

# **SAFETY**

## **EMERGENCY SITUATIONS ON THE WATER**

### INTRODUCTION: AVOIDING AN EMERGENCY SITUATION

The best plan for emergency situations is to avoid them! We all know that isn't always possible but we can reduce the risks. An emergency situation can be avoided by making a decision not to go out if the weather is threatening, if your crew is incapable or inexperienced, or if the boat is not properly equipped. Still, even in the best of circumstances, emergencies will occur. So, the next best defense is to educate you on the skills needed and the resources available to deal with an emergency.

CPR (Cardiopulmonary Resuscitation) and First Aid training are essential tools for emergency situations. Classes can be taken at your local Red Cross or American Heart Association locations. Learning first aid techniques and administering care PROMPTLY can mean the difference between life and death, or between full and partial recovery. When dealing with emergency situations, there is no room for panic. A caregiver needs to remain calm and think through their actions. That is why it is a good idea to plan to take the CPR and first aid classes every few years to maintain and/or improve your confidence and skill levels.

### TIPS FOR AVOIDING AN EMERGENCY SITUATION

- Obtain a weather report from more than one source prior to going for a sail (see listing below)
- Sail with a buddy boat
- Document your trip and planned time of return in the sail house log book
- Stay close to shore
- Carry a cell phone
- Check the boat for emergency tools prior to each sail (see list below)
- Review emergency procedures with crew including capsizing procedures prior to the sail
- Check to make sure your lifejacket fits and works properly
- Take enough water for the duration of the sail
- Take appropriate clothing, hats, and sunglasses
- Wear sunscreen and take some with you
- Ask your crew to share any pertinent health information prior to the sail
- Return to the moorings or beach immediately if weather or crew status change significantly
- Wear your lifejacket or tie it loosely in the boat so it does not float away but can be accessed easily
- Put lifejackets on children prior to getting into the dinghy
- Do not stay in the water any longer than you need to
- Do not attempt to swim to shore
- Do not leave the boat

## **PROCEDURES FOR AN EMERGENCY SITUATION**

The following is a brief summary of the steps to be taken in an emergency. Every situation is different so you will need to use good judgment in deciding which steps to take. To better understand each step, it is recommended that you participate in one or more professional training classes (i.e. boating safety, swimming safety, CPR, First Aid).

### **SURVEY THE SCENE**

- Determine if everyone is present and their current physical state (see signs of heart attack, stroke, and shock below).
- Immediately remove crew from existing or potential danger (i.e. drowning, hypothermia). Right the boat if it is capsized, put on lifejackets, and get everyone out of the water if at all possible.

### **SEEK HELP IMMEDIATELY**

- Even if you do not think you need help right at that moment, the situation can turn worse before you know it. Never underestimate the power of nature or your own stupidity!
- Determine which one of the following actions will get help to you the FASTEST without further endangering the crew:
  - Head to shore
  - Signal another boat
  - Signal someone on shore
  - Call 9-1-1 from your cell phone if on the boat
  - Use the radio on the committee boat to call for help – USE CHANNEL 16

***DO NOT COUNT ON JUST ONE OF THESE ACTIONS.***

***Until help arrives, you should assume that you still need to take further action!***

### **CALL 9-1-1**

- Even if in doubt, call 9-1-1. Calling 9-1-1 is almost always the fastest way to get lifesaving treatment. It is a vital link in the chain of survival (details below).
- When calling 9-1-1, speak loudly, slowly, and clearly. You do not need to know all the details about someone's medical state to call. The best information you can give is a good description of your location so they can find you fast. Do not hang up until the dispatcher hangs up.

### **ASSESS ABCs: AIRWAY, BREATHING, and CIRCULATION**

- These are the essentials covered in a CPR training class. If you are trained, now is the time to assess the victim and apply the necessary techniques.

## **OTHER ACTIONS**

- Whether you are trained in emergency care or not, you can do several things including:
  - Cover the victim or get them into dry clothes in attempt to prevent hypothermia and shock.
  - Place unconscious victims on their side to keep their airway open.
  - Have the victim describe what happened, how they are feeling, and describe any pertinent medical information.
  - Take note of physical signs you can see for yourself that the victim may not notice (i.e. bleeding, confusion, skin color). This information can be very useful later for the emergency medical personnel.
  - Apply pressure to wounds to stop bleeding. If possible, use clean material that will not absorb the blood.
  - Immobilize broken limbs or bones.
  - **If in the water for an extended time, do not remove clothing, do put on a lifejacket, bend your knees to your chest, wrap your arms around your legs and lifejacket, and keep your head out of the water to maintain body temperature.**

## EMERGENCY EQUIPMENT AVAILABLE:

In the sail house:

- Lifejackets – need to be brought on board each boat (1 per person)

On each boat:

- Throwable flotation
- Whistles
- Band aids

On the committee boat (most items are kept in the committee boat prep. box):

- RADIO – USE CHANNEL 16 for emergencies and to hear emergency weather warnings – the US Coast Guard maintains a listening watch on this channel
- Blankets (paper-thin, reflective blankets are great for warmth)
- Air horns
- First aid kit

## WEATHER REPORTING RESOURCES

Weather channel (cable TV channel 25)

Accuweather.com

## IMPORTANT PHONE NUMBERS

911 – ALL Emergencies

328-2211 – New Castle Fire Hall

## WARNING SIGNS

### **Heart Attack**

Chest discomfort

Discomfort in other areas of upper body (arms, back, jaw, stomach)

Shortness of breath

Sweating

Nausea

Lightheadedness

### Stroke

Sudden numbness or weakness of face, arm, or leg, especially on one side

Sudden confusion, trouble speaking or understanding

Sudden trouble seeing in one or both eyes

Sudden trouble walking, dizziness, loss of balance or coordination

Sudden severe headache

### Shock

Pale, cool, clammy skin

Thirsty

Rapid, shallow breathing

Rapid, weak pulse

Nausea or vomiting

Evidence of loss of body fluids or high temperature

Unconsciousness

Shut down of vital functions

**For other medical conditions** including hypothermia, hyperthermia, and dehydration, see other sections of this manual or consult your emergency training manuals.

Above was prepared by Lisa Case

## **HYPERTHERMIA (HEAT ILLNESS)**

There are two major types of conditions known collectively as Hyperthermia. It is vitally important to know about both if you are exposed to high temperatures such as sailing in an open cockpit boat on a warm sunny day. The two conditions need to be treated promptly and in entirely different ways.

1. Condition one is due to an excessive loss of body fluids accompanied by a drop in blood pressure. It is commonly called **Heat Exhaustion**.

2. Condition two presents itself quite differently. A major sign is the onset of a dangerously high body temperature. This is commonly called **Heatstroke**.

**Cause:**

Prolonged exposure to high temperatures, particularly when there is high ambient humidity, a condition that lessens the cooling effects of sweating. Prolonged strenuous exertion with increased heat production by muscle activity increases the risk of heat illness. Other contributing factors are age, obesity, chronic alcoholism, alcohol or cocaine consumption and the use of many different prescription drugs.

**Heatstroke:** This is a serious emergency that must be treated promptly to avoid convulsions, brain damage and death.

**Signs:** Hot, dry, flushed skin, high body temperature and a rapid pulse. Headaches and dizziness are common signs and sweating may be noticeably decreased.

**Treatment:** Heroic measures are absolutely necessary. Urgent transport to a hospital must be arranged, In the interim, wrap the individual in wet clothing, blankets or other materials that will retain cold water. Immersion into the water of a lake or stream should definitely help. More precise temperature control measures will be employed to stabilize the patient.

**Heat Exhaustion:** A condition requiring attention but is not quite as life threatening.

**Signs:** Because of excessive fluid loss, this heat-induced disorder gives adequate warning. There will be noticeable fatigue, weakness, anxiety and drenching sweats and cold clammy skin. Shock like unconsciousness is possible.

**Treatment:** Place the victim out of the sun in a flat position with the head lower than the feet. Loosen the clothing and give small amounts of cool slightly salty fluids every few minutes. This condition is usually transient and full recovery without Hospitalization is expected. It still might be worthwhile calling for professional assistance from EMTs or Paramedics, particularly if recovery is slow.

**Prevention:**

**COMMON SENSE IS THE BEST PREVENTATIVE.** Strenuous exertion in a very hot environment and the use of heavy or insulated clothing should be avoided. Continuous consumption of fluids, water or lightly salty fluids is most helpful. Avoid consumption of alcoholic beverages under these conditions.

Above was prepared by Joe Irr

## **HYPOTHERMIA AND COLD WATER SURVIVAL**

### **COLD WATER KILLS!**

Safety experts estimate that half of all drowning victims actually die from the fatal effects of cold water, or hypothermia, and not from water-filled lungs. Loss of body heat is one of the greatest hazards to survival when you fall overboard, capsize, or jump into the water. Cold water robs the body of heat 25-30 times faster than air. When you lose enough body heat to make your temperature subnormal, you become hypothermic.

Sudden immersion in cold water cools your skin and outer tissues very quickly. Within 10 or 15 minutes, your core body temperature (brain, spinal cord, heart, and lungs) begins to drop. Your arms and legs become numb and completely useless. You may lose consciousness and drown before your core body temperature drops low enough to cause death.

To prevent hypothermia while sailing, wear warm, breathable clothing in layers. Do not wear cotton clothing. Instead wear polyester or other synthetic inner clothes and breathable, waterproof, and windproof outerwear. In addition, wear headgear and gloves as well as a lifejacket to avoid loss of body heat, as is described below.

### **BODY "HOT SPOTS"**

Certain areas of your body are "hot spots" that lose large amounts of body heat faster than other areas and need special protection to prevent hypothermia. The head and neck are the most critical areas. The sides of the chest, where there is little fat or muscle, are major areas of heat loss from the warm chest cavity. The groin also loses large amounts of heat because major blood vessels are near the surface.

### **HOW COLD IS "COLD WATER"?**

Cold water does not have to be icy...it just has to be colder than you are to cause hypothermia. The rate of body heat loss depends on water temperature, the protective clothing worn, percent body fat, other physical factors like alcohol in the blood, and most importantly, the way you behave in the water.

Different activities in the water consume varying amounts of body heat. The more energy (heat) you expend the quicker your body temperature drops, reducing your survival time. Wearing a life jacket (PFD) adds hours to your survival time.

\*Drownproofing is a warm-water survival technique: To conserve energy, you relax in the water and allow your head to submerge between breaths. This technique is NOT RECOMMENDED in cold water, since about 50% of heat loss is from the head.

### **SURVIVING IN COLD WATER**

If you suddenly find yourself in the water, don't panic! Calmly follow the procedure below to increase your survival time.

Minimize body heat loss. This is the single most important thing you should do. Take the following steps:

Do not remove your clothing, despite what you may have been told. Instead button, buckle, zip, and tighten collars, cuffs, shoes, and hoods. Cover your head if possible. A layer of water trapped inside your clothing will be warmed by your body and help insulate you. Put on a Personal Floatation Device (PFD) if available.

Devote all your efforts to getting out of the water. Act quickly before you lose full use of your hands. Board a boat, raft, or anything floating. Right a capsized boat and climb in. Most boats will support you even when full of water. If you cannot right the boat, climb on top of it.

Do not try to swim unless it is to reach a nearby boat, another person, or a floating object on which you can climb or lean. Swimming "pumps" out warm water between your body and your clothing, and pumps warm blood to your extremities, where it cools quickly and reduces your survival time by as much as 50%.

Remain as still as possible, however painful. Intense shivering and severe pain in cold water are natural body reflexes, which will not kill you, but heat loss will!

### **HUDDLE**

Huddling together with two or more people will extend survival time 50% longer than swimming or treading water.

### **H.E.L.P.**

(Heat Escape Lessening Position) Hold knees to chest to protect trunk of body from heat loss. Hold arms to sides and clasp hands. With certain life jackets and body types, it may be necessary to lower the thighs to achieve a good balanced position in order to remain still in the water.

### **FIRST AID FOR Hypothermia**

Any person pulled from cold water should be treated for hypothermia. Symptoms include intense shivering, loss of coordination, mental confusion, cold and blue (cyanotic) skin, weak pulse, irregular heartbeat, and enlarged pupils. Once shivering stops, core body temperature begins to drop critically. Try to prevent further body cooling and take the victim to a medical facility immediately.

### **What to Do**

Gently move the victim to warm shelter.  
Check breathing and heartbeat. Start CPR (cardiopulmonary resuscitation) if necessary.  
Remove his clothes with minimum body movement: cut them away if necessary.  
Lay the victim in a level, face-up position with a blanket or other insulation underneath.  
Wrap him in a blanket or other warm cloth.

If medical treatment is delayed, use this gentle rewarming techniques:

- a. Apply heating pads or hot water bottles under the blanket to head, neck, chest and groin. Be careful not to burn the victim's skin.
- b. Do not apply heat to arms and legs. This forces cold blood in arms and legs back toward the heart, lungs, and brain, lowering core body temperature and causing "after drop," which can be fatal.
- c. Do not massage or give hot baths. Rough handling may cause cardiac arrest.
- d. Apply your own body warmth by direct body-to-body contact. Wrap a blanket around you and the victim.
- e. Do not give food or drink to unconscious victims.
- f. Never give alcohol to a hypothermia victim.

## **DEAD OR ALIVE?**

Some apparent drowning victims may seem dead, but they may still be alive!

"Mammalian diving reflex" can be triggered by cold water. This reflex, common to whales, porpoises and seals, shuts off blood circulation to most parts of the body except the heart, lungs, and brain. What little oxygen remains in the blood is circulated where it is needed most. Do not assume that a person who is cyanotic (blue skin) and who has no detectable pulse or breathing is dead. Administer CPR and get medical help as quickly as possible.

Above was prepared by Dottie Brabson

As excerpted from the United States Power Squadrons

Funded by a grant from the U.S. Coast Guard.

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## **MEDICAL CONDITIONS AND SAILING**

There are several medical conditions that can present a challenge if they occur on the water. With some consideration and attention emergencies may be prevented, avoided or if they do occur they can be identified early so that prompt action can be taken.

### **Diabetes Mellitus**

Diabetics have an alteration of metabolism that primarily affects their ability to produce and/or utilize insulin that is critical for proper utilization of glucose (sugar). Diabetics may be prone to episodes of

Hypoglycemia, or low blood sugar. Diabetics who are on insulin are particularly prone to hypoglycemia. Hyperglycemia can also occur, but this is less likely to present as an emergency on the water.

Hypoglycemia occurs when the blood sugar drops to a level that alters the mental status. The person may become weak, confused, begin slurring their speech, break out in a sweat, or have a tremor. The treatment for hypoglycemia is to administer sugar: orange juice, a piece of candy, or a medical formulation called glucagon. It can result from a person taking too much insulin or exercising, which uses up sugar and drops their blood sugar.

If you are a diabetic it is helpful to tell your crew, especially during racing. Be sure to bring some glucose source with you such as a candy bar or orange juice. One Saturday morning while racing, I was sailing with a person who was an insulin dependent diabetic. He got weak and asked me to hand him his little cooler. It was a very hot day and we were working pretty hard. His hands began to shake and he told me he needed his orange juice because he was having an insulin reaction, which is a hypoglycemic episode. I got him his OJ; he drank it and felt better.

### **Heart Disease**

Coronary artery disease is a condition where the arteries that supply the heart become narrowed and cannot always deliver the amount of oxygen that the heart needs to function properly. Symptoms are chest pain or a chest tightness or chest pressure, shortness of breath, cold clammy sweating, and nausea. The pain may radiate to the neck or down the arm. There are several situations that increase the heart oxygen requirements including, exercise, cold weather, cold water, eating or emotional upset; anything that increases the oxygen demand on the heart. Symptoms are relieved when the oxygen demand is reduced and the heart is able to meet the demand. The symptoms of a heart attack are similar but may not be relieved with rest or with use of Nitroglycerin, a medication used to increase the blood flow to the heart.

Risk factors for heart disease include: male sex, age 45+, smoking, high cholesterol, high blood pressure, Diabetes Mellitus, a family history of heart disease, a sedentary lifestyle. Heart disease occurs in women usually at 55+, after menopause.

It is important for people with heart disease to avoid over-exertion, avoid cold environments, and ALWAYS carry their medication, NTG (nitroglycerin). Many people may not be aware of the fact that they have underlying coronary artery disease. It is very dangerous for older people to sail in cold weather and heavy air where there may be a risk of capsizing. A few years ago there was a capsized out near the jetty. No one realized that the boat was over for several minutes. One of the crew was an older man in his 70's. They

spent about 45 minutes in water that was probably around 50 degrees. THAT'S COLD! Had this person had some underlying cardiac compromise, it could have been a very serious situation. (Please also refer to the section on hypothermia).

If a person does take their nitroglycerin, be sure to lie them down on the seat. NTG can drastically drop their blood pressure, causing them to pass out. **Not a good idea on a boat.** Lying down, the effect of the lower blood pressure is reduced and the person will do fine.

Another problem that a person with heart disease can experience is an irregular heartbeat. If the heart beats too fast or too slow it can cause a loss of consciousness. They may feel palpitations, become weak or lightheaded.

If a person begins to experience any symptoms, lie them down preferably in shade. Loosen their clothing and head for shore. If there is a full cardiac arrest on the water, the most we can do is basic CPR. Remember the ABC's: **Airway, Breathing, and Compression.**

## **Asthma**

Asthma is a condition where the airways are inflamed, causing wheezing, chest tightness, and shortness of breath, with or without a cough. Most asthmatics will respond to an inhaler called Albuterol. If you are an asthmatic, be sure to carry your inhaler with you at all times. Allergens or exercise can sometimes trigger asthma. It would be unusual for asthma to cause a life-threatening problem on the water. But should the person experience symptoms that are unrelieved by their inhaler, or if they forgot their inhaler, head for shore.

### **SIMPLE GUIDELINES:**

1. Don't be embarrassed to share your condition with your crew.
2. Always carry any emergency medication or supplies that you may need.
3. In the event of an emergency, remain calm, contact 911 as soon as possible, and head for shore.

## **Medications**

Coumadin (warfarin) is a medication used to thin the blood. This medication prolongs bleeding and can cause excessive bleeding from a cut or laceration; or large bruises or hematomas. Persons on this medication should exercise caution to avoid cuts or bruises, a frequent occurrence while sailing.

Several medications can make the skin sun sensitive. Exposure to the sun while on these medications can cause rashes and skin reactions. One of the most common drug known to cause photosensitivity is Tetracycline or Doxycycline. You should check with the pharmacist to determine if medication you are on can cause these reactions.

### **Allergic Reactions:**

Some people have extreme allergic reactions that can cause difficulty breathing and shock. These reactions are extremely serious. The first sensation may be feeling hot, flushing, swelling of the lips or tongue and Difficulty breathing. People with severe reactions should carry an EpiPen with them to use in case of a reaction. If such a reaction occurs, immediately contact 911 for emergency assistance.

Prepared by Chris Collins

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## FLYING SCOT RESCUE ISSUES

### Boarding From the Water

Boarding a Flying Scot from the water is difficult. With the sails down, you can do the following: 1) Pull the mainsheet all the way out. Cleat the mainsheet. 2) Extend a loop of the mainsheet over the stern to a depth of about two feet. 3) Tie the mainsheet around the knob on the centerboard trunk. 4) Now the person boarding can hold the line across the stern and use the loop as a step. 5) Then the person will grab the retaining line attached to the rudder and pull onto the stern deck.

### Bailing a Flying Scot

The Flying Scot is a stable boat that does not capsize easily. But it can! If it does capsize, righting it is the easy part. Stand on the centerboard with all the lines uncleated. **The hard part is to bail the boat.** Unfortunately the centerboard trunk is below the water level when swamped. To bail, you must **stuff the centerboard trunk** to stop water from flowing up through into the boat. Any cloth can be used (towels, clothes, etc.). **The most available cloth is the main sail.** Stuff the mainsail in the centerboard slot and then bail the boat. As the level of the boat rises above the water the sail may be removed from the slot to give more access to reach the remaining water.

## MISCELLANEOUS SAFETY ISSUES

### Weather Awareness (unexpected high winds).

A beautiful day may unexpectedly turn into a dangerous situation if a weather front roars through with high winds. The best way to deal with this is to recognize in advance (by clouds and increasing wind) and return to the moorings. If you are caught with increasing winds then you can do the following:

- 1) Depower the sails by coming up into the wind and letting out the main until the sails are luffing (but not in irons). This is a very inefficient point of sail and slows the boat.
- 2) Use a fisherman's reef. Pull the jib in tight and loosen the main. This disrupts the air over the main sail.
- 3) Take down the jib. You can take down either sail but taking down the main has a real downside. The main inhibits crew movement in the boat that may be necessary for balance. With the jib down you can then luff the main sail to depower the boat.
- 4) It is also useful to raise the centerboard to the halfway point. This allows some ability to point into the wind at the same time as allowing the boat to slip to the side with gusts.

# **SAFETY IS MANY LITTLE THINGS**

by Greg Meyer

Many of us have been exposed to safety encouragement programs by our schools, employers, local and state governments. We are accustomed to thinking of safe activities as being cost effective, people considerate, and the result of properly designed equipment used with well thought out procedures and appropriate attitudes. These conditions and their safe results come about because of careful attention to many, many small things. Our sailing experience can directly benefit from these exposures. They can be carried over directly. Safety in sailing is also many, many little things noticed and promptly attended to.

## **Outfitting Boats:**

At this season, we are preparing for sailing. Each of us has an assignment on a work team--and an opportunity to volunteer when we see a need. Our equipment is well-engineered--over 6000 years of experience behind it and we use the current most-favored forms and materials. We do not skimp because we want sailing to be safe and our boats fun to use. But there are lots of little things to take care of...

- Have you ever cut yourself on the sharp end of a cotter pin or a broken strand in a wire rope? Bend over the ends of the pins; find someone to replace the rope.
- Is the line you are installing the best type, size, and length to do its job? Is the end going to fray and become an unsafe nuisance?
- Are all surfaces smooth---metal as well as wood?
- Is the extension handle on the tiller so loose it will catch on the side of the boat? Find some way to tighten the joint.

Add your own special interest items to the list and be aware of the things your team captain is most interested in.

## **Maintaining Facilities:**

The best-prepared equipment still requires maintenance. Our club work assignments last the whole season, not only for the Fleet Captain and the Boat Captains, but for each and everyone of us. Our mutual help-each-other policy is one of the grand traditions of this club and will continue if we uphold the practice. Yes, it is worth thirty minutes to row to the sailhouse for matches, row back to the boat, and seal the end of a frayed line so that the line will not handicap the next member to use the boat. Or to get out the tool kit to tighten a nut or screw. Or to replace the keeper-wire that has come loose from a shackle. The smart (and lazy) way to handling each of these little things is for each of us to do what we can as soon as a need becomes apparent to us.

You don't have to be afraid that what you will do will not be good...your actions will be better than doing nothing and anyone who does not like your work will have a chance to improve upon your finished product. So, use all that unrecognized skill you have to do what you can about those little things.

For bigger items, communicate. Find someone who can get them taken care of.

### **Safety is no Accident**

The safety record of this club is amazing. I have heard of no major incident since the club was founded about 35 years ago...thousands of hours of safe sailing. Sure, we keep band-aids in the tool kits and many of our "best" sailors have had unwanted swims. We can continue our good record by maintaining our well-designed equipment, operating our boats thoughtfully, learning good attitudes, especially if we are smart, and taking care of all the little things...each one of us.

*Greg Meyer*  
1985

Below are lists of gear that are mandatory, recommended, nice to have, and never should have when you are aboard one of our boats. In addition, you should have a complete change of clothes in your automobile in case you become wet while sailing.

**1. Mandatory.**

- a. One Type I, II, III, or V Personal Floatation Device (PFD) must be carried for each person aboard. b.
- Rubber-soled, non-skid boating shoes that will not leave marks on the boat, to protect you and the boats.

**2. Recommended.**

- a. Waterproof jacket and pants (called foul weather gear), with preferably a bright color so they can be seen easily in such weather.
- b. Water bottle (with at least one quart capacity or more, depending on weather and amount of sailing time).
- c. Hat, for warmth and sun protection.
- d. Sun protection (lotion for skin and lip balm for lips).
- e. Sailing gloves.
- f. Sunglasses/prescription glasses with croakies or other line to hold them in place and prevent them from going overboard.
- g. Chart of the sailing area (preferably waterproofed)\*
- h. Small waterproof sea bag to put these items in, when not needed.

**3. Nice to Have**

- a. Sailing/rigging knife, Leatherman® type tool, or saw blade\* for emergencies
- b. Cassette tape or yarn for telltales on side shrouds\*
- c. Electrical tape for attaching the telltales to the shrouds\*
- d. Duct tape for temporary fixes of all kinds\*
- e. Food (snacks, fruit like oranges or apples, sandwiches, etc. if more than a 2 hour sail).
- f. First aid kit.
- g. Whistle\* or horn.
- h. Waterproof flashlight (very optional since you shouldn't be sailing at dusk or in the dark).
- i. Vapor blanket (those silvery plastic wraps you see on runners after a Marathon run)
- j. \*These items are located in the plastic container on the Flying Scots and Thistle, either in the cubby or under the stanchions at the stern.

**4. Never bring on board**

- a. Dangling earrings or any other jewelry that is loose or may catch on boat.
- b. Watches that are not waterproof.
- c. Wallets or keys (leave former in your locked automobile and the latter in the boat shed, in the metal case to the immediate right as you enter the shed).
- d. A cell phone unless it is in a very waterproof container, which in turn is attached to the sailboat.

- e. Good clothes.
- f. Glass bottles.
- g. More than you need.

## **SAILING STRAINS AND PAINS**

Oh, the joys of sailing: hiking out in a stiff breeze, trimming the jib sheets just right in a tight race, gripping the tiller to keep the boat settled in rough weather, or looking up at a multicolored spinnaker to keep it flying full before the breeze. But the pain the next day. Despite our age,

sailing skills, or physical fitness level, we all are susceptible to injury while sailing. At least that is what I tell myself at my advanced age and less than champion racing skills.

In any case, we all should understand better what the most common sailing injuries we will encounter, their causes, symptoms, and ways to avoid and treat them. Since my only “doctor’s degree” is a JD in law and not medicine, I certainly don’t hold myself out as an expert in these injuries. You therefore should consult a medical specialist or physical therapist for a more definitive diagnosis and treatment of such ailments.

### **1. Lumbar Strain: Hiking Out is a Pain in the Back**

After hiking out or pulling hard and bent over on the jib or main sheets, I often have minor (and occasionally severe) lower back pain. Sailors are prone to such pain when they take such actions (or carry our dinghies up and down the beach) in a bent position, since our spines are then in a flexed and rotated position. Primary symptoms are pain across the middle of the lower back and a decreased range of motion for the back.

To help avoid such lower back pain, start by strength exercises focused on the abdomen (such as sit ups) and lower back muscles. Also, stretch your back muscles through flexibility exercises to make them more limber. In addition, when sailing, try to correct any “biomechanical deficits” and accomplish your job in an ergonomic fashion, which in plain English means to lift or pull in a way that helps to avoid such strain on your back.

To treat the pain from such strain and decrease inflammation, apply ice and then heat, take pain and anti-inflammatory medications, and/or take a muscle relaxant. A back brace also may help. In any event, consult a doctor if the pain is severe and especially if you develop pain, numbness, or tingling in your legs.

### **2. Rotator-cuff Tendonitis: Trimming is a Pain in the Shoulder**

While crewing in the Canadian Flying Scott championships in 1996, I severely injured my shoulder from the repetitive trimming of the jib and spinnaker sheets over three days. The symptoms were intense shoulder pain (particularly worse with any overhead activity), decreased strength, and reduced flexibility in the shoulders and arms for over three weeks.

To assist in preventing this injury, strengthen your shoulder and back muscles and the scapular stabilizers (these include six stabilizers, but I only know three of them: the trapezius, pectorals, and latissimus dorsi) through strength exercises focused on them. Also, stretch these muscles and stabilizers to promote greater flexibility and range of motion. For further information and more details on this, see the following website:

[www.clinicalsportsmedicine.com/chapters/14a.htm](http://www.clinicalsportsmedicine.com/chapters/14a.htm)

To treat a shoulder injury, decrease pain and inflammation by applying ice then heat and by taking pain medication and non-steroidal anti-inflammatory pills. Also, avoid my mistake of aggravating your shoulder again by the same motions that led to the initial injury.

### **3. Cervical Spine Strain: Spinnaker Gazing is a Pain in the Neck**

In the first week of March this year, I had the opportunity to gaze up at a spinnaker for a considerable period of time as crew at the Thistle Mid-Winters in St. Petersburg, Florida. As a consequence, I encountered some minor (and temporary) soreness known as “trimmer’s neck”. I had such soreness or pain because I was positioning my neck upwards at an angle for a somewhat long period of time. The angle of your neck by the way depends upon whether you are dominant in the left or right eye.

To avoid this injury, lower your head from time to time. Also, when gazing upwards, try to position your head and neck directly upwards, by shifting your body. To treat the soreness or pain, use ice and then heat on the neck and take pain medication. To relax your neck muscles, use muscle relaxants. If the pain is severe, you should talk to your physician about corticosteroid injections and/or traction. You also might consider a physical therapist or similar professional to help you with therapeutic exercises and manual mobilization.

#### **4. Carpal-tunnel syndrome: Tiller Clutching is a Pain in the Hand and Wrist**

I finally found a sailing injury I haven't suffered...yet. But that doesn't mean it isn't a common injury, particularly for those who sail for an extended period of time in heavy weather. In those conditions, the skipper tends to be grasping the tiller in a vise-like grip. The crew similarly clutches their sheets under pressure for a long time. The symptoms include pain, numbness, and/or tingling in the thumb, the next two fingers, and the bottom half of the fourth finger.

To avoid injury, try to relax your hands on the tiller by keeping a neutral helm (letting out the main, heading more into the wind, adjusting the traveler, etc.). Also develop proper ergonomics (there is that fancy word again) by positioning your hand so as to avoid strain. Finally, consider wearing a wrist brace. To treat this syndrome, take pain and anti-inflammatory medication; and stretch and strengthen your hands and wrists either on your own or through a hand or occupational therapist.\*

Norm Yoerg, Director, Sailing Instruction and Safety

\*If you wish information on America Cup research on this topic, visit [www.SailSportMed.org](http://www.SailSportMed.org). See also Dr. Anne Allen, Sailing Strains, Sail Magazine, pp. 27-28 (June 2004). This article is partly based on the latter.

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