

The Surface Times

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Hydration,

why is it important when diving?

By Danny Bouska, MSDT

Beautiful sunsets, hot sun, cool seas, crisp night skies full of stars, and tropical drinks are things we look forward to on blue water trips. Once we reach "paradise", there may be crystal clear water everywhere you look, however, your body starts losing water. All the delights of tropical diving can leave you as dry as being lost in the desert. The same can be said for diving anywhere whether in our backyard at Clear Springs Scuba Park or in West Texas at Balmorhea State Park.

Dehydration during diving can be dangerous. It has been documented that for every pound of sweat you lose, your heart rate can increase about eight beats per minute, which actually decreases the amount of blood your heart pumps out, by one liter per minute, and increases your body's core temperature by about half a degree. The decrease in blood volume equals less blood flow to your muscles and tissues. This decrease will cause you to tire more quickly, and clear the nitrogen you've absorbed from your dive more slowly, raising your risk for decompression sickness.

How we dehydrate with Scuba

Scuba increases the loss of fluids several ways. For instance, the air you breathe from the scuba tank has had the moisture removed to protect your equipment. So, every time you breathe off your regulator, you lose two times as much moisture from your throat and lungs as you do during normal breathing.

Secondly, scuba creates a condition called immersion diuresis or in layman's terms, the urge to urinate. Scuba diving, especially in water that is colder than the air, creates a body response which causes narrowing of blood vessels in your arms and legs sending more blood to the core of your body. Your body sees this rush of blood into the body as a fluid overload signaling the kidneys to increase urine output to remove the excess liquid.

The exertion created while diving also robs you of water. Sweating and panting as you haul your gear, suiting up in the hot afternoon sun and/or fining against currents can easily leach away a couple pints of fluid during the course of a dive. Also, the sun is a water magnet as it draws water from your body like a sponge.

Stay Hydrated

The most obvious way to stay well-hydrated is to drink a lot of water. A dangerous practice by some divers is to intentionally avoid drinking too much water because they fear having to pee in their wetsuits while in the water. Intentionally dehydrating yourself is dangerous; peeing in the lake, ocean or your wetsuit is not, especially if you're well-



Inside this Issue	
Ciguatera Poisoning	2
Creature Feature	2
Specialty of the Month	2
Honoring Learners	3
Hydration, continues	3
Word from our Sponsors	4
Neat Products	4
Training Specials	4
Travel	5
NRH Fire Department	6





Ciguatera Poisoning

Have you ever heard of ciguatera poisoning? Although it's not strictly related to diving or dive illnesses, it is something that diving might bring you into contact with. Take this scenario:

You and your dive buddy had the best day. Just off the plane the night before, you're enjoying the warm, tropical destination. The two of you had made several spectacular dives that morning and now you're tucking in to a beautiful fish dinner. Eager to sample the local cuisine, you polish off your dish while your dive buddy sticks with the salad.

About an hour after dinner, you're relegated to the toilet with diarrhea and vomiting. But, you also have a horrible headache and your tongue and mouth are numb. You

suspect the food, but you're mystified - what happened?

Strictly speaking, it wasn't the food that made you ill, but the ciguatera toxin present in microorganisms (principally *Gambierdicus toxicus*) that live in tropical waters. The toxin accumulates in higher-level predators as part of the process of biomagnification. What does this mean to you? The tropical fish you had for dinner gave you a high dose of ciguatera toxin.

So what can you do? The condition is rarely fatal but always unpleasant and there isn't an effective treatment. If you find yourself coming down with suspected ciguatera poisoning, your best bet is to manage the symptoms and contact a doctor for help. If you're a PADI Member and are more than

160 kilometers / 100 miles from home, you can use the PADI International Assistance program to get medical assistance.

Avoiding ciguatera entirely is an even better idea but not as easy as it sounds. Hundreds of fish species have been implicated, but according to the World Health Organization (WHO), it is the location - not the species - that makes the difference. The WHO recommends that you talk to local fishermen or others familiar with the area to find out if the fish are safe to eat. If this isn't an option, you should simply avoid eating large reef fish when you're in the tropics. And remember, ciguatera is heat resistant so even cooking doesn't make the fish safe.

Creature Feature

From last edition.

Bushy Black Coral

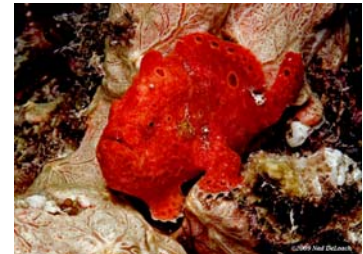
The polyps live on the branches' surface. Polyps have six non-retractable tentacles that can easily be seen extending from the branches' surface.



Larger branches are used for the hard proteinaceous endoskeleton in the jewelry trade. *Black coral* is rare and, when polished, it shines with such luster you can almost see your own reflection in it.



It's appearance does not remind you of it's name.



Specialty of the Month

June: Peak Performance Buoyancy

Learn to precisely weight yourself for optimum control, poise and balance; ascend and descend effortlessly; master streamlining, and you'll move through the water cleanly, efficiently and gracefully.

July: Deep Diver

This offers you the opportunity of a lifetime—going deep to see things others can only dream about.

Here you will experience what it is like to dive between 60 and 130 feet. It takes additional training.

August: Wreck Diver

Drift down and pass through a window to the past. Nearing the bottom, a recognizable shape appears. First, you see a straight line, a round window, then a ship materializes. Looking at the wreck, past and present meet. Get the skills, knowledge and procedures you need to answer the call of wreck diving.



Education Honor Roll for 2009

Seal Team

Lain Bickley, April
 Scotty Landers, April
 Christopher Repko, April
 Brandon Snow, April

Open Water

Mark Richardson, January
 Tyler Sparkman, February
 Meredith Schaefer, February
 David McGregor, February
 Jordan Carroll, March
 Annalene McKenna, March
 Kristen Belcher, March
 Ryan Nichols, March
 Logan McKenna, April
 Ali Garrett, April
 Tyler Hart, April
 Danielle Heinrich, April
 Kevin Ogle, April
 Brenton Sambay, April
 Amber Allred, June
 Kevin Kleibrink, June
 Joseph Gray, June
 Stephen Nelms, June

Advanced Open Water

Michael Harris, April
 Jessica Patterson, June
 Mike Patterson, June
 Gary Blanton, June
 Geoge Ogle, June
 Christopher Lohman, May
 Llonda Bins-Lohman, May

Adventure Diver

Sydney Seeley, May

Specialties

Project AWARE

Nick Dyer, January

Sydney Seeley, May

Computer Assisted Diver

Scotty Ford, June

Coral Reef Conservation

Nick Dyer, January
 Scotty Ford, January
 Sydney Seeley, May

Dry Suit Diver

Blake Dorman, February
 Nicholas Dyer, February
 Manuel Marquez, February
 Brandon Wood, February
 Mark Richardson, February

Enriched Air

Scotty Ford, February
 Danny Shirley, February
 Kevin Guiles, March
 George Ogle, March
 Gary Blanton, March
 Michael Harris, April
 Craig Brooks, May

Peak Performance Bouyancy

Nick Dyer, April
 Michael Mooney, June

Night Diver

Nick Dyer, April

Emergency First Response

Scott Ford, March
 Jennifer Ford, March
 Michael Harris, March
 Keith Holt, April
 Blake Dorman, May
 Brandon Wood, May

DAN DEMP

(O2, AdvO2, AED, HMLI)

Blake Dorman, March
 Brandon Woods, March
 Nick Dyer, March
 Dave Seeley, March

On-Site Neuro

Scott Williams, March
 Nick Dyer, March
 Dave Seeley, March

Dive Medicine for Divers

Tim Landers, April
 Mike Manila, April
 Nick Dyer, April
 Dave Seeley, April
 Angela Garrett, June
 Scott Williams, June
 Paul Skinner, June

EFR Instructor

Karen Bostic, February
 Scott Williams, February
 Gregory Baviera, February
 Michael Turner, February

OWSI Instructor

Karen Bostic, May
 Rebecca Shannon, June

DUP Instructor

Mike Manila, April

Dry Suit Instructor

Mike Manila, April

Equipment Instructor

Mike Manila, April

UW Navigator Instructor

Mike Manila, April

IDC Staff Instructor

Scott Williams, April

(Continued from page 1, Hydration)

hydrated as your urine is fairly dilute anyway.

Drink enough water on the days leading up to a dive trip so that your urine is clear. Including sports drinks since they also replace electrolytes lost during sweating is a good idea. Take a container or two of a sport drink with you to Clear Springs or any of the many area lakes where you dive, or if you're going out of the country, take a container of powdered sport drink which should last the entire trip.

How else can you retain water?

Alcohol is a diuretic that suppresses the release of a hormone that helps your body retain fluids. A drink or two of your favorite adult beverage the night before diving is most likely ok, but be on the safe side have a glass of water along with each one, and turn off the tap after two drinks. Also, caffeine is a mild diuretic, so it's smart not to overdo it. Stick to one cup of coffee the morning of a dive and drink water rather than a lot of tea and sodas during the day.

Beware of protein-heavy foods for breakfast as they require more energy and water to digest than they contribute. Carbohydrates, like oatmeal, cereal and whole grain breads, use less digestive energy and help your body retain fluids. Include lots of high-water foods like oranges, melons and other tropical fruits.



A Word from Our Sponsors



DACOR Regulator Upgrade Program

Own a Dacor regulator that was produced in the US prior to 2000? Tried to have it serviced and discovered that service kits are no longer available?

Bring in your old regulator:

Get a Prestige 12 (1st stage and 2nd stage only) for only \$200

OR

Bring in your old regulator:

Get a Voltrex 22 (1st stage and 2nd stage only) for only \$300!

**Offer good through the end of this year
or**

While supplies last, so don't procrastinate!



Prestige 12 MSRP \$375



Voltrex 22 MSRP \$600

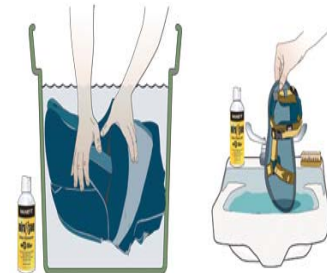
Neat Products, considering our Hydration conversation!



MiraZyme™ Odor Eliminator is a powerful blend of natural enzymes and microbes used to remove odors caused by mold, mildew and bacteria. McNett has identified, separated and reproduced a unique blend of 10 naturally occurring and highly adapted enzymes, microbes and other organic

ingredients designed to identify and destroy odor.

MiraZyme is extremely versatile, quickly and effectively removing odor and organic debris from a wide variety of clothing, footwear, outdoor and sports gear, and more. Residues from MiraZyme are water and carbon dioxide-safe for the environment.



MiraZyme works great to deodorize any dive gear. Simply dip and air dry!

Divers Alert Network

Membership

DAN is the only organization I am aware of that is actively pursuing medical dive research. They provide assistance to all divers (regardless of membership status) through 800 phone numbers and will accept collect calls from anywhere in the world. This alone

is worth our support with membership fees of \$29 per year. The included subscription to Alert Diver is just a bonus.

Dive Insurance

This is the best option for Medical Dive Accident Coverage that I have reviewed. There are three plans from \$25 to \$70 per year covering

not only medical coverage for a dive accident but extra transportation, extra accommodation, lost diving equipment and much more.

I cannot stress enough how valuable it is to have this coverage. Check the details from our web site by clicking here

[DAN Dive Insurance](#)



Trips for 2009

Cozumel

July 10-13

Aug 14-17

Diver \$792

Non Diver \$652

Staying at Hotel Cozumel with an all-inclusive package this time. The trip price also includes round trip airfare, transportation to and from the airport, 2 dives on Saturday and 2 on Sunday. Most trips the group opts to add dives so many times we do 3 dives on Friday, 3 or 4 dives on Saturday and the 2 dives on Sunday.

St. Lucia

September 12-19

\$1665Dvr,

\$1305NDvr Seven nights in an ocean view room, airport transfers, all taxes and services. Basket of local fruit, breakfast, lunch, afternoon tea, dinner and non-alcoholic beverages provided. Sailing, windsurfing, snorkeling, tennis, beach chairs and towels available... AND 12 boat dives, 2 night

2 Left



St Croix

December 5-12 \$1410+ air

Nekton Live aboard

Nitrox available with up to five dives per day. If you have never taken a dive vacation on a live aboard you have not lived! Make this your first.



Training Specials

Learn to Dive Package

A whale of a deal, tell your friends.

Group Class Tuition, Student Materials, Personal Gear (Mask, Snorkel, Fins, Boots, Bag) chosen from a wide variety of options, and a shorty wet suit. Upgrades are available should you desire.
\$695

Trip to Missile Silo

August 8,9

This is a must have in your dive log! Get Altitude Diver certified and Deep Diver Certified while enjoying a truly unique location.

\$100, one-day entrance & Alt Cert

\$200, two-day entrance & Deep Dvr

Books not included

WBD Season Pass

Take any or all of the 38 PADI/DAN specialties offered at We B Divin' in a 12 month period. Up to 3 crew packs included.

Get your PADI Master Scuba Diver and your DAN Diving Emergency Specialist.

\$699 — Unbelievable!

Divers Alert Network

DAN Travel Insurance

This is Dan's newest product. I am sure that I have not reviewed every Trip Cancellation and Interruption policy available out there on the market, but this one is very competitive in benefits as well as cost. Also, of course, when we

use this product we are supporting DAN which is always a plus.

Travel insurance is good for those who want to plan a trip but have pending concerns like the health of a loved one. It is very valuable when planning a BIG trip like Galapagos. Many times trips like this

must be planned far in the future and we simply cannot know what life will put on our plate in the interim. So this type of insurance protects us from a total loss.

Check the details from our web site by clicking here

DAN Dive Insurance



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The Surface Times

We B Divin' is your personal resource for scuba training (PADI), equipment sales, service, and travel.


We pride ourselves on individualized training, especially for people with water related anxieties. Our rental gear includes SeaQuest weight integrated BCD's (women's and men's), computers, and regulators for state of the art training and the ultimate in safety.

Remember, enjoyment and safety are enhanced by comfort and proper fit. We will personally fit you, whether your primary interest is diving or snorkeling.

We offer both group and individual travel opportunities. Both singles and couples are welcome. Singles may ask to room share or can choose the single supplement option. Everyone is welcome - divers, snorkelers, non-divers, shoppers, etc.

Think Outside the Bowl!

There is much to learn, many places to go and much to see.



Come learn with us, go places with us and see with us.



North Richland Hills Fire Department Receives Award for Innovation

The North Richland Hills Fire Department was honored on Thursday, May 14 with the 2009 J.Robert Havlick Award for Innovation in Local Government. This award will be presented during the annual conference of the Alliance for Innovation in Corpus Christi.

North Richland Hills received the award for its Field Activation Cath Lab Program. Through this program, North Richland Hills' paramedics diagnose life-threatening heart attacks in the field and immediately activate the on-call Cardiac Cath Lab Team at North Hills Hospital. The paramedics then bypass the emergency room and take the patient directly to the Cath Lab, saving time and improving the patient's chances of survival. Because of this innovative program, heart attack patients in North Richland Hills are receiving life saving treatment in

nearly half the time, when compared to the national standard.

The Alliance for Innovation is a network of municipal and county government professionals seeking innovation and governmental excellence. Created from a partnership between International City/County Management Association, Arizona State University School of Public Affairs, and the Innovation Groups, the Alliance is the widest and deepest innovation based network serving local government. Additional information about the Alliance for Innovation is available at www.transformgov.org.

For additional information about the North Richland Hills Fire Department's Field Activation Cath Lab Program, contact Fire Chief Andy Jones at 817-427-6900.