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The Presidents’ Corner
by Matt Rownin

It is now August and we still do not have a Secretary!!!!! We really need someone to step up and take this position. I know we joke at the meeting about being an officer but now it is time to be serious. It is very easy, the template and system is already in place all that needs to be done is cut and paste to update the Surface Interval as necessary to make it current. The only other option is to stop sending out the Surface Interval. If you want to take this on let me know by email – matt@cthomesales.com.

September is also our Members Presents Night so if you have a short video, some slides or just something you want to spend about 10 minutes talking about let us know. The floor is yours.

We are making another change to the normal routine this month. Our meeting will be one week earlier on August 21 NOT the 28th. If you show up on the 28th you will be very lonely. The August meeting is our annual movie night where we will show “The Life Aquatic with Steve Zissou.” Come down at 7pm to grill some food, have a drink or maybe two and watch a classic movie.

Enjoy the dog days of Summer.

Dive Safely

Matt
The business listed on this page has donated dive gear and dive services to help support the Fairfield County Diving Association.

Welcome to the underwater world from New England Dive Center. New England Dive Center is located centrally to most Connecticut residents in Wallingford, CT. As a family run dive shop we share a common goal of trying to make the whole world SCUBA certified. For the past 20 years we have offered beginner scuba diving classes to people of all ages. Upon your first visit you will notice we take pride in keeping our scuba store stocked with the latest in diving gear and equipment. If a SCUBA diving adventure is in your desires then you’ve found a home at New England Dive Center.

We at New England Diving of CT make it our common goal to constantly provide the best service possible to our customers. We enjoy a relaxed personal level when it comes to our classroom environment as well as our sales floor. If you let our well trained dive professionals assist you in your diving needs you’ll be more than satisfied in the end. We’re a family run Connecticut SCUBA store so come join the excitement everyone is talking about!

Alan the Algae
July Meeting DAN Raffle Winners

After a interesting video presentation by Paul Gacek on Diving Cozumel 2015, the club held its monthly raffle to support our DAN Platinum sponsorship.

The winners were: Apollo BioMicro Filter donated by New England Dive Center — Lisa Jarosik; SeaKing Silicone Snorkel donated by New England Dive Center — John Fanuko; Smart Sleeve Small Phone Covers donated by England Dive Center — Jim Purcell; Intovae Neoprene Camera Cache donated by New England Dive Center — Doug Reitmeyer; Sea Drops donated by New England Dive Center — Sal Florio; Smart Sleeve Medium Phone Covers donated by New England Dive Center — Bruce Shillinglaw; Dive Flag Decal donated by Orbit Marine Dive Center — Doug Reitmeyer; Dive Mask Slap Strap donated by Orbit Marine Dive Center — Mark Shannon; Silicone Gease donated by New England Dive Center and Paul Gacek for donating tonight’s raffle prizes for our DAN raffle. Remember, you can’t win if you don’t buy tickets and you can’t buy tickets if you don’t get up and come out to FCDA events and meetings!

Dive Center and Paul Gacek

FCDA Member Ads

Hey - have you got a non retail-diving business that you’d like to share with fellow members of FCDA? Get your business card size ad in the FCDA monthly newsletter "Surface Interval" for only $50.00 for one year. Give your business a boost and help support the production of our monthly newsletters. For more information, write to FCDA, P.O. Box 3005, Fairfield, CT 06824 or email to fcda@aol.com.

Nu Tech Pest Control

**MEL RICH JR, Owner**
(203) 554-1762
License # S-3485
291 Shelter Rock Rd, Stamford, CT 06903
Low back pain is a very common medical problem, estimated to occur in about two-thirds of adults. Because divers must move around a great deal, climb ladders, lift tanks, and be capable of self-rescue and assisting other divers in the water, back pain can be more than a nuisance for a diver. In some cases it can keep you out of the water.

Back pain can result from a variety of injuries or illnesses. The purpose of this article is not to help you diagnose the cause of your back pain. That task is best left to your physician. What I hope to accomplish here is to recommend exercises intended to minimize problems with back pain associated with the most common musculoskeletal causes. Before you begin any of these exercises, consult your physician or physical therapist.

The fundamental underlying principle is that it helps strengthen and improve the flexibility in your back, stomach, hips, and thighs. It is important to balance strength and flexibility. For instance, if you exercise the hamstring muscles in your legs in such a way that they become tight (inflexible), the mere act of bending over may cause you to suffer a back injury. A back exercise program should be maintained on a regular schedule — at least every other day for starters and working up to twice each day. If you don’t keep up the program, and allow your muscles to become de-conditioned and less flexible, then you will lose all the advantage you have obtained by stretching and exercising.

Begin each exercise routine slowly, with gradual stretching and lighter loads leading to more vigorous stretching and heavier loads. When you lift a load or exert, you should exhale. Inhale during the rest period between exertions. If you find yourself holding your breath while straining to perform an exercise, your breathing pattern is backwards.

The following are exercises and stretches to relieve back pain. Dress in loose-fitting, comfortable clothing. Equipment you’ll need: an exercise mat or beach towel, a chair. Repeat each exercise from five to 10 times:

**Single knee-to-chest stretch** – Lie on the floor faceup. Keeping one leg straight and your head against the floor, bend the knee of the opposite leg and pull the knee to your chest, using both hands locked behind the knee. Hold the stretch for 60 seconds, then pull your leg (still bent at the knee) out from the midline of the body, so that you feel a stretching sensation on the inside of your thigh. Hold this position for 30 seconds. Return your leg slowly to the floor and repeat this exercise using the other leg.

**Double knee-to-chest stretch** – Lie on the floor faceup. Bend both knees at the same time and pull both knees to the chest, using both hands locked behind the knees. Hold the stretch for 60 seconds, then pull your legs out from the midline of the body, so that you feel a stretching sensation on the inside of your thigh. Hold this position for 30 seconds. Return your legs slowly to the floor and repeat this exercise using the other leg.

*Continued on page 5*
Exercises to Keep Your Back Scuba-Ready

by Paul M. Auerbach, M.D. (continued)

seconds, then pull your legs apart out from the midline of the body, so that you feel a stretching sensation on the inside of your thighs. Hold this position for 30 seconds.

Prone back extension stretch – Lie on the floor facedown with hands held against the sides of the body or on the forehead. Gently raise the head and shoulders from the floor and hold for a few seconds. If this is too difficult, place your hands on the floor near your head so that you can push up by straightening your arms. Keep your hips on the floor.

Standing back extension – Stand with the feet slightly wider than shoulder-width apart to maintain balance. Place your hands on your hips or against your lower back and gently bend backward at the waist. Hold this position for a few seconds.

Kneeling back arch (“cat” arch) – Kneel on hands and knees with arms forward of the head, palms on the floor. Tuck down the chin and arch your back upw ards, while slowly leaning back on your heels and dropping your shoulders toward the floor. Hold for 60 seconds.

Standing hamstring stretch – Stand in front of a chair. Place one straightened leg on the seat of the chair. Gently stretch the hamstring of the straightened leg by slowly bending the other (balancing) leg at the knee. Try to hold the stretch for 30 seconds. Repeat using the other leg.

Standing calf stretch – Lean forward against a wall with both palms on the wall, heels flat against the floor. Place one foot forward to isolate the back leg, then lean until you feel a stretch in your calf muscles. Hold for 30 seconds. Repeat using the other leg.

Side-bend stretch – Stand straight, then bend at the waist to the side sliding the arm down the leg. Release the stretch and repeat to the opposite side.

The following exercises help strengthen different muscle groups related to back health:

Wall slide (back, hips and legs) – Stand with your back against a flat, smooth wall surface with your feet shoulder-width apart. Keeping your back against the wall, bend your knees toward a squatting position until your knees are bent to a right angle (90 degrees). Don’t squat beyond this position. Hold this position for a few seconds, and then slide back up to a standing position. The arms can be held at the sides or straight out in front for balance.

Prone leg raises (back and hips) – Lie on the floor facedown with your arms at your sides. Keeping one leg pressed against the floor, tighten the muscles in

(Continued from page 4)
Exercises to Keep Your Back Scuba-Ready
by Paul M. Auerbach, M.D. (continued)

the other leg and raise it up a few inches for a count of 10, then lower it back to the floor. Keep your hips against the floor. Repeat this exercise for the other leg. A variation of this exercise is to place your arms extended in front of your head and raise the arm opposite the raised leg (e.g., left leg and right arm) at the same time.

Standing back leg swing (back and hips) – Stand behind a chair with your hands on the back of the chair. Keep one leg straight with foot planted on the floor while you raise the other leg backwards. Lower the leg slowly and then repeat the exercise with the other leg.

Supine leg raises (stomach and hips) – Lie on the floor faceup with your arms at your sides. Keeping one leg pressed against the floor, tighten the muscles in the other leg and lift it straight up 6-12 inches (15-30 cm) for a count of 10, then lower it back to the floor. Repeat this exercise using the other leg. You should feel a pulling sensation in the hamstring muscles of the lifted leg.

Sitting leg lift (stomach and hips) – Sit upright in a chair and lift one leg straight up to a position where you have a 90-degree angle at the waist, while keeping the other leg straight and lifted just a few inches off the floor. Repeat this exercise for the other leg.

Kneeling leg lifts (hamstrings, lower back and buttocks) – Kneel on the floor with your arms at shoulder-height for balance. Pull in one knee to your chest, then extend that leg straight behind you and lift it up slightly. Hold for 10 seconds. Repeat with the other leg.

Semi sit-ups (stomach “crunch”) – Lie on the floor faceup with knees bent and feet flat on the floor. Raise your head and shoulders slowly off the floor and reach toward your knees with your hands. Tighten the abdominal muscles. Hold the “up” position for two seconds, then release and slowly lie back down.

Back pain may be a symptom of a potentially serious situation. Inform your physician if your pain is accompanied by fevers, chills, unintended weight loss, difficulty with urination or bowel movement, pain or a tingling sensation in the legs or feet, or loss of circulation in the legs or feet.

To prevent low back pain, avoid risks such as heavy lifting (particularly while bending forward at the waist), sudden or forceful twisting of the torso, extreme body blows or vibration, jumps from heights, obesity and poor physical condition.

Most therapists agree that it is not useful to begin exercises during the acute period when you have just suffered a back injury or have begun to experience pain. It is best to wait until the pain (and perhaps inflammation) has begun to subside, usually from seven to 10 days from the time that the pain has significantly improved. If you are controlling your back pain with pain medication, you must be particularly careful to wait to begin exercises until instructed by your physician or therapist.

Specific prevention measures for divers include:

When lifting any heavy objects, bend at the knees, not forward at the waist. This is particularly relevant when handling tanks and heavy luggage.

When donning a tank, let someone help you. Some persons like to lift a tank up over the head to slide it down their back so that they can slip their arms into the attached buoyancy compensator (BC). This puts extra strain on the back and neck, risks dropping the tank, and is much less stable than sitting or standing and having the tank carried into position by another person.

When wearing a tank, move very carefully when walking, particularly on a boat. It’s easy to lose your balance and fall or wrench your back. Try not to bend forward more than is necessary to maintain balance. Always hold on to something to maintain stability.

Be very careful ascending and descending ladders, particularly when wearing a tank.

Do a few stretching exercises before donning dive equipment before each dive.

Avoid sitting for prolonged periods. This is the anatomical position that is least favorable for low back strain, especially for those with chronic back problems.

Reprinted from Dive Training Magazine.
July 1948, a B-29 Superfortress zips over the remote waters of Lake Mead. It's a secret test mission for a missile guidance system. Except there's a problem: the pilots misjudge the altitude. The massive bomber plunges into the lake. The crew survives, but the plane is lost.

Nearly 70 years later, another crew waits on the shore not far from where that bomber went down, watching a much slower-moving disaster unfold: the historic drought in the Colorado River Basin.

"All this was underwater at least five years ago," said Joel Silverstein, who runs Tech Diving Limited, which has exclusive access to the submerged remains of that mission gone awry.

"This particular boat launch ramp didn't exist," he said. "It used to start all the way about a mile and a quarter up the hill."

In recent years, Silverstein has watched the water line creep back, exposing chalky rings and islands unseen since the lake was filled. This is all due to the historic drought in the Colorado River Basin. The marina here now sits abandoned in a dry gully.

Steven Brown is one of the divers coming to tour the bomber with Silverstein's company.

"Seeing this lake as a child in the '80s and now seeing it, it just makes my jaw drop," Brown said. "To say I'm scared now, I think is actually a realistic statement."

Lake Mead has been hitting record lows throughout the year, raising the specter of water cutbacks for Arizona and Nevada in the near future.

The upshot for these scuba divers: the underwater wreckage is easier to explore, as Silverstein explained on the boat ride out.

"On its crash, it sank in approximately 260 feet of water and that's exceptionally deep for scuba diving," Brown said.

Now it's less than 130 feet down, meaning more light and divers need less training. Silverstein has gone wreck diving all over the world and said the B-29 stands out. For one, the cool freshwater has kept the plane in remarkably good condition.

"That plane has never seen air since 1948. Everything in there, every control that’s inside it, is in its original position," Silverstein said.

Soon, the crew is wriggling into heavy insulated wetsuits, fastening straps and straddling tanks of nitrox. By the end they look like astronauts, not out of place in the moonscape of Lake Mead.

John Fuller is the boat's captain and one of the tour guides. Bobbing in the water, he gave Steve Brown a "dry run" before the descent.

"Then we'll go around to the second place where the engine used to be," Fuller said. "And look at the gigantic hole with all the pipes and tubes and wires and all the stuff. You’re thinking, 'man, who designed something like that?'"

At the time of its inception during World War II, the B-29 was a major leap forward for American military aviation. It could carry out bombing campaigns in the Pacific and was eventually entrusted with nuclear weapons.

An old military training video (Continued on page 8)
Drought Sheds New Light On WWII-Era Wreckage In Lake Mead by Will Stone (continued)

Silverstein said he finds something new every time, but this dive the biggest surprise was not an artifact.

“We hit a maximum depth on it today of about 102 feet,” he said. “Last time we were on it, we had a maximum depth of about 108 feet. So we’re seeing more water drying up here in Lake Mead than ever before.”

A frightening development that Silverstein — and all the Southwest — hope will reverse course soon. Until then, this is a chance to dive deep into a history that few have seen from this vantage point.

Reprinted from ljzz.org July 9, 2015

Shark Week Funnies!
A group of authors associated with DAN Europe published the results of a new flying-after-diving study in March. The results are intriguing and may lead some divers to wonder if it is time to revisit the flying-after-diving guidelines.

The researchers conducted echocardiographic postdive monitoring of gas bubbles in venous blood (venous gas emboli, or VGE). The study was conducted over six days with 56 volunteer recreational divers. All the divers were apparently healthy and had no history of decompression sickness (DCS). Each diver did roughly 13 dives for a total of 726 dives in the study.

The researchers monitored VGE after each dive at 30, 60 and 90 minutes after surfacing. Of the 56 divers, 23 almost never developed detectable bubbles (the NB group), 17 divers bubbled occasionally (the OB group), and 16 divers produced bubbles every day after almost every dive (the B group). The dive profiles were monitored by dive computers; the average maximum depth was around 99 feet of seawater, the average dive duration was about 49 minutes, and the ascent rates ranged from 30 to 60 feet per minute.

Immediately before takeoff, 24 hours after the last dive ended, VGE were not detected in any subject. After takeoff, however, bubbles were detected by eight subjects from the regular bubblers group and in none from other two groups. At 90 minutes, all subjects were bubble free.

This was the first in-flight study of real-life dive exposures, and there are two important findings from it that divers should appreciate. First, there was great variability in postdive bubble degree, and it is important to note that the same divers seemed to consistently exhibit either low or high bubble production. While one can safely assume that the risk of DCS is negligible without demonstrable venous gas bubbles, the risk of divers who do have bubbles is not exactly linearly proportional to the bubble grade. At a low bubble grade the risk may not be significantly different than for nonbubblers. In this study, although there were 16 divers who bubbled regularly, nobody developed any postdive symptoms (nor did any of these divers have a history of DCS). It's possible that with deeper and longer dives the distinction between bubblers and nonbubblers might disappear.

The second important finding of this study is that flying in a commercial aircraft even after a 24-hour surface interval can produce bubbles in divers' blood. The current guidelines for the kind of diving these volunteers did (multiple days of no-decompression diving) recommend a minimum preflight surface interval of 18 hours.

In this case, the highest level of bubbles detected during flight was grade three (on a scale of zero to five), and this was in only one diver. The Defence and Civil Institute of Environmental Medicine (DCIEM) decompression tables, which were based on bubble monitoring and are considered reasonably conservative and safe, consider a dive profile safe if the postdive bubble level did not exceed grade two in more than 50 percent of tested dives. Based on that guideline there is no reason to change the current recommendations (this study found VGE greater than grade two in only one out of 56 postdive manflights). It is important to note that the DCIEM tables were tested using Doppler VGE detection (which uses a grading scale of 0-4), while this study used echocardiography (with a grading scale of 0-5). Grade three on this scale is not necessarily greater than Doppler grade two.

Current guidelines recommend minimum preflight surface intervals before flying on commercial aircraft. To be on the safe side, it is always better to wait longer. This study has shown that a 24-hour interval is probably safe, but the 18-hour interval may deserve another look. We hope this group will continue their research and provide more data to increase our confidence in answering these important questions.

Reprinted from Alert Diver
Spring 2015
Next FCDA Meeting

Friday, August 21, 2015 - 8:00 PM
Coast Guard Cottage, South Benson Marina, Fairfield, CT

Pre-Meeting Barbeque - 7:00 PM - BYOM*
(* Bring your own Meat)

"FCDA at the Movies
"The Life Aquatic with Steve Zissou"

Renowned oceanographer Steve Zissou (Bill Murray) has sworn vengeance upon the rare shark that devoured a member of his crew. In addition to his regular team, he is joined on his boat by Ned (Owen Wilson), a man who believes Zissou to be his father, and Jane (Cate Blanchett), a journalist pregnant by a married man. They travel the sea, all too often running into pirates and, perhaps more traumatically, various figures from Zissou's past, including his estranged wife, Eleanor (Anjelica Huston).

September 17-20, 2015 - September Cape Ann Trip

Come up any time and camp out and do some diving. We have boat trips planned on Friday and Saturday with Cape Ann Divers. If you want to come up contact Matt Rownin at 203-767-2361 or email: matt@CTHomeSales.com.