet and keeping your knees bent are the two necessary elements that must be used to absorb the impact with the bottom. Next, push off the bottom and proceed to the victim using a front surface approach.

When/Why: Used from the tower to enter shallow water, safely, and more quickly than climbing down from the tower.



Tower jump (shallow) sequence. Body position is the key: arms out, knees bent. When entering the water, you should land on the balls of your feet, as shown on the right. Push off the bottom, and approach the victim.

TOWER JUMP (DEEP) –

What: When jumping from the tower into deep water the lifeguard must keep his/her feet together. This will help prevent an awkward and perhaps uncomfortable entry. The arms can be extended to help slow body decent. Upon entering the water, the lifeguard should kick his/her legs and scull the arms to slow the descent. Swim under water or on the surface to the victim. Complete the rescue with any appropriate tow or carry.

When/Why: Used from the tower to enter deep water, to a victim that is relatively close to the tower. Also, quicker than climbing down from the tower.



Tower jump entry sequence. Similar to above (tower jump shallow), except the rescuer kicks with the legs and pulls with the arms to slow the descent.

TOWER DIVE (DEEP) –

What: When you, the lifeguard, are diving off the tower, make sure your toes are over the platform when you push off. This will keep you from slipping when you dive off the tower. Next, make sure you dive off diagonal to the surface of the water and not straight down. This will help prevent neck and back injuries. Upon entering the water, point your hands toward the surface so you come up quickly. Proceed to the victim and complete the rescue with any appropriate tow or carry.

When/Why: Used from the tower to enter deep water, to a victim that is relatively far from the tower, such as the opposite side of the pool. Again, quicker than climbing down from the tower.



Tower dive sequence. Note the feet over the edge of the platform, to prevent slipping.

SWIM RESCUES

APPROACH: READY POSITION - The ready position should be used when approaching a victim. To properly execute the ready position, the rescuer should stop well out of the reach of the victim, about 3-4 yards away. The rescuer should be turned to the side, leaning away from while cautiously treading toward the victim, reassuring an active victim if possible. This allows the rescuer to assess the scene and situation, while being prepared to quickly escape to safety if necessary. Once situated, the rescuer should then effect the rescue of the victim.

APPROACH AND CARRY: PASSIVE VICTIM – The following rescues are performed on passive victims located just below the surface of the water. Passive victims can be defined as those who are unconscious. These passive victims, when carried, are maintained in a horizontal position, which is why the alternate cross-chest carry is used. This carry should keep the victim's head on top of the water; it also allows the lifeguard to quickly retrieve the victim. It is important to note that with passive victims, time is of essence; they are unconscious and we want to extricate these victims from the water as soon as possible, which is why we use these particular techniques.

ALTERNATE CROSS CHEST CARRY - The alternate cross chest carry allows the rescuer to carry the passive victim horizontally on top of the water. To initiate this carry, immediately after completing the front surface approach, the rescuer brings his/her free arm over the corresponding shoulder of the victim, across the upper torso, until the rescuers hand contacts the victim's side, just below the armpit. The victim should be held in a firm, snug grip against the rescuers ribs, making sure the victim's shoulder fits snugly into the rescuers armpit. The rescuer will be on his/her side so the lifesaving stroke, with either the regular scissor kick or the inverted scissor kick, can be used to bring the victim to safety. The rescuer should keep the victim's face up and out of the water. In conclusion, the alternate cross-chest carry is used on passive victims because it allows for quick retrieval of the victim. This carry must be done so the victim's face is out of the water because if breathing is present or spontaneous breathing takes place there will be no further injury to the victim. If a victim regains consciousness, transfer to a carry for an active victim.



Alternate cross chest carry. The rescuer's arm goes over the shoulder, and crosses the chest to the victim's armpit.

FRONT SURFACE APPROACH, ALTERNATE CROSS CHEST CARRY – If the rescuer finds that the victim is passive, no time should be wasted in making contact and bringing the victim to the surface. If the victim’s head has sunk beneath the surface of the water and he/she is motionless, it is safe to assume their condition is passive and very serious. When the rescuer is within arms reach of the victim, he/she seizes the back of the victim’s wrist, with the lifeguard’s right hand to the victim’s right wrist or the lifeguard’s left hand to the victim’s left wrist. When the grasp has been secured, the rescuer leans back and kicks for momentum while he/she (the lifeguard) pulls and rotates the victim’s wrist, turning it palm up. The pull and turn will cause the victim to roll over onto his or her back. Quick, vigorous leg kicks are essential to aid the rescuer in turning the victim over and getting underway. As soon as the victim is fully turned over the rescuer can initiate the alternate cross chest carry. The victim’s wrist is released after the rescuer initiates the alternate cross chest carry.



Front surface approach, alternate cross chest carry, contact sequence. Once turned onto their back, the rescuer can put the victim into an armpit tow to level them off, then go straight into an alternate cross chest carry.



The rescuer uses the lifesaving stroke to bring the victim to safety. Note the victim’s position, on the hip of the rescuer, to support the victim’s head above water and to enable a strong scissor kick.

REAR SURFACE APPROACH, ARMPIT CARRY TO SURFACE, ALTERNATE CROSS CHEST CARRY –

On many occasions it will be most convenient for the rescuer to approach the victim from behind. When the situation arises the rescuer should use the rear surface approach. This can be accomplished by the rescuer, who swims to a point directly behind the victim, close to the victim's back. To apply the armpit carry the rescuer should make contact by reaching out with the forward arm, grasping the victim's armpit from behind with the thumb in the up position. The rescuer's right hand is placed under the victim's right armpit or the rescuer's left hand is placed under the victim's left armpit. The rescuer should pull the victim to the surface and simultaneously bring his/her legs forward of the chest so the rescuer is ready to deliver a series of short vigorous kicks. Once the victim has been brought to the surface using the armpit carry, the alternate cross-chest carry is applied. The correct execution of the alternate cross-chest carry is discussed in detail in the above section. Remember; never lose contact with the victim, during the transition from the armpit carry to the alternate cross-chest carry.



Armpit carry, contact sequence. In this example, the rescuer uses his left hand; thumb up, to grasp the victim's left armpit, brings the victim to the surface, and then applies an alternate cross-chest carry using his right arm. At no time does the rescuer ever lose physical contact with the victim.

RECOVERY OF SUBMERGED VICTIM

When a victim submerges beneath the water surface, recovery must be made as quickly as possible. Submerged victims are unconscious and non-breathing and may have had a medical emergency such as cardiac arrest that may have led to the drowning emergency.

RECOVERY OF SUBMERGED VICTIM IN DEEP WATER - If the victim submerges in the middle of the rescuer's approach, speed is essential in making the recovery. The rescuer should continue his/her approach, fixing his/her eyes on the spot where the victim was last seen. When the rescuer reaches the spot where the victim was last seen, he/she must surface dive in order to locate the victim. Once the victim is located, the rescuer should grasp his/her armpit from behind and plant both feet on the bottom. When the rescuer's feet are firmly planted, he/she (the rescuer) should forcefully push off from the bottom stroking and kicking both himself and the victim to the surface. Quickly remove the victim from the water where his/her vital signs can be monitored.





Recovery of submerged victim in deep water sequence. The rescuer grasps the victim from underneath both armpits, pushes off the bottom and kicks to the surface. Once at the surface, the victim is leveled off and placed into an alternate cross chest carry.

RECOVERY OF SUBMERGED VICTIM IN SHALLOW WATER - Rescuers recovering a submerged victim in shallow water must be certain that neck or back injuries do not exist. For our purposes we will assume no injuries of this nature exist. The rescuer should enter the water feet first, keeping his/her head out of the water so visual contact with the victim can be maintained. As quickly as possible, pick the victim up off the bottom in an appropriate manner and bring him/her to the side. If the victim is a small child, the rescuer should scoop him/her up with both hands and gently set him/her on the deck. A deck guard should be available to protect the victim's head so further injuries are avoided. Once the victim is out of the water the deck guard can prepare the Bag-Valve-Mask (BVM) while the rescuing guard exits the water preparing to administer CPR if necessary.

SPECIAL SITUATIONS: SMALL VICTIM IN SHALLOW WATER - In this situation the rescuing lifeguard will perform a cradle carry by quickly scooping the victim off the bottom or out of the water with both arms. One arm will go under the victim's legs while the other arm goes under the victim's upper back. The arm under the back must also support the victim's head. The rescuer then takes the victim quickly to the side of the pool. At the side the victim is set gently on the deck, and the rescuer quickly exits the pool and assesses the victim's condition. **Caution!** This rescue should only be performed if the victim is small enough and the lifeguard is tall enough. Otherwise a conventional rescue and lift should be performed.

MULTIPLE NEAR DROWNING MANEUVER - A multiple near drowning, which involves two or more victims, will occur when panicky swimmers clutch one another in an attempt to keep their faces above water. A multiple near drowning should be handled by two or more rescuers depending on the numbers of victims. A one to one ratio of rescuers to victims is preferred for speed and safety purposes. If there is only one lifeguard available to handle a multiple near drowning and the distance to safety is short, the rescuer should push or tow the clutching victims to the side using a double armpit tow on one of the victims.

***Note-**Permit groups and high school swim teams are the situations where only one lifeguard is on duty.

All other situations require more than one lifeguard to respond. If the victims are too deep to tow, the rescuer should swim behind the victim positioned on top. The assumption here is that the person on top is the one who initiated the situation and is therefore the weaker swimmer. This is a safe assumption, but does not always hold true. Next, the rescuer should move his/her hands to the armpits of the top victim while simultaneously placing one or both feet on the upper chest of the bottom victim. Pull up on the armpits of the victim who is in the top position while pressing down and away with the feet (Don't kick, until the two victims are separated. Tow or carry the first victim to safety, and then quickly return to assist the second victim. If an additional rescuer becomes available, he/she should assist the other victim.

APPROACH AND CARRY: ACTIVE VICTIM – An active victim is a conscious victim whose actions may be violent or weak, depending on the amount of energy he/she possesses. The following rescues reveal that the cross chest carry is used on active victims as opposed to the alternate cross chest carry. The cross chest carry is used on active victims because it allows the rescuer to easily maintain the victim in a vertical position in the water, which allows for easier breathing and body balance. Physically, the cross-chest carry is difficult for the rescuer, but comforting for the victim. The cross-chest carry gives the victim a sense of security because he/she is maintained in a vertical support position. The vertical support position in the water allows for easier breathing and maintains the victim's body balance. Additionally the vertical support position nearly eliminates any chance the victim has of inhaling water. If a victim inhales water, it could cause him/her to panic, which would complicate the rescue. You will notice that most of the approaches to an active victim are from the rear. This is to protect the rescuer from a struggling victim, and quickly effect a rescue.

REAR APPROACH, ARMPIT CARRY – To properly execute a rear approach on an active victim the rescuer should pick a point directly behind the victim, enter the water quickly, and swim to the marked spot. The chosen spot should put the rescuer within arms reach of the victim. Once the rescuer is within arms reach of the victim, the armpit carry should be immediately applied. To properly execute the armpit carry after the rear approach, the rescuer should grasp the victim's armpit with his/her forward hand (the hand that is closest to the victim). If the rescuers right hand is closest to the victim, the rescuer should grasp the victim's right armpit. If the rescuers left hand is closest to the victim, the rescuer should grasp the victim's left armpit. The rescuer should place his or her fingers under the armpit of the victim with the thumb in the up position along the outside of the victim's arm. As soon as you have a firm grip of the victim proceed to safety using a modified vertical sidestroke with either a regular or inverted scissors kick. Make sure the victim is maintained in the vertical support position. This eliminates the chance of the victim inhaling water. The rescuer must keep talking reassuringly, throughout the entire rescue, to comfort the victim.



Rear approach, armpit carry sequence.

CROSS CHEST CARRY – The cross chest carry allows the victim to elevate his/her head and shoulders above the water allowing them to breathe more freely, which usually stops the victim from struggling. With your forward hand (the hand that reaches the victim first), reach under the victim's arm and across the lower chest until your hand is holding on to the victim's opposite side. If the rescuer's right arm is first to arrive, it should go under the victim's right arm. If the rescuer's left arm is first to arrive, it should go under the victim's left arm. Once in this position, kick vigorously and stroke with your free hand in order to maintain the victim in a vertical support position and make forward progress to safety. Keep talking reassuringly, throughout the entire rescue, to comfort the victim.



Cross chest carry. The rescuer's arm goes under the armpit, and crosses the chest to the victim's opposite armpit.

REAR APPROACH, CROSS CHEST CARRY – To execute a rear approach the rescuer should pick a point behind the victim, enter the water quickly, and swim directly to the marked spot. The chosen spot should put the rescuer within arms reach of the victim. Once the rescuer is within arms reach of the victim the cross chest carry should be immediately applied.

DIVE TO REAR OF VICTIM, ARMPIT CARRY – When a victim is floundering in deep water (water depth greater than 5 feet) the rescuer may decide to dive to the rear of the victim. The rescuer can take advantage of momentum by diving in, swimming under water, and surfacing directly behind the victim. Upon surfacing, the rescuer immediately grabs the victim by placing the fingers under the armpit and positioning the thumb in the up position along the outside of the victim's arm (the rescuer's right hand to the victim's right armpit, or the rescuer's left hand to the victim's left armpit). As soon as the rescuer has a firm grip of the victim, proceed to safety using the modified vertical sidestroke with a regular or inverted scissors kick. Make sure the victim is maintained in the vertical support position. Throughout the entire rescue keep talking, reassuringly, to comfort the victim.



Dive to rear, entry sequence. Once positioned behind the victim, the rescuer can place the victim into an armpit carry.

DIVE TO REAR OF VICTIM, CROSS CHEST CARRY – the rescuer can take advantage of momentum by diving in, swimming under water, and surfacing directly behind the victim. Upon surfacing, the rescuer immediately places the victim in a cross chest carry. The rescuer reaches under the victim's arm and across his/her lower chest until the rescuer is holding the victim's opposite side (the rescuer's right arm through the victim's right side or the rescuer's left arm through the victim's left side). When the rescuer has a firm grip of the victim, he/she (the rescuer) must kick vigorously and stroke with his/her free hand in order to keep the victim in a vertical support position and make forward progress to safety. Throughout the entire rescue keep talking, reassuringly, to comfort the victim.

FRONT APPROACH, ARMPIT CARRY – to execute a front approach the rescuer quickly enters the water and swims directly to the front of the victim. The rescuer must maintain eye contact with the victim throughout the entire approach. Once the rescuer is within arms reach of the victim, the armpit carry is applied. Upon reaching the victim, the rescuer immediately grabs the victim with his/her forward hand by placing the fingers under the armpit and positioning the thumb in the up position along the side of the victims arm (if the rescuers right hand is forward he/she grabs the victim's left armpit, or if the rescuers left hand is forward he/she grabs the victims right armpit). As soon as the rescuer has a firm grip of the victim he/she must proceed to safety using the modified vertical sidestroke with either a regular or inverted scissors kick. The rescuer must maintain the victim in a vertical support position and keep talking, reassuringly, to comfort the victim throughout the entire rescue.



Front approach, armpit carry. Maintain the victim in a vertical position, while reassuring the victim.

DIVE TO FRONT OF VICTIM, ROTATE VICTIM WHILE UNDERWATER, REAR ARMPIT CARRY – When a victim is floundering in deep water (water depth 7 feet or greater) the rescuer can take advantage of momentum by diving in and approaching the victim underwater. The rescuers dive should bring him/her down below the victim's feet, where the rescuer levels off and comes up to a point where his/her eyes are level with the victim's knees. Prior to making contact with the victim the rescuers legs should be in a vertical position. The rescuer places the left hand in back of the victim's right leg, and the other in front, just above the left knee, and turns the victim so his/her back is facing the rescuer. The rescuer maintains contact with the victim as he/she returns to the surface, constantly supporting the victim's body so his/her face is above the water. It is important that the rescuer lifts the victim while coming to the surface. Before the rescuers head surfaces he/she grabs one of the victims armpits from behind, and completes the rescue with a rear armpit carry. The rescuer must maintain the victim in a vertical support position and keep talking, reassuringly, to comfort the victim throughout the entire rescue.



Dive to front of victim, rotate victim while underwater sequence. During the rescue, the rescuer should maintain physical contact and support the victim. Once turned, the rescuer should surface and perform an armpit carry, while maintaining contact with the victim.

DIVE TO FRONT OF VICTIM, ROTATE VICTIM WHILE UNDERWATER, CROSS CHEST CARRY – When a victim is floating in deep water (water depth seven feet or greater) the rescuer can take advantage of momentum by diving in and approaching the victim underwater. The rescuer's dive should bring him/her down below the victim's feet, where the rescuer levels off and comes up to a point where his/her eyes are level with the victim's knees. Prior to making contact with the victim the rescuer's legs should be in a vertical position. The rescuer maintains contact with the victim as he/she returns to the surface, constantly supporting the victim's body so his/her face is above the water. It is important that the rescuer lifts the victim while coming to the surface. Before the rescuer's head surfaces, he/she must reach under one of the victim's arms and across his/her lower chest, and complete the rescue with a cross chest carry. The rescuer must maintain the victim in a vertical support position and keep talking, reassuringly, to comfort the victim throughout the rescue.

TWO LIFEGUARD RESCUE FROM REAR OF VICTIM - it may be necessary for two lifeguards to assist a large or non-buoyant victim. Normally one lifeguard contacts the victim first. If it is observed that this lifeguard needs backup, a second lifeguard needs to enter the water. To properly execute this two-lifeguard rescue, both lifesavers should position along each upper arm of the victim, with the thumbs in the up position. The victim's right side should be grasped by the rescuer's left hand, while the victim's left side should be grasped by the rescuer's right hand. The rescuers should firmly grasp the victim's upper arms, placing their fingers under the victims arm pits and their thumbs in the upper position along the outside of the victim's arms. Once both breaststroke, they assist the victim face forward to safety. Keep reassuring the victim and make sure he/she is maintained in a vertical support position.



Two lifeguard rescue from rear of victim sequence. The two lifeguards grasp the victim from underneath his armpits, thumbs up, and swim with a breaststroke kick to the side of the pool. Keep the victim's head above water and reassure.

DEFENSES

In some circumstances you will be confronted face-to-face with a victim who panics. Frequently the rescuer will come within range of the victim's grasping hands. This could happen through an unanticipated movement by the victim. The victim may attempt to grab your head, shoulders, or arm in an effort to keep his/her face out of the water. This requires a quick reaction on the part of the rescuer by performing defenses such as a block, a block and carry, or a block and turn.

THE BLOCK - The block is a maneuver designed to prevent the victim from grabbing hold of the rescuer. The block can be executed by placing the open palm of one hand high on the victim's chest while leaning away and submerging when the victim attempts to grab you. Remember to take a deep breath and keep your arm rigidly extended when you push off the victim's chest to submerge. After executing the block, return to the surface, reassess the situation, and attempt to approach the victim from behind.



Block sequence. Push away and submerge underwater, resurfacing a safe distance away from the victim. Reassess the situation and attempt to approach the victim from behind.

THE BLOCK AND CARRY - In many cases the victim will grab the rescuer's extended arm. To execute the block and carry the rescuer can turn on his/her side and swim to safety using the lifesaving stroke, while the victim hangs onto the extended arm of the rescuer. Remember, the victim should never be allowed to climb on top of the shoulders or head of the rescuer.



Block and carry sequence. Here, the victim has grabbed onto the rescuer's hand and wrist, while the rescuer tows the victim to safety. Comfort and reassure the victim while towing.

THE BLOCK AND TURN - If the victim attempts to climb on top of the shoulders or head of the rescuer, or if the length of the swim is too long, or if the strength of the victim is causing difficulty, the rescuer may choose to turn the victim into a carry. The rescuer can accomplish this turn by bending his blocking arm in order to attain better leverage for his/her free hand. This free hand is brought up so the rescuer can grab the victim's arm, just above the elbow, with the thumb on the inside of the arm.

Note - If the rescuer's free hand is the left hand; he/she should grab the victim's right arm. If the rescuer's free hand is the right hand, he/she should grab the victim's left arm. Next, the rescuer makes a simultaneous hand press against the victim's chest and thrust up and across the arm he/she has a hold of. This action should release the victim's grasp and cause him/her to turn over so the rescuer can go into a comfortable carry.



Block and turn sequence. Once the victim starts to climb up the rescuer's arm, the rescuer should grab onto the upper arm just above the elbow and turn the victim by pushing the upper arm to the side. Once turned, the rescuer should position the victim into an armpit carry or cross-chest carry. Here, the rescuer has turned the victim, then into an armpit carry. Remember to always maintain contact with the victim, and comfort and reassure.

ESCAPES

Circumstances may occur where a rescuer decides that he/she should break contact with the victim and escape for his/her own safety. The following is a list of circumstances and procedures practiced when this situation arises.

DOUBLE GRIP ON WRIST ESCAPE - In order for a rescuer to escape from a victim who has a double grip on his/her wrist, the rescuer should quickly submerge the victim. It is necessary to submerge the victim because it could force him/her to release the rescuer in an attempt to keep his/her face out of the water. To submerge the victim reach across with your free hand and push down on the victim's shoulder as you kick upward for better leverage. Forcefully pull your hand free. If this is unsuccessful you can reach down with your free hand, grab your other hand (which should be a clenched fist), and pull vigorously upward. Quickly stroke backwards with your arms and legs to escape the victim's grasp. To complete the rescue make sure you use a rear approach accompanied by an appropriate tow or carry.

Double grip on wrist escape sequence. At first, the rescuer attempts to submerge the victim to get them to release the rescuer and pull their hand free.



Failing that, the rescuer makes a fist with the arm that is being held by the victim, reaches over with their free hand and grabs their fist, pressing downward with their forearm to submerge the victim. The rescuer then forcefully pulls upward to break the victim's hold. Retreat backwards a safe distance, reassess the situation and attempt to approach the victim from behind.

FRONT AND REAR HEAD HOLD ESCAPE - To break contact and escape from a front head hold the rescuer must immediately take a quick breath, tuck in his/her chin to the side, and submerge with the victim. To properly submerge, the rescuer should turn his/her palms upward and forcefully push up against the water. After submerging, the rescuer brings his/her hands up to the elbows or upper inside portion of the victim's arms. Next the rescuer pushes the victim up and away, keeping his/her chin tucked to the side, arms fully extended, and shoulders raised until he/she escapes. Complete the rescue using a rear approach followed by an appropriate tow or carry.



Front head hold escape sequence. Once the victim attempts to grab onto the rescuer, the rescuer should “suck, tuck, and duck”: suck in a breath of air, tuck their chin into their shoulder, and then duck underwater. While in this position, the rescuer should grasp and pinch just above the elbow of the victim while pushing upward to break the victim's hold. Retreat backwards a safe distance, reassess the situation and attempt to approach the victim from behind.



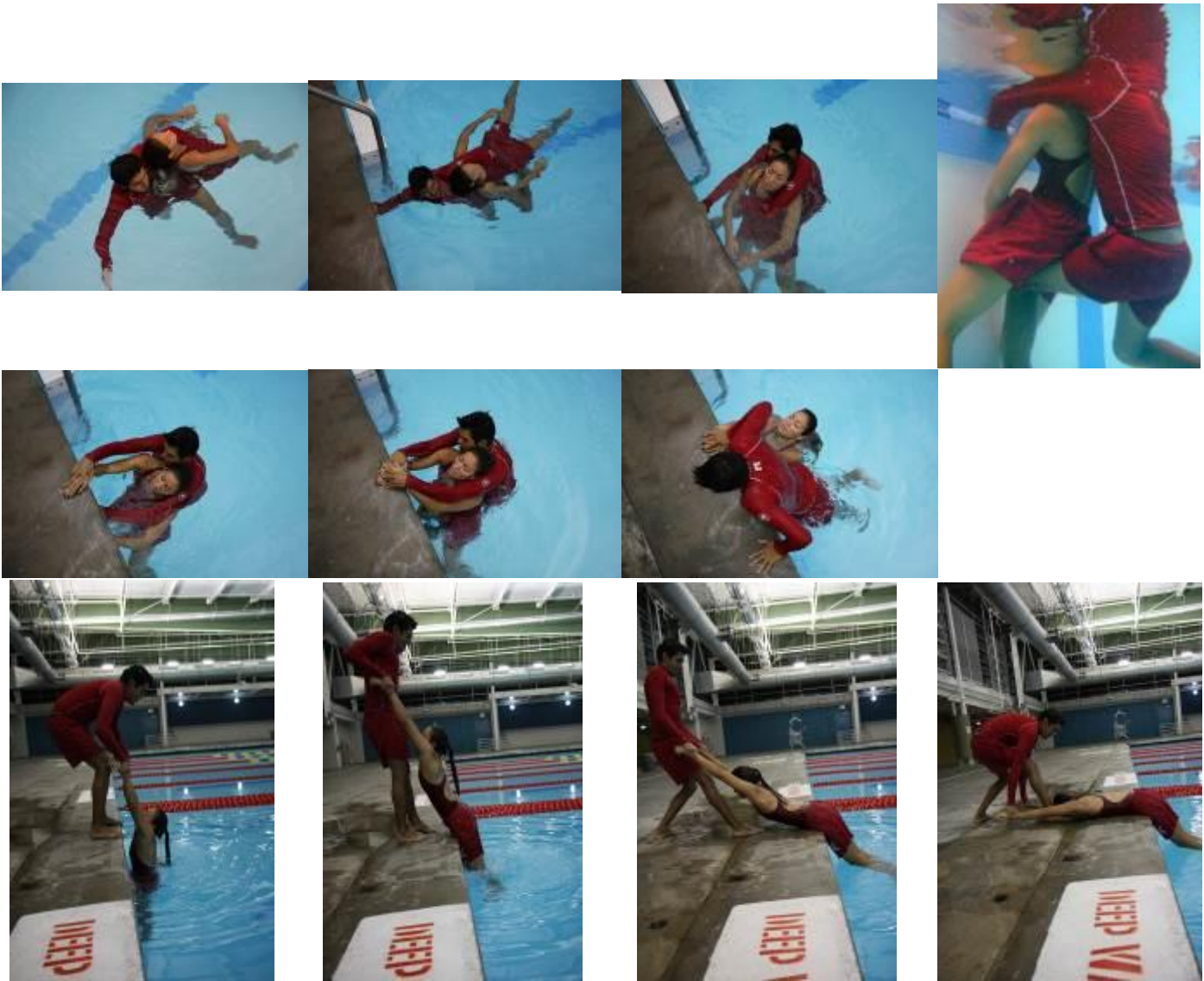
Rear head hold escape sequence. Similar to the front head hold escape, once the victim attempts to grab onto the rescuer, the rescuer should “suck, tuck, and duck”: suck in a breath of air, tuck their chin into their shoulder, and then duck underwater. While in this position, the rescuer should grasp and pinch just above the elbow of the victim while pushing upward to break the victim's hold. Retreat forwards a safe distance, reassess the situation and attempt to approach the victim from behind.

NON-SPINAL INJURY POOL EXTRICATION

The rescue has not ended until the victim has been removed from the water and taken to safety where first aid and medical attention may be available as required. Removal should be done quickly with minimal risk of further injury to the victim. In most cases assistance will be available on deck, therefore the rescuer should use such help to facilitate rescue breathing, if needed, during the removal of the victim. The following maneuvers are used by the rescuer when he/she is certain no neck or back injuries exist.

POOL SIDE LIFTS: DEEP AND SHALLOW - When lifting a victim out of the water and onto the pool deck three different variables need to be considered. The first variable needing recognition is the location of the victim. The victim might be located in shallow, semi-deep, or deep water. If the rescuer has the option to safely tow the victim from deep water or semi-deep water to shallow water, he/she (the rescuer) should take advantage of this. It is much easier for the rescuer to lift a victim from shallow water than it is to lift a victim from semi-deep water or deep water. The next variable to consider is whether or not the victim needs rescue breathing. If the victim needs rescue breathing the rescuer should remove him/her as quickly as possible regardless of the victim's location. The last variable to consider is the number of rescuers available to assist in the rescue. The more rescuers that is available to assist with the situation, the better. The following situations discuss these three variables in detail.

ONE LIFEGUARD SWIM RESCUE AND LIFT - The rescuer may be confronted with having to lift a victim out of the water onto a pool deck unassisted. The only time a lifeguard should perform an unassisted front shallow lift is when the victim weighs less than 70% of the rescuer's body weight. For example, a 200lb. Lifeguard should not execute a front shallow lift if the victim weighs 140lb. or more. The lifeguard must be careful not to injure the victim or himself and must always lift with his/her legs and not his/her back. In this situation, the rescuer tows the victim to the side of the pool, gets a good grasp of the edge, and turns the victim so he/she is facing the wall. Next, the rescuer places the victim's hand on the deck, one on top of the other, supporting the victim so his/her head remains above the surface of the water. The rescuer moves to the side, places one hand on top of the victim's hands, and climbs out of the water making sure to maintain contact with the victim 100% of the time. The rescuer pivots to face the victim and firmly grasps the victim's wrists. The rescuer moves close to the edge of the pool, dips the victim's body without submerging his/her face to gain momentum, and lifts the body straight up and down until the victim's upper trunk clears the deck level. When lifting the victim out of the water it is extremely important that the rescuer does not allow the victim's head to flop around or hit the cement. The rescuer lowers the victim's upper body to a prone position by stepping back and being extremely careful to protect the victim's head. The rescuer can best protect the victim by gently easing the victim's head on top of his/her foot. Securing the victim with one hand, the rescuer reaches down with his/her free hand to the victim's thigh and carefully swings the legs onto the deck. Once the victim is on the deck, the rescuer supports the victim's head and gently rolls him/her over onto their back in order to assess his/her condition. If the victim is too heavy the rescuer should support both himself/herself and the victim by hanging onto the edge of the pool while waiting for help. If the victim is too heavy the rescuer should support both himself/herself and the victim by hanging onto the edge of the pool while waiting for help.



One lifeguard swim rescue and lift sequence. First, the rescuer brings the victim to the wall and positions the victim for extrication by “boxing” them into the wall for support (top right picture). The rescuer then places the victim’s hands on the deck, positions the head of the victim backwards, and climbs out, holding onto the victim. Grasping the victim’s wrists, the rescuer pulls the victim to about waist height out of the water and gently brings them down, using their feet to act as a cushion for the victim’s head. Once down, the rescuer brings the legs of the victim out of the water, rolls the victim over, and then begins their initial assessment.



ONE LIFEGUARD SWIM RESCUE AND TWO DECK GUARD LIFT- In this situation, three lifeguards are available to perform the rescue. The lifeguard in the water assists the victim to the side where two deck guards await to perform the lift. Once the rescuing guard reaches the side, the rescuing guard will give the victims wrists to deck guards. The deck guards will each grasp a wrist and the triceps just above the elbow maintaining contact with the victim 100% of the time. Once each rescuer is ready all rescuer will communicate with each other and perform a lift. The lifeguard in the water steadies the victim as they are lifted out of the water.

ONE LIFEGUARD SWIM RESCUE; DECK GUARD AND RESCUING GUARD LIFT- In this situation, two lifeguards are available to perform the rescue. The lifeguard in the water brings the victim to the side where the deck

guard awaits as in above. As soon as the rescuer gets the victim to the side, the deck guard reaches down to support the victim by grabbing his/her wrists. While the deck guard supports the victim, the rescuing guard exits the water to assist with the lift. The victim is lifted out and cared for as above.



One lifeguard swim rescue, deck lifeguard and rescuing lifeguard lifting together sequence. When the rescuing lifeguard brings the victim to the wall, the deck guard assists by grasping the arms of the victim, while the rescuing lifeguard positions the head of the victim backwards and then climbs out of the water. Once out, each lifeguard grasps the wrist and upper arm of the victim. Coordinating their efforts, the lifeguards on the same count lift the victim out of the water and gently lower the victim to the ground, careful to watch the head. One lifeguard then brings the legs out of the water, the victim is rolled onto their back, and initial assessment begins.

SPECIAL SITUATIONS: SHALLOW WATER ASSIST: When a tired victim is assisted to shallow water (standing depth), he/she could perhaps walk, yet needs some support. The rescuer braces the victim with his/her arm around the victim's waist. If the victim is on the rescuer's right side, the rescuer grabs the victim's left hand with his/her left hand and ducks under the victim's left arm, while the rescuer ducks under the victim's left arm, he/she braces the victim with his/her right hand around the victim's waist. If the victim is on the rescuer's left side, the rescuer grabs the victim's right hand with his/her right hand and ducks under the victim's right arm. While the rescuer ducks under the victim's right arm, he/she braces the victim with his/her left arm around the victim's waist. The rescuer maintains a firm grasp of the victim's arm, which is placed across the rescuer's shoulder, and slowly helps the victim walk to safety.

SPECIAL SITUATIONS: SHALLOW WATER DRAG: Where the pool is shallow, or the victim is heavy, the safest and easiest method to use is the drag. The rescuer gets behind the victim where he/she is able to stand, and gets a good grasp up and under the victim's armpit. If necessary, the rescuer's forearms support the victim's head. With the victim's body supported by the water, the rescuer slowly walks backwards. With this method a small rescuer can drag a heavy victim to a point where he/she can be lifted from the water. The rescuer has the choice of either lifting the victim out of the water from the front or the back.

NON SPINAL VICTIM EXTRICATION

There are certain special situations that may require lifting and moving:

- **The scene is hazardous.** Hazards may make it necessary to move a victim quickly in order to protect you and the victim. This may occur when there is uncontrolled traffic, fire, or threat of fire, possible explosions, electrical hazards, toxic gases, or radiation.
- **Care of life-threatening conditions requires repositioning.** You may have to move a patient to a hard, flat surface to provide CPR, or you may have to move a patient to reach life-threatening bleeding.
- You do not suspect a head, neck, or back injury. If you suspect head, neck, or back injury and the scene is safe. The rescuer must immobilize the head, neck, and back before moving the victim.

PROTECTING YOURSELF: BODY MECHANICS

Body Mechanics is the study of functions of muscles in maintaining body posture. It also refers to the proper use of your body to prevent injury and facilitate lifting and moving techniques. Consider the following before lifting any person:

- **The Object.** What is the weight of the object? Will you require additional help in lifting?
- **Your Limitations.** What are your physical limitations? Do you (or staff) have any physical limitations that would make lifting difficult? While it may not always be possible to arrange, Lifeguards of similar strength and height can lift and carry together more easily.
- **Communication.** Make a plan. Then communicate the plan for lifting and carrying to your partner. Continue to communicate throughout the process to make the move comfortable for the victim and safe for the team.

When it comes time to do the lifting, there are guidelines that must be followed to prevent injury. These include:

- **Position your feet properly.** They should be on a firm, level surface and position shoulder-width apart.
- **Use your legs,** not your back to do the lifting.
- **Never turn or twist.** Attempts to make any other moves while you are lifting are a major cause of injury.
- **Do not compensate when lifting with one hand.** Avoid leaning to either side. Keep your back straight and locked.
- **Keep the weight close to your body,** or as close as possible. This allows you to use your legs rather than your back while lifting. The farther the weight is from your body, the greater your chance of injury.

When lifting using a backboard, it is best to use an even number of rescuers. If two rescuers are available, one lifts from the end near the victims head, the other from the feet. If there are four rescuers available, one rescuer can take each corner of the backboard, never allow a third person to assist by lifting one side. This can cause the backboard to be thrown off balance.

MOVING A VICTIM

EMERGENCY MOVES: The top priority in emergency care is to maintain the patient's airway, breathing, and circulation. The rule of thumb is to control any life-threatening problems and stabilize the patient before moving him. However, when the scene is unstable or threatening to your life and the patient's, your priority changes. You must move the patient first. Make an emergency move only when no other options are available. Always take appropriate precautions to be sure you do not become an additional victim of the emergency.

In general, an emergency move should be performed when there is immediate danger to the patient or to the rescuer. Consider an emergency move under the following conditions:

1. The scene is hazardous. Hazards may make it necessary to move a patient quickly in order to protect you and the patient. This may occur when there is uncontrolled traffic, fire or threat of fire, possible explosions, electrical hazards, toxic gases, or radiation.
2. Care of life-threatening conditions requires repositioning. You may have to move a patient to a hard, flat surface to provide CPR, or you may have to move a patient to reach life-threatening bleeding.
3. You must reach other patients. When there are patients at the scene requiring care of life-threatening problems, you may have to move another patient to access them.

The greatest danger to the patient in an emergency move is that a spine injury may be aggravated. Since the move must be made immediately to protect the patient's life, full spinal precautions will not be possible. So to minimize or prevent aggravation of the injury, move the patient in the direction of the long axis of the body when possible. The long axis is the line that runs down the center of the body from the top of the head and along the spine.

DRAGS: There are several rapid moves called drags. In this type of move, the patient is dragged by the clothes, the feet, the shoulders, or a blanket. These moves are reserved for emergencies, because they do not provide protection for the neck and spine. Most commonly, a long axis drag is made from the area of the shoulders. This causes the remainder of the body to fall into its natural anatomical position, with the spine and all limbs in normal alignment.

SHIRT DRAG



If the victim is wearing a shirt, you can use it to support the victim's head and pull. Note that the shirt drag cannot be used if the patient is wearing only a T-shirt.

1. Fasten the victim's hands or wrists loosely together. This will serve to prevent the patient's arms from flopping or slipping out of the shirt.
2. Grasp the neck and shoulders of the shirt so that the patient's head rests on your fists.
3. Then use using the shirt as a handle, pull the victim toward you. Be careful not to strangle the patient. The pulling power should engage the armpits, not the neck.

Reposition your hands if you notice excessive pressure or strain from the shirt on the patient's neck.

ARMPIT DRAG



In general, if the victim is on the floor or ground, you can move him/her by inserting your hands under the victim's armpit from the back. Make sure you pull the patient in the direction of the long axis of the body.

BLANKET DRAG



The blanket drag is an effective way for a single rescuer to move a victim to safety. If you do not have a blanket, use a coat to drag the victim. Follow these steps.

1. Spread the blanket along the patient. Gather about half into lengthwise pleats.
2. Roll the patient towards you onto their side. Tuck the pleated part of the blanket as far beneath the victim as you can.
3. Roll the victim back onto the center of the blanket onto their back.
4. Wrap the blanket securely around the victim.
5. Grab the part of the blanket that is beneath the victim's head, and drag the patient toward you.

NONURGENT MOVES

When there is no immediate threat to life, take the time to choose the best equipment and positioning for moving the patient safely. Generally, the best way to move a patient is the easiest way that will not cause injury or pain. That includes “walking” the patient, if he is able, while supporting him. Never walk a patient who becomes light headed or sweaty upon standing or who is having chest pain or respiratory problems, has an injured lower extremity, or has suspected spinal injury.

Whenever you move, lift, or carry a patient, remember to move him as a unit. Keep the patient’s head and neck in a neutral position. If you suspect head, neck, or spinal injury, take all necessary spinal precautions. Be sure that all rescuers understand what is to be done before any move is attempted, and make one rescuer responsible for giving commands.

There are many ways to move victims. You are only limited by your imagination and the basic principles of body mechanics and patient safety and comfort. The direct ground lift and extremity lift are accepted nonurgent moves that provide the greatest safety to both you and the patients.

EXTREMITY LIFT



Use the extremity lift to move a victim from the ground to the first aid table. Note that this lift should not be used on a patient with suspected spinal or extremity injuries.

1. The first rescuer should stand in front of the victim and grasp the victim’s hands and lift the victim from the floor.
2. The second rescuer should place one hand under each of the victim’s arms and grasp the victim’s wrist.
3. The first rescuer can slip his hands under the patient’s knees.
4. On the signal from the first rescuer, both rescuer should stand up, keeping their backs straight and heads in a neutral alignment.

While lifting the patient, each rescuer must maintain a straight back and contract the abdominal muscles. The rescuer’s head must remain in line with the back. (If the head were to be extended backward, the rescuer would be forced to use the lower back muscles. Flexing the head forward would also put undue force on the lower back.) When lifting the patient, the rescuer should drive upward with leg and gluteal muscles.

DIRECT LIFT



Note that the direct ground lift is not recommended for a heavier patient. When lifting a patient from the ground, it is usually safer and more mechanically efficient to use a long backboard. However, when this cannot be accomplished, follow these steps.

1. Two or three rescuer should line up on the same side of the victim.
2. Each rescuer should kneel on one knee, preferably the same knee for all rescuers.
3. The second rescuer should place the patient's arm on the chest, if possible.
4. The first rescuer should then cradle the patient's head by placing one arm under the patient's neck and shoulder. Then he should place his other arm under the patient's lower back.
5. The second rescuer should place one arm under the patient's midback and one arm just below the buttocks.
6. If a third rescuer is available, he should place one arm under the knee and one arm under the ankle.
7. On signal from the first rescuer, they should lift the patient to their knees and roll the patient toward their chests.
8. On signal from the first rescuer, they should stand and move the patient to the first aid table.
9. To lower the patient, the steps are reversed.

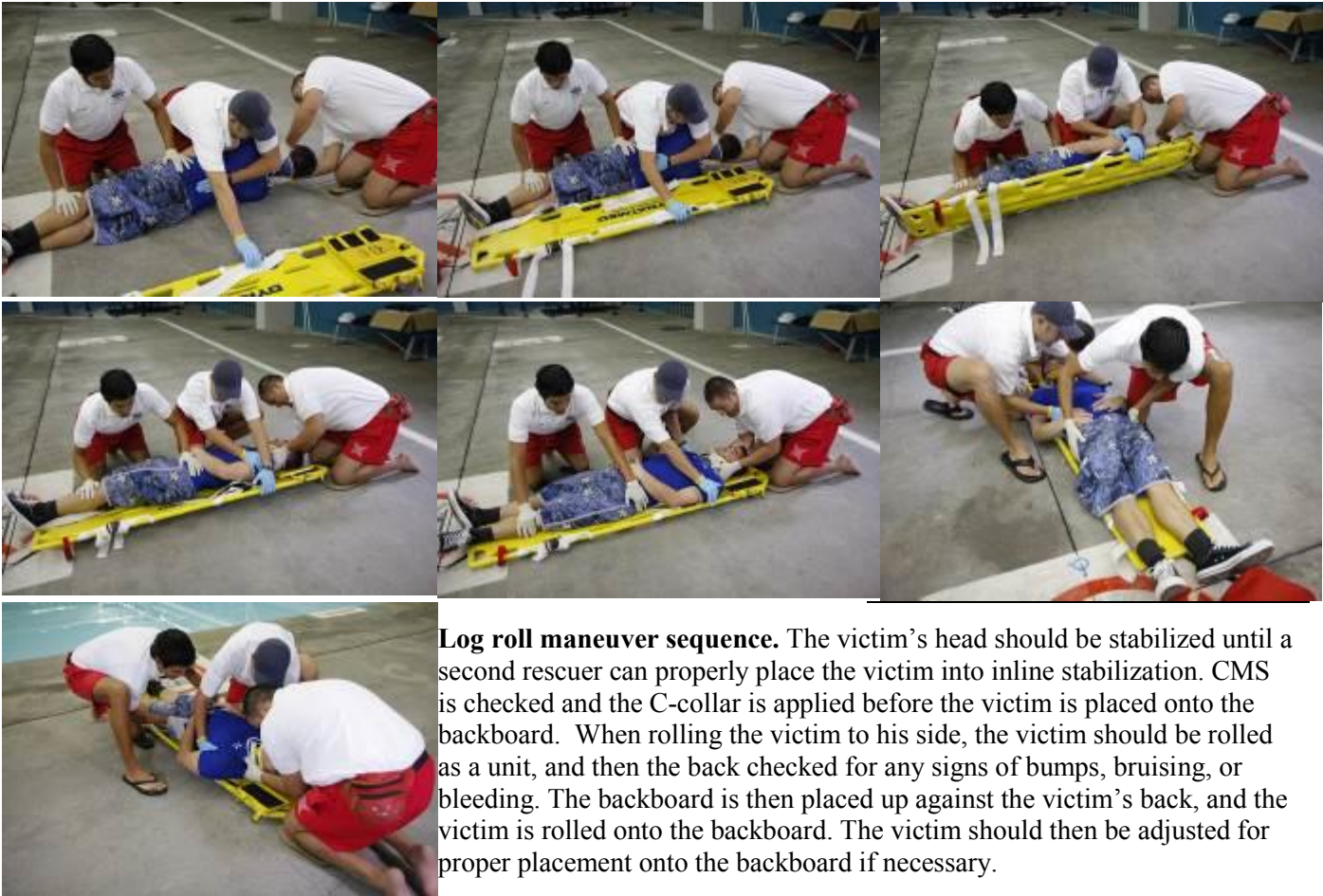
Remember that you should bend at the hips and not at the waist, your back should remain straight, and the lifting force should be generated from your legs and buttocks, not the back.

URGENT MOVES: Urgent moves are required when the patient must be moved quickly for treatment of an immediate threat to life. But unlike emergency moves, urgent moves are performed with precautions for spinal injury. Examples for which urgent moves may be required include the following:

1. The required treatment can only be performed if the patient is moved. A patient must be moved in order to support inadequate breathing or to treat for shock or altered mental status.
2. Factors at the scene cause patient decline. If a patient is rapidly declining because of heat or cold, for example, he may be moved.

Moving a patient onto a long spine board, also called a backboard, is an urgent move used when there is an immediate threat to life and suspicion of spine injury. If the patient is supine on the ground, a log roll maneuver must be performed to move him onto his side. The spine board is placed next to the patient's body, and he is log-rolled back onto the board. **Generally this maneuver is not done by LA City Lifeguards unless in an emergency situation that warrants a urgent move.**





Backboarding Skills

Preface

This module is intended to guide and instruct you in the methods of backboarding. It is strongly encouraged that you read the descriptions to better understand the concepts and reasoning behind the techniques demonstrated. Most descriptions will give what it is, and when or why you would use it. Backboarding is one of the core skills all lifeguards must master, and is one of the few skills where paramedics and firefighters will defer to the lifeguards in its administration at the pools.

Definitions/vocabulary:

Spinal injury: An injury to the head, neck, or back. Can cause paralysis to the victim, due to possible injury to the spinal cord.

Ambulatory: A person who can stand and walk.

Supine: A position where the person is lying down flat on their back, horizontally.

Inline stabilization/manual stabilization: A technique where a rescuer maintains the body position of a victim so that their head and neck is supported and does not move, used to prevent further injury to the spinal cord. The rescuer places his/her hand on both sides of the head with the fingers extended down the victim's neck. The victim's head can be gently positioned so that it is in line with the body. There are some circumstances when the victim's head must not be moved:

- When the victim's head is severely angled to one side.
- When the victim complains of pain, pressure or muscle spasms in the neck when the head is gently moved.
- When the rescuer feels resistance when attempting to move the head in line with the body.

N.E.A.R.: Acronym for **N**on-**E**mployee **A**ccident **R**eport, filled out for an injury at the pool facility.

EAP: Acronym for **E**mergency **A**ction **P**lan, standard procedures for dealing with emergencies at the pool facility.

General impression: Taking in the emergency scene and seeing what appears to have happened.

Mechanism of injury: Determination of how the victim was injured, how did the victim get hurt.

Chief complaint: Main or primary complaint of the victim.

Mental status: Determination of current mental awareness of the victim.

Assess/assessment: Making a determination of potential problems

C-collar: short for **C**ervical collar, a device used to immobilize the head and neck.

Upper and lower extremities: arms (upper extremities) and legs (lower extremities).

CMS: Acronym for **C**irculation, **M**otor Function, and **S**ensation, used to assess the extremities.

C-spine: short for **C**ervical spine, the mid-upper area of the spinal column.

Conscious/consciousness: The physical state of being aware of one's surroundings, being awake.

Extrication: Removal of a victim from their current environment, usually the pool.

EMS: **E**mergency **M**edical **S**ervices, usually referring to 911/paramedics.

Appropriate entry: a method used to enter the water, minimizing waves and water movement, used in cases of

suspected spinal injury.

Military press: A position used to lift the backboard out of the water. Hands are placed about shoulder width apart, palms upward and holding the backboard, back straight, using the legs to lift the backboard.

Jaw-thrust maneuver: A method of opening the airway of a victim suspected of having a spinal injury.

Bilaterally: Both sides at the same time.

Radial: referring to the radial artery, located on the lower arm by the wrist, palm up, thumb side.

Dorsalis pedis: artery located on top of the foot, about midway between toes and ankle, between the big toe and second toe.

Posterior tibial: artery located in the groove between the medial malleolus (ankle bone) and Achilles tendon.

SPINAL INJURIES

When the rescuer is handling a victim with suspected neck and back injury, extreme care must be taken. There are many factors that will influence how the rescuer will handle the situation. The victim's condition with regards to the lifeguard's initial assessment is a major factor. The lifeguard's size in comparison to the victim will also influence the rescuer. The location of the victim and whether he/she is in shallow water, deep water, or on the bottom of the pool will affect the lifeguard's actions. The availability of both trained and untrained assistance will definitely affect the rescuer's actions. The factors mentioned above are extremely important factors that the rescuer needs to be aware of when handling a suspected spinal injury.

DANGER AREAS - The location of a victim, as stated above, can greatly influence how the rescuer handles a victim. The following are danger areas that could indicate a neck or back injury exists (unless otherwise known by the rescuer).

Bleachers - Bleachers are danger areas where spinal injuries can occur. Children and adults alike sometimes trip or lose their footing while climbing bleachers. If the rescuer finds a victim lying unconscious next to the bleachers it should be assumed by the rescuer that a spinal injury exists (unless otherwise known by the rescuer).

Shallow Water - A spinal injury is most likely to occur in shallow water (water less than 5 feet deep). Spinal injuries in shallow water most often happen in a corner of the pool or where the bottom drops off into deeper water. Ninety-five percent of sports related spinal cord injuries occur from diving into shallow water (5 feet or less). If the rescuer did not witness the accident and does not know otherwise, all unconscious victims should be treated as though they have a spinal injury.

Diving Areas - Diving areas where the bottom slopes too close to the diving board are not uncommon places for a neck and back injury to occur. Spinal injuries in the diving area are most likely to occur near the side of the pool, in the corner of the pool, where the bottom drops off into deeper water, or under the diving board. Rarely does a spinal injury occur from supervised diving or diving off boards into deeper water.

Use of Rigid Support - When handling spinal cord injury extrication, the use of rigid support is essential. Proper use of rigid support is defined as totally immobilizing the victim's neck and back.

AMBULATORY (STANDING/WALKING) SPINAL INJURY VICTIM

Often a victim will be injured in an accident that could cause spinal injury (e.g. diving into shallow water and hitting the bottom) but is able to stand or walk. Injuries to the head and spine occur outside of the water as well. These injuries may occur on deck, in the bleachers, in the pool building or out in the park. Lifeguards must respond to these situations as well. The procedures are somewhat different without the support of the water. In these situations, the lifeguard must first convince the victim of the potential injury, as they may not be feeling or exhibiting the classic symptoms. Convincing often requires explaining to the victim the potential for injury. It is often helpful to stress that it is “better to be safe than sorry”. If the victim is convinced that the potential exists, they must be boarded or at least put in a supine position. To accomplish this with minimal movement to the spine, the victim must be lowered as a unit by several rescuers. Once the victim is supine, they can be boarded or in-line stabilization maintained until paramedics arrive.

DETERMINING SPINAL INJURY – In most cases the accidents that happen outside of the pool itself are not seen by lifeguards on duty. Lifeguards will respond to a report of injury and when they arrive must determine what happened in order to treat the victim correctly. If eyewitnesses or the victim describe a fall or head injury, or if clues around the scene indicate a possible head or neck injury, lifeguards should survey the victim for signs and symptoms of that type of injury.

SIGNS AND SYMPTOMS OF SPINAL INJURY - Signs and symptoms of head or spine injury may be obvious right away or may develop later. They include:

- Changes in level of consciousness
- Severe pain or pressure in the head or spine
- Tingling or loss of sensation in the extremities
- Partial or complete loss of movement of any body part
- Unusual bumps or depressions on the head or spine
- Blood or other fluids draining from the ears or nose
- Profuse external bleeding of the head or spine
- Seizures
- Impaired breathing or vision as a result of injury
- Nausea or vomiting
- Persistent headaches
- Loss of balance
- Bruising of the head, especially around the eyes and behind the ears

If patient is *ambulatory or supine* without significant mechanism of injury and pain:

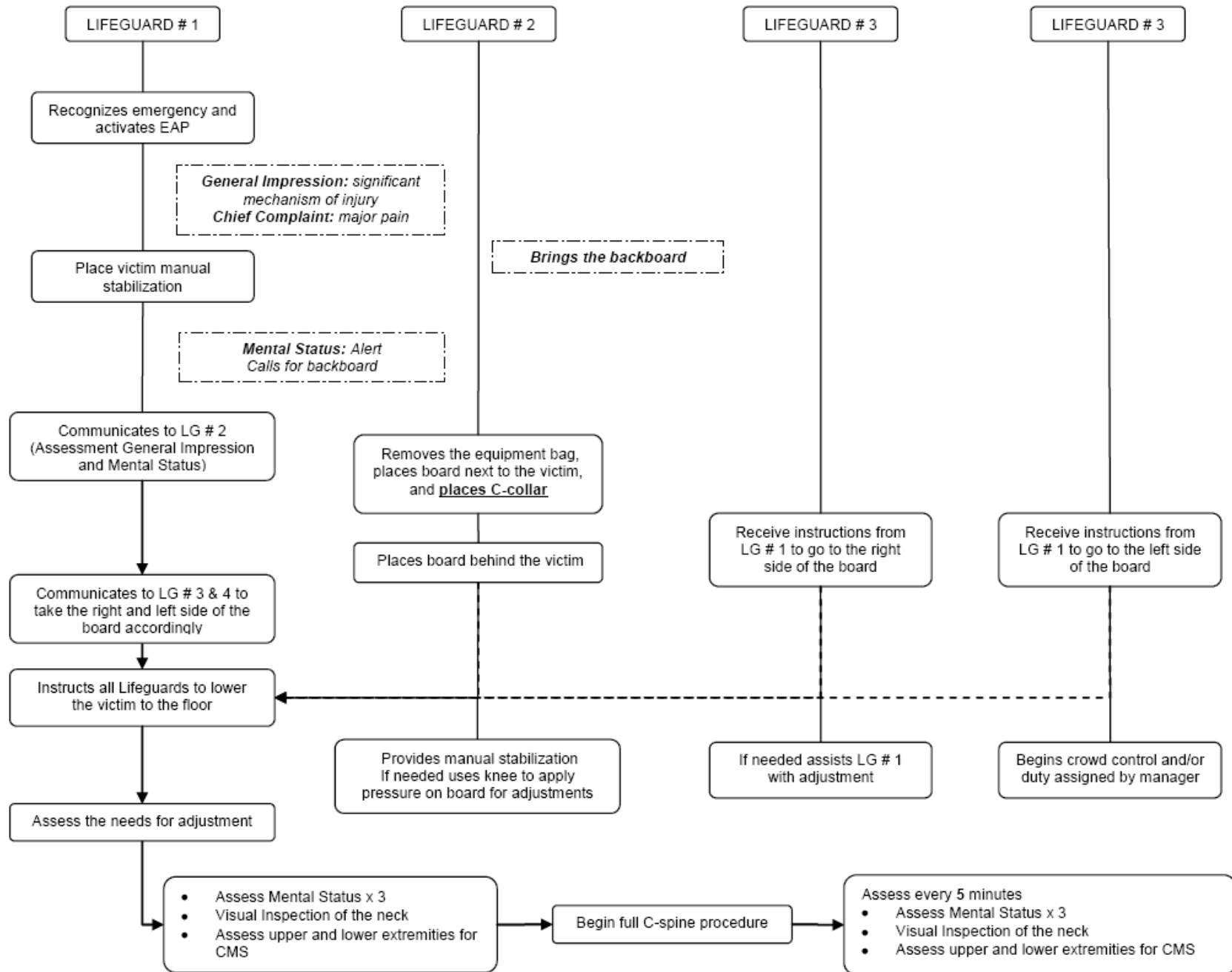
1. Start emergency action plan.
2. **First** lifeguard provides inline stabilization.
3. **Second** and **third** lifeguards bring backboard.
4. Patient is boarded per established procedures without C collar.
5. **Second** or **third** lifeguard takes over inline stabilization.
6. **First** lifeguard begins assessment.
7. If the assessment has no findings, document on a N.E.A.R. and release patient.
8. If the assessment finds any problems, call 911 and apply C collar, straps, head blocks and monitor until paramedics arrive.

If patient is *ambulatory or supine* with significant mechanism of injury:

1. Start emergency action plan.
2. Call 911
3. **First** lifeguard provides inline stabilization.
4. **Second** and **third** lifeguards bring backboard.
5. Patient is boarded per established procedures with C collar.
6. **Second** or **third** lifeguard takes over inline stabilization.
7. **First** lifeguard begins assessment, applies straps, head blocks and monitors until paramedics arrive.

SPINAL MANAGEMENT

Ambulatory - Spinal Injury



Spinal injury management – Ambulatory Spinal Injury (3 rescuers)



Lifeguard #1 approaches the scene, recognizes an emergency and activates the EAP.



Lifeguard #1 gets consent and places the victim in manual inline stabilization. Lifeguard #2 brings the backboard.



Lifeguard #1 informs Lifeguard #2 that they need to perform full c-spine precautions. Lifeguard #2 and gets the C-collar.



Lifeguard #2 measures off for the C-collar. From the top of the shoulder to the bottom of the chin.



Lifeguard #2 places the C-collar into position, in coordination with Lifeguard #1.



Lifeguard #2 then secures the C-collar, again, coordinating with Lifeguard #1.



Lifeguard #2 moves to one side of the victim, places his arm underneath the victim's armpit and grasps the hand hold on the backboard and uses the other hand to grasp the top hand hold of the backboard



Lifeguard #3 goes to the opposite side and places his arm underneath the victim's armpit and grasps the hand hold on the backboard and uses the other hand to grasp the top hand hold of the backboard.



Lifeguard #1 coordinates with the other guards and gives the count to lower the backboard to the ground.



Lifeguards lower the backboard slowly, Lifeguard #1 straddles the victim and board and ensures that the back of the victim's head maintains contact with the board.



Once the backboard is on the floor, Lifeguard #2 goes to the head and maintains inline stabilization. Allowing Lifeguard #1 to assess the need for adjustment.



In this situation, the victim is slightly out of position. Lifeguards #1 and #3 prepare to reposition the victim.



Lifeguard #1 gives the command to shift the victim down the backboard. Move the victim at an angle if there is no one to hold the bottom of the board. Note the lifeguards are positioned in the direction they are moving the victim..



Lifeguard #1 gives the command to shift the victim up the backboard. Note the lifeguards are positioned in the direction they are moving the victim. Lifeguard # 2 ensures that his knees stop the board from moving up



Lifeguard #1 begins the assessment by assessing the mental status of the victim, and visually inspects the neck area.



Lifeguard #1 assesses CMS of the upper extremities.



Lifeguard #1 assesses CMS of the lower extremities.



Lifeguard #1, with the assistance of Lifeguard #3, begins to strap the victim in.



Lifeguard #1 methodically secures the upper torso, the hips, the middle of the thigh, and the middle of the lower leg.



Lifeguard #1 then applies the head blocks, coordinating the placement with Lifeguard #2.



Lifeguard #1 then applies the head straps, coordinating with Lifeguard #2.



Lifeguard #1 reassess CMS on the upper extremity



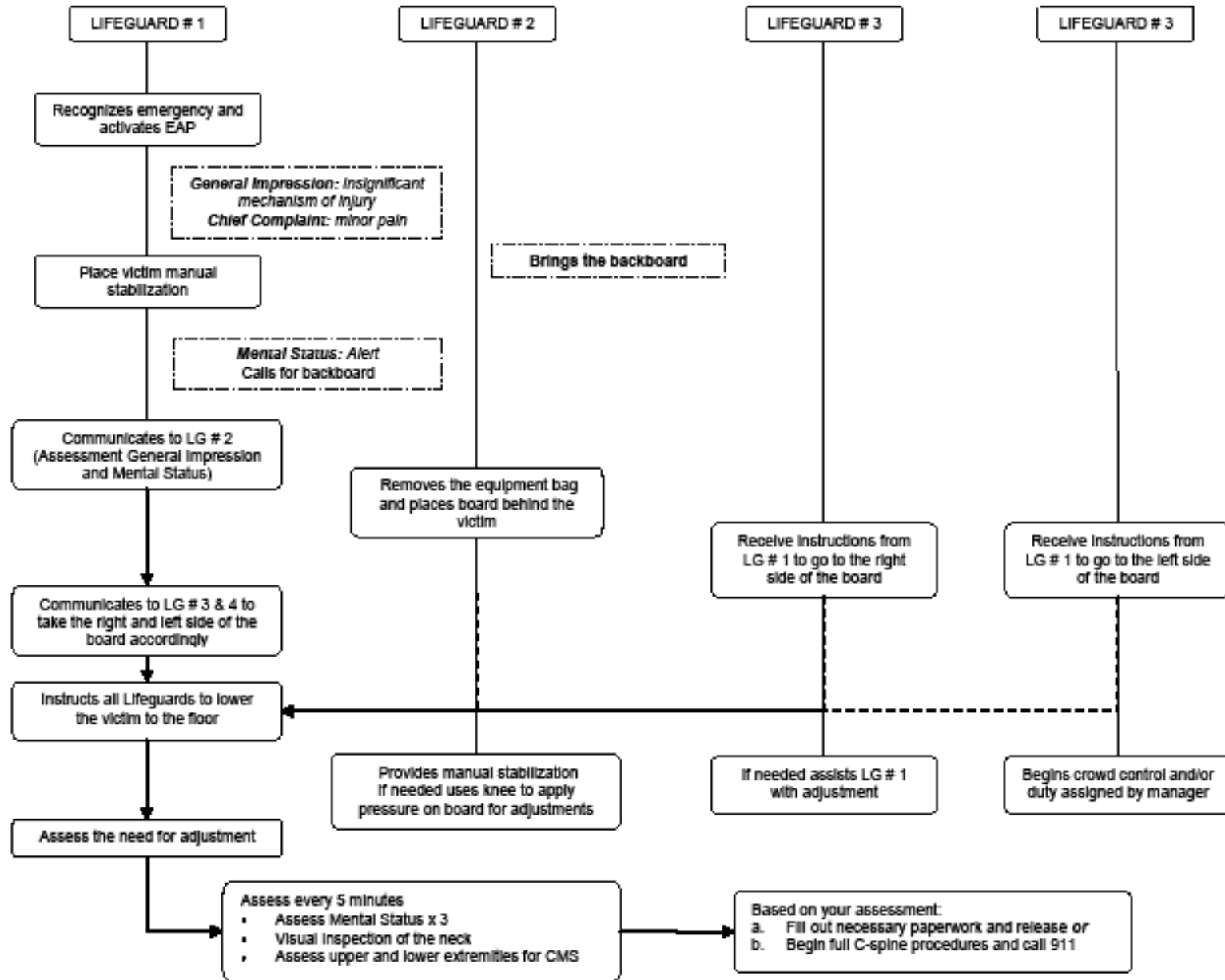
Lifeguard #1 reassess CMS on the lower extremity and grabs the wrist straps to strap the wrists.



After placement of the wrist straps, Lifeguard #1 will reassess every 5 minutes mental status, visual inspection of the neck, and CMS. Make sure to reassure the victim until arrival of paramedics.

Notes: In this scenario the 1st lifeguard discovered through his assessment a chief complaint of major pain in the neck area and there was a significant mechanism of injury, which calls for full c-spine precautions. Make sure to note any changes in conditions that you find during your assessment and reassessment. If additional rescuers are available, (4 vs. 3) the 4th lifeguard would assist with lowering the victim and perform crowd control or any other duties under the direction of the pool manager.

SPINAL MANAGEMENT
Ambulatory - Suspected Spinal Injury



Spinal injury management – Ambulatory Suspected Spinal Injury (3 rescuers)



Lifeguard #1 approaches the scene, recognizes an emergency and activates the EAP.



Lifeguard #1 places the victim in manual inline stabilization. Lifeguard #2 brings the backboard.



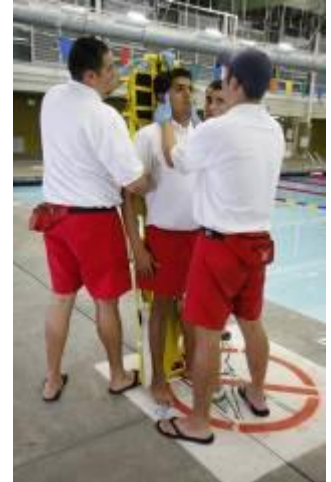
Lifeguard #1 informs Lifeguard #2 that he needs to do further assessment to determine spinal injury. Lifeguard #2 prepares the backboard.



Lifeguard #2 places the backboard behind the victim.



Lifeguard #2 moves to one side of the victim, places his arm underneath the victim's armpit and grasps the hand hold on the backboard and uses the other hand to grasp the top hand hold of the backboard



Lifeguard #3 moves to one side of the victim, places his arm underneath the victim's armpit and grasps the hand hold on the backboard and uses the other hand to grasp the top hand hold of the backboard



Lifeguard #1 gives the count to lower the backboard to the ground. Note the hand and foot placement of Lifeguards #2 and #3.



Lifeguards lower the backboard slowly, Lifeguard #1 straddling the victim and board.



Once the backboard is on the floor, Lifeguard #2 moves to the head and maintains inline stabilization. Lifeguard #1 assesses the need for adjustment.



Lifeguard #1 gives the command to shift the victim down the backboard. Move the victim at an angle if there is no one to hold the bottom of the board. Note the lifeguards are positioned in the direction they are moving the victim..



Lifeguard #1 gives the command to shift the victim up the backboard. Note the lifeguards are positioned in the direction they are moving the victim. Lifeguard # 2 ensures that his knees stop the board from moving up



Lifeguard #1 begins to assess the mental status of the victim, and visually inspects the neck area.



Lifeguard #1 assesses CMS of the upper extremities.



Lifeguard #1 assesses CMS of the lower extremities.



Lifeguard #1 will reassess mental status, visually inspects the neck area, and check CMS on the upper and lower extremities every 5 minutes.

Notes: In this scenario, there is no significant mechanism of injury no chief complaint, such as a minor slip and fall. It could also be possible that you aren't exactly sure of the nature of injury in this type of situation, but it appears minor in nature, and you are taking precautionary measures. If you find during your assessment *any* sign or finding indicating spinal injury, you would begin full C-spine procedures (applying the C-collar and full strap-down) and call 911. Otherwise, after 5 minutes, reassess the victim and there is still no sign of finding indicating spinal injury, you would fill out the necessary paperwork and release the victim. If you had more rescuers (4 vs. 3), the 4th lifeguard would assist with lowering the victim and perform crowd control or any other duties under the direction of the pool manager.

SPINAL INJURY - IN WATER

Turning the Victim - When turning the victim, in-line stabilization must be maintained. The following two steps allow the rescuer to maintain in-line stabilization. Victims who are face down in the water must be turned face up immediately to allow them to breathe, if they can.

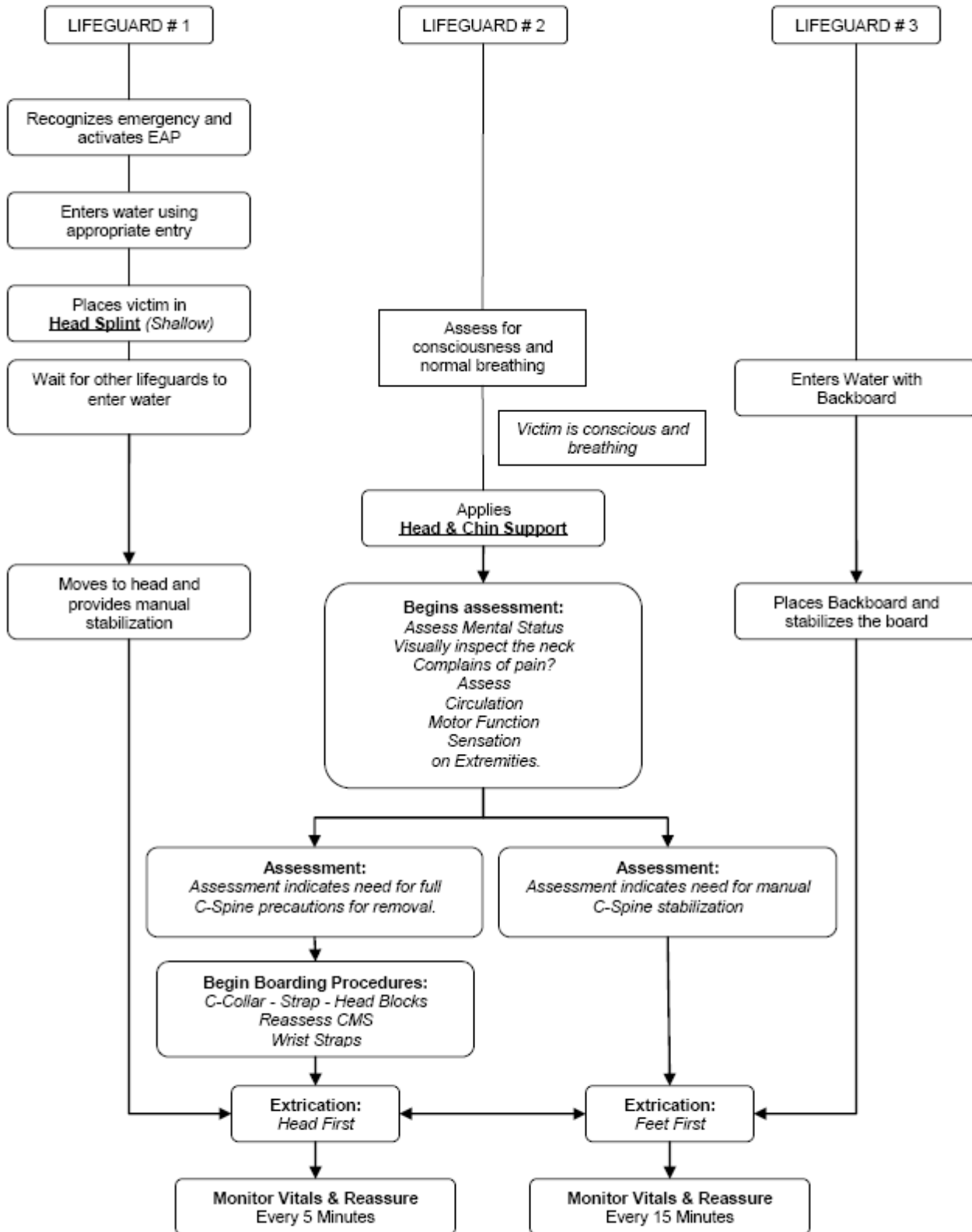
Head Splint - **This technique can be used only in shallow water.** The rescuer stands facing the victim's side and gently floats the arms up alongside the head parallel to the surface. The Head Splint is done by grabbing the victim's arms midway between the shoulder and the elbow. With the rescuers right hand clutching the victim's right arm and left hand clutching the victim's left arm, position the victim's arm so they are extended against his/her head. When the victim's arms are over the head and in line with the body, apply pressure to the arms to splint the head. The rescuer must lower them self to chest depth and slowly move the victim forward to a horizontal position, gliding the victim to the surface. This eliminates the chance of the body twisting when the turn is made. Once the victim is horizontal in the water, the rescuer continues moving forward and rotates the victim towards them self by pushing the closest arm underwater while pulling the victim's other arm across the surface to turn the victim face up. The rescuer must make sure to maintain pressure on the victim's arms as they are turned. The rescuers shoulders should be lowered in the water as this maneuver is done. When the victim is completely turned over, the rescuer removes one hand and supports the victim with the arm that is extended beneath the head. The victim should then be supported by the rescuers chest and upper arm. The victim's lower back is supported by the rescuers free hand. The victim is maintained in this position until help arrives.

Head and Chin Support - **This technique is used in deep water.** Approach the face down victim from either side. The rescuer may have to move the closest arm down by the victim's side. The rescuers shoulder should be at water level. The rescuers forearms are placed along the length of the victim's breastbone and spine. One hand is used to support the chin with the thumb on one side and the fingers on the other. The other hand supports the victim's head at the base of the skull, with the thumb on one side and the fingers on the other. Pressure is applied by locking the wrists and squeezing the forearms together, clamping the victim's chest and back between them. Gentle pressure is applied to the chin at the base of the skull while gliding the victim forward toward a horizontal position. The victim is turned face up by being rotated toward the rescuer, who carefully submerges and goes under the victim and surfaces on the other side. This movement must be done slowly to reduce any twisting of the victim's body. The victim is maintained in a horizontal position in the water until help arrives. A face up victim is approached carefully from the side and placed immediately into the Head/Chin Support.

Modified Head and Chin Support – Used when taking over inline stabilization in shallow water. The difference is that you would not move the closest arm down by the victim's side and the rescuer would not need to submerge underwater because the first rescuer has already used the head and chin support technique to do so.

SPINAL MANAGEMENT

Conscious - Suspected Spinal Injury



Spinal Injury Management – Conscious Victim with Spinal Injury



Victim found face down in shallow water.



Lifeguard #1 activates the EAP, performs an appropriate entry and approaches the victim.



Lifeguard #1 places the victim into a head splint



Once turned over and stabilized, Lifeguard #1 calls for a backboard and assistance.



Lifeguard #2 performs an appropriate entry and checks the victim for breathing and consciousness.



Lifeguard #2 finds breathing and consciousness. Lifeguard #2 places the victim in a modified head-chin support.



Once Lifeguard # 2 stabilizes the victim, Lifeguard #1 moves to the head and maintains inline stabilization for the victim.



In the meantime, Lifeguard #3 prepares the backboard, removing the red bag and leaves the bag on the deck.



Lifeguard #3 submerges the backboard underneath the victim and positions it properly.



As the backboard comes up underneath the victim, Lifeguard #2 will sandwich the victim and the backboard with his arms.



Lifeguard #3 then supports the backboard from underneath.



Lifeguard #1 then directs the team to position themselves closer to the wall and equipment.



Lifeguard #2 assesses mental status, the neck and checks CMS of the upper extremities.



Lifeguard #2 then checks CMS of the lower extremities.



In this scenario, Lifeguard #2 has found indication for full spinal management procedures and begins by measuring off for the c-collar.



Lifeguard #2 uses the measurement and adjusts the c-collar for use.



Lifeguard #2 positions the c-collar under the victim's neck then moves to the opposite side.



Lifeguard #2, working with Lifeguard #1, secures the c-collar in place.



Lifeguard #2, with assistance from Lifeguard #3, begins to strap the victim on the backboard.



Lifeguard #2 makes sure the straps are in snug, but not too tight, checking to see if he is able to place 1-2 fingers underneath the strap.



Lifeguard #2 works from the upper torso to the feet, strapping the victim to the backboard.



Lifeguard #2 applies the head blocks, to do this properly, Lifeguard #3 with assistance from Lifeguard #2, must raise the head slightly above the water level so that the blocks do not float away.



Lifeguard #2 applies the head straps in coordination with lifeguard #1, pressure should be sufficient to keep the head immobile, not tight enough to be uncomfortable.



Lifeguard #2 reassesses CMS of both upper and lower extremities.



Lifeguard #2 applies the wrist strap.



Lifeguard #1 prepares for extrication by directing the team to position the head close to the wall and climbs out.



Lifeguard #1 holds onto the top of the backboard, while Lifeguards #2 and #3 position themselves to perform a military press.



On Lifeguard #1's count, the team lifts the backboard just above the deck and maneuvers the victim out of the water part way.



Lifeguard #1 presses down on the backboard while Lifeguards #2 and #3 reposition themselves to lift again.



On Lifeguard #1's count, the team lifts the backboard just above the deck and maneuvers the victim out of the water.



Lifeguards #2 and #3 climb out of the water, and Lifeguard #2 begins his assessment of the victim.

Notes: In this scenario, the victim was found to have indications for full spinal management precautions. In the case where assessment finds no indications for full spinal management precautions, the victim would have been extricated feet first, instead of head first, with lifeguard # 1 maintaining in-line stabilization in this scenario. This will be demonstrated in the next scenario, for an unconscious victim.

Spinal Injury Management – Conscious Victim with Suspected Spinal Injury



Victim found face down in shallow water.



Lifeguard #1 activates the EAP, performs an appropriate entry and approaches the victim.



Lifeguard #1 maneuvers the victim into a head splint



Once turned over, Lifeguard #1 calls for a backboard and assistance.



Lifeguard #2 performs an appropriate entry and finds the victim is conscious. Lifeguard #2 then performs a head-chin support maneuver.



Lifeguard #1 moves to the head and maintains inline stabilization for the victim.



In the meantime, Lifeguard #3 prepares the backboard, removing the red bag and leaving the bag on deck



Lifeguard #3 submerges the backboard underneath the victim and positions it properly.



As the backboard comes up underneath the victim, Lifeguard #2 will sandwich the victim and the backboard with his arms.



Lifeguard #3 then supports the backboard from underneath.



Lifeguard #1 then directs the team to position themselves closer to the wall and equipment.



Lifeguard #1 checks mental status and visually inspects the neck for discoloration.



Lifeguard #1 checks CMS of the upper extremities.



Lifeguard #1 checks CMS of the lower extremities.



Lifeguard #1 reassesses the neck for discoloration.



Lifeguard #1 supports the backboard and directs the team to rotate the victim for extrication feet first.



Lifeguards #1-3 rotate.



Lifeguards #2 and #3 position themselves to perform a military press.



On Lifeguard #1's count, the team lifts the backboard just above the deck and out of the water.



Lifeguards #2 and #3 climb out of the water, while Lifeguard #1 maintains inline stabilization from the water.

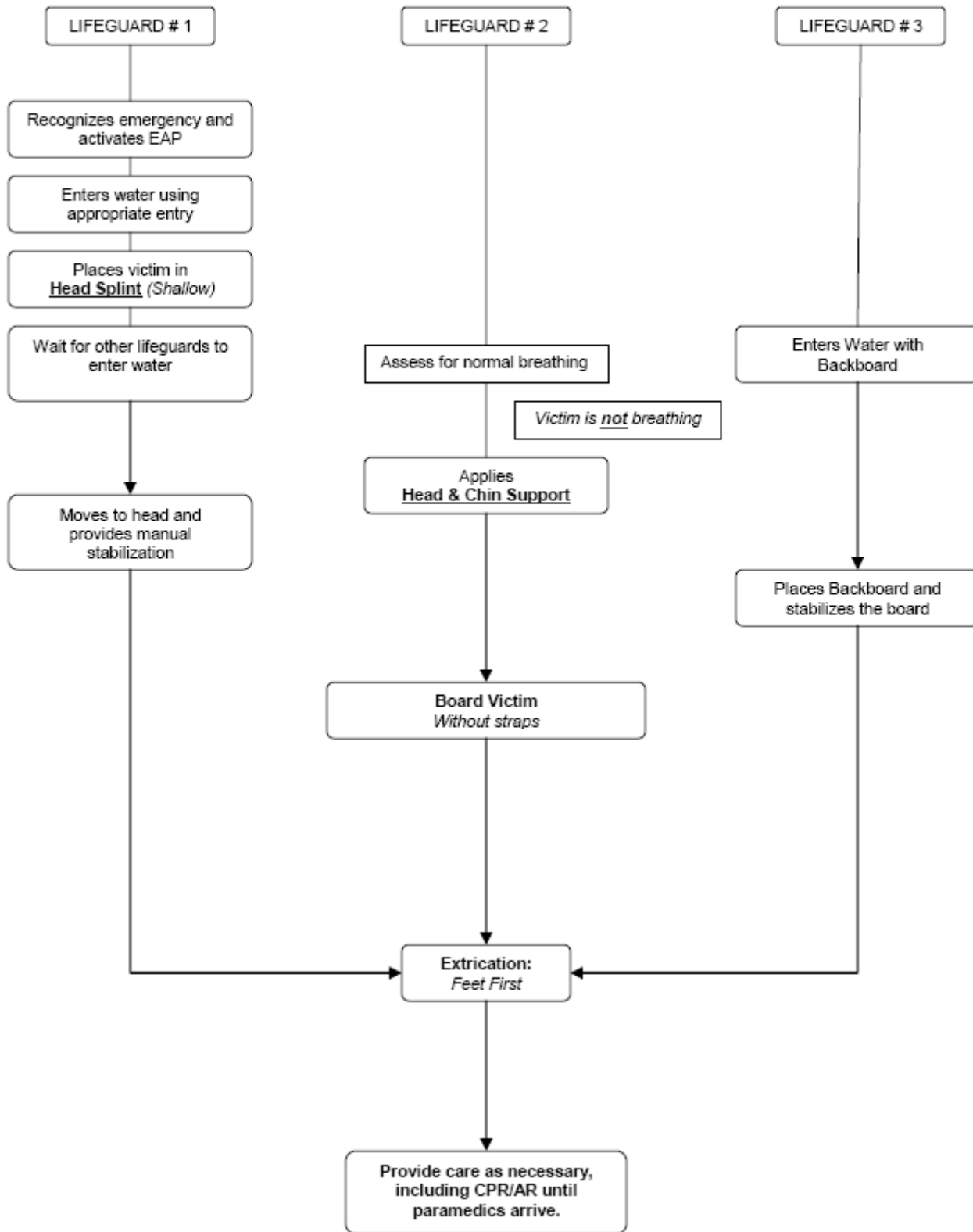


Lifeguard #3 performs a reassessment and monitors vital signs.

Notes: In this scenario, the victim is conscious and can respond to questions. There were no indications found during the assessment, so the victim is extricated feet first. If any indication were found, then the victim would be put into full c-spine procedures (c-collar and strap down). When lifting the victim out of the water, the lifeguard at the head must maintain inline stabilization; he does not lift at all. It is the duty of the other 2 lifeguards to support the weight of the victim and lift the patient out of the water. When lifting out of the water, the 2 lifeguards lifting perform a military press and use their legs to lift. Do not lift the victim too high, otherwise the lifeguard at the head will not be able to maintain inline stabilization.

SPINAL MANAGEMENT

Unconscious Victim - Suspected Spinal Injury



Spinal Injury Management – Unconscious Victim with Spinal Injury



Victim found face down in shallow water.



Lifeguard #1 activates the EAP, performs an appropriate entry and approaches the victim.



Lifeguard #1 maneuvers the victim into a head splint



Once turned over, Lifeguard #1 calls for a backboard and assistance.



Lifeguard #2 performs an appropriate entry and approaches the victim.



Lifeguard #2 checks for breathing and consciousness. He finds no breathing.



Lifeguard #2 gets the victim into a head-chin support.



Lifeguard #1 moves to the head and maintains inline stabilization for the victim.



In the meantime, Lifeguard #3 has prepared the backboard. Lifeguard #3 submerges the backboard and positions it properly.



As the backboard comes up underneath the victim, Lifeguard #2 will sandwich the victim and the backboard with his arms.



Lifeguard #3 then supports the backboard from underneath.



Lifeguard #2 supports the backboard and directs the team to rotate the victim for extraction feet first.



Lifeguards #1-3 rotate.



The team brings the victim close to the wall. Lifeguards #2 and #3 position themselves to perform a military press.



On Lifeguards #1's count, Lifeguards #2 and #3 lift the victim just above the deck.



The team brings the victim out of the water part way and readjusts their position.



The team fully extricates the victim out of the water, Lifeguards #2 and #3 climb out and prepare to begin rescue breathing/CPR.

Notes: In this scenario, the victim was found not breathing, which necessitates a rapid extrication from the pool. Time is of essence here. During the lift, Lifeguard #1 maintains inline stabilization; he does not lift. It is the duty of the other 2 lifeguards to bear the weight and lift the victim out of the water. Do not lift too high, only a few inches above the deck is necessary. Otherwise Lifeguard #1 will be unable to maintain inline stabilization. Once extricated from the pool, Lifeguard #1 will perform a jaw-thrust maneuver to open the airway so the other lifeguards can check for breathing and perform rescue breathing/CPR.

Maintain Open Airway, Monitor Vital Signs, Control External Bleeding, Maintain Normal Body Temperature, Treat for Shock - Once the victim is on the deck, they must be treated as a victim with major trauma. Rescuers should be cognizant of the victim's breathing status at all times. If the victim begins to vomit, they must be positioned on one side to keep the airway clear. The victim and should be turned on their side and supported to maintain in-line stabilization. Rescuers should pay close attention to the victim's level of consciousness and breathing. Victims of serious head or spine injury often need supplemental oxygen. Administer oxygen if it is available and rescuers are trained in proper administration. Some head and neck injuries include soft tissue damage. If there is external bleeding, it must be controlled promptly with dressings, direct pressure and a pressure bandage. Serious head or spine injuries can disrupt the body's normal heating and cooling mechanism. This makes victims more susceptible to shock. The victim must be immediately covered with a blanket, even on warm days. After the victim is covered, the rescuer should talk reassuringly as the vital signs are monitored.

HOW TO CHECK CMS

Checking for CMS (Circulation, Motor function, and Sensation) is how a rescuer evaluates the upper and lower extremities of a victim. Typically a rescuer will check CMS at least twice; the first time sets a baseline, and subsequent checks will help determine changes in the victim's condition. Checking CMS involves the following:

- Check circulation by checking the victim's pulse (upper extremities: radial pulse, lower extremities: dorsalis pedis or posterior tibial pulse). Do not use your thumb to check pulse.
- Check motor function by asking victim to squeeze your hands or wiggle their toes
- Check sensation by squeezing the victim's hand or foot and asking "Which hand/foot am I squeezing?"

Check CMS bilaterally (both sides at the same time). This gives you information to note: are both sides equal, or is one side weaker or different from the other? Note your findings so that you can compare against them later.

Checking CMS (upper extremities). Be sure to check CMS bilaterally (both sides at the same time).



Check circulation by locating the radial pulse.



Assess for strength, regularity, and existence.



Close up of radial pulse location.



Check motor function by crossing your fingers and placing them into the victim's hands.



Ask the victim to squeeze your fingers. Assess strength.



Check sensation by placing your hands into the victim's hands and squeezing one hand, asking the victim "Which hand am I squeezing? Right or left?" Check both hands.

Checking CMS (lower extremities). Be sure to check CMS bilaterally (both sides at the same time).



If the victim has shoes, check circulation by locating the posterior tibial pulse.



The posterior tibial pulse is located between the medial malleolus (ankle bone) and Achilles tendon.



Check circulation bilaterally.



If the victim has sandals or is barefoot, check circulation by locating the dorsalis pedis pulse.



The dorsalis pedis pulse is located on top of the foot, about midway between the toes and ankle, between the big toe and 2nd toe.



Check circulation bilaterally.



Check motor function by asking the victim to wiggle their toes.



Check sensation by squeezing one foot, asking the victim, "Which foot am I squeezing? Right or left?" Check both feet.

HOW TO PERFORM A MILITARY PRESS

A military press is used to lift a victim who is on a backboard out of the water. The rescuers lifting should position themselves on the sides of the backboard, lifting at the center of gravity of the victim, usually mid-torso of the victim, and face each other, lifting at the same handholds of the backboard. The hands are placed about shoulder width apart, palms upward and holding onto the backboard from underneath, back straight, and knees bent in a squatting position. On the lead rescuer's count, the rescuers on the sides of the backboard will perform a military press, using the legs to lift the backboard and victim up out of the water. If there are 3 rescuers lifting, the 3rd rescuer can lift at the bottom of the backboard, where the feet are. There should always be an even number of rescuers at the sides, and they should be roughly the same size, to balance out lifting ability. If needed, have rescuers change positions to allow this to happen.

How to perform a military press



To perform a military press, place your hands about shoulder width apart, back straight, palms up holding the backboard, in a squatting position.



The rescuers should be centered at the center of gravity. On the lead rescuers count, lift with your legs.



Underside view of hand position.

HOW TO PERFORM A JAW-THRUST MANEUVER

A jaw-thrust maneuver is used to open the airway of an unconscious victim, usually one with a suspected spinal injury. The rescuer is positioned at the head of the victim, with their thumbs on the cheekbones of the victim, alongside the nose. The rescuer uses their middle and ring fingers to push up the lower jaw while simultaneously pressing down on the cheekbone with their thumbs. This opens the airway for a second rescuer to be able to check for breathing and give rescue breaths if needed.



Jaw thrust maneuver. Place your thumbs over the cheekbones, and middle and forefinger underneath the jawbone. Press down on the cheek and lift up the jaw.



Side view.

HOW TO PLACE A CERVICAL COLLAR

The proper size is selected by imagining a line from the victim's chin straight across to the top of the shoulder, measuring the distance between that line and shoulder. The collar is opened and placed carefully under the victim's neck, brought out the other side while the second rescuer maintains stabilization. When placing the collar, the rescuer should "swing" the front of the collar against the chest to ensure that the collar does not move the neck. In coordination with rescuer 2, rescuer 1 removes one of his/her hand as each side of the collar is secured. The victim's chin should coincide with the tip of the collar under it if the proper sized collar has been selected. The first rescuer must maintain stabilization after collar is placed on victim.

