MERIT BADGE SERIES

LIFESAVING

BOY SCOUTS OF AMERICA®

How to Use This Pamphlet

The secret to successfully earning a merit badge is for you to use both the pamphlet and the suggestions of your counselor.

Your counselor can be as important to you as a coach is to an athlete. Use all of the resources your counselor can make available to you. This may be the best chance you will have to learn about this particular subject. Make it count.

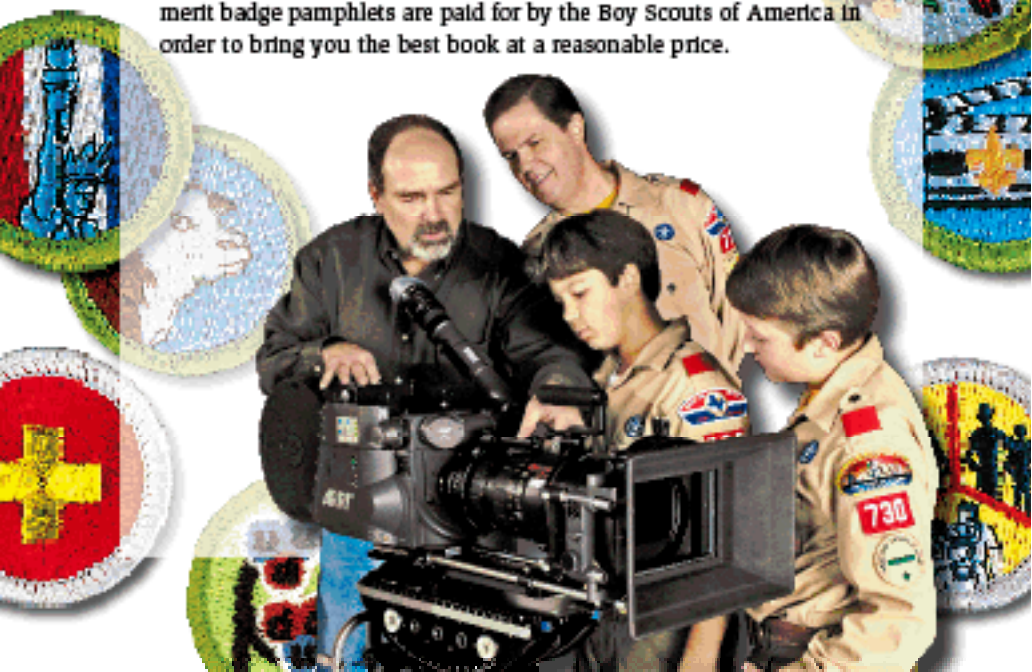
If you or your counselor feels that any information in this pamphlet is incorrect, please let us know. Please state your source of information.

Merit badge pamphlets are reprinted annually and requirements updated regularly. Your suggestions for improvement are welcome.

Send comments along with a brief statement about yourself to Youth Development, S209 • Boy Scouts of America • 1325 West Walnut Hill Lane • P.O. Box 152079 • Irving, TX 75015-2079.

Who Pays for This Pamphlet?

This merit badge pamphlet is one in a series of more than 100 covering all kinds of hobby and career subjects. It is made available for you to buy as a service of the national and local councils, Boy Scouts of America. The costs of the development, writing, and editing of the merit badge pamphlets are paid for by the Boy Scouts of America in order to bring you the best book at a reasonable price.



BOY SCOUTS OF AMERICA
MERIT BADGE SERIES

LIFESAVING

The Boy Scouts of America is indebted to the American Red Cross for its subject matter expertise, review, and other assistance with this edition of the *Lifesaving* merit badge pamphlet.

American Red Cross

BOY SCOUTS OF AMERICA®

Note to the Counselor

Several merit badges in Boy Scouting prepare the Scout for immediate service. First Aid is one; Lifesaving is another. In earning these merit badges, the Scout should learn how to perform this service safely. The well-being of both the accident victim and the rescuer depends on it.

The requirements for the Lifesaving merit badge are designed to prepare a 12- to 14-year-old Boy Scout to respond safely and effectively to water emergencies. Each year, Scouts of all ages encounter such emergencies and successfully perform scores of water rescues. A Scout may actually be the best person on hand to respond.

As counselor, it is your responsibility to approve only those who fulfill the merit badge requirements. You should give each Scout reasonable opportunity to retake any formal written or skill tests, and continue to provide guidance until all candidates have earned the badge. Provided they are good swimmers, most Scouts who make a conscientious effort should earn the Lifesaving merit badge without too much difficulty.

At the very least, a Scout who is having difficulty with any element must be helped to understand why his performance is not yet acceptable. A misconception is often worse than no training at all. It is the responsibility of the counselor to ensure that each Scout knows and understands what he can safely and properly do in a rescue situation.

The techniques deemed proper are those outlined in this pamphlet. It is BSA policy that requirements be followed exactly as written. However, you have some flexibility in presentation and emphasis when more than one technique will satisfy a given requirement. For example, several types of rescue entries are discussed in the text.

Remember that physical performance of a technique alone is not sufficient. For example, the Scout must understand that the concepts underlying rescue entries are to not jump or dive into water of unknown depth, to stay always aware of the victim's location, to move quickly, and to keep control of the rescue aid. If the Scout recognizes

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and understands these concepts, then he is much more likely to make a safe and effective entry in any rescue circumstance. It is not necessary for him to be tested on every entry discussed in the text to satisfy requirement 7 for a "proper" entry.

This merit badge pamphlet presents a comprehensive discussion of concepts and techniques that the requirements alone cannot provide. Each instructor, regardless of experience, should read the latest printing of the pamphlet before beginning a course. Use the text, along with the requirements, to construct a detailed course outline. Also, encourage each Scout to read and study the pamphlet. It helps if the troop, camp, or counselor maintains lending copies of the pamphlet and distributes them either before or during the first training session.

Because earning the Lifesaving merit badge involves swimming assists, the Scout is expected to have strong swimming skills before attempting the requirements. Use the swimming prerequisite to review each Scout's skills before accepting him as a candidate for merit badge instruction. If a Scout has marginal swimming skills, weigh any commitment to provide remedial swimming instruction against that Scout's chance of success in the time available for instruction. Denying a Scout an immediate but inappropriate opportunity may better serve the overall aims of Scouting.

Offer training on a flexible schedule to a single buddy pair or small group, or on a more formal basis to a larger group at prearranged times. The minimum time required for training is that which leaves the Scout prepared. No definite time limits are established. Factors such as class size, participant maturity, number of instructors, and prior instruction in CPR will influence the time needed.

Most Scouts can adequately absorb the material in six 90-minute sessions or five two-hour sessions. For this age group, several short sessions over a week or two weekends are better than a single 10-hour day. Most of the time should be spent with in-water instruction, practice, and review. If available, a classroom setting can be used to cover concepts, CPR, and first aid. A suggested schedule for use at summer camp is presented in section IV, "Aquatics," in *Camp Program and Property Management,* available through your local council service center.

Formal skills testing is not required; adequate performance during practice will satisfy the requirements. However, a final, basic skills test can be a valuable teaching aid. You also can assess and reinforce understanding by presenting participants with simple "situation exercises." For example, while the rescuer's back is turned, place various rescue devices at the rescuer's disposal and instruct the victim(s) in how to act and where to go. Ask the rescuer to turn and respond to the given scenario. Praise positive performance and review it for other participants. If a different response would have been more appropriate, lead the rescuer to that conclusion with a series of questions and suggestions, and then congratulate him on his reasoning. These exercises should be designed for success and learning, not intimidation or failure.

The Lifesaving requirements cover a wide range of techniques based on the type of equipment available and the victim's condition. A deliberate progression of instruction is needed to prevent confusion. Emphasize simple, preferred techniques over complex skills. Clearly define the application of each exercise. Reviews at both the beginning and the end of a session reinforce understanding, particularly if the review involves discussion and/or presentation by the participants. Cognitive requirements may be completed either orally or in writing at any time during the course.

Base your instructional outline on material in this *Lifesaving* pamphlet. Other organizations offer excellent basic water safety and lifeguard courses that may supplement the Scout's training, but the goals of such courses generally diverge from those of the Lifesaving merit badge. Do not substitute outside course material for Lifesaving merit badge instruction.

Basic water safety courses generally stop short of in-water assists, particularly contact rescues of unconscious victims. Lifeguard courses train facility employees in water rescue skills based on the availability of specialized equipment, such as a rescue tube, that is often not available in a lifesaving situation. Lifeguard training also adds skills, such as backboarding, that are beyond the scope of the Lifesaving merit badge. Such skills are included in the BSA Lifeguard program.

The training that qualifies you as a counselor may have confined basic rescue techniques to use of a rescue tube. If so, thoroughly familiarize yourself with the material in this book. Work unfamiliar material into your teaching outline. Practice with another adult until you are comfortable with the skills and their range of application.

Boats are rescue tools available to the public but not addressed in courses for pool lifeguards. Similarly, the Lifesaving merit badge requirements do not call for proficiency in small watercraft. Various boating merit badges address that need. However, make a reasonable effort to incorporate more than discussion into the "row" portion of "reach-throw-row-go." A demonstration with a canoe or kayak in a pool should at least be feasible.

Most of the requirements cover water rescue as an emergency response, but some of the prerequiste rank requirements along with requirement 2a deal with emergency prevention based on an understanding of factors that lead to emergencies. To satisfy requirement 2a, the Scout should demonstrate a basic understanding of how each point of BSA Safe Swim Defense contributes to swimming safety.

The intent of requirements 13 and 15 is to reinforce skills and knowledge previously learned or to teach them for the first time. If the Scout lacks training in either first aid or CPR, then the counselor should teach the skills if he or she is qualified, or arrange training from a qualified instructor. Where Scouts have learned and practiced first-aid and CPR skills through rank advancement or other merit badges, the counselor should still review this information and apply it to the swimming and boating environment. Scouts should be able to demonstrate that they have retained information learned previously, either by discussion or skills performance. Recent training in CPR by a recognized agency can be accepted as completion of requirement 13 if the counselor feels the Scout's skills are satisfactory and need no additional reinforcement.

Suggestions for improvement are always welcome. Reviews of merit badge literature are conducted regularly, and updates often can be implemented within a year. Please send suggestions to Boy Scout Division, Boy Scouts of America, 1325 West Walnut Hill Lane, P.O. Box 152079, Irving, TX 75015-2079.

Your contribution to water safety and youth development is greatly appreciated. Scouting works because of volunteers. Thank you.

Requirements

1. Before doing requirements 2 through 15:
   a. Complete Second Class rank requirements 7a through 7c and First Class rank requirements 9a through 9c.

      Second Class rank requirements 7a through 7c:

      (7a) Tell what precautions must be taken for a safe swim.

      (7b) Demonstrate your ability to jump feetfirst into water over your head in depth, level off and swim 25 feet on the surface, stop, turn sharply, resume swimming, then return to your starting place.

      (7c) Demonstrate water rescue methods by reaching with your arm or leg, by reaching with a suitable object, and by throwing lines and objects. Explain why swimming rescues should not be attempted when a reaching or throwing rescue is possible, and explain why and how a rescue swimmer should avoid contact with the victim.

      First Class rank requirements 9a through 9c:

      (9a) Tell what precautions must be taken for a safe trip afloat.

      (9b) Successfully complete the BSA swimmer test.

      (9c) With a helper and a practice victim, show a line rescue both as tender and as rescuer. (The practice victim should be approximately 30 feet from shore in deep water.)

   b. Swim continuously for 400 yards using each of the following strokes in a strong manner for at least 50 continuous yards: front crawl, sidestroke, breaststroke, and elementary backstroke.
2. Explain the following:
   a. Common drowning situations and how to prevent them.
   b. How to identify persons in the water who need assistance.

c. The order of methods in water rescue.

d. How rescue techniques vary depending on the setting and the condition of the person needing assistance.

e. Situations for which in-water rescues should not be undertaken.

3. Demonstrate "reaching" rescues using various items such as arms, legs, towels, shirts, paddles, and poles.

4. Demonstrate "throwing" rescues using various items such as lines, ring buoys, rescue bags, and free-floating supports. Successfully place at least one such aid within reach of a practice victim 25 feet from shore.

5. Show or explain the use of rowboats, canoes, or other small craft in performing rescues.

6. List various items that can be used as rescue aids in a noncontact swimming rescue. Explain why buoyant aids are preferred.

7. Perform the following *equipment-based rescues for a conscious practice subject* 30 feet from shore. Use a proper entry and a strong approach stroke. Speak to the subject to determine his condition and to provide instructions and encouragement.

   a. Present a rescue tube to the subject, release it, and escort the victim to safety.

   b. Present a rescue tube to the subject and use it to tow the victim to safety.

   c. Present a buoyant aid other than a rescue tube to the subject, release it, and escort the victim to safety.

   d. Present a buoyant aid other than a rescue tube to the subject and use it to tow the victim to safety.

   e. Remove street clothes in 20 seconds or less and use a nonbuoyant aid, such as a shirt or towel, to tow the subject to safety. Explain when it is appropriate to remove heavy clothing before attempting a swimming rescue.

8. Explain the importance of avoiding contact with an active victim and describe lead-and-wait tactics.

9. Perform the following *nonequipment rescues for a conscious practice subject* 30 feet from shore. Begin in the water from a position near the subject. Speak to the subject to determine his condition and to provide instructions and encouragement.

   a. Provide a swim-along assist for a calm, responsive, tired swimmer moving with a weak forward stroke.

   b. Perform an armpit tow for a calm, responsive, tired swimmer resting with a back float.

c. Perform a cross-chest carry for an exhausted, passive victim who does not respond to instructions to aid himself.

10. In deep water, show how to escape from a victim's grasp on your wrist. Repeat for front and rear holds about the head and shoulders.
11. Perform the following rescues for an *unconscious practice subject* at or near the surface 30 feet from shore. Use a proper entry and strong approach stroke. Speak to the subject and splash water on him to determine his condition before making contact. Remove the victim from the water, with assistance if needed, and position for CPR.
    a. Perform an equipment assist using a buoyant aid.
    b. Perform a front approach and wrist tow.
    c. Perform a rear approach and armpit tow.
12. Describe how to respond if a victim submerges before being reached by a rescuer, and do the following:
    a. Recover a 10-pound weight in 8 to 10 feet of water using a feetfirst surface dive.
    b. Repeat using a headfirst surface dive.
13. Demonstrate knowledge of resuscitation procedures:
    a. Describe how to recognize the need for rescue breathing and CPR.
    b. Demonstrate proper CPR technique for at least 3 minutes using a mannequin designed to simulate ventilations and compressions.
14. Demonstrate management of a spinal injury:
    a. Explain the signs and symptoms of a spinal injury.
    b. Support a faceup victim in calm, shallow water.
    c. Turn a subject from a facedown to a faceup position while maintaining support.
15. Show that you know first aid for other injuries or illnesses that could occur while swimming or boating, including hypothermia, heat reactions, muscle cramps, sunburn, stings, and hyperventilation.

Contents

To Help Other People at All Times

If you look for this Scout emblem throughout this pamphlet, you will see true accounts of rescues by Scouts.

No Boy Scout will ignore a plea for help. However, the success of your response will depend on your knowledge and skills. The Lifesaving merit badge is designed to help you safely and successfully assist those involved in water accidents. Lifesaving is a serious undertaking and must be treated accordingly. You may seldom need to use these skills. But if you do, your ability could make the difference between a person's drowning and survival.

Preparation and Practice

Skills are best learned from demonstration and practice. Be alert to all that is said; your instructor will cover only necessary material. Read this pamphlet carefully and swim regularly until you can easily complete the required distance swim. Practice each skill slowly and deliberately before working on speed.

When practicing a rescue, do not use the word "Help!" Lifeguards and others may think there is real danger. Also, arrange a signal with your buddy that means "Let go; I need to catch my breath." Be sure that the "victim" is realistic; he should not chase after you in the water or in any way behave unlike a real drowning person.

Rescuer Safety

The rescuer's safety is important in any emergency. In most emergency situations, you can help minimize risk and perform a successful rescue. Some people drown in futile attempts to save others, but these would-be rescuers are usually frantic friends and relatives whose swimming skills are little better than those of the person in distress. They lack basic lifesaving training and act inappropriately.

After earning the Lifesaving merit badge, you should know when you can and cannot perform a safe rescue. If called upon, uphold your promise to help others at all times, but do it well. Do not risk injury to yourself when a rescue appears futile. Go for help instead.

Topics to Be Covered

This pamphlet covers subjects in the following specific order to help you comprehend the material naturally.

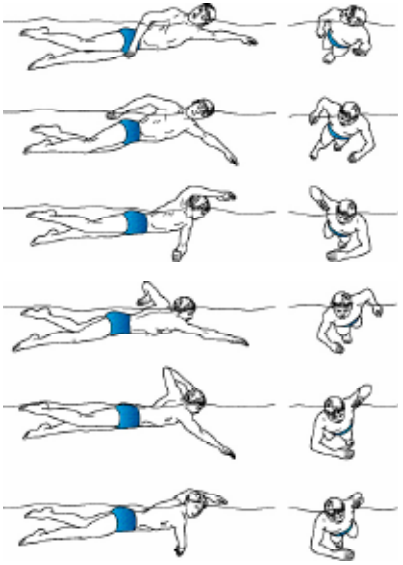
- Review of basic swimming skills. You need to be a good swimmer before you begin work on the Lifesaving merit badge.
- Common causes of water accidents. This discussion will give you a feel for situations when help may be needed and perhaps help you prevent such accidents from happening. Knowing the factors that lead to drowning also will help you understand the need for each item in the Safe Swim Defense and Safety Afloat standards, the foundations for safe BSA aquatics activities.
- How to recognize those in trouble. It is not always obvious when someone is drowning.
- How to plan a rescue. Once you recognize the need to act, you accept the responsibility only if you are the most qualified person present. If you are, you must decide whether to go for help or to plan a safe rescue. The action you take will depend on several factors.
- How to classify the type of victim. Is he or she conscious or unconscious? What is the victim's level of distress?
- How to estimate the distance from shore. Is the victim close enough for a reaching or throwing rescue, or will you need to take a boat or flotation aid to the victim?
- How to identify what rescue aids are available.
- How to take notice of any special circumstances. Do cold water, swift current, or injuries to the victim need to be considered?

Depending on the answers to these questions, you will choose your rescue method and confidently act within your known capability. Carefully studying this pamphlet and practicing with your counselor will help you gain that confidence and knowledge.

Basic Swimming Skills

Water rescues don't always require swimming; reaching or throwing an aid often works. However, the rescuer must sometimes swim a float to an active victim or tow an unconscious person to safety. This requires strong swimming skills.

Before beginning your Lifesaving training, you must first master the basic strokes—front crawl, sidestroke, breaststroke, and elementary backstroke. An excellent way to prepare for the Lifesaving merit badge is to first earn the Swimming merit badge. You must be able to easily complete the required 400-yard swim. If you can't quite make the distance, get someone to review your strokes with you. At this stage, stamina is probably not as critical as good form. If you know how to do the strokes properly, the distance shouldn't be a problem.



Front crawl, side and front views

The basic strokes are reviewed here. Lifesaving procedures will require you to modify the strokes to carry equipment, to avoid obstructions, to keep an eye on the victim, and if needed, to tow the victim to safety.

Front Crawl

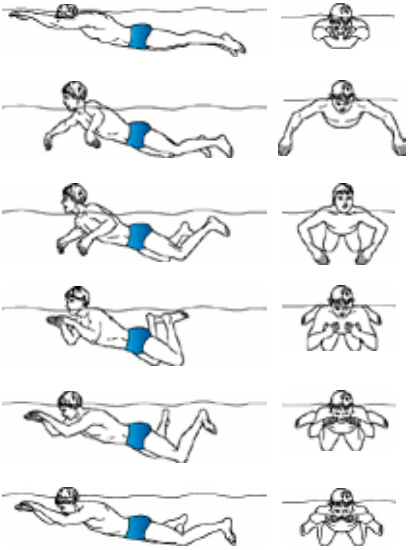
The front crawl combines a relaxed flutter kick with a rotary arm motion and rhythmic breathing. It is the fastest stroke but requires considerable energy. The stroke is most efficient if your head remains supported by the water. Turn your head to the side to inhale; rotate down to exhale. Keep the lower arm bent and sweep it across the chest rather than rotate it in a vertical arc. The arm motion generates most of the power. However, your kick should be strong enough to push you forward without having to use your arms. Your feet should not slap the surface of the water.

Breaststroke

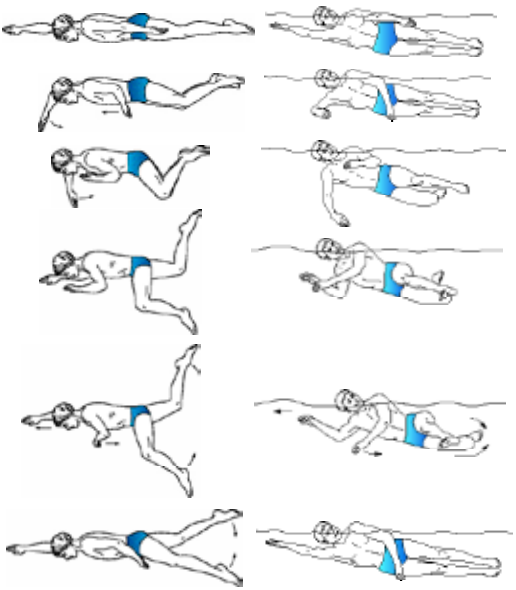
Coordination is the key to the breaststroke. Your legs power you forward as your arms move to a glide position with your head down. Your arms power you while you pull your head up, take a breath, and prepare the legs for the next whip kick. Done slowly with a glide, the breaststroke conserves energy and works well for long distances.

Sidestroke

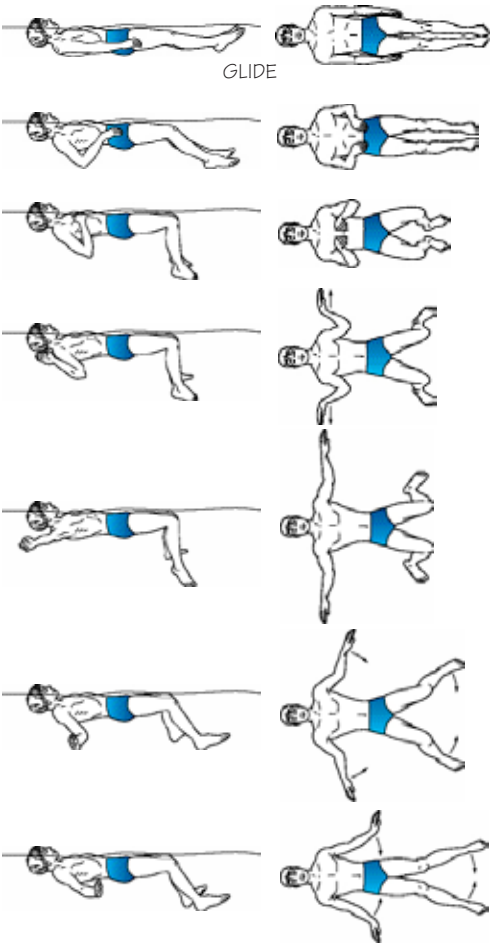
The sidestroke uses a scissors kick in which the heels are first tucked behind the body. The top leg is then extended forward and the bottom leg back. Power is generated when the legs are snapped back to a trailing position. The lower arm pulls water past the chest while the upper arm pushes from the chin toward the feet. The ear rests in the water, and the face is high enough to keep the mouth and nose above water. The stroke uses a glide to conserve energy. A good swimmer can do the sidestroke on both sides.



Breaststroke, side and front views



Sidestroke, top and side views



Elementary backstroke, side and top views

Elementary Backstroke

Begin the backstroke with arms at your sides and legs together. Start the whip kick by slowly lowering the heels beneath the knees. Rotate the ankles outward of the knees and return them to the start position in a rapid, continuous, circular whipping motion. The knees slightly separate and follow the feet out—do not lead out with the knees. Bring the arms slowly up along the chest with elbows tucked in close to the sides and then extend them outward at shoulder level. The arms are used to push water toward the feet while the legs make a circular "whipping" action. Avoid raising the head or bending at the waist. This is a restful stroke good for long distances. A long glide is an important part of the stroke.

Using and Modifying the Strokes for Lifesaving

With some modifications, the front crawl, breaststroke, sidestroke, and elementary backstroke can be made more effective when used during a lifesaving situation.

Front Crawl. *Used as an approach stroke and to tow rescue aids.* For lifesaving, the crawl is normally done with the head out of the water and a flotation device tucked under the arms or trailed behind. Swimming with the head up is more difficult and takes more energy but allows the rescuer to keep track of the victim while avoiding obstacles or other swimmers. Pace yourself to prevent exhaustion. If you must swim a long distance, you may choose to swim facedown and look up every few strokes, although it is best to keep a close eye on the victim's location and condition.

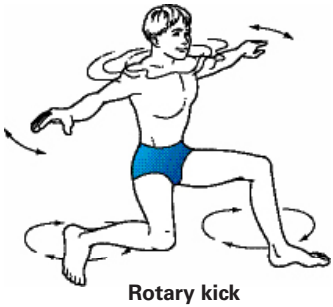
Breaststroke. *Used as an approach stroke and to tow or push rescue aids.* This is a more versatile approach stroke than the crawl. The head stays out of the water and rescue equipment may be trailed behind, tucked under the arms, or pushed forward with one or both hands. If wind and water are calm, the swimmer can push a float, such as an inner tube or air mattress, ahead of him and use his arms for stroking. The rescuer also can lie on a bodyboard, surfboard, or air mattress while using his arms in a breaststroke fashion. The breaststroke may also be used to push one side of a floation aid while the victim holds the other side.

Sidestroke and Elementary Backstroke. *Generally used for towing assists.* If the victim needs help, both the sidestroke and the backstroke will work for towing a conscious victim grasping a float. If the float is large enough that the victim and rescuer can hold opposite sides, use the breaststroke to push the victim to shore.

If you have used a nonbuoyant aid or the victim is unconscious, tow using the sidestroke or elementary backstroke. This is discussed later in more detail. For now, practice the sidestroke with the lower hand held at the side and practice the backstroke using just the kick.

Rotary Kick

At times, you may need to stay in one position without a float and with your head up; that is, you will need to tread water. You may already know methods for treading water, such as sculling with your hands and using a combination of kicks. Another option is to use the rotary, or eggbeater, kick. The rotary kick uses a sitting position with the knees apart. Rotate one leg and then the other in a circular pattern similar to the whip kick used for the breaststroke and the backstroke. However, each leg moves separately in the rotary kick. Try it first using a float or sculling with your hands. As you get the feel of it, use just your legs. Kick only fast enough to keep your head above water.

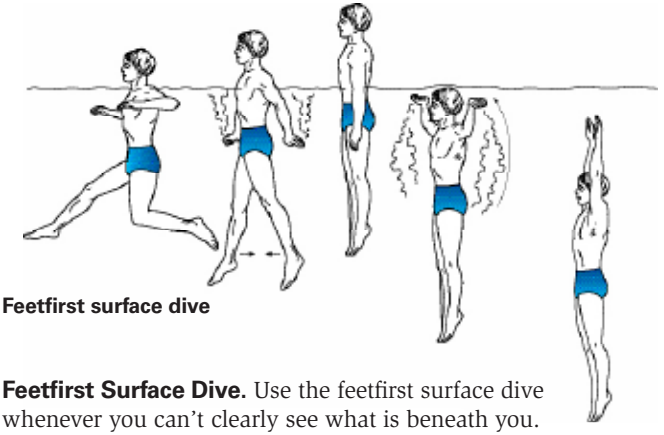


Rotary kick

Surface Dives

Some drowning victims must be retrieved from below the water's surface. Keep the following in mind when diving below the surface.

- **Don't try to swim down.** Your body is lighter than water and naturally floats upward. Instead, practice the surface dives described in this section until you can easily reach bottom in 8 feet of water.
- **Take only one or two deep breaths before diving.** Breathing too deeply for too long can lead to hyperventilation, which may cause you to black out underwater.
- **Don't ignore pain in your ears.** As you swim downward, you may notice a slight pain in your ears. This is caused by the increased pressure of the water against your eardrums. Swallowing, wiggling your ears, or gently blowing against a pinched nose may ease the discomfort. However, if the pain in your ears becomes intense, return to the surface. Otherwise, your eardrums could rupture and cause you to lose your sense of direction and possibly to black out.

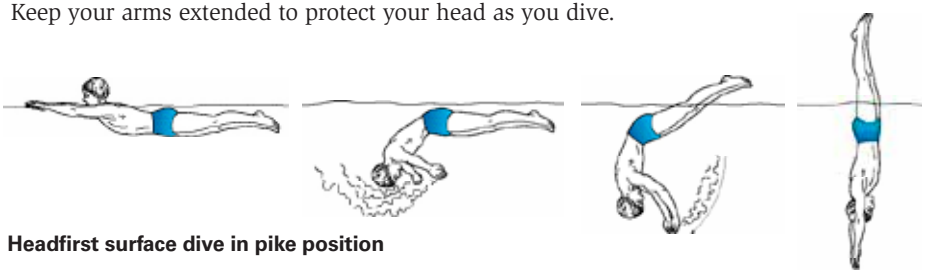


Feetfirst surface dive

Feetfirst Surface Dive. Use the feetfirst surface dive whenever you can't clearly see what is beneath you. At the surface, begin in a vertical position with your arms extended outward. Push down with your arms and use a scissors kick to lift yourself as far out of the water as possible. The weight of your body will then drive you back downward. Straighten your legs and push up against the water with your hands. Do not lift your arms too quickly; they should push against the water rather than break the surface.

Headfirst Surface Dive. Use the headfirst surface dive when the water is deep and clear. Begin by moving forward with a breaststroke. With your hands at your sides and your legs straight back, scoop downward with your arms and bend at the waist, lifting your legs into the air. Then extend your arms in front of your head.

The object is to point your entire body toward the bottom with your legs above the surface, so the weight of your legs will drive you downward. This dive is known as a "pike" if you keep your legs straight the entire time. It is a "tuck" if you bring your legs toward your body and then straighten them into the air. Keep your arms extended to protect your head as you dive.



Headfirst surface dive in pike position

Drowning: Risks and Prevention

Millions of people safely enjoy water sports year-round. But accidents can and do happen. This section reviews the most common causes of drowning and ways to prevent them. The Centers for Disease Control and Prevention, the U.S. Coast Guard, the National Safety Council, and various other government and public organizations monitor deaths and injuries from swimming and boating incidents.

- Drowning is second only to car accidents as a leading cause of accidental death for Scout-age youth.
- Roughly three-fourths of all drowning victims are males.
- In pools where lifeguards are on duty, relatively few drownings occur.
- Headfirst entry into shallow or obstructed water can result in neck or spinal injuries that lead to paralysis or death by injury or drowning.
- Many victims did not intend to enter the water. Drowning can result from falls, boating accidents, and cars going into the water.
- Boating activities account for roughly one-fourth of all drownings.
- Personal flotation devices (PFDs) are not worn in more than 80 percent of fatal boating accidents.
- Alcohol is estimated to be a factor in more than half of all swimming and boating fatalities.
- Cardiovascular disease is the No. 1 cause of death in the United States. A heart attack or stroke victim in or on the water has a smaller chance of survival.

Inadequate Supervision. A toddler left alone near a pool is an example of inadequate supervision. Allowing others to take part in unsafe activities is another. Qualified supervision, which includes appropriate discipline, can be an important factor in preventing drowning. A potential lifesaver who notices an unsafe situation should try to prevent the need for a rescue.

Poor Swimming Skills. Many people who drown are unable to swim even a few feet to save themselves, which means that rescues can often be made from shore or over short distances. Small children are often poor swimmers, and many victims that Scouts rescue are young. Knowing how to swim well is the best protection against drowning.

Unsafe Areas. Extra precautions are needed when poor swimmers are in the water or afloat. For example, a sudden underwater drop-off is unsafe for nonswimmers. Other unsafe situations for swimming include submerged obstacles, swift water, ocean rip currents, high waves, and cold water. Drowning accidents can be prevented by avoiding these areas and conditions. The rescuer needs to identify hazards that will jeopardize a rescue attempt and plan accordingly.

Unsafe Activities or Poor Judgment. The safety of an activity sometimes depends on the skill of the participants, but informed judgment is always key to avoiding danger. Overestimating swimming ability, failing to wear a PFD, diving into shallow water, or driving a vehicle onto a flooded roadway are all examples of risky behavior resulting from poor judgment. Understanding dangers and following safety rules will prevent many accidents. Again, the rescuer should evaluate the situation before taking action.

Medical Complications. Even strong swimmers can drown if they suffer a stroke, heart attack, or seizure in the water. The rescuer needs to make physical contact if the victim loses consciousness; speed is critical. People with known medical conditions should check with their physicians before participating in active water sports. Likewise, Scout leaders should be made aware of any medical or physical conditions that may affect a Scout's safety in the water.

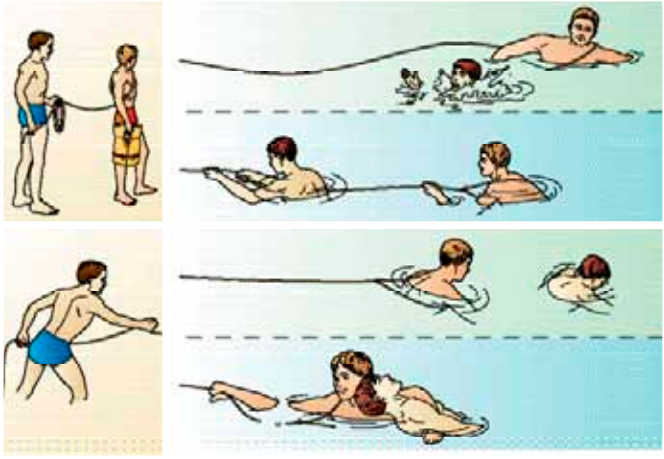
Note that these items reflect points in the Safe Swim Defense standards learned for Second Class rank. *Qualified supervision* and *discipline* guard against unsafe activities. A *personal health review* and *safe area* address medical complications and unsafe

areas, and *ability groups* classify everyone by swimming ability and restricts them to water depths consistent with those abilities. The remaining points—*lifeguards, lookout, buddy system*—provide eyes and ears alert for trouble. If trouble does arise, then it is quickly noticed and someone is prepared to give safe and effective assistance.

From your work on Second and First Class advancement, you have already learned basic water-rescue skills needed for a safe troop swim. The Lifesaving merit badge will add to your skill and knowledge of water rescue. Those skills should allow you to handle a wide range of emergencies and aid you in protecting a troop or family swim. However, earning the Lifesaving merit badge does not qualify you to be a lifeguard for summer camp or a public pool. After earning the Lifesaving merit badge, you may want to pursue BSA Lifeguard training.

Line Tender Rescue

You should remember the line tender rescue from your First Class requirements. This simple rescue procedure may be used on unit outings at swim areas where professional lifeguards are absent, as per item 4 of Safe Swim Defense. One rescuer carries a rope or line to the victim, and a second rescuer on shore pulls both the victim and the line carrier to safety. This is a type of reaching rescue because the line carrier never loses contact with the shore.



Line tender rescue

The line tender rescue lets Scouts swim safely on unit outings even if special equipment such as ring buoys cannot reasonably be packed and carried. The procedure is simple, and the single piece of line fits easily in a backpack (100 feet of ⅜ inch floating line is preferred, but nylon line may be used). However, if other equipment or opportunity is at hand for an even simpler rescue, such as a pole reach or arm extension, then do the simpler and safer procedure.

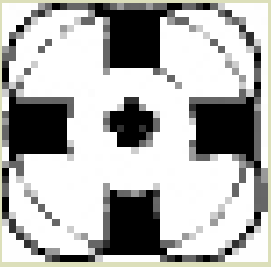
Performing a Line Tender Rescue. Begin by tying a bowline loop to one end of the rescue line, then placing it over one shoulder and under the opposite arm of the line carrier. Make the loop snug enough that it will not come off while the line carrier is swimming or being pulled in. Station the team so all deep water used for swimming in both the beginner and swimmer areas is within easy reach (approximately 50 feet).

When a swimmer needs help, the line carrier makes an appropriate entry and swims quickly to the victim. The line carrier may swim past the victim and bring the line to the victim's side so that they can both hang on and be pulled in. The line carrier may give the victim a flotation aid, such as a PFD. If one is not available, or if the victim cannot grasp the float or the line, then the line carrier should grab the victim. Try to keep an unconscious victim's head above water while being pulled in. Techniques for grasping the victim and to support unconscious victims are discussed later.

The line tender must avoid tangles while feeding out the line. Keep the line ready in a neat, loose coil or in a throw bag. When pulling the line back in, the line tender works hand-over-hand, grasping the rope with thumbs toward himself to bend the rope and prevent its slipping through his grasp. The line tender must be well-braced and strong and heavy enough to pull in his partner and the victim. To avoid being pulled into the water, the line tender should keep his body low and lean back while pulling on the rope. A strong, rapid pull will plane the line carrier and victim to the surface; that is, it will make them skim across the surface of the water.

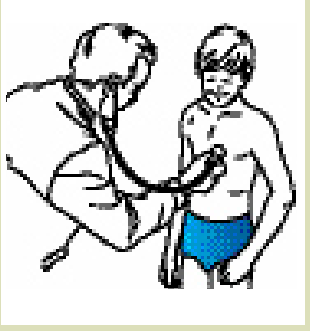
Practice this procedure until both team members are capable and confident in their roles. All troop members should understand the procedure and know to "clear the way" when the team is responding. This need for practice and understanding is one important reason the line tender rescue is a First Class requirement.

BSA Safe Swim Defense



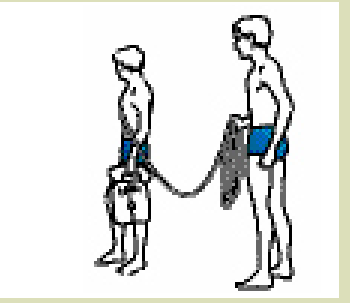
All swimming activity in Scouting is conducted according to the following BSA Safe Swim Defense standards. The material discussed above should help you understand why each item is important. As a lifesaver, you should consider accident prevention as important as rescue skills. That understanding is needed for requirement 2a. For a full description of the standards, see the *Swimming* merit badge pamphlet.

1. **Qualified Supervision.** All swimming activity must be supervised by a mature and conscientious adult age 21 or older who understands and knowingly accepts responsibility for the well-being and safety of those in his or her care, and who is trained in and committed to compliance with the eight points of BSA Safe Swim Defense.
2. **Personal Health Review.** A complete health history is required of all participants as evidence of fitness for swimming activities. Supervision and protection should be adjusted to anticipate any potential risks associated with individual health conditions.

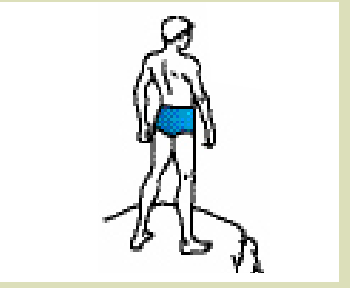


3. **Safe Area**. All swimming areas must be carefully inspected and prepared for safety prior to each activity. Water depth, quality, temperature, movement, and clarity are important considerations. Hazards must be eliminated or isolated by conspicuous markings and discussed with participants.

4. **Response Personnel (Lifeguards).** Every swimming activity must be closely and continously monitored by a trained rescue team on the alert for and ready to respond during emergencies. (The line tender rescue you learned for First Class, which is reviewed in this chapter, is one procedure that response personnel can use to safeguard unit swims. You will learn additional techniques for the Lifesaving merit badge.)



5. **Lookout.** The lookout continuously monitors the conduct of the swim, identifies any departures from Safe Swim Defense guidelines, alerts rescue personnel as needed, and monitors the weather and environment.



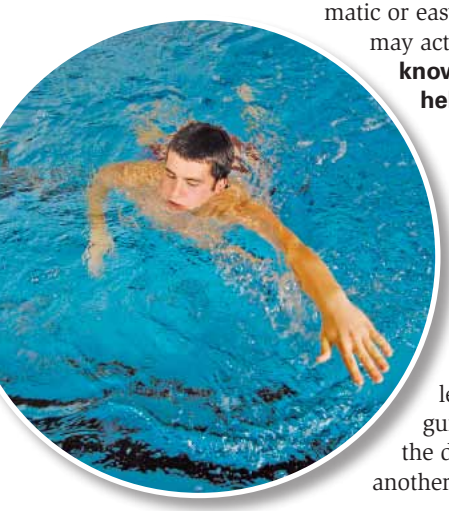
6. **Ability Groups.** All youth and adult participants are designated as swimmers, beginners, or nonswimmers based on swimming ability confirmed by standardized BSA swim classification tests. Each group is assigned a specific swimming area with depths consistent with those abilities.

7. **Buddy System.** Every participant is paired with another. Buddies stay together, monitor each other, and alert the safety team if either needs assistance or is missing. The supervisor knows the number of buddies in the water and conducts buddy checks to make sure buddies are watching each other.

8. **Discipline.** Scouts know and respect the rules of Safe Swim Defense, and always follow directions from their lifeguards and adult supervisor. The supervisor reviews rules just before the activity begins.

Recognizing a Victim

The first step in a rescue is recognizing that someone needs help. Often it is obvious. A capsized canoeist may be frantically swimming for shore while being swept toward rapids. People clinging to the top of a car swept off a low-water crossing may be shouting for help. Bystanders may be calling to someone floating facedown. But not all drowning situations are that dramatic or easy to spot. A child who appears to be playing may actually be in serious trouble. **It is important to know that not everyone in trouble will call for help or seem to be struggling.**



Not everyone in trouble will call for help or seem to be struggling.

People in danger of drowning can be divided into categories based on their conditions. In turn, those conditions influence basic rescue techniques. Categories include distressed versus drowning, conscious versus unconscious, active versus passive. The labels are less important than identifying specific behaviors and their effects on rescue techniques. Several categories are discussed below, and you should learn the major differences. Note that these are guidelines. An actual victim may not exactly fit the descriptions and may slide from one type into another during the course of a rescue.

Tired Swimmer

A tired swimmer may ask for help. The swimmer might be clinging to a boundary line, trying to float on his back, or making little progress using short bursts or a weak stroke. He lacks, or thinks he lacks, the energy to make it to shore and simply needs encouragement and a helping hand. The tired swimmer is calm, will respond to questions, and should cooperate with the assist.

Distressed Swimmer

A swimmer in distress is normally vertical in the water and shows various degrees of anxiety or panic. He may be a poor swimmer who has exceeded his abilities. If caught in a rip current, he may first become exhausted swimming against the current and then become frightened. Sudden medical problems such as a cramp or stroke may also cause a conscious swimmer to need help. A distressed swimmer makes little or no progress in the water but may struggle enough to keep his head out of the water. He may call or wave for help. If he could level off and apply the same energy to swimming, he might be able to reach safety on his own. He may act on clear instructions from a rescuer and reach for an aid as it is presented. Nonbuoyant rescue aids, such as a shirt or rope, may be used. Once help has come, he may grow calm and even assist by assuming a prone position and kicking.

However, the rescuer should remain alert and wary, and should avoid contact. The victim may try to grab the rescuer in an attempt to remain above water. It may be some time before he returns to a normal state of mind and behavior. The longer a distressed swimmer remains in trouble, the more likely he is to show the symptoms of an active drowning victim.

Active Drowning Victim

An active drowning victim is at a stage just before submersion and unconsciousness. Like a distressed swimmer, this victim is also frantic or distraught. However, the level of mental "distress" is not the important factor. An active drowning victim lacks the ability to make deliberate motions to stay afloat and will generally go under within 20 to 60 seconds. He can't call or wave for help; he must be recognized by his behavior. He is usually vertical in the water. He may have his head thrown back with arms extended to the side and pressing down or flapping. There is no effective leg movement. His head may bob below the surface, and he probably cannot respond to commands or reach for nearby rescue aids. During the assist, he may try to stay vertical and resist horizontal tows. Avoid contact. Use buoyant aids for support.

Unaided, a poor swimmer in distress may slip into the active drowning stage. This is particularly true of nonswimmers who have never supported themselves in deep water. A nonswimmer stepping off a submerged ledge will be unable to reach shallow water just a few feet away. A young nonswimmer knocked off an air mattress won't be able to reach for it and may submerge in only 20 seconds. Speedy rescue is essential.

Calm, deliberate, and prompt response is needed to safely rescue all types of victims, but the need for urgency may vary. A tired swimmer is not at immediate risk of submersion; you may have time to get a more suitable rescue device or find help. For example, you may summon a nearby person to help launch a boat rather than pushing off alone. However, conditions can change quickly. Always keep anyone needing assistance in sight and adjust plans as needed.

Always consider water depth when planning a rescue. If you are trying a wading rescue, keep in mind that tired swimmers, distressed swimmers, and active drowning victims are normally found in water too deep for them to stand in. Some victims will be shorter than you are, others will not. Victims with medical problems or unconscious, injured, and endangered swimmers may be found in water of any depth.

Unconscious Victim

Various circumstances can cause people to lose consciousness in the water. Unaided, an active drowning victim will soon lose consciousness and become passive. Immersion in cold water can numb and weaken a swimmer, eventually causing unconsciousness even if the person is wearing a flotation device. Other swimmers may black out with little or no warning because of a diving injury, hyperventilation, heart attack, stroke, seizure, drunkenness, or drug reaction.

An unconscious victim may float facedown at the surface or may partially or completely sink to the bottom. Speed is critical in reaching and moving the victim to safety. A rescuer must make physical contact, and breathing must be started again as soon as possible if the victim is to survive. In every instance, the person who has lost consciousness in the water will need medical evaluation. Summon emergency medical help as soon as possible. In a public setting, shout for someone to call 911 as you begin the rescue.

Injured Victim

A water rescue can become even more complex if the victim is injured. Diving into shallow water or being hit by a surfboard can cause head and spinal injuries. Cuts and broken bones can happen from boat collisions, water-skiers hitting objects, cars entering the water, boats capsizing in rapids, or surf casting swimmers against pilings. Gasoline explosions on motorboats can cause burns. Fishermen might become entangled in hooks. Some marine creatures can inflict painful stings.

Keep general first-aid rules in mind: *Treat the most serious condition first, do no further harm, and quickly summon help if needed.* In water rescues, the most serious condition may be stopped breathing, but standard rescue techniques for a person who is not breathing can worsen a spinal injury. These concerns will be covered later.

Endangered Swimmer

The above classifications are based on a victim's lack of or loss of swimming ability. However, there may be times when a competent swimmer requires aid. A capsized canoeist caught in a cold, fast current is one such situation; a kayaker pinned against a rock is another. Ocean rip currents can sweep a swimmer out

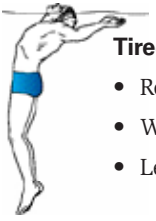
to sea. Fast-rising tides against a cliff face can catch a hiker off guard. Abnormally high waves can sweep fishermen off jetties. Flash floods can trap motorists in their cars.

Situations vary greatly, as will rescue responses. Some victims may make it to shore unaided and the rescuer's responsibility becomes one of follow-up support, first aid, and transportation. In other cases, a rescuer can help from shore. In still others, the lifesaver's only safe option is to immediately seek aid from a trained rescue squad with special gear. Remember, seeking help is as much a lifesaving technique as any other.

Success is the final measure of any rescue. If you can't safely perform a rescue with resources at hand, then quickly seek help from those with more training and better equipment.

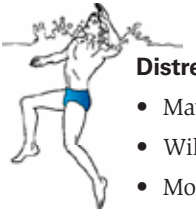
VICTIM CHARACTERISTICS

Rescue urgency and response depend on the victim's condition.



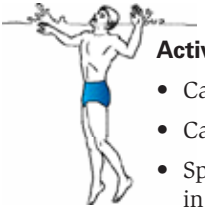
Tired swimmer

- Responsive
- Will aid in rescue
- Least urgent



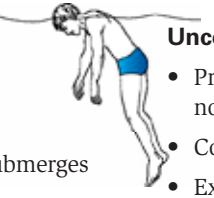
Distressed swimmer

- May call for help
- Will reach for aid
- More urgent



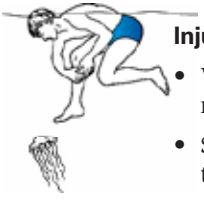
Active drowning victim

- Cannot call for help
- Cannot reach for aid
- Speedy rescue is essential; submerges in less than one minute



Unconscious victim

- Probably is not breathing
- Contact required
- Extremely urgent



Injured swimmer

- Various degrees of response and urgency
- Special consideration taken to avoid aggravating injuries

Endangered swimmer

- Each situation unique
- Safety of rescue effort is a primary concern

Planning a Rescue

To help ensure success, a rescue must be planned. There will often be little time and limited rescue equipment, so a suitable plan must be made quickly. Stay calm; remember your training. Most situations present only a few obvious choices. Keep the following steps in mind, and keep the plan as simple as possible.

Recognizing Need

The first step in planning is to assess the situation. Evaluate who is in trouble, how urgently they need help, and whether they can help themselves—or if a rescue is needed. Then determine whether someone else has already begun a rescue.

Accepting Leadership

If someone already has started a rescue, respond only if you are clearly in a better position to help the victim; for example, if you are closer. Otherwise, consider how to help without interfering. Make sure emergency help has been called if you think it will be needed. If the victim is in a lake and might go under before help arrives, pinpoint his position against landmarks. You also may keep curious bystanders from getting in the way.

If no one is attempting a rescue, find someone in authority—a lifeguard, a park ranger—who hasn't noticed the problem. Inform that person and follow instructions. If no one else takes responsibility, then it is up to you. Don't hesitate to act just because others, including adults, are milling around undecided. They might not know how to respond. If you know, proceed with planning the rescue, including asking bystanders to call for aid, get equipment, help launch a boat, or any other simple task.

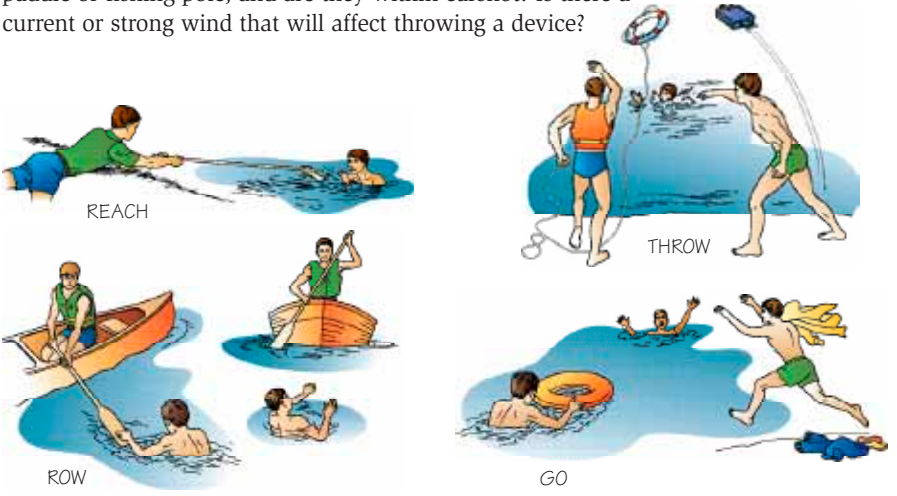
Selecting a Rescue Technique/Order of Rescue Methods

Choosing the proper rescue technique is relatively simple if you remember the order of rescue methods, from the easiest to most difficult: **(1) reach, (2) throw, (3) row, (4) go.** The method chosen will depend on the victim's condition, the distance from shore, the equipment available, and the condition of the water. For example, if the victim is conscious and close to shore, look for a pole or paddle to do a reaching rescue. If nothing long enough is at hand, you might try throwing the victim a buoyant item.

When rescuing a conscious victim, simply find the easiest way to give support. Reach if possible, pulling the victim to the side. Otherwise, throw, row, or go to get a float to the victim in the quickest and safest way.

Rescues get more complicated when a float is not available or the victim cannot grasp one. You will seldom need to support a conscious victim while swimming. Contact rescues are normally needed only for unconscious victims, which is why it is important to distinguish between rescues for conscious and unconscious victims.

When selecting a rescue technique, also take note of the physical setting. Can you reach the victim more easily from a different spot? Is someone already there who could extend a paddle or fishing pole, and are they within earshot? Is there a current or strong wind that will affect throwing a device?



Order of rescue methods, from fast, simple, safe, and common to more difficult and complex

Reaching Rescues

Reaching rescues are safe, simple, and effective, and can be used for all types of victims. For instance, a poor swimmer may get into trouble as soon as he enters water over his head. That is likely to be close to the edge of a pool or near a dock. If you are out of the water and spot someone in trouble, lie down at the edge, extend a hand or leg, and pull the victim to safety. This simple procedure will quickly and safely save a life. However, when a conscious victim grabs your hand, he often will stop his own efforts to remain afloat. The extra weight can pull an unprepared rescuer into the water. With reaching rescues, always lie down first or otherwise brace yourself.

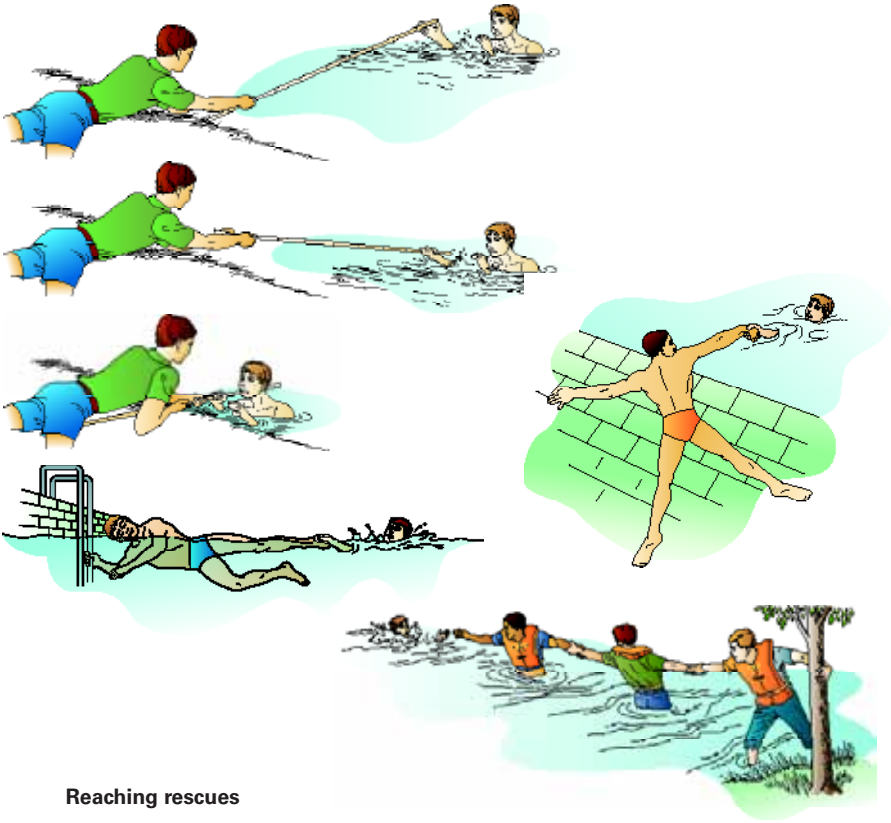
Water flowing in a recently filled irrigation canal caught the attention of a 4-year-old girl. A Scout saw her fall in. He ran over, lay on the bank, and grabbed her just 4 feet from where the water was swept into a debris-laden culvert.

For a victim beyond reach of your arm or leg, use any available object to extend your reach—a pole, paddle, shirt, or towel. Again, stay low and brace yourself by lying down, leaning back, or grasping something on shore with one hand while reaching with the other.

A distressed swimmer probably will reach for whatever you extend, but an active drowning person will not. For both types of victims, make sure your rescue aid comes into direct contact with the victim's hands and arms. Flip your towel over the victim's shoulder. Sweep a pole under his arm. With a conscious victim, always tell the victim clearly what you are doing and what you want him to do.

With an unconscious victim, reaching rescues can work if he is within arm's reach. You might also use a special device called a shepherd's crook, often available at pools without lifeguards. This device is a pole with a large hook on one end that can be used to snag an unconscious victim below the shoulders and draw him to shore. Do not use this technique if you suspect that the victim has injured his spine.

The simplest reaching rescues are done without entering the water. In other cases, you may need to enter the water while still holding firmly onto a dock or pool ladder. In shallow water, you might be able to walk directly to the victim. When wading in shallow water, be very alert for drop-offs into deeper water. Keep a firm footing and extend a pole or oar to a victim who is past the ledge. You also can shove a float to him or form a human chain with several rescuers as shown in the illustration.



Reaching rescues

Throwing Rescues

For victims beyond your reach, throw an aid. A floating aid with a line attached is best because it provides support and allows you to pull in the victim. Throwing rescues can work for any type of active, conscious victim. Reaching rescues are usually used in pools; for river float trips, however, a throw line is a main rescue aid.

Some Scouts were sledding during a winter campout when one lost control and landed in a creek. The others threw him a rope, pulled him to the side, helped get him dry, and took him back to camp.

Always keep track of the victim's location, especialy if he is in murky water or far from shore. If he submerges, you will need to know where he went down. Work with a partner if possible. One person can act as spotter while the other gathers equipment.

A throwing rescue device need not have a line attached. Different types of PFDs—life jackets, ring buoys, flotation cushions—are found around the water and make good throwing aids. Use anything that will float well enough to support the victim, that he can hang onto, and that is small enough for you to throw or shove from shore—inner tubes, air mattresses, kickboards, empty water jugs, coolers, and even wooden benches.

Aim carefully to toss the device within the victim's reach without hitting his head. Allow for wind and current; aim slightly upstream of the victim. Encourage him to use the float and paddle himself to shore; have him travel with the current rather than against it.

If you miss, or if the victim can't grasp the item, keep trying, either with another device or by pulling in on the line. After repeated attempts, consider other options in the reach-throw-row-go progression. If necessary, switch to a boat to get closer. If you must enter the water to retrieve the device, swim closer to the victim, then push the aid to him.

Throw Lines

When tossing an unweighted rope, or **heaving line,** coil it first. Tie a small bowline loop in one end and place it on the wrist of your nonthrowing hand so you won't accidentally toss the entire line into the water. The loop should be loose enough that you can easily slip your hand free if needed. To coil the line for a right-handed throw, place your left hand on your left knee and stretch the line to the full reach of your right arm. Then return the line from your right hand to your left hand to form the first coil. If you leave your left hand fixed to your knee and reach as far as possible each time with your right hand, all of the coils will be the same size and less likely to tangle when thrown. Reverse the directions for a left-handed toss.

When about half the line is coiled, gather the loops with the index finger of the hand on your knee. Then coil the rest of the line, holding it with the remaining fingers. This will let you separate the rope into two coils, one that is thrown and one that feeds the line. The weight of the second coil helps in making an accurate toss.

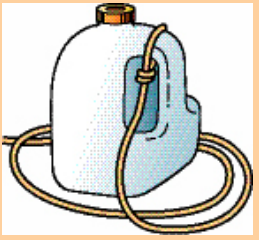
With one coil in each hand, step back with the leg on your throwing side, swing your throwing arm back and toss the coil underhand to the victim. Release the coil when your throwing arm is about level and still moving. If you release too soon, the rope will land just in front of you. If you wait too long, the line will go up rather than out. After the release, the rest of the line pays out off the open palm of your other hand. The line should fall over the victim's shoulder, in reach of his hands. Allow for crosswinds or currents. If you miss, recoil quickly—keeping an eye on the victim—and try again.

When the victim grasps the line, drop the remaining coil. Pull in the line hand-over-hand keeping your thumb inward. Instruct and encourage the victim. Pull fast enough to keep the victim afloat, but do not jerk the line from his hands. Keep your body low and lean back to avoid being pulled into the water. Continue to alternate pulling and reaching with each hand until the victim is at the side or stands in shallow water.

Adjust these steps as needed. For instance, you don't need to untie both ends of an anchor line on a small boat. Instead, drop the anchor at your feet, step on the line, and proceed with coiling. Use any technique for throwing a line that you know works accurately. Hoses and unplugged electrical extension cords also can be used.

A **ring buoy** is coiled and thrown the same way as a heaving line, except there is no need to separate the line into two coils. The buoy provides enough weight for an accurate throw. Throw the buoy beyond the victim with the line falling over his shoulder, then pull the buoy to the victim. Tell him to get a good grip on the buoy, then pull him in. If the line pays out cleanly but you miss, do not recoil the line for a second try as you would for a heaving line. Instead, drop the line at your feet as you pull in the buoy and then try again. However, if the line tangles on the first toss, recoil it as described above.

You may find a ring buoy with a large wood bead or "lemon" on the free end of the line rather than a wrist loop. If so, stand on the line with the lemon behind your foot. The wrist loop is easier to use, but the lemon will work and may keep a nonswimming rescuer from getting jerked into deep water. Do not attach a throw line to yourself if you are making a toss from a moving boat; tie it to the boat instead.



A plastic gallon jug with about an inch of water inside makes an excellent makeshift buoy. Attach about 50 to 75 feet (at least enough to reach across your pool) of light line to the handle and tie a wrist bowline in the other end. Solid-core woven line that floats is best, but nylon will work. Ski rope can be used in a pinch. The jug is thrown underhand like a regular buoy.

The throw bag, or **rescue bag,** is often carried on paddle craft, such as canoes. A floating line with a wrist loop is stuffed into a small nylon bag that floats. Hold the loop in one hand and throw the bag with the other. The line will pay out of the bag. If you miss your first toss, then use the rope as a regular heaving line rather than restuffing it. Leave a bit of water in the bag when throwing it again.

Heaving lines, ring buoys, and rescue bags can be extremely useful, but are worthless if used improperly. Practice the coiling and throwing techniques until you can repeatedly hit near a stationary target.

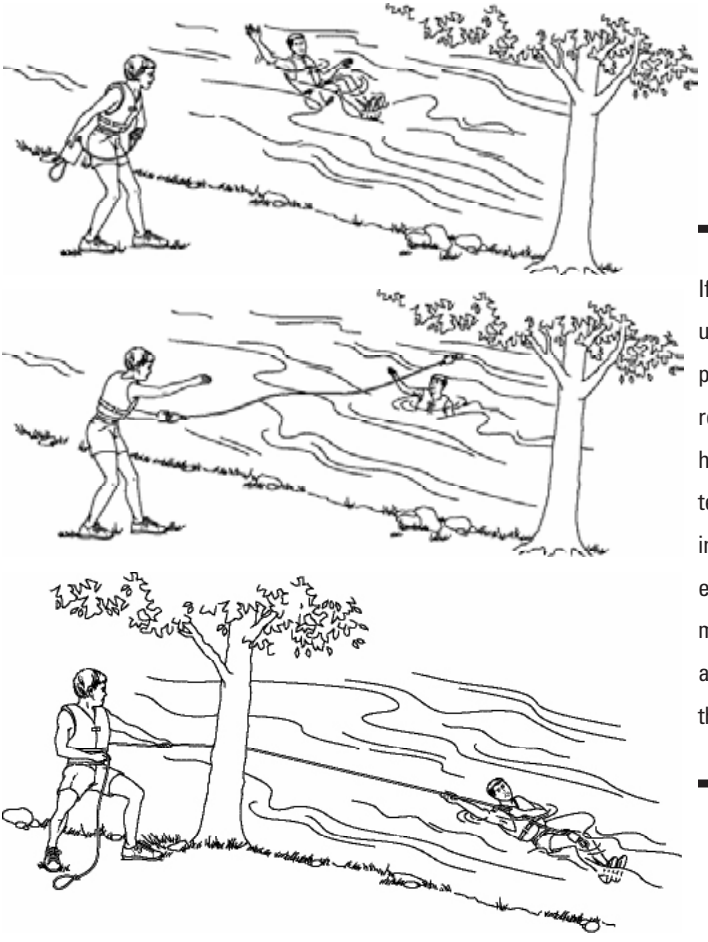
Use of Throw Lines for Swift-Water Rescue

To make a throwing rescue in swift water, consider the current. If the victim is moving, not hanging onto a rock, try to position yourself downstream and make your throw just before the victim comes abreast. If the victim is already past you and out of the rope's reach, hurry downstream; he may find an eddy or other slow portion of the river.

Try to get the victim's attention, then toss the line as close to him as possible. If you miss, it is better to miss slightly upstream. When the victim grabs the line, he should roll on his back rather than get a faceful of water looking back toward you. The victim shouldn't try to stand unless the water is too shallow for floating. When possible, simply let the taut line and current sweep the swimmer in an arc toward the bank. If the line's length might cause the victim to swing into an obstacle, either shorten the line or move downstream to find a better landing site. (If a capsize is anticipated, position each line handler above a safe landing spot.)

Be prepared for considerable force once the line becomes taut. If possible, belay the line by pulling it halfway around a stout tree or large rock. Take a full turn if needed. Otherwise, sit down after throwing the line, run it around your back, and brace your feet. If others are present, have them help hold the line. Be sure that you can release the line if you are about to be pulled in or if the victim gets tangled and needs the line slacked.

If the victim is not swimming but has reached a relatively safe spot in the river, then give a safe landing site more thought. You might relocate for a better belay or to adjust where the swimmer will land. Clearly instruct the victim not to make any movements until told to do so. If danger exists immediately downstream, a simple throwing rescue may be insufficient. You may need to establish a second line across the river.



Belay in swift water

If you are unsure how to perform a safe rescue, seek help from a team trained in river rescue, even if that means temporarily abandoning the victim.

Three Scouts in a raft heard screams for help from another raft. They stretched a rope across the river downstream of the troubled party and were able to help the victims to shore.

Rowing Rescues

Boating incidents account for many drownings. Most happen in small open motorboats on inland waters due to capsizing or to passengers falling overboard, but fatalities also occur when paddle craft are used. According to the American Canoe Association, 85 percent of canoeing fatalities and 48 percent of kayaking fatalities did not wear PFDs; unfortunately, they could not swim well enough at the time to save themselves.

A ski boat hit a small sailboat, knocking the occupant unconscious and cutting a gash in his back. Two Scouts in another sailboat pulled him aboard and began rescue breathing on the way to shore.

Rowing rescue

Rowing rescues are appropriate for any type of victim. A boat rescue can be both faster and safer than a swimming assist. It is the best way to reach multiple victims who are far from shore. A boat may provide a platform for rescue breathing or CPR without having to bring the victim all the way to shore. It offers protection from currents, waves, and cold water.

You may recognize some of the following material. If not, study it carefully and pay close attention to any demonstrations or exercises your counselor provides.

Small-boat skills are not included in the Lifesaving requirements. That is not because boat rescues are unimportant; rather, the skills for each craft vary enough that it would take too long to master them all. The Canoeing, Whitewater, Rowing, Motorboating, and Small-Boat Sailing merit badges all offer opportunities to learn boat rescue skills.

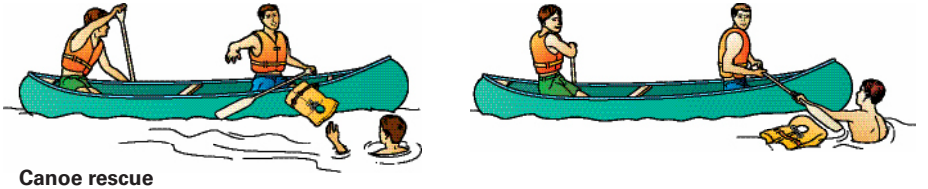
Even if you are an expert with a particular boat, don't hesitate to enlist help in an emergency. If no one is handy, shout loudly for help. Take a few seconds to plan ahead. Throw extra gear, such as PFDs, into the boat. Send someone to find a phone (cell phone or land line), in case emergency medical personnel need to be contacted. Wear a PFD and be alert for currents, waves, and weather changes.

When you reach the victim using a rowboat, one rescuer can throw him an extra PFD or reach out from the stern with a pole or extra oar. For multiple victims in the water, help the one most in need first, but try to throw the others some type of support. If the distance to shore is short and a victim is not injured, leave him in the water and tow him to shore. If a victim is not breathing, is suffering from hypothermia, or needs other first aid, carefully bring him aboard over the transom.

If you are alone in a rowboat, you will have to both row and watch the victim. If the distance is short, backwater. Otherwise, row out looking over your shoulder and pivot as you get close. Throw the victim a flotation device as you approach with the stern. If you need to release the oars, be careful to secure them first.

The use of other craft is similar. In a canoe, put the best paddler in the back, but both rescuers paddle on the way out. Throw the victim a float as you approach; give clear instructions. Try to keep the canoe from turning broadside to the current or waves. While one rescuer kneels to steady the canoe with his paddle, the other keeps his weight low, reaches out to the victim with his paddle, and swings the victim to one end of the craft.

Watch the victim at all times as you approach. If the victim submerges, you may be able to enter the water and bring him back to the boat. Such techniques are discussed later under "Swimming Rescues."



Canoe rescue

Don't let a struggling victim grab the side of the canoe; he could capsize the boat. If the canoe capsizes, rescuers and victim should stay with the boat and swim it to shore. See the *Canoeing* merit badge pamphlet for more information.

A motorboat should head into the wind when approaching a victim to prevent the boat from being blown into him. As you cover the last few feet, disengage the prop, throw the victim a PFD, and give clear instructions. Extend a boat hook or paddle and pull him to the side or stern (with the motor off) where he can be helped into the boat when calm.

Even if you have never rowed a boat, paddled a canoe, or started an outboard, you still may be able to use a boat on your own for a successful rescue. Get in the front of the boat and paddle, stroking first on one side and then on the other. This will work with rowboats, canoes, small powerboats, and small

if the sail is down. You can make headway in a wind
ent when you might otherwise be shoved off course.
or now, consider what will happen if you leave the boat.
in a gentle breeze, a light boat such as a canoe will drift
y faster than you can swim, especially if you have a
tim in tow. If you kick the boat away when you enter
e water, it will not only drift away faster, but you may
also lose your orientation.

The best solution is to have two rescuers in the boat. One can hold the boat's position and guard the other rescuer's safety. If two rescuers are not available, you can use an anchor if there is one in the boat. Make sure the end of the line is attached to the boat. You also can hold onto a tie line, or painter, if the water is not too deep.

Again, plan ahead. If a coil of rope is nearby, throw it in the boat before heading out. Someone may have heard your earlier cries for help and now be at the scene. If you are alone and the victim submerges, call out again for someone to bring another boat.

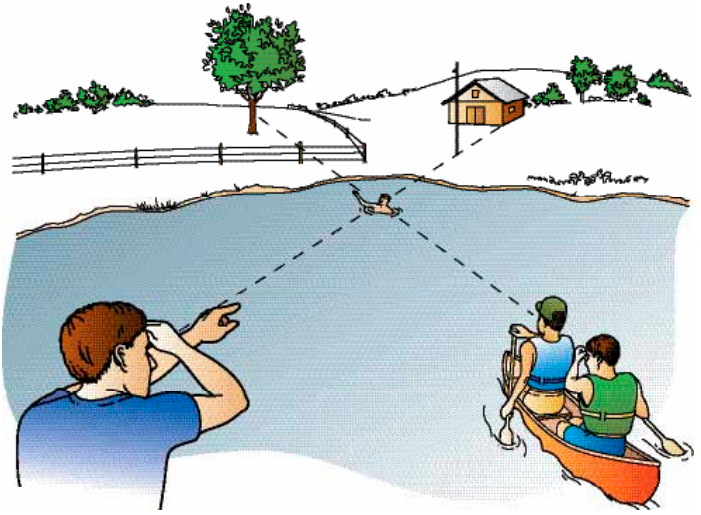
If you recover someone who has stopped breathing, don't wait to start rescue breathing. Begin at the boat. You may be able to support a victim at the stern, particularly if you are on a larger boat with a swimming platform. Otherwise, bring him aboard. If his condition is further complicated by a lack of pulse,

then a rigid support will be needed for complete CPR. Use your judgment as to the best course of action, depending on the type of boat, the number of rescuers, and the distance to shore.

Pinpointing a Victim's Location

Always watch the victim as you approach, in case he submerges. The farther you are from the victim, the harder it will be to keep track of where he went down. As you approach, line up the victim with two marks on the shore, a shorter one in front of a taller one. If you later become confused about the victim's location, you will know that he was near the line defined by the two objects.

Note that two fixed points are required to define the line. The two points can be part of the same object—the front and back of a car, for example. If you line up the victim only with the boat and one object on shore, you can travel in a circle after the victim disappears. The only sure way to pinpoint a location on the water is for two or more people to align objects with the victim from different locations. The spot where the lines of sight cross is where the person went down. You should serve as a second spotter if someone else has already begun a rescue.



How to take a bearing

Swimming Rescues

The final option in the order of methods of rescue, following reach, throw, and row, is go. This can mean two different actions. Either you go for help because the rescue is too difficult or dangerous to attempt alone, or you go into the water to perform a swimming assist, ideally using a floating aid.

Swimming assists can be divided into two classes depending on the need to touch, or contact, the victim. In **noncontact rescues,** the victim grasps the rescue aid you give him. In **contact rescues,** you grasp the victim and the aid. Noncontact rescues are the first choice for active victims. Contact rescues are normally used only for unconscious victims.

Each type of rescue technique discussed in this pamphlet has been more complicated and has required more skill than the one discussed before it. Several factors are involved in swimming rescues. An overview will be provided first, then more details.

Noncontact and contact rescues follow the same steps: **assessment, equipment selection, entry, approach, ready position, assist, landing,** and **aftercare.**

Assessment. You will have assessed the victim's condition while considering what type of rescue to use. Now that you have chosen a swimming rescue, concentrate on the condition of the water. Judge the depth, temperature, currents, and any obstacles, such as weeds. Locate a safe place to get out. Consider removing clothing to make the rescue easier and quicker. Don't enter the water until you have a plan that is safe for both you and the victim. Proceed only if you appear to be the most qualified rescuer available. Seek help from others as needed.

Equipment Selection. A buoyant aid—that is, one that floats—is best, but other items can be useful. The aids are the same as those used for reaching and throwing rescues, including rescue tubes, life jackets, ring buoys, inner tubes, air mattresses, surfboards, shirts, and towels.

Entry. The best way to enter the water depends on the type of shore, the water depth, the condition of the victim, and the aid being used. Choices include a walking or running beach entry, sliding into the water from a sitting position, a stride jump, or a feetfirst jump. Dives are seldom used. Remove bulky clothes before you enter the water. If wearing a PFD is part of your plan, put it on before you go in.

Approach. Shout encouragement and clear instructions to the victim. Use a breaststroke or crawl, modified as needed. Observe the victim often. For noncontact rescues, approach facing the victim. Balance the need for speed against the energy you will need on the return. Approach a victim of spinal injury with care so as not to cause unnecessary movement.

Steps in a Swimming Assist

Assessment. Don't enter the water until you have a plan that is safe for both you and the victim.

Equipment Selection. Buoyant aids are best, but even a shirt is better than no aid.

Entry. The entry depends on water clarity and depth, condition of subject, and type of aid.

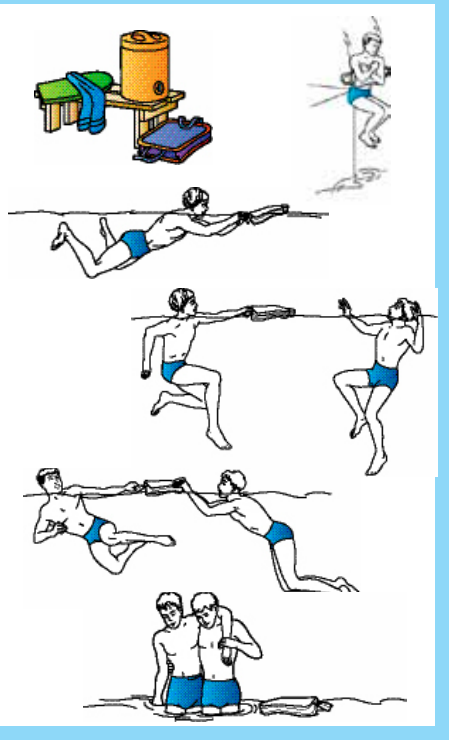
Approach. Shout encouragement to the victim. Keep the victim's location pinpointed. Modify breaststroke or crawl to carry aid.

Ready Position. Reevaluate the victim's condition. Instruct the victim in what to do. Present aid.

Assist. Either escort the victim to safety or tow him with the aid. Make contact only if the victim is unconscious or injured.

Landing. Assist the subject from the water, getting help from bystanders if needed.

Aftercare. Arrange appropriate medical aid.



Ready Position. When close to the victim (6 to 10 feet), stop in front of him and be ready to back up if necessary; that is, if he panics and tries to grab you. Talk to the victim, reevaluate the situation, and present your aid.

Assist. Decide on the method that best suits your equipment, the victim, and water conditions. If you have a buoyant aid that will support the victim, float it to him. Be sure that it makes contact with the victim's hands; he may not be able to reach for it. Assure the victim that he will be all right if he holds onto the float. After he has a secure grip, instruct him to kick. Stay nearby, within his vision, as both of you move to shore. Continue to encourage his movements.

In this procedure, an accompanied rescue, you escort the victim rather than tow him. The victim is in control of the device and can adjust it for the most support. The victim is not in a position where he can, or would, grab you.

If the victim can't make progress toward shore, perhaps because of current, waves, or exhaustion, you can take hold of the float and tow the victim. Be sure you tell the victim what you intend. It also will be necessary to tow the victim if you use a nonbuoyant aid, such as a shirt or towel. More detail on how to tow victims will be given later.

Landing. Direct the victim to the closest point where you can safely leave the water. In noncontact rescues, the victim probably can help himself onto dry land. You may need to provide a shallow-water assist by letting the victim put an arm around your shoulder. Unconscious victims may be removed from the water using a beach drag on a sloping bottom or a vertical lift at the edge of a pool or dock. Victims with a spinal injury require special expertise and equipment. Each of these procedures will be explained later.

Aftercare. Make sure those who need medical aid get it, particularly if a medical condition led to the problem in the water. You may need to give first aid for shock or hypothermia while waiting for more advanced aid. Unconscious victims will probably need immediate CPR. Note that anyone who has inhaled water or been unconscious needs medical evaluation. Insist that they seek medical care even if they seem fine. If the incident involved a lack of judgment, offer positive suggestions for preventing future problems. Ideally, do this in private after the initial excitement is over.

Equipment Selection

Equipment choices will depend on the situation and location. State laws often require owners to post rescue aids, such as shepherd's crooks and ring buoys, at unguarded hotel and apartment pools. Home pools also should have rescue devices close at hand. Recreational swimmers often use a variety of buoyant items, such as swim tubes, air and foam mattresses, kickboards, and foam rods. Other flotation aids such as life jackets, ring buoys, and cushions will be on hand in marinas and on float trips.

Rescue aids may be harder to find on hiking trails near rivers and canals. Look for picnickers with ice chests and water jugs, or even tablecloths. In a pinch, use the clothes you are wearing. When you have a choice of aids, weigh the time needed to reach a distant aid against your ability to use a less-suitable item nearby.

If you are wearing a PFD, leave it on and carry a second flotation device. If you have only one PFD, consider the victim's condition. If the victim is active, it is probably best to carry the PFD and push it to him for support. If the victim is unconscious, it will be easier to tow him if you wear the PFD.

Entries

Carefully consider the best location to enter the water. If you can get closer to the victim by first running along the shoreline or edge of a pool, then do so. Take care not to trip or fall. Also keep watch on the victim. If the bank is irregular or covered by dense vegetation, swimming from your present location might be best. In lakes, look for weeds or submerged trees in the water. Find a clear approach to the victim. In rivers, allow for the current and enter upstream of the victim.

Disrobing for Rescues

A swimming rescue may require a lot of energy. Swimming while supporting another person, even with a floating aid, can be exhausting, and speed is needed if the victim is not breathing. Discard any heavy clothing, such as a jacket and boots, before you enter the water. The time this takes will be regained easily through your increased ease of swimming.

How much to discard depends on the situation. Boots, heavy jeans, and bulky sweaters probably need to be removed; thin summer clothes often don't. If an unconscious victim is floating in a small pool, time is critical and the distance to safety may be only 6 feet or so. In that case, you might leave on shorts, T-shirt, and tennis shoes. If the shore or water bottom are rough or cluttered, it may be best to have shoes on.

If the weather and water are cold, clothing may help conserve body heat. Consider the extra warmth versus the extra weight. In cold and isolated areas, it may be useful to leave some dry clothes, such as a jacket, waiting on shore.

If you are in doubt, it is probably best to disrobe at least partially. Once you are in the water, clothing is much harder to remove. (Quickly removing clothing is discussed later, under "Shirttail Rescue.")

Note that swimming rescues should not be attempted if the air and water are very cold.

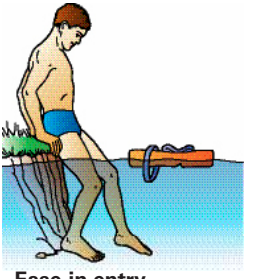
Beach Entry

Water is often shallow at the edge of a lake, river, or ocean. If the shoreline is clear and sandy, enter at a run, holding your rescue aid out of the water and lifting your legs high to avoid tripping. As the water deepens and running becomes difficult, lie on the surface and start swimming. If your aid is awkward but buoyant, such as a large inner tube, you might throw it ahead of you, if current or waves won't sweep it away. If the bottom is rocky or muddy, you will need to proceed more cautiously. If there are no waves, you may wish to start swimming in fairly shallow water, especially if you can lie on your aid.

Beach entry

Ease-in Entry

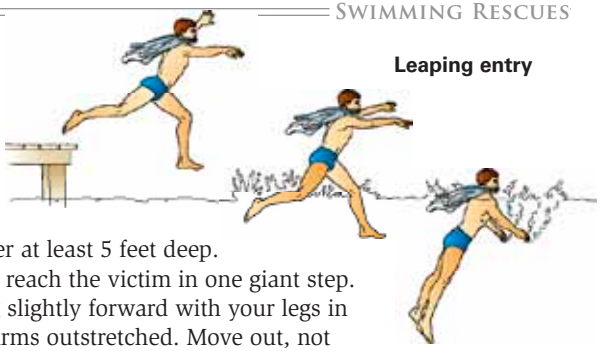
There are several ways to enter deep water from the edge of a pool, dock, or low bank. Any time the bank is irregular, the water is murky, the depth is shallow, or you are unsure how deep it is, you must carefully slip into the water, no matter how quickly the victim needs help. If the water is shallow, it may be best to wade until the water is around waist deep.



Ease-in entry

Be alert for sudden drop-offs, hidden obstacles, or changes in the current. If the bottom is rocky and irregular, weedy, or soft enough to sink in, you may wish to crouch and begin swimming in fairly shallow water. If weeds are present, lie on your float, keep your legs near the surface and make slow, wide movements.

Leaping Entry



Leaping entry

The leaping entry, or stride jump, lets you keep the victim in sight as you enter deep water. It can be used from low heights, less than 3 feet, into unobstructed water at least 5 feet deep. Begin as if you were trying to reach the victim in one giant step. Spring outward while leaning slightly forward with your legs in a scissors position and your arms outstretched. Move out, not up. Snap your legs together as they enter the water and push down with your arms to keep your head above water. It takes practice to properly time the downward thrust of the arms.

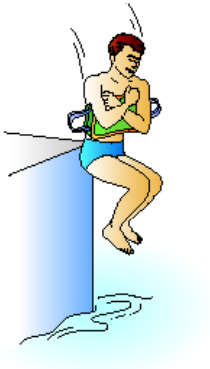
Generally, if you use a buoyant aid, you can throw it ahead of you before you leap in. However, be aware that wind, waves, or current could carry it away. If the aid has a shoulder loop, hold the float and excess line to the side as you jump, then release it in midair. You can place a rescue tube under your arms and hold it to your chest. If you use a garment or towel as an aid, loop it around your neck with the free ends over your shoulders. You also can hold one end in your teeth and dangle the other over one shoulder.

Feetfirst Entry

Use a feetfirst entry for heights from 3 to 5 feet into deep, unobstructed water. If you are more than 5 feet above the water, find a lower place to enter.

The feetfirst entry is done in a vertical position with your legs together, your knees bent slightly, and your feet relaxed. Do not point your toes or lock your knees in case you hit the bottom. This entry is also known as a compact jump if you bend your legs as if you were sitting in a chair.

Keep your head up and your eyes on the victim, but be ready to plunge beneath the surface. If you have thrown your equipment ahead of you, your arms should be at your sides. If you are wearing a PFD, fold your arms tightly across your chest and grasp the shoulders or sides of the PFD to hold it in place. If you are carrying a rescue tube or other soft buoyant device, squeeze it tightly to your chest under your arms. Secure any lines so they do not entangle your legs or snag anything on the bank. Throw a rigid rescue device into the water clear of your entry point—do not hold it close to your chest.



Feetfirst entry

You also may use the feetfirst entry when you see a victim on the bottom in deep water close to the side. Enter the water with your arms at your sides. If you need to go deeper, push your arms up as in a feetfirst surface dive.

Do not use a headfirst dive from the side to recover a victim from the bottom unless you are absolutely sure that the water is more than 7 feet deep. That is seldom the case in small backyard or hotel pools.

Approaches

The approach will generally be in a straight line from the entry point to the victim. Always watch the victim closely. When approaching a conscious victim, give instructions and encouragement.

Adapt your swimming stroke to the victim's condition, the condition of the water, the type of aid you are carrying, and the distance. If the distance is fairly short, a head-up breaststroke is most versatile. You can swim with a buoyant aid, such as a rescue tube, beneath your arms. If that is too awkward, push the rescue device with one or both hands. You may also tow the aid using a sidestroke or lie on a large item, such as a surfboard, and propel it with your arms.

You can use a crawl if the rescue device can be carried under the arms or is equipped with a shoulder strap and tow line. A crawl with the rescue device trailed behind is generally the fastest approach over an extended distance. If speed is critical, you can increase your speed by doing the crawl head down. Even then, be sure to look ahead frequently. Use either the breaststroke or the crawl if the only available rescue aid is a shirt or towel. Loop the garment around your neck or hold one end of it in your teeth. You can use either stroke if you have decided to wear a PFD as the best option to rescue an unconscious victim.

At times, the details of the approach stroke will be unimportant. For example, many backyard, apartment, and hotel pools are so small that the approach and entry are simultaneous. But over a great distance in open water, you may need to pace yourself to save energy. Flexibility, common sense, due caution, training, and practice are more critical in lifesaving than hard-and-fast rules.

Ready Position for Final Assessment

Before you make a final approach to help the victim, stop well out of reach, prepare to reverse direction, speak to the victim, and reevaluate the situation. You may still have important choices to make. For instance, the victim could have lost consciousness during your approach, or he might tell you that his head hit the bottom and he has no feeling in the legs.

Noncontact Swimming Assists

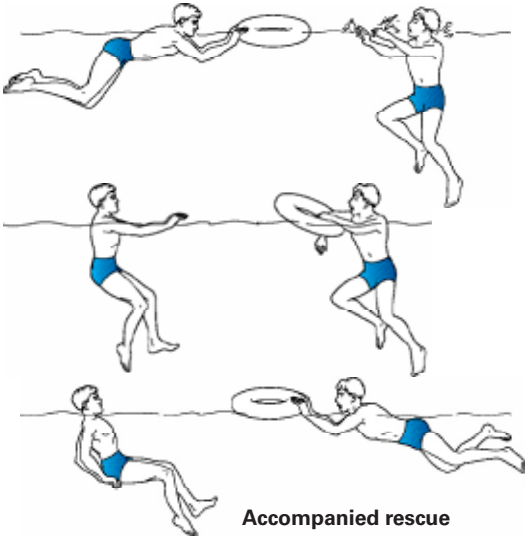
To fulfill the requirements for Lifesaving, you need to perform both **accompanied rescues** and **noncontact tows.**

A Scout heard cries for help coming from a lake in the darkness. He put on a PFD and towed a second PFD toward the cries. A man who couldn't swim was caught in a trotline and clinging to a stump. The Scout calmed him, helped him into the extra PFD, and freed him from the fishhooks. He then found a second victim holding onto a capsized boat. He gave the second man his own PFD and escorted them both to shore.

Accompanied Rescue

In an accompanied rescue, the rescuer provides a flotation device and lets the victim control it. This technique should be attempted for all active victims. The victim must be conscious, cooperative, and able to assist. The aid must be buoyant enough to support the victim.

From a ready position, tell the victim to grasp the float firmly. If the victim begins to move toward you, gently push the float toward him while you back up. Stay at a safe distance and be ready to duck beneath the water and move away.



Accompanied rescue

Don't assume that all victims will reach for the aid. You may need to push the float under the victim's arms, into his chest, or into contact with his hands. If the float is long and narrow, such as a rescue tube, air mattress, or surfboard, swing it to the victim from one end or push it to him sideways. A victim is more stable with his arms draped over the center of such a device than he is trying to hold it to his chest in line with his body.* After the victim has become stable on the float, ask if he can kick himself toward shore. If he can, determine the closest point of safety and patiently escort him to it.

If the victim can't make progress toward the shore but can support himself with the aid, wait for him to become calm and decide how best to tow him to shore. Always tell the victim in advance what you intend to do.

Noncontact Tow

A noncontact tow is used when the equipment aid will not support the victim or the victim cannot propel himself to shore. The victim must still be conscious and able to hold onto the aid.

Suppose you have reached a ready position and decided that a noncontact tow fits the situation. Hold one end of the rescue aid, push or flip the other end to the victim, and tell him to grab hold with both hands. When he has a firm grasp on the aid, begin stroking away from him while holding onto the aid. Tow using either a sidestroke or backstroke.

Once the victim is moving, tell him either to stretch out and keep his head up or to turn over on his back and hold the aid close to his chest. The head-up position may feel more natural for the victim and can be used with both buoyant and nonbuoyant aids. However, it may be easier to tow the victim with a shirt or towel if he is on his back.

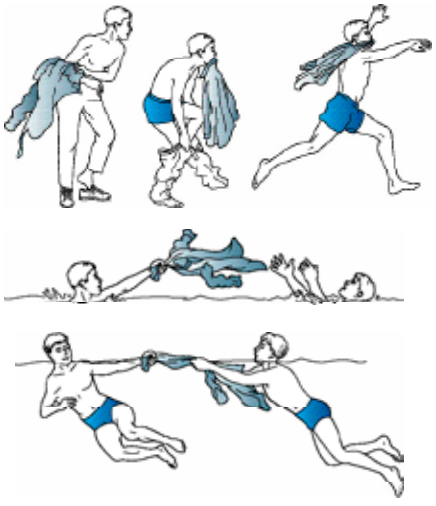
Noncontact tow

*Note to the counselor: Some lifeguards are taught to "drive" a rescue tube into the victim; that is, to hold the tube and push the victim with it. That is a different procedure from the one presented here.

If you are not headed for shore as you begin your tow, gradually turn in the direction of the nearest safe landing. Continue to reassure the victim and encourage him to kick. If the victim panics and tries to reach you, release the aid, quickly move away, and reassess the situation. Resume the tow only when it is safe to do so.

Shirttail Rescue

A shirttail rescue is one example of a noncontact tow for a conscious victim using a device that does not float, such as a piece of clothing. Consider it only when a floating aid is not at hand. The following steps assume that you are fully clothed when you encounter a rescue situation.



Shirttail rescue

First, evaluate the condition of the victim and plan the rescue. Consider a swimming rescue only after you have decided that reaching, throwing, and rowing rescues are not practical. Next, look for a floating aid. If none is available, determine if the victim is still conscious. A shirttail rescue will not work if the victim is floating facedown. Then decide if conditions are such that you can safely enter the water. Do not do so if the water is very cold, a strong current is carrying the victim into danger, or there are pounding waves.

Move to the location where you have decided to enter the water and determine how much clothing to remove. It should take less than 20 seconds to take off everything, so time isn't normally a consideration. Shout encouragement to the victim.

Remove your shoes while unfastening your pants. Low shoes can be removed by stepping on the heels; you may have to stoop to remove boots or high-laced shoes. Run in place to work your pants down while removing your shirt. Watch the victim rather than the buttons. Hold the shirt in your teeth if you will be using it as an aid. Remove your pants by stepping out or pulling them off one leg at a time. Your socks will probably come off at the same time. If not, leave them on.

Consider next whether to use the pants or shirt as a rescue aid. A stout, long-sleeved shirt is probably easier to handle and just as long as a pair of pants. Jeans are probably better than a flimsy shirt. A short-sleeved shirt is longer than a pair of shorts.

As you tow the victim to shore, continue to encourage him.

Hold the clothing in your hand or between your teeth and make a safe entry into the water. Approach the victim; carefully avoid any obstacles ahead of you or below the surface.

Stop just before reaching the victim and prepare to reverse direction. Tell the victim what to do. Keep your voice firm and use short phrases; for example, "I'll help," "Grab this," "Hold on," "That's it," "You're OK," "Almost there."

Hold one end of your garment and flip the other end to the victim. Aim for his shoulder—remember, he may not be able to reach for it. When he has hold of it, pull firmly enough to support the victim, but do not jerk the aid out of his hands. A sidestroke with your towing arm extended is probably best. Tell the victim to keep his head up and to lie flat on the surface. If the victim is calm enough, have him turn over on his back with the aid clutched to his chest.

If the victim tries to grab you at any time, let go of the aid, back off, and reconsider your options. Don't forget that you may be able to lead him in under his own power. Consider a contact rescue as a last resort only after the victim is exhausted.

Shallow-water assists

Landing a Conscious Victim

A conscious victim probably can remove himself from the water once he has sure footing on the bottom or a firm hold on a ladder. Choose a safe landing site before entering the water. In exceptional cases, such as in a steep-sided quarry, you may both need help from others onshore. Ideally, arrange such aid before the rescue.

When landing a conscious victim, lower your legs to check the water depth if you can do so without causing the victim to lose support. Natural bodies of water can be shallow for long distances from shore. It may be easier to walk through shallow water than it is to swim.

Shallow-water Assist. If the victim is exhausted, cold, or has trouble with his footing, help him ashore using a shallow-water assist. While standing at his side, help him to stand and to place one arm around your neck and across your shoulder. Grasp the wrist of that arm with your outside hand, and wrap your free arm around his back. Then walk slowly together to shore. If he is much larger than you are, you may need to ask others for aid. A second person can help from the other side.

Aftercare for a Conscious Victim

Once you reach safety, make sure the victim gets appropriate first aid. You may need to offer advice to friends and family members waiting onshore. Even if the victim has remained conscious, he may need treatment for shock.

If a medical condition led to the incident, strongly suggest that the victim get medical attention as soon as practical. If the victim shows signs of hypothermia, suggest that he be moved quickly to a warm place. Small children may be scared and will need reassurance, not scolding. A child's parents might be upset because of their own fright or panic. Try tactfully to be a calming influence on all those around.

If the victim was alone and is unknown to you, look for an adult in a position of authority—a hotel manager, park employee, or your parent, for example. Ask that person to see that the victim has access to care, can notify others, and has adequate transportation home.

Don't forget yourself. Wait for your own adrenaline rush to subside before going off on your own or doing anything that requires concentration, even crossing a busy street on foot. If you are cold, take the time to get dry and warm.

A mother found her 9-month-old floating facedown in their backyard pool and ran into the front yard screaming for help. A Scout responded, jumped in, pulled the child out, and performed CPR. The baby recovered.

Contact Rescues for Unconscious Victims Without Spinal Injury

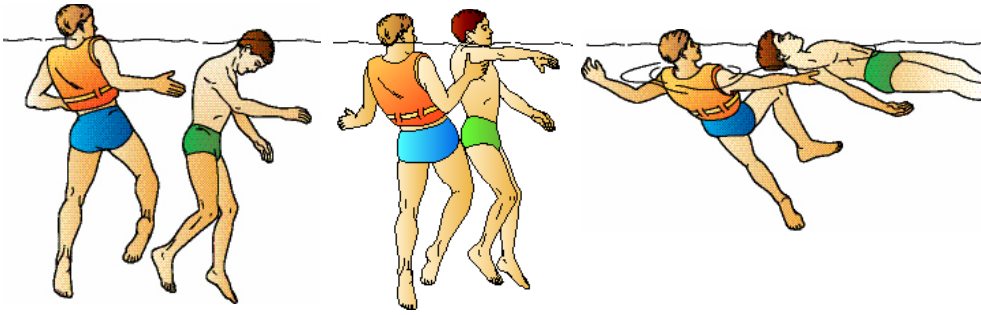
Planning

Rescue options for unconscious victims are more limited; throwing rescues and noncontact tows won't work. Speed is critical, but don't forget the basics. Call out for or get someone to call for medical help immediately. Consider the possibility of a wading assist. See if appropriate equipment is at hand. Check the water for hazards and decide how and where to enter and exit the water. Look for signs of spinal injury. Attempt a rescue only if it is safe to do so and if you are the most qualified person.

The rescue of an unconscious victim will always require contact. This may simply mean pulling the victim from a pool after using a shepherd's crook. For victims in deep water, a contact tow will be necessary, with or without a flotation device. Since some aids will be more useful than others, study the following material carefully. Note that all of the techniques, except recovery from the bottom, will be easier if the rescuer wears a PFD.

Entry and Approach

The same entries and approaches are used for an unconscious victim as for a conscious victim. Always keep the victim in sight; unconscious victims often submerge. If the victim is at the surface, call out and splash water on him to confirm he is unconscious. Rescues for an unconscious victim may be done from either the front or the rear. Choose whichever is quicker and/or better suited to a particular aid.

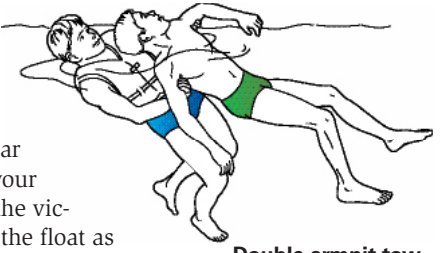


Single armpit tow

Armpit Tow (for Rear Approach)

An armpit tow is begun from the rear for an unconscious victim at or very near the surface. Use one hand to grasp the victim under his armpit, keeping your thumb up and on the outside. (Your right hand goes to the right armpit or your left hand to the left armpit.) Pull back with your arm and immediately begin swimming to shift the victim from a facedown to a faceup position. It may take a few strong strokes using both legs and a free arm to pull the victim onto his back. Once the victim is fairly level, continue to shore with your towing arm extended. Be sure to keep the victim's face out of the water.

If the victim is large, you may find it easier to pull him onto his back if you grasp both armpits and lean backward while using a whip kick. If safety is only a short distance away, continue with a double armpit tow. Such a tow requires a strong, well-developed kick. Once the victim is level, it may be quicker and less tiring to shift to the single armpit tow.



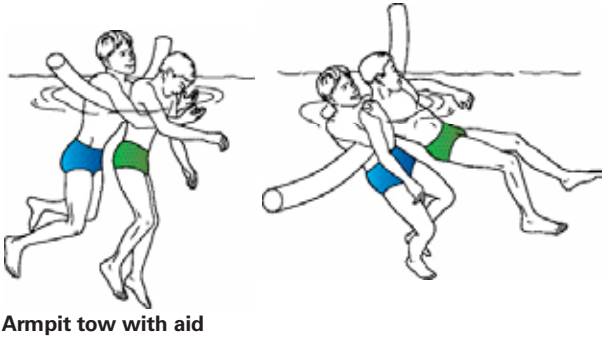
Double armpit tow

The double armpit tow can also be used with some buoyant aids, particularly if they are soft and relatively long and narrow, such as rescue tubes, foam rods, or air mattresses. Approach the victim from the rear with the float across your chest and under your arms. Use both your hands to scoop under the victim's arms, lean back, and pull him against the float as you kick backward. Keep your head to one side to avoid being hit by the victim's head if it moves backward.

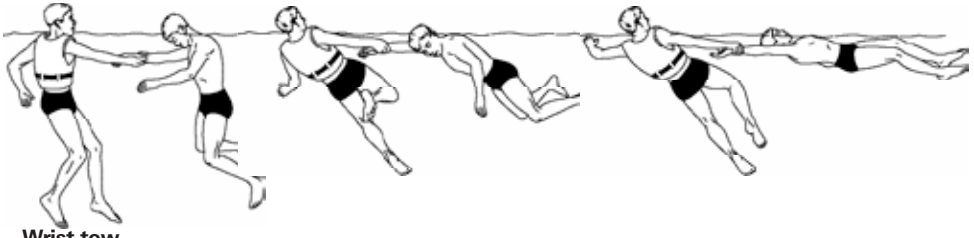
Depending on the width of the aid, you may be able to reach all the way under the victim's arms to grasp his shoulders or wrap your arms across his chest. Once under way, you may be able to let go with one hand so you can swim better. When practicing, use several items rather than mastering a single device. Available flotation aids will vary and it is important to find a stable position that works.

With a suitable aid, it may be easier to roll the victim onto his back rather than pulling him level from the rear. Hold the rescue aid beneath both of your arms, reach under both of the victim's armpits to grasp his shoulders, and pull him firmly against the flotation device. Dip one of your shoulders and roll onto your back. The victim will also roll faceup, resting against your chest. This technique works very well with a rescue tube but may not work if you are laying across an air mattress. Also note that you will roll into a position to tow the victim in the direction he was facing when you made contact or slightly to the side. If that is toward open water, you will need to turn him undertow in a direction to safety.

Several types of flotation aids may be useful for rescuing an unconscious victim; others, such as a water jug, may not be. If you have trouble controlling the victim's position and/or making progress to shore, consider whether the float is an aid or a hindrance. If the distance is short and the victim is not too large, it may be best to drop your aid. That will generally apply in small pools.



Armpit tow with aid



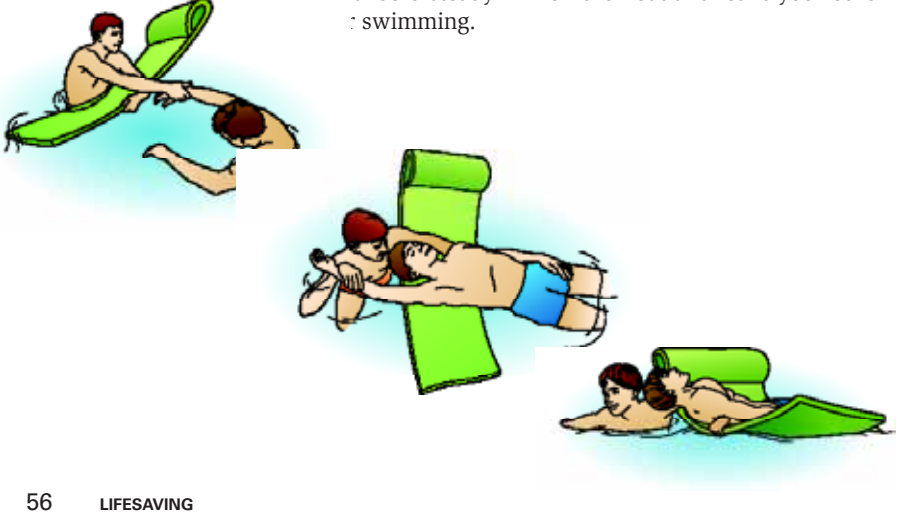
Wrist tow

Wrist Tow (for Front Approach)

Use the wrist tow when approaching a facedown victim from the front. It will work if the victim is at the surface, floating below the surface, or resting facedown on the bottom.

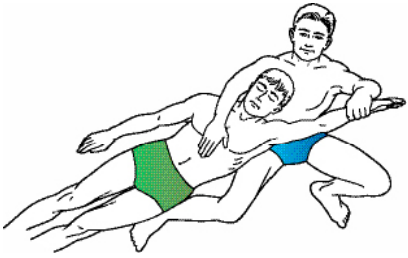
After confirming that the victim is unconscious, reach across to the victim's opposite wrist as if you were shaking hands, and take hold under his wrist with your palm up. Hold firmly and roll your wrist by turning your thumb up and over as you begin your tow. This will turn the victim onto his back. Maintain this grip as you tow the victim to safety with a sidestroke. Both your towing arm and the victim's arm should remain straight; some tension is needed to keep the victim faceup.

It also is possible to use the wrist tow to place a flotation aid under the victim's shoulders. Hold the aid with one hand and reach across it with the other to grasp his wrist. Lift up slightly, twist him onto his back, and shove the float beneath him as he turns. You will then need to change your grip to keep him on the float. You may be able to place one arm over his shoulder and reach across his chest to grasp the aid with your hand. That should steady him on the float and leave your other : swimming.

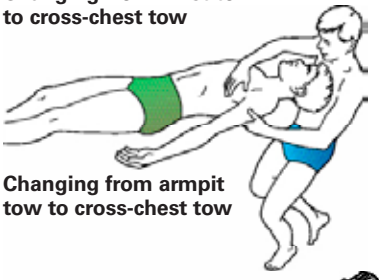


Cross-Chest Tow

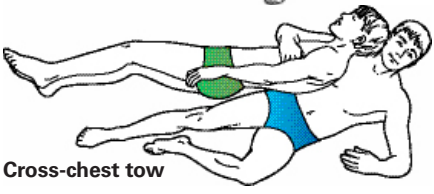
The cross-chest tow, or carry, gives a victim additional support and can be used if other techniques prove difficult. Both the armpit tow and the wrist tow may be ineffective in some cases. For example, if the victim is not buoyant, these tows are more difficult. Also, the neck muscles of an unconscious victim may no longer keep his head in line with his body. This may make it hard to keep the face of an unconscious victim above the water when using the wrist tow or armpit tow. Waves or rough water can cause additional problems.



Changing from wrist tow to cross-chest tow



Changing from armpit tow to cross-chest tow



Cross-chest tow

You can change to a cross-chest tow from either the armpit tow or the wrist tow. To do so, change towing arms as you switch briefly from a sidestroke to a backstroke and move behind the victim. Pull the victim close with your towing arm and reach over the victim's shoulder and across his chest with your other arm. Rest your hand just below his armpit. Hold him firmly against the side of your chest with your hip in the middle of his back. The elbow of your towing arm should be against his chest. Support his head against your shoulder or neck. If the victim starts to sink during the change, use your hip to push him back to a level towing position. Use a sidestroke to tow the victim to safety.

The cross-chest tow offers more support for the victim and is better suited to rough water than other tows. However, it takes a lot of energy and is therefore not well suited for most rescuers over long distances. Try either the armpit tow or the wrist tow first.

A Scout and his uncle were taking part in a precamp workday when they heard a call for help. They took a boat out to where a victim had submerged. With the help of another swimmer, they conducted a quick in-water search, found the victim, brought him aboard the boat, and returned to shore. The Scout was the only person at the scene trained in CPR.

Submerged Victims

An unconscious victim can come to rest anywhere between the surface and the bottom. If the victim is floating just below the surface, reach down and use the wrist tow to bring him up and forward. If he is deeper, you will need to use a surface dive to get closer.

Grasp the submerged victim in any logical manner, either by his wrist, under one arm, or under both arms. If the bottom is hard and clear, you can shove against it with your legs to help you up. If the bottom is muddy or covered with weeds, grasp the victim from above with one hand and use the other hand and a strong kick to pull him up. If you have a flotation aid, leave it at the surface and grasp it again after you bring the victim up. If you are using a rescue tube with a line, leave the tube at the surface and pull on the line to help bring you and the victim to the surface.

The rescue of a submerged victim is easiest if the water is relatively shallow and clear enough for you to see both the victim and the bottom. Recovery is more difficult, and in some cases impractical, if the water is murky or very deep.

If you saw the victim go under as you approached but can't see him from the surface, carefully do a feetfirst surface dive in the hope of making contact. If you encounter submerged trees, heavy weeds, or other hidden obstacles, abandon your immediate rescue attempt and seek aid. Before returning to shore, take bearings on two pairs of objects on shore so that you can direct authorities to the accident site. Realistically, at this stage it may be too late to help the victim, but leave that decision to others. It is possible to survive long submersion unharmed, particularly if the water is cold.

If you do not encounter the victim on the way down, but do find a clear bottom, kick off at a slight angle and extend your arms in front of you. You may find the victim on the way back up. If you don't, try several more feetfirst dives in the same area. If there is a current, direct your attempt in that direction. If two rescuers are present, take turns doing the dives. One rescuer can tread water or float on an aid to serve as a marker while the other makes a series of dives in a circle about him. Then the rescuers can trade places.

Use caution if the water is too deep to reach the bottom easily. Take only one or two deep breaths before each dive to avoid hyperventilating. Also, do not try to dive deeper if the pressure on your ears becomes painful. If you can't reach the bottom, you may still continue the search. It is possible that the victim is floating just beneath the surface.

If you do not find the victim, abandon the rescue attempt after you have made a reasonable search of the immediate area and before you become exhausted. Leave yourself plenty of energy to make it back to shore.

You might not always have a good idea of where a submerged victim is. It is possible to arrive at the scene of a presumed drowning after the victim has disappeared. Witnesses may have only a vague idea of the person's whereabouts, or may even be unsure if he is in the water.

If the water is deep but clear, search the area from the surface. It is best to have at least two rescuers. Swim out to the site, side-by-side, several feet apart. Watch the bottom as you go. Once you are in the general area, one rescuer acts as a marker while the other begins swimming in a spiral that gets larger with each loop. When you spot the victim, call out to your buddy before you surface dive.

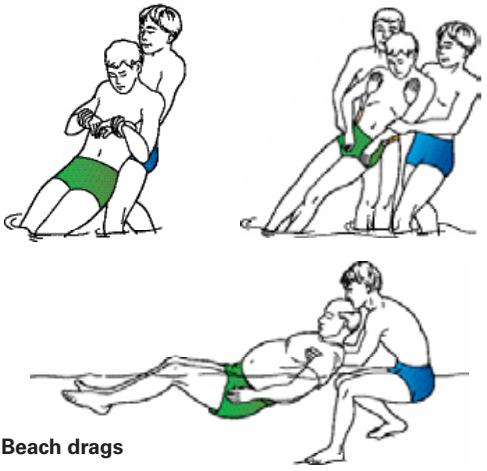
To find a victim in shallow, murky water, form a line of people who know how to swim. Have them link arms and wade across the area, shuffling their feet from side to side. If you form the line along the shore and wade out, stop when anyone in the line gets to chest-deep water. Then move single-file parallel to the shore for just under the length of the line. Search another swath on the way back. If you form the line perpendicular to the shore, ideally place taller people farther out and sweep the line along the shore. Crisscross the area until the subject is found or each part of the area has been searched at least twice.

If you do not know where a victim is in deep, murky water, do not attempt an underwater search alone. The chances of you finding the victim are slim. Get help from someone more qualified.

A Scout who had just learned to swim responded to screams. He found an unconscious woman floating in a pool, out of arm's reach. He jumped in and brought her to the side, but he couldn't get her out of the water until a neighbor arrived to help.

Landing an Unconscious Victim

An unconscious victim needs to be moved as quickly as possible to where breathing and pulse can be monitored and CPR done if necessary. It is sometimes possible to start rescue breathing in shallow water or at the side of a boat, but the unconscious victim should normally be removed from the water and placed on a rigid surface. Removing an unconscious victim from the water often takes more than one rescuer.



Beach drags

Bank lift

Beach Drag

A drag is a relatively easy and safe way for one or more rescuers to move an unconscious victim when there is a sloping bottom. During the tow, the victim will be on his back. Once your feet touch bottom, grasp the victim under his armpits and pull him onto the beach by slowly walking backward. Support his head with your forearms or against your chest as much as possible. Keep your back straight as you bear his weight with your arms. Gently lower him to the ground once he is clear of the water.

If the victim is heavy, have someone help by taking hold under one of his arms while you hold the other. If you are alone, you may need to squat as you move into shallower water so that the water continues to support him. Even if you get only his head past the water's edge, it should be close enough to begin resuscitation if needed.

Vertical Lift

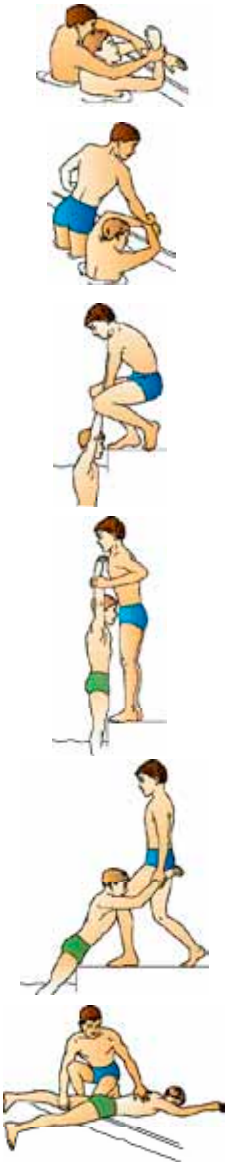
This technique is used for an unconscious victim at a vertical edge; for example, in a pool, by a low pier, or on a steep riverbank. It requires from one to four people, depending on the relative size of the people involved, the condition of the bank, and the depth of water at the edge. Ideally, two rescuers should be onshore above the victim and another in the water beside the victim. If needed, move the victim along the edge to where rescuers in the water can stand.

The first rescuer tows the victim to the side and holds him facing the edge while the others get into position. The onshore rescuers crouch. Each grasps one of the victim's arms, as near the armpit as is comfortable. If the water is shallow enough to stand in, the rescuer in the water prepares to lift at the victim's hips. On a signal, the rescuers lift the subject until his hips or thighs are level with the side, then lower him facedown to the ground. Take care to protect his head, and do not roll the victim onto his back until his hips are firmly supported. That is, don't bend the victim over the edge on the small of his back. The rescuer in the water can help lift the victim's legs as a person onshore pulls them clear of the ledge.

Vertical lift with two rescuers

If only the initial rescuer and one other person are available, the person onshore holds the victim in position while the first rescuer leaves the water. The two position themselves on each side of the victim and grasp his arms. On signal, they lift the victim clear of the edge and then lower him to the ground or deck.

If you are alone, you probably can lift a small person a short distance by yourself. Turn the victim to face the edge, then slide one or both of your arms beneath his armpits and grasp the edge. Support the victim's head on your shoulder. Place his hands, one on top of the other, over the edge. Hold his hands in place with one hand and use your other arm to boost yourself out of the water.



Vertical lift with one rescuer

Crouch at the edge and grasp the victim's wrists. Lift him clear of the water as you stand up, using your arms and legs to lift rather than your back. After the victim's hips clear the edge, step back with one leg, and slowly lower him to the ground. Cushion his head with your thigh. Do not roll the victim onto his back until his hips and thighs are clear of the water. If the victim is too large for you to lift in this way, hold him at the side while calling for help.

Lifeguards have an easier, relatively simple way to remove a person from a pool using a backboard to slide the person out. That technique requires both a backboard and at least two rescuers. If you are at a pool with only a single lifeguard on duty, follow instructions from the lifeguard.

Aftercare for an Unconscious Victim

As you bring the unconscious victim safely ashore, make sure that emergency medical aid is on the way. Ideally, a call to 911 should have already been made as you started the rescue. If emergency medical help has arrived or someone onshore has advanced first-aid training, turn care of the victim over to them.

If you still appear to be the most qualified person, check the victim's vital signs as soon as you get him out of the water. An unconscious victim will probably need rescue breathing and may need complete CPR. (See the "First Aid for Water Rescue" chapter.)

If the victim is breathing but is still unconscious, place him in a recovery position (see "First Aid for Water Rescue") and keep him warm until help arrives. Ask the victim's friends if they know of any medical condition that could have led to his difficulty in the water. Also check to see if the victim wears a medical alert bracelet.

If the victim regains consciousness, either on his own or because of your efforts at CPR, keep him inactive until emergency help arrives. He may feel OK and rebuff further attention, but real danger may still exist. Submerged victims who have aspirated water (that is, inhaled a small amount of water) may collapse hours after the rescue. Inhaled water can irritate the lungs and cause them to fill with fluid from within the body. Foreign matter in the lungs also can lead to pneumonia. Any victim who lost consciousness, stopped breathing, or choked on water should undergo prompt medical evaluation.

Contact Rescues for a Conscious Victim (Without Rescue Equipment)

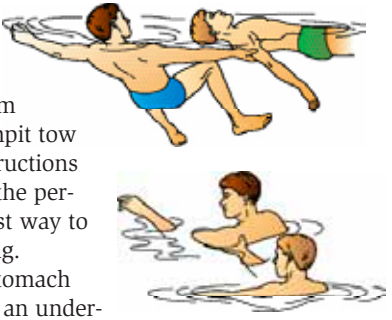
Most contact rescues involving a conscious victim are not really necessary and can put the rescuer at risk. Unfortunately, untrained people do drown trying to save others when they let the victim grab them. In most cases, such rescues can be avoided since an aid is almost always possible to find within a few seconds. Only a few situations call for the contact rescue of an active victim. Here are some examples.

- A calm person asks for help because of fatigue, cramps, or another problem. If you must enter the water to help such a person, take a buoyant aid with you. However, if you are already in the water, it might take too long to retrieve an aid. Even then, it may be possible to lead the victim to safety without contact.
- Some conscious victims will be unable to grasp or keep a grip on a rescue aid, particularly if it is nonbuoyant, because of rough water or a medical problem such as a stroke or seizure.
- The victim of a spinal injury may be conscious but unable to grasp an aid. Conscious or not, all spinal injury victims require special handling techniques that involve direct contact. (These are covered later under "Spinal Injury Management.")
- A small child or an infant may be in trouble close to shore. In this case, a contact rescue may be an effective option with little risk.

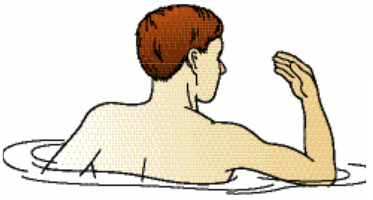
Tired Swimmer Assists

A tired swimmer often just needs encouragement and coaxing. But if he needs physical assistance and you do not have a towing aid, one option is to have him float on his back. You can then help him using the armpit tow discussed for unconscious victims. Give him clear instructions and keep talking to keep him alert and cooperative. If the person is comfortable on his back, this is probably the best way to cover distance. Have him kick to help both of you along.

If the tired swimmer is slowly swimming on his stomach with his head up, and safety is close, you can also use an underarm swim-along. Gently push him forward as he swims on his own by placing one hand under his armpit with your thumb up. Swim alongside and slightly to the rear. Let him set the pace. Simply provide support; don't try to shove him forward faster than he can keep up.



Tired swimmer assists



Lead and wait

Lead-and-Wait Tactics

If you are faced with a panicked victim and have no equipment, first try to talk the victim in. If he can keep his head above water, he can swim—he just isn't making the right motions. Tell him to level off and kick toward you. If he does not follow your instructions, he may at least move in your direction. If he does, keep encouraging him as you back up toward shore, telling him to come to you so you can help. Little by little you may be able to lead him into shallow water without making contact.

If an active victim will not follow you to shore, back off and wait. He may become more cooperative as he tires. As long as the victim can keep his head above water, the water is warm, and no currents are carrying you toward danger, you are not forced to act. Stay close enough to place the victim in a tow if it becomes necessary.

Tows for a Conscious Victim

If an active drowning subject will not grab a rescue aid or if you have been forced to wait for a struggling victim to tire, then a contact tow may be necessary. Use your judgment. You obviously should not make contact with a violently thrashing person, but that is not a common drowning response. It is more likely that the victim will be about to submerge by the time you reach him.

Even so, when you approach a conscious victim without equipment, first approach from the front and try to get him to respond to your commands. Once it is clear that the victim will not remain on the surface much longer, swim into position behind him. (If he follows you around, let him follow you further. It is not yet time for a contact tow.) Do not make contact without telling the victim what you are going to do.

Two of the tows used for an unconscious victim also may be used for conscious victims: the armpit tow and the cross-chest tow. Use the wrist tow only with unconscious victims. Never attempt a contact rescue if a noncontact rescue is possible. Also remember that wearing a PFD will make contact rescues safer and often easier to perform.

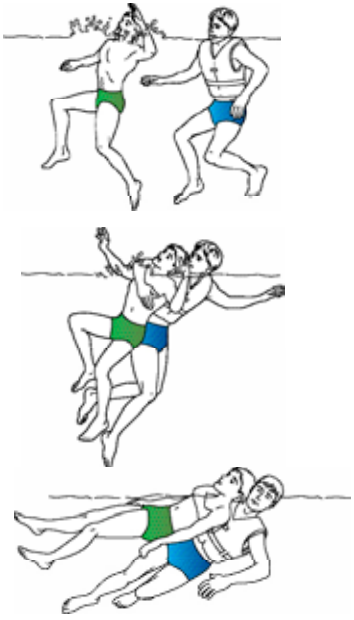
Armpit Tow. Once you are behind the victim, tuck your legs under your body and lean away from him. Decide which hand to use for the tow and which to use for the stroke. Paddle to the victim and tell him you are going to tow him to safety, then grasp him under his armpit with your thumb up and on the outside. Immediately begin swimming to keep his face above the water. Tell him to lean back and relax. Use whatever kick gives you the most power.

It is easier to tow the victim if he floats on his back, but conscious victims may want to keep their head up. That will cause the victim's feet to sink. Try to tow fast enough to keep the victim level. Continue to encourage him to relax and float on his back. If he thrashes about and breaks your grip, back off and reconsider the situation. Don't try to overpower a victim. It is an unnecessary risk that wastes the energy needed for the tow.

Cross-Chest Tow. If you have trouble controlling the victim's position and keeping his face clear of the water with the armpit tow, you can change to the cross-chest tow. This may make it easier to keep your grip in choppy water or with a struggling victim. Even so, if the victim continues to thrash, let go, back off, and wait for him to tire before trying again. Be aware that the cross-chest tow can be very tiring for the rescuer.

So far, the cross-chest tow has been described as coming after other tows, in a progression from less control to more control of the victim's position. However, you can use it right away if it seems best for a given situation. This also may be easier than switching from one tow to another. Make sure to swim on your strongest side if you start with the cross-chest tow.

Begin by approaching the victim from the rear. Tell him that you are going to hold him up and pull him to shore. Reach across his shoulder with your towing arm, grasp under his armpit, and clamp your elbow to his chest. Try not to push down on him. As you secure your grip, lean back, push up with your hip, and take a few quick, strong pulls with your free arm to level the victim.

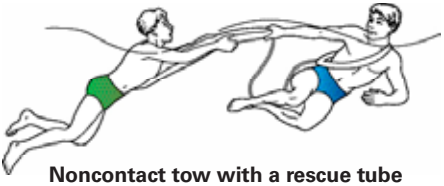


Cross-chest tow with a conscious victim

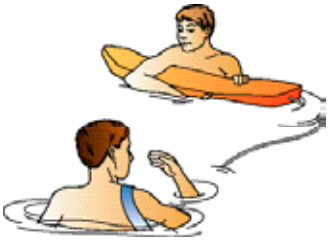
Use a sidestroke to tow the victim to safety. Either a regular or an inverted scissors kick may be used—whichever is more comfortable and allows you to keep the victim's head out of the water.

Special Rescue Devices

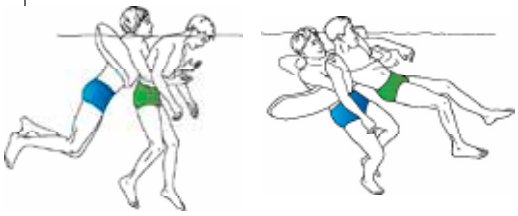
Special devices and procedures that a rescuer can use in various situations include a rescue tube, a rescue buoy, and a rescue board.



Noncontact tow with a rescue tube



Accompanied rescue with a rescue tube



Rescue of an unconscious victim

Rescue Tube. The rescue tube is an oblong piece of vinyl-covered foam designed for in-water assists. It has a shoulder strap and tow line attached to one end. Sometimes it has a snap at the other end to allow the tube to be wrapped around an unconscious victim.

Place the strap over your shoulder and neck. Grasp the tube and the line in one hand for a beach entry or an ease-in entry. For a leaping or jumping entry, clutch the tube to your chest with the ends under your arms. Hold the line in one hand and make sure it is clear before you jump.

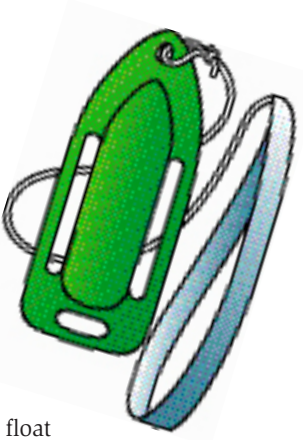
Keep the tube under your arms during the approach. Use either a breaststroke or a crawl with your head up. Approach a conscious subject from the front and shout encouragement as you get near. Remove the tube from under your arms and grasp it with one hand near the strap. Lean away from the victim and stroke with your free arm to move closer and slightly off to the side. Push the tube sideways until it touches him. Release it and back up out of reach, but not so far that the strap pulls the tube away from the victim. If needed, slip the strap off your shoulder and move even farther away.

After the victim has a good grip on the tube, ask if he can kick himself to shore. If he can, stay close by and encourage him.

If the victim is unable to get himself to safety, tell him that you will tow him in. Wait until he is fairly calm. Ask him to grip the tube firmly, then grasp the tube near the strap and slowly begin swimming with a sidestroke to shore.

The rescue tube also can be used for an unconscious victim if you don't suspect spinal injury. Approach a facedown victim from the rear with the tube under your arms. Scoop your elbows under his armpits, grasp his shoulders, and roll onto your back by dipping one shoulder. That should roll him faceup with the tube between his back and your chest.

You can use a whip kick to tow the victim a short distance without changing your grip. You also can change to a cross-chest tow. Release the victim with one arm while you use the other to hold him against the tube. Reach across his shoulder and chest with your free hand and grasp the tube. Let go with your other hand and use it for swimming.



Rescue buoy

Rescue Buoy. A rescue buoy, or can, is a rigid plastic float with molded handles and a tow line. It is often used for surf rescue but may be used in any body of water. The rescuer tows it behind during the approach and presents it to the victim, who grasps the handles.

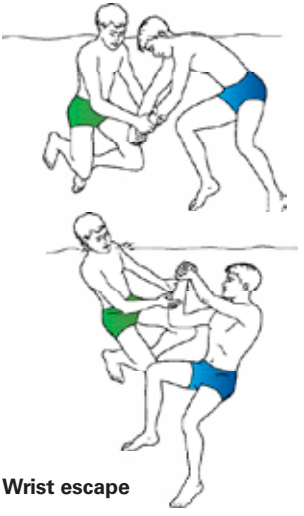
A Scout body boarding on the East Coast responded to the cries of a man who was struggling in deep water 10 feet away. The Scout urged the man to be calm, had him hang on to the opposite side of the board, and began moving the board to shore while signaling to a lifeguard for help.

Rescue board

Rescue Board. A rescue board can slice through waves more easily than a person can swim. It can also be used to support an unconscious victim and paddle him to safety. Although a rescue board is a special device, similar techniques can be used with surfboards, bodyboards, sit-on-top kayaks, or even sailboards if the mast is not attached. But it takes practice to use a board efficiently in the surf. The following covers only basic use of this aid.

Lie on the board with your head up. Rescue boards or surfboards can be propelled with your arms. With bodyboards, it is best to wear fins and kick. For a conscious victim, slip off the board during your final approach on the side opposite the victim. Then push the board sideways to him. If he has trouble holding on, grasp his wrists from across the board. When he has calmed down, swim the board to shore.

With an unconscious victim, you may be able to reach across and pull his arms far enough onto the board to keep his head clear of the water. You also can lie across the board yourself and hold him at the side. Call out for help. An unconscious victim will probably need rescue breathing or CPR as soon as possible.



Wrist escape

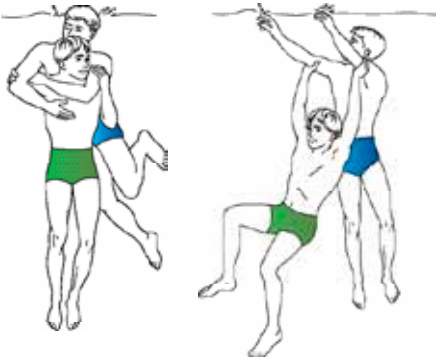
Defenses and Escapes

If you approach a victim properly, you shouldn't need to struggle with him. If he reaches for you rather than your rescue aid, let go and back off. Don't forget lead-and-wait options. But assume for the sake of practice that a victim manages to grab you. Remain calm. You should be able to quickly free yourself.

A drowning victim wants support to keep his head clear of the water so that he can breathe. He is not trying to purposely hold you beneath the water. If a drowning person reaches for or grabs you, your first defense is to go under, fast. The victim will likely let go since he is trying to stay up. He certainly will not swim down after you.

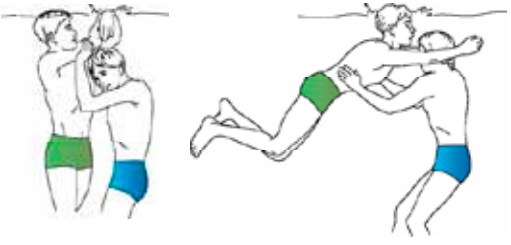
Wrist Escape. If a victim grabs your wrist, you have two options. If he is small and safety is near, let him hang on while you quickly tow him to shore. However, you can also break free. If a victim grabs your wrist with only one hand, break his hold by quickly jerking your wrist against his thumb. If he grasps your wrist or forearm with both hands, you may need to apply extra force. Make a fist with your "confined" hand, grab it with your free hand, and jerk them both upward. If that doesn't break the hold, then push down with your arms to pull him lower in the water.

Rear Head-hold Escape. If a victim grabs you around the neck or shoulders from the rear, take a quick breath, tuck your chin to either side, raise your shoulders, and submerge both yourself and the victim by using the arm motion of a feetfirst surface dive. This action is also known as suck, tuck, and duck. If you don't pull him under enough for him to let go, grasp his upper arms near the elbows and shove upward and away while twisting your head and shoulders. Swim clear of him before surfacing. Do not struggle with him or try to place him in a hold. Back off and wait while you review your options and his condition.



Rear head-hold escape

Front Head-hold Escapes. Use the same technique if the victim grabs you from the front. Take a quick breath (suck), pull your chin down so it doesn't hang on his arm (tuck), turn your head to either side, raise your shoulders, and submerge (duck). If he doesn't let go, push upward and away with your hands beneath his arms. You also may push a smaller victim up with your arms against his hips while you lean forward.



Front head-hold escapes


NO DIVING

Spinal Injury Management

Diving into shallow or unclear water is unsafe and foolish. The diver risks spinal injury, permanent paralysis, or death. In pools, most diving injuries happen in shallow water but also can occur if the diver hits another swimmer or a diving board. In lakes and rivers, injuries are caused by misjudging the depth of the water or hitting rocks or trees unseen from the surface.

During a youth outing, one person dove into the water and struck his head on a rock. A Scout jumped in and kept the victim afloat in cold water for 45 minutes until help arrived. The victim was paralyzed from the neck down.

If you notice anyone dive into the water and float immobile to the surface, call for help immediately. Spinal injuries are extremely serious and are best handled by trained personnel with special equipment. If you are in the water nearby, stay close while help is on the way and keep other swimmers from hitting the victim.

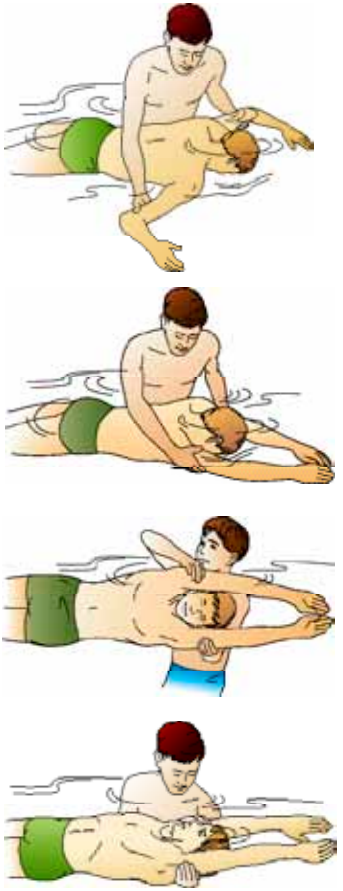
Stabilize the victim if needed. Stabilization includes turning a victim faceup and holding him to lessen further movement. Any movement of the victim may worsen his spinal injury, but death by drowning is a greater concern. A victim found facedown may also need rescue breathing.

Hip and shoulder support

Hip and Shoulder Support

For a victim found floating faceup, move to his side and lower yourself to chest depth. If the victim is conscious, tell him not to move. Ask what happened and if he has any pain or loss of movement. Reassure him that help is on the way and that you will hold him steady until then. If the victim is unconscious, look for signs that he is breathing.

Next, slide one arm under the victim's shoulders and your other arm under his hips. Support the victim with his face clear of the water, but do not lift him further. Additional rescuers can provide similar support from the other side and stand near the victim's head to protect him from contact with other swimmers.



Head splint

Head Splint

Hip and shoulder support doesn't keep the victim's head from moving in waves and works only if he is faceup. Another technique is to use his arms to brace his head.

If the victim is facedown, approach him carefully from the side and stand near his head. If his arms are dangling at his sides, move them forward alongside his head. Reach across and grasp his outside arm (your right to his right, or left-to-left) between the elbow and the shoulder with your thumb toward his hand. Grasp his other arm similarly with your free hand. Carefully swing his arms forward until they are near his ears, then squeeze them to trap the victim's head in place.

Next, glide the victim slowly forward while rolling him faceup. Turn the victim by pushing down on his near arm and pulling his far arm across. As you roll the victim, lower yourself in the water as needed to avoid lifting him. Your body turns to face his feet.

After rolling the victim faceup, continue to hold his head in place with pressure on his arms. Brace your near hand against your shoulder to make it easier. If the victim is not breathing, have a second rescuer start rescue breathing and check for a pulse.

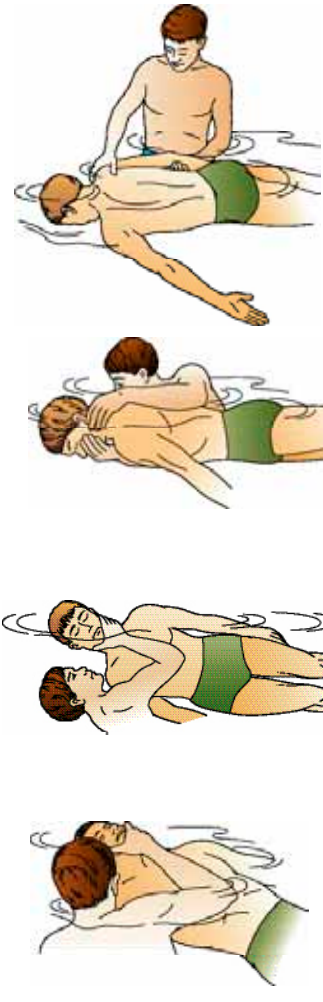
For a victim found faceup, approach from behind his head and pull his arms into position as you face his feet. You can also approach from the side and reach one arm across his chest to squeeze his arms against his head. That approach lets you kneel in very shallow water.

Head and Chin Support

Another stabilization method is to hold the victim's head while squeezing his chest between your forearms. If he is faceup, approach from the side and lower yourself to shoulder depth. Speak to the victim if he is conscious. Place one forearm in the middle of his chest and the other along his spine. Gently grasp the back of his head with your lower hand and grip his jaw with your upper hand. Clamp the victim in position by squeezing your forearms together.

If the victim is facedown, again approach from the side. You may need to move his nearest arm to his side; grasp his shoulder with one hand and use the other to move his arm into position. Lower yourself to shoulder depth, then place your arms and hands as before to support his head. After you have clamped his chest between your arms, move slowly forward. Roll the victim toward you, take a breath, and turn the victim faceup as you roll beneath him. Avoid lifting or pulling down on the victim as you roll and surface. Continue to give support as you check for breathing.

No single technique is best; use whichever works well for the situation. If the victim is in deep water, both techniques can be used while the person is being moved to shallow water. If the victim is not breathing and has no pulse, CPR will be needed and the victim must be removed from the water quickly with minimal movement. These are advanced procedures that are not required for the Lifesaving merit badge. If you encounter such a rescue, seek guidance from others at the scene.



Head and chin support

First Aid for Water Rescue

Having basic first-aid knowledge related to water rescue will help you respond safely and effectively to water emergencies.

Rescue Breathing and CPR

In water rescue, unconscious victims often need first aid for stopped breathing. Whether the victim was suffocated by water or suffered a medical emergency, prompt resuscitation is vital. Cardiopulmonary resuscitation (CPR) is a general term that includes **rescue breathing** to restore normal breathing and **external heart compression** to maintain blood circulation. If a victim is not breathing, mouth-to-mouth or mouth-to-nose resuscitation should be started as soon as possible. This may be the only step needed after a prompt rescue of a drowning victim. A person who has a heart attack in the water may need CPR while an AED is readied for use.

Study these steps. Note that rescue breathing, if needed, should be started first. Then determine if the victim has no pulse and will also need external cardiac compression with continued rescue breathing.

Rescue Breathing

Remove the victim from the water and position him on his back. Make sure someone has called 911 or summoned other emergency aid. If a victim is unconscious, carefully place him on his back, protecting his head and neck if you must roll him over. Then, **open the airway:** Press on or tilt his forehead with one hand and lift his chin with the other to tilt back the head. This action will keep his tongue from blocking the airway.

Open the airway

Spend no more than 10 seconds to determine whether the victim is breathing normally. **Look** at his chest for movement. **Listen** for sounds of breathing. **Feel** for movement and breathing. If he is breathing effectively, you will feel and hear the airflow on your cheek and see and feel his chest rising and falling at regular intervals. If the victim is not breathing, begin rescue breathing.

Step 1—Use a breathing barrier if one is available.

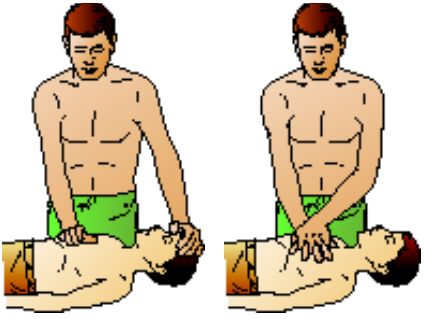
Step 2—While maintaining the head-tilt, pinch the nostrils closed, make a tight seal around the victim's mouth with your own, and blow into it to fill the victim's lungs. (For an infant, seal your mouth over both the mouth and nose, then breathe gently.) Each breath should last about 1 second. Watch to see if his chest clearly rises. Remove your mouth and then give another rescue breath.

Step 3—For a child or an infant, after two rescue breaths, check for a pulse again for no more than 10 seconds. If the victim still is not breathing but has a pulse, continue rescue breathing (1 breath about every 3 seconds) and recheck for breathing and pulse every 2 minutes as long as there is a pulse but no breathing. If there are no signals that the heart is beating, begin CPR immediately. **For an adult,** after two rescue breaths, begin CPR immediately if the victim does not resume breathing.

Drowning victims may vomit during rescue breathing. If that happens, turn the victim's head away from you and downward to allow the vomit to drain. Clear any remaining debris with your fingers and reestablish an airway. Continue rescue breathing as needed.

Adult

Infant (two or three fingers)



Child (one or two hands)

CPR

If there is no pulse and no signals that the heart is beating, begin CPR.

Step 1—Place the heel of one hand on the center of the chest. Place your other hand on top, interlocking your fingers and straightening your elbows.

Step 2—Push straight down and compress the victim's chest: 1½ to 2 inches for an adult, 1 to 1½ inches for a child, or ½ to 1 inch for an infant.

Step 3—Establish a cycle of 30 compressions, then two rescue breaths (this cycle applies to everyone). Count the compressions to a rhythm of about 100 per minute or just under two each second.

Step 4—Continue until either help arrives, an AED (Automated External Defibrillator) becomes available and is ready to use, you are too exhausted to continue, the scene becomes unsafe, or the victim's pulse and breathing are established. Always follow CPR with a prompt medical examination.

To receive full and proper CPR training, contact your American Red Cross chapter or the American Heart Association. See the resources section at the end of this pamphlet. Your counselor can help you.

Recovery Position

An unconscious victim who is breathing should be placed in a recovery position. This will prevent him from choking on saliva or vomit, and will prevent his tongue from blocking the airway. First check for signs of other injury. If you find none and the victim is breathing normally [illegible] the recovery position. [illegible] lower arm in line with [illegible] support his head and [illegible] as you grasp his hip a[illegible] shoulder, and roll him toward you so that he is lying on the side. Continue to monitor his breathing [illegible]

Recovery position for a person who may have a spinal injury

Recovery position for a person who does not have a suspected spinal injury

Other First-Aid Related Concerns

Hypothermia. Exposure to cold water can lower your core temperature dangerously, a condition called hypothermia. You should avoid entering very cold water to perform a rescue. Check all water rescue victims for signs of heat loss. Early signs include bluish lips, shivering, numbness, or a glassy stare. Advanced signals include decreased coordination, grogginess, and inability to think clearly. Further chilling will lead to unconsciousness and eventually death, which can occur even before a victim's body temperature drops fatally low.

The first step is to prevent further heat loss. Remove the victim from the water and dry him off, preferably indoors. In mild cases, wrap the person in dry towels or anything handy. If the condition is severe, call for medical aid. Actively (but not too quickly) warm the victim, and minimize movement. If a shelter is not close by, strip down and cover both the victim and yourself in dry towels and use your own body as a heat source.

If the victim is unconscious, open the airway and check for breathing and a pulse. Rates for rescue breathing and chest compression are the same as for other victims, but with hypothermia the pulse may be very slow and weak. Check for up to 45 seconds to make sure a pulse is absent before you begin chest compressions.

Overexposure to the sun is not only painful, it will also increase the risk of skin cancer.

Sunburn. This familiar condition is common during swimming activities. To prevent sunburn, cover up, use a waterproof sunscreen with an SPF rating of 15 or higher, and limit your time in the sun. If your skin begins to redden or feel painful to the touch, get out of the sun. To treat sunburn, apply clean cloths, towels, or gauze pads dipped in cool water. Protect the burned area from further sun exposure. For severe cases, consult a physician.

Heat Exhaustion. Symptoms of heat exhaustion may include dizziness, faintness, nausea, and a severe lack of energy. A person with heat exhaustion also may develop a headache, muscle cramps, a rapid pulse, look pale, and be sweating heavily. To treat heat exhaustion, have the victim lie down in a cool, shady spot with the feet raised. Cool the person with a damp cloth or a fan. Have the victim sip water. Recovery should be rapid. If the condition worsens, get medical help.

Heatstroke. This extreme, life-threatening heat reaction occurs when *dehydration* (water loss) has caused a very high body temperature. The victim's cooling system has started to fail, and the person's core temperature is at a dangerously high level. In addition to any symptoms of heat exhaustion, heatstroke symptoms can include hot, sweaty, red skin, confusion, and disorientation; the victim may be unconscious. Cool the victim immediately by fanning and applying wet towels. If you have ice packs, wrap them in a thin barrier such as a T-shirt and place them under the armpits and against the neck and groin area. If the person is able to drink, give small amounts of cool water. Treat for shock and seek emergency medical help.

Prevent heat reactions by drinking plenty of fluids and limiting time out in the open on hot days.

Muscle Cramps. These painful muscle spasms or contractions often affect the calf, foot, or abdomen. It can impair swimming ability and may endanger a poor swimmer. Causes include cold temperatures, sudden or unusual movements, and loss of salt from heat stress. If a swimmer gets a cramp, give him a flotation aid. If one is not handy, have him float on his back or survival float. If possible, have him massage and stretch the affected muscle to improve circulation. Cramps are not serious unless the victim panics. If conditions are hot, cool down and drink fluids. If conditions are cold, find warmth and shelter.

Stings and Bites. This is not common when swimming in pools or lakes, but in saltwater swimmers may suffer severe stings from certain types of jellyfish, urchins, Portuguese man-of-war, or other ocean creatures. Knowing the body of water you are swimming, obeying warning signs at beaches (such as instructions to shuffle your feet to avoid rays), and avoiding possible contact with dangerous sea animals is the best strategy.

For typical insect stings and bites, apply basic first aid as described in the *Boy Scout Handbook* or the *First Aid* merit badge pamphlet.

After helping a sting victim from the water, seek immediate medical aid if the victim is in severe pain, is having trouble breathing, has an allergic reaction, or feels dizzy, or if the pain does not let up in a short time. *For jellyfish stings,* soak the area with vinegar or alcohol, or cover with a paste of baking soda mixed with water. *For stingray, sea urchin, or spiny fish stings,* flush the wound with tap or ocean water. Immobilize the injured area and soak it in water as hot as the victim can stand, for about 30 minutes or until medical personnel take over. Packing the area in hot sand may have a similar effect if the sand is hot enough. Next, carefully clean the wound and apply a bandage. Consult a physician for puncture wounds.

Hyperventilation. This condition is the result of overbreathing, either deliberately or as a result of panic. Hyperventilating decreases the level of carbon dioxide in the blood and suppresses the breathing reflex. The likely result is dizziness and fainting. If a swimmer becomes panicky, he or she should be removed from the water and calmed. A foolish swimmer may deliberately try to hyperventilate for underwater swimming; this is dangerous and should never be attempted.

Preexisting Medical Conditions

Preexisting medical conditions may contribute to drowning emergencies. Although the underlying condition—for example, epilepsy, diabetes, or asthma—might have existed for years, major symptoms can occur suddenly. The first priority is to help the person breathe. With a conscious victim, provide support to keep his head above water. The victim may not be able to grasp a flotation aid. With unconscious victims, check for breathing. Send for immediate emergency medical aid. Perform CPR if needed. Look for a medical alert tag.

Cardiovascular Disease. A **heart attack** happens when the flow of blood to heart tissue is blocked. One symptom is persistent chest pain or pressure that lasts longer than 3 to 5 minutes or goes away and comes back. Chest pain may extend to the jaw, shoulders, neck, and arms. There may also be nausea, vomiting, and shortness of breath or difficulty with breathing. Other signs include dizziness, light-headedness, or fainting; sweating; and pale, ashen, or bluish skin. The victim may lose consciousness. If you rescue someone from the water who shows such symptoms, keep him calm and send for emergency aid. If the victim lacks a pulse, perform CPR until help arrives.

A **stroke** happens when the blood supply to the brain is blocked. Symptoms include weakness or numbness, usually in the face and arms and often on only one side of the body. The victim may be dizzy, confused, and unable to speak clearly. Vision may be blurred. Such a victim might not be able to help during a water rescue. Get the victim out of the water, call for emergency aid, reassure the victim, and monitor breathing.

Epilepsy. In this complicated disorder, electrical signals in the brain trigger seizures ranging from short lapses in attention to severe convulsions. About 1 in every 100 children has epilepsy. Although medication can control seizures well, people with epilepsy should swim only under close supervision and with a physician's approval. A person having a seizure in the water could submerge without warning.

If you observe someone having convulsions in the water, first see if a companion or lifeguard comes to his aid. If not, approach from the rear and hold the victim's face clear of the water by lifting under his arms or holding the sides of his head with your hands. Don't try to stop the movement. Do only what is necessary to keep the victim's head clear of the water until the seizure ends.

Three Scouts were snorkeling in deep water. One was suddenly unable to move because he went into diabetic shock. His buddies noticed his distress and called out to a nearby rowboat. When the boat failed to respond, one Scout swam rapidly toward the boat while the other followed with the victim in tow. The victim was eventually rowed to shore and treated.

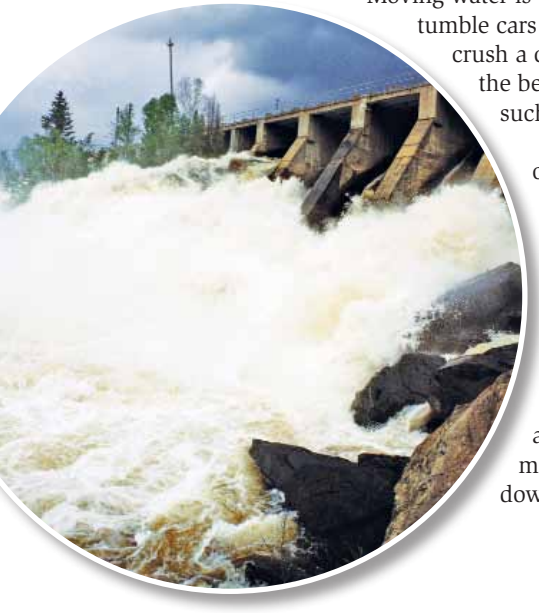
Diabetes. Diabetic emergencies may happen when the body's sugar level is either too high or too low. Symptoms include rapid breathing and pulse, feeling and looking ill, and changes in the level of consciousness. Several million Americans have diabetes. A sufferer in the water may ask for help and aid in the assist. Use any standard technique to move the victim to shore. Give a conscious person candy, a soft drink, or table sugar dissolved in water. Call for emergency medical aid if the person is unconscious.

Asthma. During an asthma attack, the sufferer has trouble breathing and may make wheezing sounds. Such attacks are relatively rare while swimming but are not uncommon during vigorous exercise in hot, humid weather. If a victim is in the water, he may be able to help you get him out. Once on shore, have him rest in a comfortable position and try to find his medication. If the attack continues, seek medical aid.

Hazardous Water Conditions

Inadequate swimming skills and medical emergencies are frequent causes for distress in the water. As a lifesaver, you may also encounter hazardous water conditions. Strong currents, crashing waves, floods, submerged cars, and cold water will influence whether you can perform a safe rescue or will need to go for help.

Moving Water



Moving water is extremely powerful. It can uproot trees, tumble cars that weigh thousands of pounds, and crush a canoe against a rock in seconds. Even the best of swimmers cannot prevail against such force.

While not all currents are that strong or dangerous, the strength of moving water is not easy to judge. A strong river current may exist although the surface looks calm. Use caution whenever you see foam or debris flowing past or when vegetation at a river's edge is partially submerged, indicating higher than normal water. If you are in a current free of obstructions, swim at right angles to the flow. You will also move with the current, so expect to land downstream from where you start.

A Scout troop on a canoe trip encountered high water from seasonal runoff. Rounding a bend, the canoeists found a large tree blocking the river. All but one canoe made it to the side for a portage; the canoe with the Scoutmaster and two Scouts was caught in the current and capsized. The Scoutmaster helped the Scouts into slack water beneath a high, overhanging bank just above the fallen log. They could cling to roots but could not climb out. Attempts by the others to throw a line, canoe across upstream, or find a ford downstream all failed. Finally a leader was able to crawl across the fallen tree and help them out.

River Currents

Rivers change dramatically between low-water and flood stage. Although a river may have been safe for swimming or canoeing on a previous outing, it might be hazardous the next time you go.

Remember also that currents are faster and deeper on the outside of a river bend than on the inside. When making a rescue, the safest spot to aim for may be the inside of a bend. Inexperienced swimmers often get into trouble because they don't realize that both the depth of the water and the strength of the current can vary rapidly as they wade out from the flat, sandy area on the inside of a bend. Small children and poor swimmers should have close in-water supervision when swimming in flowing rivers. Ideally, they should wear PFDs.

Steep banks and undercut trees are often found on the outside of a river bend, making rescue attempts more difficult. Also, undercut trees can fall into the water and block the fastest part of the channel. These obstacles, called strainers, can be dangerous to boaters, swimmers, and rescuers.

Bridge pilings, rocks, and other large obstacles can create eddies—areas just downstream where the current actually reverses direction and swirls upstream. Tight river bends may also cause eddies as the main channel crosses from one side to the other. Eddies can sometimes be used as safe havens during a water rescue; they also can capsize an unwary canoeist crossing between the downstream and upstream flow.

Whitewater or rapids may be caused by rocks and ledges in a steep riverbed, or other obstacles that narrow the channel. Large standing waves occur when currents change speed. Do not enter a river to help someone who is about to be swept into rapids. It may be safe to go in after they have been carried into a downstream pool.

If a boating mishap throws you into whitewater, hang onto the upstream side of the craft even if it is full of water. Worry about the safety of yourself and your companions, not the boat. If you catch a throw line from shore, it's often best to abandon the boat.

If you are thrown into rapids away from the boat, float feet-first on your back. Keep your feet up, stroke with your hands to avoid rocks, and move sideways toward shore. Do not try to climb onto a rock from the upstream side; you may be trapped against it. If you make it to an eddy behind a large rock, it may be possible to climb out of the water from the downstream side.

If you hit a stretch of relatively calm water, swim for shore as fast as you can to get out before the next set of rapids. Always get out of cold water as quickly as possible.

To avoid a downed tree or strainer, try to land on shore above it or swim around it. If the current is forcing you straight into it, change from a feetfirst back float to a headfirst prone position with your feet at the surface. Be prepared to climb above the tree and hang on rather than bounce off and be swept underneath. Aim for a place on the tree where you can grab on and pull yourself up.

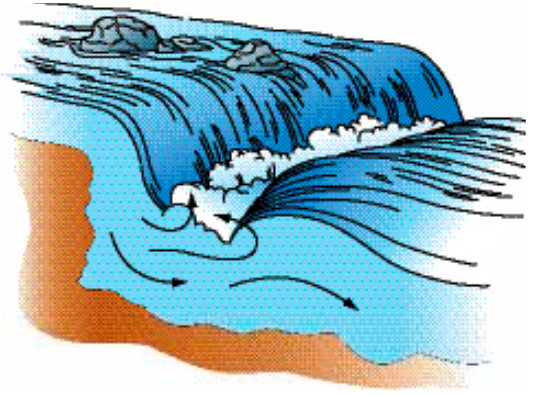
A Scout on a campout tried to wade across a river, slipped on stones, and was swept by the current toward a waterfall 75 yards downstream. He managed to grab the roots of an overturned tree before reaching the falls. Another Scout jumped in to help but was overcome by the 40-degree water temperature. Yet another Scout, lacking a throw line, ran upstream, swam down, and helped the others to shore one at a time.

Hydraulics

Many streams and some rivers have small low-head dams crossing from one side to the other. Except in periods of low water, the river is meant to flow over the top of such dams. That can create a condition called a hydraulic, or roller, where water flows over the dam and then rolls back toward it. Anything caught in this flow is trapped at the base of the dam and tumbled over and over. The churning water is full of bubbles that make it difficult to catch a breath and hard to swim.

If you are caught in a hydraulic, stay calm. Depending on how the dam is constructed, there are two ways to escape on your own. Swim or push yourself along the the roller to the side, or swim for the bottom, where there is a downstream current.

The best protection from a hydraulic is to avoid it. Don't swim or boat near a dam on either side. Do not enter a hydraulic to help someone; you will be hard-pressed to escape or help that person. Throwing a float might help keep the victim's head above water. Better yet, throw the victim a float with a line attached so you can pull him out.



Fording Streams

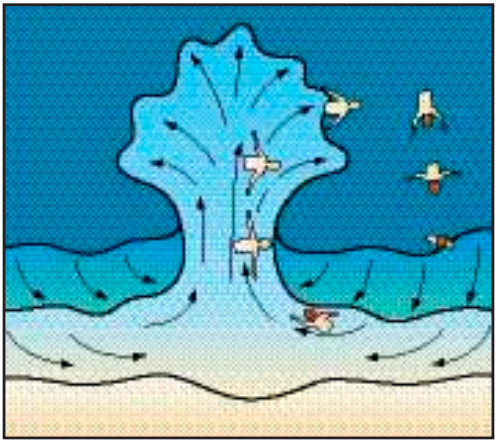
When crossing a streambed, it is best to do so at a bridge or established crossing. If the water is close to knee-deep, take precautions such as loosening pack straps, using a line across the stream, and crossing one at a time. Turn back in shallow water if your footing is unsure. Do not cross if the water is deep and swift.

It is sometimes tempting to cross areas where the water is shallow rather than wading in deeper water at some other point. Be cautious: As little as 6 inches of fast-flowing water can sweep you off your feet, particularly if the bottom is slippery. Stepping across on exposed rocks can also be dangerous if you slip into the narrow spaces between them where the water is deeper and faster. Wading through such spots can be hazardous, as is jumping. Play it safe. Do not cross a stream at any point where a fall could cause injury or expose you to unsafe water conditions.

A girl 75 yards from shore was being carried out to sea by a rip current. A man with a heart condition noticed her and called for his son to help. The Scout used a boogie board to bring her back, although he had difficulty at times keeping the exhausted victim on the board.

Ocean Currents

Rip currents are strong seaward flows of water. They often occur where a break in a sandbar provides a channel for outgoing water. Rip currents are fairly narrow and are recognizable as strips of foamy, sandy-colored water that cause a gap in breaking waves. According to the United States Lifesaving Association, rip currents are a factor in most rescues performed by beach lifeguards.



Rip current

Rip currents can carry an unwary swimmer many yards offshore. Poor swimmers may panic and need help after they exhaust themselves trying to swim to shore against the current. If you are helping such a person, have him swim across the current parallel to the beach. When clear, swim for shore.

Set, or drift, currents run along the shoreline. They will not carry you out to sea but can wash you into areas of potential danger, such as pilings. Check every so often to see if you are drifting.

A backwash or runback is most noticeable on steep beaches and is caused when water cast ashore by a wave flows back seaward. The rushing water may wash the sand from beneath your feet but isn't normally dangerous. Backwash combined with waves may cause a problem for a small child or inexperienced swimmer. While it may have led to the concept of "undertow," backwash does not suck a person down and hold him underwater. However, on steep beaches, the combined action of waves and tides may produce an abrupt change in depth that can be hazardous to weak swimmers.

The twice-daily cycle of high and low tides causes tidal currents. These currents can be very strong in the channels between islands or in coastal areas where the main shoreline is separated from the open ocean by islands or barrier bars. Avoid swimming in such areas.

Waves

Waves can create problems during a swimming rescue. During the entry, step over small waves in shallow water by lifting your knees high as you run out. As the water deepens, brace your feet on the bottom as a wave breaks, and move forward as the water flows back out.

Farther out, the peak of a swell may be deep enough to lift you slightly off your feet even though the water is too shallow for swimming. In that case, lean forward into the peak and resume walking as it passes. You should eventually reach a point where you can lie on the surface of a swell and keep swimming.

Practice swimming in waves if possible. In a rescue situation, moderate waves may slow you down, but shouldn't be a hazard. However, large waves can be very dangerous. Don't attempt swimming rescues in storm surges or other conditions with large breaking waves. If you try a beach entry and find yourself slammed into the bottom or tossed about by breaking waves, abandon the attempt and try a different method. A victim in the surf zone may be washed onto the beach where you can help without swimming. If the victim is beyond the surf line, get help.

Waves can also be a factor in an ease-in entry off a pier or seawall. If swells are gently bouncing off your entry point, time your entry to coincide with the next outward flow. Move out fast enough that the next swell doesn't wash you back against the wall.

If waves are crashing below you, do not enter the water. The next wave could pound you unconscious against the bank. The wave action may bring the victim close enough for a reaching or throwing rescue, but in some cases a lifeboat or helicopter may be needed. Such help may be available from the Coast Guard.

Waves washed a 10-year-old boy off a jetty. A Scout responded to his cries for help, anchored himself to a rock, and grabbed the victim when the waves carried him back to the jetty. The boy needed first aid for many cuts and scratches.

A Scout leader was flagged down while driving during an intense rainstorm. He found a truck overturned in four to five feet of water. With help from the victims inside, he opened the door enough for them to escape.

Floods

Dozens of victims drown each year because of flooding disasters. Floods are caused by heavy rainfall, snow melt, rivers overflowing their banks, and storm surges in coastal areas. The hazard is greatest in low-lying areas, but there is normally enough warning for you to seek higher ground. Listen to radio and TV advisories during prolonged or violent storms.

Early signs of flooding are streams and drainage ditches running full. Stay back; don't try to test the water or throw objects into it. If you spot someone in the current, your rescue options are limited. Flooded vegetation may make it difficult to reach the victim from the side. Try reaching from a bridge, throw the person a line, or seek help. Do not enter the water yourself.

As water spreads out in wider areas, the current will weaken. However, for your own safety, avoid ditches, channels, and wading or driving through currents in any flooded areas. If you are indoors and cannot reach higher ground without putting yourself in danger, go to the second floor or roof and wait for help. Do not try to swim to safety unless the water rises above where you are stranded. If you must enter the water, first find a flotation aid. Use any of the various noncontact tows to help nonswimmers to safety. Ideally, boats and helicopters will be used for rescues during floods.

Flash floods may give little warning. They happen when storms overwhelm constricted drainage channels with large amounts of rain and water. A wall of water can form within minutes and sweep down a streambed, taking everything beneath it. There isn't much anyone can do except run for high ground when surprised by a flash flood. Avoid camping in dry washes, or near streams with high banks.

Submerged Vehicles

Motorists may enter the water in several ways. They may be swept off a low-water crossing, drive onto a flooded roadway, or swerve off a bridge into deep water. Rescue techniques will depend on the situation.

During heavy rainfall, water may drain through the streets and back up in low-lying areas such as underpasses. Drivers should not continue on water-covered streets unless curbs can still be seen and cars ahead can easily cross low spots. If a car stalls in high water or gets stuck on a flooded shoulder, it is best for everyone to stay in the car as long as the water is not rising. If the water is getting deeper, then the occupants should consider whether they can safely wade to higher ground.

If you notice a stranded car with people needing help, you can wade out unless there is a strong current. If there is a current or the water is rising rapidly, throw a line and have them tie it to the car. Pull your end tight and tie it off. The occupants can then hold onto the rope as they wade out. In such a case, weigh the risk of the car being submerged against the relative safety of the occupants staying put. Also consider the response time of emergency services before encouraging any risky attempts to leave the car.

Water rapidly flowing across a roadway presents an even greater danger. Such situations often arise at low-water crossings during heavy rainfall. However, any roadway near a stream or river can be dangerous during major floods. Most people are unaware of how easily a car or pickup can be swept off the roadway and carried downstream by the flow. The force of the water against the tires and sides of a car can be huge, and the car will tend to float as well. Once in the main current, the car may sink completely or be crushed against trees or other obstructions.

Rescues in such situations can be extremely hazardous. If the water level is dropping or only slowly rising, a single rescuer should first seek aid from a professional rescue team. Try to convince the occupants that they are safer staying with the car than trying to swim to safety. Have them huddle for warmth on top of the car if the air is cold.

A toddler was playing in a car alone and put it in neutral. The car rolled into a lake, 20 feet past the shore. The child's cousin, a Scout, swam out and plucked the child from a window just before the car sank into 14 feet of water.

If time is critical—that is, if the area is remote and the water is rising rapidly—it may be feasible to throw the occupants a line and have them swing with the current toward shore. PFDs are unlikely to be available in such a situation, but they should be worn by occupants and rescuers if possible. Occupants should grab the rope one at a time, with adults helping small children as needed. A knot or loop in the end of the line will make it easier for them to hold on. Tying the rope around the person creates a risk of entanglement. Weigh that risk against their ability to hold on.

The temperature of the water, the water depth, the force of the current, the age of the occupants, and their swimming abilities are all factors to consider. If there are trees or other obstacles just downstream of the car, it may be safer to tie the line to the car and have the occupants work their way along it. A second line attached to the occupant with a belay upstream would add an extra margin of safety.

If you are involved in an accident in which a car lands in shallow water, emergency first aid will probably be needed rather than water rescue. If the car enters deep water, passengers need to escape quickly to avoid drowning.

When a car first enters the water, it may float briefly. This is the best time for self-rescue. Occupants should release their safety belts; open a window, sunroof, tailgate, or door; and escape. Rescuers on the shore may need to help injured or weak swimmers by using conventional reach-throw-row-go methods. Determine whether anyone is left in the car and try to find out that person's condition. Call emergency personnel.

Cars will sink engine-first. The driver should unlock all doors, switch on the lights, and then move to the higher end of the vehicle. If the motor is in the front, the back of the car will be clear of the water a bit longer than the front.

Passengers unable to escape at the surface should take deep breaths as the car submerges. There probably will not be a large pocket of trapped air after the car reaches the bottom. As the car sinks, the water pressure on the doors will make them hard to open but will equalize once the car is almost full of water. At that point, the occupants should take a breath of trapped air if possible, push open a door, and swim for the surface. If the doors cannot be opened, passengers can push with their feet against a corner of either windshield to pop it out, then escape through the opening.

Generally, rescuers should wait until the car has settled on the bottom before approaching. If you have escaped and the car is barely under the surface, you may be able to help open doors from the outside. Let the passengers exit on their own if possible. If there is a child in a car seat or if someone was knocked unconscious, you may be able to reach in and pull the person free. In shallow water, have someone hold the door open if you need to submerge briefly to help an occupant. Do not try to reenter the car unless you are an experienced diver. Instead, seek help.

Cold Water

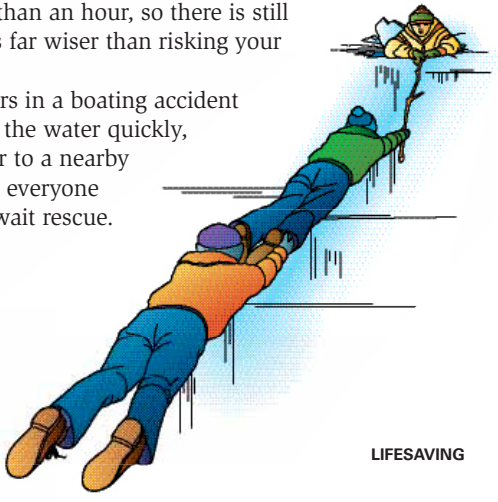
Cold water increases the risk for the victim and the rescuer. Be extremely wary of entering the water in winter, particularly if there is ice on the surface. Avoid snow-fed streams even in summer. Water temperatures of 50 degrees or lower can create problems for even the best swimmers. Long exposures in 50- to 70-degree water lead to similar risks.

If you suspect that the water is dangerously cold, plan your rescue accordingly. As always, reaching, throwing, and rowing are preferred. A human chain may work well on ice or in calm, cold water less than waist deep. If the victim is chilled or unconscious in deep water, a line tender rescue may be best if at least two rescuers are available. If you are alone and the water is not frigid, leave your clothing on to swim and use a flotation aid.

If the water is very cold, do not attempt any in-water rescue. Never dive beneath ice to look for a victim. Immediately go for help. Drowning victims in cold water have been known to survive submersion for longer than an hour, so there is still hope. Seeking professional help is far wiser than risking your life as well.

If you are involved with others in a boating accident in cold water, get everyone out of the water quickly, either into or on top of the boat or to a nearby shore. If that is not possible, have everyone huddle together in the water to await rescue.

Cold water affects not only your physical coordination but also your ability to think clearly. How quickly you become impaired will depend on the water temperature, what you are wearing, your body type, and your activity. Vigorous swimming can actually speed heat loss.



Additional Opportunities

Earning the Lifesaving merit badge should prepare you to assist as a lifesaver in most swimming-related emergencies, but you can always be even better prepared. Earning the First Aid, Canoeing, Rowing, and other boating merit badges will help you develop additional skills.

As you get older, you may consider career opportunities in which water rescue plays a part. Public pools, water parks, and beaches employ lifeguards. Fire departments and county sheriffs departments often train their personnel in search and rescue, including swift-water rescue and scuba diving. Such organizations sometimes call on trained volunteers for help. Selected U.S. Coast Guard and Navy personnel receive intense water-rescue training, including the use of motorized craft and helicopters.

Earning the Lifesaving merit badge also should make you a better guardian for a young friend or sibling cooling off in a backyard pool or in a lake at a family picnic. There, your task is to prevent accidents as well as to stand by for possible emergencies. That is, you would serve as a lifeguard rather than a lifesaver. You can serve the same function at a troop swim.

Fulfilling the Lifesaving merit badge requirements teaches you how to react to an unexpected incident using materials at hand. It does not cover all of the skills needed by a professional lifeguard. Unlike a troop swim using Safe Swim Defense, a lifeguard at a public pool is responsible for more people, of unknown numbers, of unknown swimming ability, of unknown physical condition, who may at times be rowdy or uncooperative. Lifeguard training emphasizes accident prevention, working as a team, and use of a limited range of special-purpose rescue devices.

BSA Lifeguard provides such training, as do courses offered by the American Red Cross and YMCA. Those courses are open to Venturing-age youth and provide excellent opportunities for you to qualify as a lifeguard at Scout camps or public pools. Other facilities, particularly those near ocean beaches, offer their own training programs.

Lifesaving Resources

Scouting Literature

Boy Scout Journal; Backpacking, Boy Scout Handbook; Fieldbook; Deck of First Aid; Emergency First Aid pocket guide; *Canoeing, First Aid, Motorboating, Rowing, Small-Boat Sailing, Swimming, Water Sports,* and *Whitewater* merit badge pamphlets

Visit the Boy Scouts of America's official retail Web site at *http://www.scoutstuff.org* for a complete listing of all merit badge pamphlets and other helpful Scouting materials and supplies.

Books

Graver, Dennis. *Aquatic Rescue and Safety: How to Recognize, Respond to, and Prevent Water-Related Injuries.* Human Kinetics 2004.

Raatma, Lucia. *Water Safety.* Children's World, 2004.

U.S. Lifesaving Association. *Open Water Lifesaving: The United States Lifesaving Association Manual.* Pearson Custom Publishing, 2003.

YMCA of the USA. *On the Guard II: The YUCA Lifeguard Manual.* Human Kinetics, 2001.

Organizations and Web Sites

American Canoe Association
Web site: *http://www.americancanoe.org*

American Red Cross
Toll-free telephone: 800-733-2767
Web site: *http://www.redcross.org*

American Whitewater
Web site:
http://www.americanwhitewater.org

International Life Saving Federation
Web site: *http://www.ilsf.org*

Lifesaving Society of Canada
Web site: *http://www.lifesaving.ca*

National Safety Council
Telephone: 630-285-1121
Web site: *http://www.nsc.org*

Royal Life Saving Society of Australia
Web site:
http://www.royallifesaving.com.au

Royal Life Saving Society of the United Kingdom
Web site: *http://www.lifesavers.org.uk*

Safe Kids USA
Telephone: 202-285-1121
Web site: *http://www.usa.safekids.org*

Surf Life Saving Australia Ltd.
Web site: *http://www.slsa.asn.au*

Surf Life Saving New Zealand
Web site: *http://www.lifesaving.org.nz*

U.S. Coast Guard
Web site: *http://www.uscgboating.org*

U.S. Lifesaving Association
Web site: *http://www.usla.org*

YMCA of the USA
Telephone: 312-977-0031
Web site: *http://www.ymca.net*

Acknowledgments

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Roy Jansen—page 92

John McDearmon—all instructional illustrations

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Notes

MERIT BADGE LIBRARY

Though intended as an aid to Boy Scouts, Varsity Scouts, and qualified Venturers in meeting merit badge requirements, these pamphlets are of general interest and are made available by many schools and public libraries. The latest revision date of each pamphlet might not correspond with the copyright date shown below, because this list is corrected only once a year, in January. Any number of merit badge pamphlets may be revised throughout the year; others are simply reprinted until a revision becomes necessary.

If a Scout has already started working on a merit badge when a new edition for that pamphlet is introduced, *he may continue to use the same merit badge pamphlet to earn the badge and fulfill the requirements therein.* In other words, the Scout need not start all over again with the new pamphlet and possibly revised requirements.

Merit Badge Pamphlet	Year
American Business	2002
American Cultures	2005
American Heritage	2005
American Labor	2006
Animal Science	2006
Archaeology	2006
Archery	2004
Architecture	2006
Art	2006
Astronomy	2004
Athletics	2006
Automotive Maintenance	2006
Aviation	2006
Backpacking	2007
Basketry	2003
Bird Study	2005
Bugling (see Music)	
Camping	2005
Canoeing	2004
Chemistry	2004
Cinematography	2006
Citizenship in the Community	2005
Citizenship in the Nation	2005
Citizenship in the World	2005
Climbing	2006
Coin Collecting	2006
Collections	2006
Communications	2003
Composite Materials	2006
Computers	2005
Cooking	2007
Crime Prevention	2005
Cycling	2003
Dentistry	2006
Disabilities Awareness	2005
Dog Care	2003
Drafting	2006
Electricity	2004
Electronics	2004
Emergency Preparedness	2006
Energy	2005
Engineering	2006
Entrepreneurship	2006
Environmental Science	2006
Family Life	2005
Farm Mechanics	2006
Fingerprinting	2003
Fire Safety	2004
First Aid	2007
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Fishing	2002
Fly-Fishing	2002
Forestry	2005
Gardening	2002
Genealogy	2005
Geology	2005
Golf	2002
Graphic Arts	2006
Hiking	2007
Home Repairs	2002
Horsemanship	2003
Indian Lore	2006
Insect Study	2006
Journalism	2006
Landscape Architecture	2006
Law	2003
Leatherwork	2002
Lifesaving	2006
Mammal Study	2003
Medicine	2002
Metalwork	2007
Model Design and Building	2003
Motorboating	2006
Music and Bugling	2003
Nature	2003
Nuclear Science	2004
Oceanography	2003
Orienteering	2003
Painting	2006
Personal Fitness	2006
Personal Management	2003
Pets	2003
Photography	2005
Pioneering	2006
Plant Science	2005
Plumbing	2004
Pottery	2006
Public Health	2005
Public Speaking	2002
Pulp and Paper	2006
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Railroading	2003
Reading	2003
Reptile and Amphibian Study	2005
Rifle Shooting	2001
Rowing	2006
Safety	2006
Salesmanship	2003
Scholarship	2004
Sculpture	2007
Shotgun Shooting	2005
Skating	2005
Small-Boat Sailing	2004
Snow Sports	2007
Soil and Water Conservation	2004
Space Exploration	2004
Sports	2006
Stamp Collecting	2007
Surveying	2004
Swimming	2006
Textile	2003
Theater	2005
Traffic Safety	2006
Truck Transportation	2005
Veterinary Medicine	2005
Water Sports	2007
Weather	2006
Whitewater	2005
Wilderness Survival	2007
Wood Carving	2006
Woodwork	2003

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