

# Answers to some of the most COMMONLY ASKED QUESTIONS Regarding Sports Medicine for Sailing

by Jane Kent

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Her sailing experiences range from driving a 505 to doing cockpit on a J/24 to tactician/alternate helmsman on a custom Peterson 44. She has competed in many National, North American and in two World Championships. Her sailing goals for 1983 include the J/24 NA's, the Women's Doublehanded Nationals and Worlds, the Adams Cup and the Prince of Wales.

In addition to her extensive research and laboratory testing on the physiological demands in sailing, she has designed customized programs for many of the teams receiving USOYC grants in 1982. Her programs blend the state of the art fundamentals of her field with the individualized needs and preferences of each sailor, and the feedback from the sailors she's helped has been outstanding.

If you'd like your present physical training program reviewed, or a specific program designed for you or your team-mate(s), write Jane at:

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During the past year in the course of my work with top sailors from around the country, the following questions regarding the various aspects of sports medicine were brought up time and time again. The information presented here, though by no means complete, does address certain problems common to all sailors interested in pursuing a high-level campaign of any sort. More complete answers may be found by consulting the references listed at the end of this article.

• Regarding nutrition, what should I be eating before and during a regatta to optimize my performance?

Basically you want to be sure you are always eating a balanced diet consisting of at least 50-60% carbohydrates (fruits, vegetables, breads, pasta, etc.). Avoid fatty foods. Just prior to the regatta it is essential that you get sufficient carbo's because that is primarily what the body uses for energy during a race.

However, "carbo-loading" is probably unnecessary in our sport. During a race you want your stomach to be pretty much empty so the blood can be sent to the muscles instead, but you don't want to start feeling hungry either. So, what the pre-race breakfast consists of is an individual thing, though there are a few guidelines. It should be high in carbo's (toast, cereal, pancakes), low in simple sugars (jelly, syrup), easy to digest, and high in fluids (lots of water, juice, etc.). If the pressure is on and your stomach is a little nervous, try a liquid (instant) breakfast or something very bland. But don't skip eating altogether. You should eat something even if you have to eat it hours before leaving the dock. Don't force your muscles to get by on last night's dinner.

What you eat or drink during or between races varies with the class. Star and Soling sailors seem to feed themselves pretty well on the race course, whereas 470 sailors seem to stick to juice or water. Again, with the exception of one absolute "rule," personal preference reigns. The "Rule" deals with water. Dehydration can be a limitation to performance. How do you know if you're dehydrated? A loss of weight, even a pound, during a regatta (or over any 2-4 day period) is usually an indication that you're losing body water. The key then is to *replace* the water your body is losing due to heavy exercise, hot climate, too much alcohol, etc. On-the-water dehydration can be a major problem. No one should leave the dock without a container of water, and upon returning, that container should be empty. How much water should you drink? Basically you can't drink too much. I recommend filling and freezing a large plastic squirt bottle (like cyclists use) the night before the race, taking it with you, and drinking the water at opportune times as it melts. The cold water will be absorbed faster than warm water. At this point avoiding dehydration should be your biggest nutritional goal!

At the end of each day, be sure to replenish your body's energy stores by eating a full, well-balanced meal. If you don't take the time to do this, you'll begin to drag by the third day of the regatta. "Drinking your dinner" is the best way to ensure that you'll be fatigued on the race course the next day. Even if it isn't windy, you won't be as mentally sharp.



• What about salt tablets?

Taking salt tablets (to combat dehydration) is a major "no-no"! These will cause more harm than good. Not only will salt tablets burn a hole in your stomach and dump too much salt into your system at the same time, but they will have other detrimental effects such as increasing your blood pressure. Yes, you do lose some salt in your sweat, but you also lose potassium, and most importantly, water. The way to replace these nutrients is through your diet, by eating fruits and vegetables (good sources of potassium), salting your food (if your body craves it), and drinking lots of water.



• How about drinking Gatorade?

Gatorade, which may be classified as an electrolyte/glucose replacing drink, will also help replace these nutrients. However these types of drinks (Super Socco is an example of a glucose replacing drink but it contains no electrolytes—salt and potassium) should be taken *after* the race, not during. This is because the minerals and glucose in solution will slow down the absorption of water by the body. Hence dehydration is not relieved as quickly as it might otherwise be. You are best off sticking to plain cold water on the race course and replacing any nutrients lost through sweat at the end of each day.



• Should I be taking vitamin and/or mineral supplements?

If you are eating a well balanced diet (two fruits, two vegetables, two protein sources, two dairy products, four grains per day), and have no nutritional deficiencies, the answer is no. However, if you aren't sure about your diet or you are traveling, it might be a good idea to take along a multiple vitamin/mineral supplement. At no time should you *substitute* vitamins for a balanced diet! This is a dangerous habit to get into. Not only will your body fail to get its caloric needs, but you will also be missing trace elements not found in supplements. Mega-doses of the various vitamins are usually a waste of money, and can sometimes be dangerous. Benefits from mega-doses are psychological, as indicated by studies with placebo.



• What can I do to increase or decrease my weight?

The answer to this question is never simple, and always depends on the individual. Es-

essentially safe and effective weight loss is achieved over a period of time by a combination of exercise and a balanced low-calorie diet. Weight gain, also accomplished over an extended period of time (2-4 months), is the result of a program of exercise in the form of weight training and a balanced high-calorie diet. Large, rapid weight changes place a severe strain on the body. Therefore a carefully designed and monitored individualized program for gradual weight change is the safest and most effective way.



- What can I do about proper nutrition in foreign countries?

The change in diet when traveling to foreign countries can sometimes cause problems. Often, finding a hearty breakfast in Europe is nearly impossible. One solution is to take dry milk and liquid breakfast mixes. These can even be packed in your boat if you think ahead! This approach works very nicely for supplementing a strange diet. Be sure to use *bottled* water! As I mentioned before, it might be a good idea to take a daily vitamin/mineral supplement. If you do find yourself "loosening up", *lomitol* taken as directed is very good. It is a prescription drug and it never hurts to bring some along.



- Speaking of travel, what about jet lag and cross country driving fatigue?

There are a few tricks to help reduce the effects of jet lag from a long flight. First and foremost, be well rested when you leave. This means the week before you leave, not the night before. Second, avoid *any* alcohol on the flight. Instead, drink lots of water and juice to prevent dehydration as a result of the dry cabin air. Remember too that the cabin is pressurized at an altitude of about 8000 feet! Then after a stroll around the plane and maybe some stretching, try to get some sleep. At this point having a Sony Walkman or something similar may be very valuable. You might find that taking along your own munchies is very helpful also. After arriving at your destination the critical thing is to switch to the new local time right away. If you arrive at noon don't go to bed for the night. You'll end up taking much longer to adjust. The best is to stay up and try to immediately adjust to the local time. But if you are real tired, take a 2-3 hour nap, get up and move around (take a walk), eat some dinner and go to bed at the normal bed time. Though the first day might be a little rough, you'll find you adjust much more quickly this way.

The effects of cross-country driving can

also be minimized somewhat. Obviously, the more drivers and time you take, the better. I recommend stopping at least once every 24 hours for a balanced although light meal. Going for an easy 20 minute run just prior to eating will go a long way in helping to avoid tense and tired muscles both during the drive and for 2-3 days after. On the road, *No-Doz* and other such stimulants can wreak havoc on your system and should be avoided if possible. Drink *lots* of water and fruit juices. Also munch on raw fruits and vegetables. This will help prevent dehydration and constipation.



- What about anabolic steroids and amphetamines, two supposedly "performance-enhancing" drugs?

To begin with, use of both types of drugs is not permitted by the International Olympic Committee (IOC). Steroids, used most often by world class weight lifters and others involved in "strength sports," are purported to enable the athlete to improve his or her strength. However, research carried out with this drug fails to support the claim conclusively, and has uncovered some serious side effects (liver damage, liver cancer, intestinal bleeding, etc.). Amphetamines, or "uppers," are also used at the world-class level and by professional athletes in this country. Again, actual physiological benefits are negligible. In sports where critical thinking and decision making are necessary (such as sailing), performance is actually hindered, and unfortunately, addiction is common with uppers.



- How can I best prepare myself to wear a weight jacket?

Wearing a weight jacket, whether while hiking or trapezing, should be preceded by a proper conditioning program so that knee and/or back injuries may be avoided. This involves a total conditioning and strength training program supplemented with situps while wearing a weight jacket. The amount of weight in the jacket should be minimal to begin with, and gradually increased as your body becomes stronger and more capable of handling it. It is only at this point that weight should then be used while sailing, with the same rule of gradual increase being followed. Additionally, exercises designed to strengthen the legs/knees (leg lifts, curls, and presses) and lower back (light-weight dead lifts, inverted sit-ups, etc.) are prescribed. Flexibility is also stressed. The failure to properly prepare for the wearing of weight may lead to chronic lower back and knee strain, in addition to poor hiking or trapezing technique (back hyperextended or arched).



- After a day on the water, my eyes are very red and irritated. What can I do to prevent this problem?

Eye strain is a major problem facing sailors who spend a great deal of time on the water every week. The glare of the sun and its reflection off the sails and water, as well as abrasion from salt water on the eye itself, all contribute to eye strain. Excessive exposure can lead to damage that may be corrected only with surgery. The importance of protecting your eyes cannot be understated. The best way to do this is by wearing sunglasses and a hat or visor. An *amber lens* seems to be the most effective for sailors, for its ability to cut glare, increase clarity in hazy conditions and its minimal interference with depth perception. However, some people have a very difficult time adjusting to having glasses on while racing, or they sail in classes where spray keeps glasses constantly spotted. In these cases it's best to wear sunglasses up until about 15 minutes before the start, take them off during the race, and put them on again after finishing. Some sort of hat should be kept on however. One very good suggestion to help alleviate the abrasion problem is to rinse your eyes with fresh water from a squirt bottle after a particularly drenching leg. Also eye drops such as *Tears Naturelle* used at the end of each day should provide some relief.



- I have trouble sleeping the night before a major regatta begins. Is there anything I can do that might relieve this?

This problem, common to athletes in all sports, is a result of tension or nervous anticipation. The best thing to do about this is to get a good night's sleep the night that is two nights before the racing starts. In this way any loss of sleep the night before racing won't have a negative effect on your performance. The important thing is *not to worry* about it! Techniques to help you get to sleep include going for an easy run, swim, or bicycle ride to get you physically relaxed, and/or diverting yourself mentally with a good movie or good book. Heavy drinking or sleeping pills are not recommended because they may leave you feeling groggy (or hung over) the next day. Also, try not to let yourself get worked up about the fact that you're losing sleep. Worrying about it only makes it worse.

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- I'm a boardsailor. What can I do about blisters and calluses?

Blisters develop as a result of a "hot spot," or a place where friction raises tissue temperature. Toughening the hands will lead to a decrease in the occurrence of blisters, though gloves are the best prevention. In the meantime, if you feel a "hot spot" developing, cool your hands off in the water or with ice if possible. Vaseline under tape or moleskin under gloves is good care for both blisters and calluses. If blisters develop, don't tear off the dead skin, as infection may result. Just keep it clean and let it heal gradually. Calluses should also be kept clean and soft. As they get big, file them with an emery callus file; never cut them with a razor blade. Keeping them small prevents them from cracking or being torn off. Using vaseline on them at night will also prevent this problem by keeping the tissue soft.



- I hear that warming up before a race is a good idea. What's the best way to do this?

A good warm-up is *very* beneficial to performance. It gets the body ready to work efficiently. In fact, a muscle will work up to 20% more effectively if it has been properly

warmed up. The warm-up should take place on the water, as close as possible to the starting time. When you hit the line at the gun your body should be warm (i.e. you should be sweating a little), your heart rate should be increased from its resting rate, and there should be plenty of blood flowing to your muscles. As a result it won't take you half the weather leg to get mentally and physically into the race. If you are cold your movements will be weaker and less coordinated than they should be. To warm up, go through a series of tacks (executing them perfectly is good neuromuscular preparation) until you start to perspire. You should *feel* warmth in your working muscles. Your heart rate and respiration will be slightly up. At this point, turn around, go downwind, and *stretch* your arms, legs and lower back, holding each stretch for at least 30 seconds. You are now warmed up! Be sure to *stay warm* right up to race time. Go through this routine prior to each start, even on multiple race days.

After the race, cool down by stretching for 10 minutes on your way in. Additionally, stretching thoroughly at the end of the day (in the shower, for instance) will help relieve any cramps, stiffness or soreness that result from the day's racing.



- How can I go about improving my agility and coordination?

Agility can be improved by pushing yourself and testing your ability to adapt to your environment. Coordination, i.e. getting all the parts to work together smoothly, comes with practice. These qualities may be improved off the water by pushing yourself through obstacle courses or taking dance classes (aerobic dance, jazzercise and ballet are all good for agility and conditioning). On the water, practice maneuvers and straight-line sailing with your eyes closed. This will allow your *other* senses to take over, and you will develop a very good kinesthetic *feel* for what you're doing. Coordination will improve, as will your ability to pick up subtle changes in the wind and water during a race, because *all* your senses will be more tuned in.

#### References:

- Fit or Fat*, by Covert Bailey
- Nutrition; Concepts and Controversies*, by Hamilton and Whitney
- Peak Performance*, by David Kauss
- The Sports Medicine Book*, by Mirkin and Hoffman.

