Water Safety…

Is No Accident

US Army Corps of Engineers
Rock Island District

Water Safety – I'm No Fool in the Water

Objectives:

To become aware of the dangers in water.

To learn safety techniques and rescue methods when around the water.

Activities:

Students will each receive a "Water Safety" study guide. Eco-Test questions will be taken from the guide
A program will be presented before the test to help learn water safety techniques.

Study Questions:

1. What is the number one cause of drowning?

2. What is the first sign of hypothermia?

3. Which type of technique will keep you alive longer in cold water?

Why Ducks Float and People Don't!

Ducks don't drown, but unfortunately people do! Approximately 8,000 persons drown each year in the United States. Drowning is the second leading cause of death in the U.S. for persons from 4 to 44, exceeded only by motor vehicle accidents.

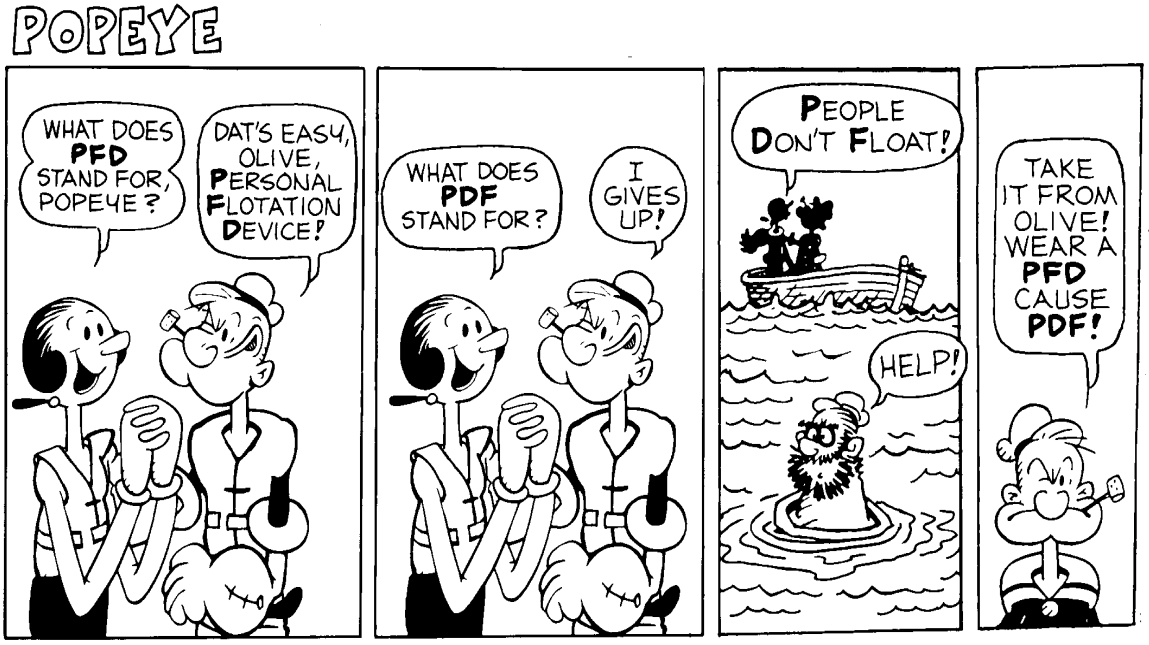
People spend time in or near water mainly for recreation. The most basic reason people drown is that they are unable to stay afloat for some reason. This might be caused by a variety of factors which include; an inability to swim, knocked unconscious in an accident, have been drinking, loss of body coordination in cold water, or sudden panic. Panic is the #1 cause of drowning, and one half (50%) of all victims are legally intoxicated. Ducks, on the other hand, are specifically suited for water because they possess various adaptations.

Let's look at some of a duck's water survival adaptations:

The most basic adaptation necessary is the ability to stay afloat without constantly using energy to swim. Many ducks have accomplished this by having hollow bones that add buoyancy. A ducks thick coat has hundreds of feathers that interlock, trapping air in-between and thus also increasing their buoyancy. Of course the webbing between a duck's toes allow swimming with reduced effort.

How can a duck survive in cold water in the winter? A duck's thick coat of feathers with its trapped air space conserves body heat and provides good insulation. Ducks also constantly oil their feathers from an oil gland beneath their tail, which makes their feathers, waterproof. A thick layer of fat beneath the skin adds additional insulation. In freezing temperatures, the blood flow to ducks feet is basically shut off. This prevents the blood circulating through the duck's feet from rapidly cooling the rest of their body. We are definitely not adapted to cold water like a duck. However, people have common sense, the ability to reason and determine right from wrong, and special tools such as personal flotation devices (PFD's). So although people are not specially adapted to life in the water, drowning can be prevented. Remember that ducks don't drown... and people shouldn't either.

We talked about a duck's adaptations such as hollow bones that allow it to float without a conscious effort. Because we are not adapted to float, we tire easily if we are in the water for long periods and we cannot stay afloat if we develop severe cramps, lose body coordination or



panic. This is why it is important to wear personal floatation devices (PFD's) which act like the air spaces in a duck's body and allows people to float without effort. There are 5 types of PFD's.

PFD TYPES:

TYPE I PFD'S / OFF-SHORE LIFE JACKETS: Best for all waters, open ocean, rough seas, or remote water, where rescue may be slow coming.

TYPE II PFD'S / NEAR-SHORE BUOYANT VESTS: For general boating activities. Good for calm, inland waters, or where there is a good chance for fast rescue.

TYPE III PFD'S / FLOTATION AIDS: For general boating or the specialized activity that is marked on the device such as water skiing, hunting, fishing, canoeing, kayaking and others. Good for calm, inland waters, or where there is a good chance for fast rescue. Designed so that wearing it will complement your boating activities.

TYPE IV PFD'S / THROWABLE DEVICES: These are designed to be thrown to a person in the water. Throw able devices include boat cushions, ring buoys, and horseshoe buoys. They are not designed to be worn and must be supplemented by wearable PFD.

TYPE V PFD'S / SPECIAL USE DEVICES: Only for special uses or conditions.
See label for limits of use.

It is required by law to have a Coast Guard approved wearable PFD that is the proper size and in good condition for every person on board a boat. As with seatbelts, many people do not like to wear PFD's because they view it as an inconvenience. They feel it restricts their movement or interferes with getting a tan. However, the inconveniences are far outweighed by the potential for saving your life.

In boating accidents, 8 out of every 10 people that drown were not wearing a PFD even though one was available on the boat. In addition, if a person cannot swim and is struggling to stay afloat they will usually drown within 60 seconds. With so little time, a person cannot normally put on a PFD in the water. This is a good reason why it is so important to wear a PFD, and also important to have a throw able boat cushion or ring buoy on-board. It can be handed or thrown to a person overboard, who can float with their chest on top of it until they are rescued. However, a common mistake for people is to wear a boat cushion on their back, which would float a person face down in the water.

Ski-belts are commonly used by people while in the water, but they are not a Coast Guard approved PFD.

Many people feel that if they are floating on a raft or inner tube they don't need to wear a PFD. What would happen if you drifted over deep water and the raft sprang a leak or the inner tube blew out of your reach?

Remember to always wear a PFD ...it is your friend for life!

Do you actually know what a drowning person looks like? Victims generally do not cry out for help. They are too busy trying to breathe. They lapse into involuntary motions; arms pushing down on the water, then arms outstretched, bobbing up and down to the surface, mouth open but making no sound, head tipped back for maximum air intake. Also, near drowning persons may not be able to see or hear. To be saved, a rescue device must touch them.

IF you see someone in trouble, it is natural to want to swim to him or her, but DON'T. If the person you are trying to rescue panics, both of you may be in trouble (especially if you are not trained in lifesaving). When it comes to rescuing someone from the water, the rule is to "reach or throw, but DON'T GO!"

Drowning occurs as often in spring and fall as in the summer. Most victims that were boating never intended to go into the water. A sudden fall overboard or a boat capsizing finds the boater suddenly in the water. If you suddenly find yourself in the water, hypothermia is what you want to prevent. Hypothermia is when the body loses heat faster than it can produce it. If you are suddenly in cold water from a boat accident, don't try to swim to shore. Swimming will increase the rate of heat loss from your body and you will tire quickly in cold water. If possible, hold onto or climb onto your overturned boat. You want to climb on top of your boat if possible in order to get out of the water because you lose heat 25 times faster in water than in air. Again, it is important that you are wearing your PFD when the accident happens. Like the duck's thick feathers, it will help insulate and hold in your body heat. Keep your head above water and if there is more than one person, huddle to share heat. Unlike a duck that can slow circulation to its exposed legs, we must try to reduce body surface area exposed directly to the cold water. If you are alone, draw your knees to your chest and fold your arms in front of you. This is called the HELP position (Heat Escape Lessening Posture). This can reduce heat loss up to 60 percent.

Likewise, when swimming the effects of cold water can be dangerous. Don't dive or jump into cold water. When cold water covers your body all of a sudden it can cause you to gasp, inhaling water whether you mean to or not and fill your lungs with water. The first sign of hypothermia is shivering, then severe cramps, loss of muscle control and finally unconsciousness.

*Compiled from "Kansas City District Water Safety Interpretation Education Program 1985" "WATER SAFETY - THE COLD WATER CONNECTION"

Drowning Statistics

- The number one cause of drowning is panic.
- 2nd leading cause of accidental death in people ages 4 - 44.
- 3rd leading cause of accidental death overall.
- 66% of victims cannot swim and were not wearing PFD (Personal Floatation Device).
- Non-swimmer will go under in 20 - 60 seconds.
- 1/2 of drowning victims unexpectedly enters cold water that incapacitates them.
- 1/2 of drowning victims are legally intoxicated.

Defenses Against Drowning

1. Know how to swim or admit you can't.
2. Wear a PFD - American custom dictates it is better to be dead than embarrassed.
3. Don't drink - It impairs judgment and causes accelerated heat loss.
4. If wearing a PFD, assume the fetal or HELP (Heat Escape Lessening Posture) position to conserve body heat.
5. If not wearing a PFD, roll on back and minimize activity.
6. Most accidents occur within 10 feet from safety.
7. Swim for it? Maybe, but remember, distances on water are deceiving. A capsized boat is easier to spot than a swimmer; a good swimmer can only swim .7 miles in 50 degrees water before exhaustion incapacitates him.
8. Heavy clothes - One can easily float even wearing chest waders, snowmobile suit, winter coat, etc. Do these: don't panic, move slowly, roll on your back, and keep legs up to trap air. Struggling and trying to remove clothes will allow air to escape, and you will sink.

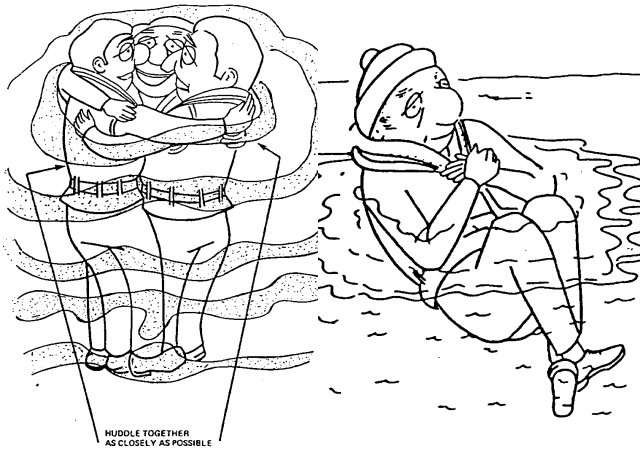
Rescue

Recognize a drowning person. They physically cannot yell "help" contrary to what is done on TV. Look for arm motion; head back, mouth open, bobbing. Know basics of water rescue. Attempt to reach victim with a reachable or throw able device such as a pole, tree branch ring buoy or seat cushion, etc. Enter the water as a last resort only if you are a trained lifesaver.

Hypothermia

- An average adult male in 50 degrees Fahrenheit water for 50 minutes has a 50 percent chance of dying if he does not know what to do.
- In many cases a "drowning victim" actually died of hypothermia.
- Hypothermia is a subnormal temperature within the body. Effects range from loss of use of extremities and impaired judgment to death.
- Heat loss occurs 25 times faster in water than air.
- Any water less than 70 degrees Fahrenheit is considered cold water.
- A body core temperature of 80 degrees Fahrenheit is usually fatal.
- The first sign of hypothermia is shivering.

Defenses Against Hypothermia



HUDDLE

HELP

Observe all rules for defenses against drowning.

If a capsized boat is near, attempt to get on top and out of the water.

Assume fetal position called **HELP** (Heat Escape Lessening Posture).

If other victims are nearby, attempt to huddle together.

First Aid

1. Get victim to a warm area.
2. Remove wet clothing.
3. Re-warm victim gradually.
4. Contact physician.

Swimming Safety Tips for Kids

- Learn to swim well enough to survive an emergency. Can you tread or float in water over your head for 3 minutes?

- **NEVER SWIM ALONE!** Take along a buddy.

- Barefoot on the beach is fun, but watch out for broken glass, sharp rocks and other objects that might cause painful cuts and bruises.

- **DO NOT DIVE INTO UNKNOWN WATERS** or into shallow-breaking waves.

- Electric storms or lightning in the area? Stay out of water and if in a small boat, head for shore.

- PFD's are Personal floatation Devices; they should be worn by by ALL boaters.

- Camping near the water? Make sure it is a safe place to swim before you swim, with firm sand or gravel bottom, and a gradual slope with no setoffs or underwater obstructions.

- Swim underwater for short distances only! Do not hyperventilate before swimming underwater, diving or testing how long the breath can be held underwater. Hyperventilation can cause mental confusion and blackouts.

- You can help a drowning victim even if you cannot swim. **REMEMBER THIS RULE OF THUMB:** REACH, THROW BUT DON'T GO!

- Only swim in clear water that is unpolluted, free of debris and a comfortable temperature.

- Never venture into deep water or travel away from shore on inflated tubes, air mattresses, etc. Don't let these devices substitute for swimming ability.

- Stay out of water when tired, overheated, or immediately after eating.

- Call for help only if you need it!

- If swimming in a secluded area, have some basic rescue equipment available: Rope, jug, ring buoy, long stick or other items.

- Do not throw sand or mud or engage in any kind of horseplay like dunking or holding another person under water.

- Do not overestimate your swimming ability by attempting long-distance swims. Swim parallel to the shore-it's safer!

- Know where the nearest source of help is in an emergency.

WATER SAFETY WORD RESCUE

Find 20 things that you could use to help save someone in a drowning emergency. The words are listed below.

A B E T I H C N A R B E E R T
M O O R B A S E B A L L B A T
L A S M A O F O R Y T S O F E
R Y N R B U C K E T F B A N K
V G R I N G B U O Y O R G C C
Y O T H C A E B L V X B O U A
K E S E A T C U S H I O N L J
A N N F P I P A D D L E R K E
G T A T T O C Y X E V J F O F
E N I S P B R O R E W F R J I
P R A Y J G Z C H P W J X K L
E L O P G N I H S I F N W E D
P L X H F E Q A C Q Z D D O Z

Baseball Bat
Beach Toy
Boat
Broom
Bucket
Cooler
Fishing Pole
Jug
Life Jacket
Oar
Paddle
PFD
Plastic Bottle
Raft
Ring Buoy
Rope
Seat Cushion
Styrofoam
Tire
Tree Branch