

# Dixie Zone Newsletter

## Winter 2011

### 2010 ZONE SCY CHAMPIONSHIPS

The 2011 Dixie Zone SCY Championship/18<sup>th</sup> Annual Fort Lauderdale Masters Challenge (February 25-27, 2011) has been designated as a Fort Lauderdale Centennial Event! Please spread the word and join us for "A Time to Celebrate!" A weekend of Competitive Swimming and Social Events to celebrate ALL that is Fort Lauderdale and USMS Swimming! Swimming has been such an instrumental part of Fort Lauderdale's first 100 years (82 years at the Fort Lauderdale Aquatic Complex.) FLA Masters and the City of Fort Lauderdale want to show that swimming will continue, for the next 100 years, to be the "Crown Jewel" on Fort Lauderdale Beach!

The meet website:

<http://www.flamasterschallenge.com/event-details/meet-information/>

On-line Registration:

[https://www.clubassistant.com/club/meet\\_information.cfm?c=156&smid=2840](https://www.clubassistant.com/club/meet_information.cfm?c=156&smid=2840)

**Register now! The online entry deadline is Saturday, February 19.** The paper entry deadline has already passed.

### 2011 USMS LCM NATIONALS

*Auburn Masters Swimmers Getting Ready For LC Championships*

Auburn Masters Swimmers (AMS) are getting ready to host the 2011 USMS Long Course National Championships, August 3-6, 2011. All races will take place indoors in the James Martin Aquatics Center, which many in the Dixie Zone know to be a fast pool with minimum 9 foot depth and a gutter system designed to eliminate turbulence. In addition, we will have three separate places for warm-up and warm down, including the diving well next to the competition course, an 8-lane 25 yard indoor pool immediately adjacent to the competition course, and an outdoor 10-lane 50 meter pool. I'm sure we don't need to tell Dixie Zone swimmers that it will be hot in Auburn in early August, or that afternoon thunderstorms might affect access to the outdoor pool. Short of hurricanes (anyone remember Savannah?) and tornados, however, the indoor water should be safe in virtually all weather conditions.

Auburn is located approximately 90 minutes down I-85 from the Atlanta airport and 2 hours from the Birmingham airport. Swimmers also can fly into Montgomery, AL or Columbus, GA, which are less than 60 minutes from Auburn, though you usually need to fly through Atlanta anyway. There is a shuttle service (Express 85) that runs between Auburn and the Atlanta airport. We will have shuttle service between selected hotels in the area and the pool and free parking will be available in select lots around the pool.

AMS is able to host the 2011 LC Championships because we enjoy an excellent working relationship with Sarah Stalkamp, Director of the Aquatics Center, and with the Athletics Department at Auburn University. So good is our relationship, in fact, that Sarah will serve as Meet Director, sacrificing her own chance to race to make it possible for the rest of us to do so. Running the meet is not possible without the help and support of volunteers. If you are interested in volunteering please let us know at [ses0032@auburn.edu](mailto:ses0032@auburn.edu) or (334) 844-9622.

### TEAM GREENVILLE MASTERS INVITATIONAL

**South Carolina LMSC Long Course Championships  
June 25-26, 2011**

**Greenville, South Carolina**

**Same Location \* Same Southern Hospitality \* NEW  
AQUATIC COMPLEX\***

Introducing the NEW Westside Aquatic Complex: A state -of-the-art aquatic center complete with an eight lane, 50 meter by 25 yards competition pool, five lane, 25 yard warm down pool, full locker rooms and amenities, fitness room, viewing/game room, concessions, retail area and family dressing rooms. Competition pool (16 lanes/25 meters and 20 lanes/25 yards) is equipped with Kiefer Surge starting blocks, Kiefer Advantage II Wave Eater non-turbulent lane lines, and has optimal racing depth of an average 6 feet 6 inches. Both pools have UV filter system and new evacuator systems for chloramines discharge along with a high velocity air system. Minimum spectator seating is 600 with maximum of 1,100. Ample parking is available.

Meet highlights: Awards - The top male and female in each age group will receive a classy high point award. Individual event ribbons will be given to 1<sup>st</sup>-8<sup>th</sup> place in

each age group, and team awards will be given to the top three teams in and out of state. A championship t-shirt will be available. Y'all can visit our website at [www.tgswim.com](http://www.tgswim.com) and personally view the renderings and construction photos. Yes siree, this is not "OLD Blue" with just a new coat of paint! Please direct all questions and inquiries to Karen Alexander, meet director. She is available 24/7 at 864-506-2016 and [pixabugg@bellsouth.net](mailto:pixabugg@bellsouth.net).

## **THE IV UANA PAN AMERICAN MASTERS CHAMPIONSHIPS**

Join the Pan-American Swimming Union for the 2011 Pan American Masters Championships November 8-15 in Rio de Janeiro, Brazil. Swimming, open water, synchro and water polo will all be contested. Don't miss out on this opportunity to compete internationally. More information coming soon.

## **GRAND STRAND CLINIC**

*Diane Bartlett, Grand Strand Masters Swimming*

Thirty-eight masters swimmers spent Saturday January 22, 2011 at the North Myrtle Beach Aquatic & Fitness Center giving their undivided attention to Olympian Rowdy Gaines. Sponsored by the Grand Strand Masters Swim Team and South Carolina Masters Swimming, participants spent the morning going over techniques and tips for efficient strokes. During the afternoon, swimmers were randomly divided into 4 teams and competed against each other in a spirited relay carnival consisting of ten different relay events. Rowdy rotated among the teams as an additional competitor for each of the events. All the participants raved about the clinic and echoed the sentiments of Rowdy's tweeter post:

"Just had a great Masters clinic and relay meet here in Myrtle Beach...love our sport and Masters swimmers are amazing..."

## **THE NEURO-BIOLOGY OF COMPETITION**

*Edward H. Nessel, R.Ph, MS, MPH, PharmD.*

It is well established and universally accepted that "the body follows the head." Whether it be physically, emotionally, or mentally, what comprises about 2 percent of our mass absolutely controls the other 98. Integration and correlation of body functions are so complex that there need be various segments of the contents of our skulls...a division of labor, if you will. This "specialization" was developed and has been honed since we first arose as a species. Specific functional activity is all geared to allow us to understand and learn and then remember what is constantly happening around us. No matter what the

energy requirement or physical demand, if bodily movement is sought, it is initiated by signals from the brain.

No matter what the chosen effort, correct movement demands proper head positioning appropriate for each sport. This is the physical aspect mentioned above but not the focus of this article. The message here is to elucidate the centers of the brain intimately involved in learning, storing, analyzing, and interpreting what messages are sent north through the body which nobody sees, and what resultant messages are sent south to move the body which everyone sees. But there is more, much more, to learning how to harness the power of the mind to bring all systems to "go" when physical demands present themselves. I've spent years studying deeper into the functions of the body when it is placed under vigorous physical and emotional stress. We know that stress damages, even kills, especially unrelenting stress. And we know that when placed in situations we can not completely control, it is usually our minds that are impacted first and foremost and which signal distress and "yell" for help.

The day-to-day training for any sport physically conditions the body and causes it to adapt to greater and greater demands that are required for success. But it is also during this time that the mind and all its vital segments need conditioning. I proved this several years ago with a simple but emphatic test when I brought land-based athletes (varsity college football players) into water too deep for them to secure footing.

These land-based "lab rats" were asked to move across the pool (75 feet) in any fashion they could. As fatigue and breathlessness set in, almost to a man, they began to panic and fight the water. The more they fought, the more the water "fought" back, magnifying their fatigue and sense of air-deficit. Most could not make it across and had to either grab for the lane guides or the side of the pool or, even more dramatic, jump on the backs of their teammates. When they finally did struggle their way to the perceived security of the far wall, almost immediately they began to relax and gain some measure of control over panic. What they could do all day long on land where they were used to vigorous activity, they could only do for a few seconds in a medium foreign to them. Their perceptions changed quickly from "I'm OK" to "I am NOT OK", ending with "I THINK I AM GOING TO DIE!" Being varsity scholarship athletes meant nothing during this perception of impending doom.

The statement: "What we perceive is what we believe" comes alive due to a specific part of the brain called the amygdala. Nature provides this almond-shaped segment of the inner brain to protect us from dangerous situations that could do us in. It registers intense experiences both good and bad and stores

them for immediate retrieval when we place ourselves in corresponding situations.

If training is to be thorough and productive, conditioning the mind is absolutely as important as working the body. I am talking here about the physical segments of the brain which play the major roll in trying to keep us in a stabilized state. Quality movement through any vigorous exercise unequivocally demands specific training to produce "mental toughness" or "mental conditioning." This brings in the segment called the amygdala almost constantly. Appropriately-designed training sets (where air-exchange is challenged while holding technique) cause the build-up of both carbon dioxide (CO<sub>2</sub>) and the hydrogen ion (H<sup>+</sup>) of acid. It is mainly carbon dioxide which activates special receptors in the circulatory system that, in turn, send strong signals to the respiratory centers (controlling inhale and exhale) located in the brain stem. These centers dictate how fast, how deep, how thorough our respiration becomes to help us recover from vigorous exercise. The body is always playing catch-up with air and exercise. The amygdala also is bombarded with these signals of physiologic distress and further influences our intense desire to breathe along with bringing out the emotion of fear. The secret here is not trying to inhale excessively, though that is the overriding thought for the uninitiated. Rather, extra mentality and the benefit of proper physiologic coaching are called for to work the focus on only one thought: EXHALE. Blow out as much CO<sub>2</sub> as possible. This produces two conditions that are beneficial: removal of CO<sub>2</sub> and the lessening of the H<sup>+</sup> concentration in the blood. It is an interesting physiologic occurrence that pharmacological testing of the efficacy of anti-anxiety, anti-panic medications encompasses the injection of pure lactic acid in varying concentrations.

There is a prime law in physics which states that "two things can not occupy the same space at the same time." The goal of getting oxygen-laden air into the lungs (which function by having the lungs' air sacks fill by negative vacuum), can only come about by first ridding (exhaling) them of "stale" air laden with carbon dioxide. The take home point here is to concentrate on the exhale rather than the inhale. You want to keep forcefully blowing out as the perception of becoming air-challenged increases. This all seems crazy to those not trained to handle it: being asked to keep the body moving fast, yet to concentrate on exhaling rather than inhaling. To train against this fearsome sequence, as a swim coach, I have instituted Navy SEAL challenges to my athletes with underwater streamlines motivated by crisp snappy submerged kicking across the pool, intentionally allowing CO<sub>2</sub> to build up; I then ask for strong swims, strong kicks, or both with racing finishes. As a group, my tri-athletes are weaker in the water than on the bike or the run and have found these challenges more daunting than my swimmers; but once

they adapt to this type of training, all three segments of their event seem noticeably easier.

The amygdala and the respiratory centers are constantly bombarded with impulses signaling distress. Eventually, with the proper mind-set (four "magic" words come into play here: "I CAN DO THIS!"), the distressing signals become more easily handled by the mind which then translates to more aggressive bodily movement. My responsibility as coach is to constantly remind my people in the water that my intention is to have them endure increasing discomfort yet have the emotional wherewithal to get their hands on the wall with bad intentions towards their competitors.

The next segment of the brain that I stimulate to our purpose is called the reticular activating system (RAS). This group of cells is in close proximity to the limbic system where all these groups of tissue function to make us aware, keep us focused, and present impulses from our perceived surroundings that can be construed as threatening. This is the segment that gives us the negativity of jitters: pounding heart beat, interrupted uneven respiration, "butterflies" in the stomach, the repeated flashing of negative thoughts that the task at hand can not be completed successfully. But it can also provide just the right amount of adrenal stimulation to make us appropriately on edge so we can muster all our energies quickly. The trick here is to create the shift to just the right amount of positive stimulation without being overwhelmed by it. The great industrialist, Henry Ford, without knowing one thing about physiology or anatomy, is credited with once saying: "if you think you can, or you think you can't...you are right." He was astute enough about success in life to realize the importance of winning over the parts of the brain (RAS and the limbic system) to have the mind positively direct the body's movements...I CAN DO THIS! Today, we can help stimulate the same area of the brain without exotic chemicals and pharmaceuticals. I called these "benign psychic stimulants." A flavor, a color, and the most ubiquitous ingested chemical in the world all come under this classification: mint, the color amber, and the stimulating ingredient in coffee and chocolate, caffeine.

The psychological use of aroma and taste stimulation with mint (peppermint being the most effective) has been known for several years. It has been shown to act on the RAS and provide for such stimulation as to definitely make a positive difference in the ability to focus on most tasks at hand. Teachers are now utilizing mint whether in gum, lozenge, or quick-dissolving strips to help their students score higher in academic achievement tests. It can certainly bring the importance of a strong start to any race into the forefront of thought and action. The same stimulant effect is elicited by having the eyes look through bright amber color. The visual stimulation from this particular wavelength has been proven to aid in focus and

increase awareness of the immediate surroundings. I have shown that the use of both mint and amber eye-wear cause many of my swimmers to narrow their field of view and to focus on what is directly in front of them. This has helped them to enter a competition with more intensity off the start and into the race.

The last of the psychic stimulants to be discussed in this article is caffeine. This substance has diverse pharmacological and psychological properties which aid the body and mind in both quick reflexive and prolonged movements. It can stimulate the mind to respond almost hyper-reflexively to surrounding stimulation and yet put off the use of glycogen as an energy source till the sprinting end of a race while tapping into the utilization of free fatty acids to fuel the body for endurance events. Caffeine works so well and is consumed by so many people throughout the world that international sports governing organizations have issued rules as to how much of it can be acceptably present in blood and urine.

Whenever a neuro-muscular movement is first learned, the related impulses land in the domain of the cerebrum. Any stimuli that enter this highest of human brain segments must first be "digested" then analyzed and finally "understood." If it is not made to be as clear and near perfect as the desired goal at this point, the "learning" process will be adulterated. "Garbage in produces garbage out." The more complicated the movements, the more CORRECT must be the analysis. If a coach is trying to have his athletes learn a better method of movement, it is extremely important at this point in the training that extra care be taken by both the transmitter (coach) and receiver (athlete). Everything must be slowed down. All movements should be more deliberate and analyzed for correctness. As familiarity develops and facility of movement builds with repeated practice (as much as 10,000 hours to produce elite-level talent) speed is introduced. When speed and smooth correct execution become easier to elicit with continued practice and guidance, motor impulses begin emanating from the cerebellum, a more rudimentary segment of the brain one step down from the cerebrum.

Now that we know what segments perform what functions, we need to make them earn their keep. What I call critical thinking is the correct way to bring training elements to the fore under the stress of competition. Just because you know that something needs to be done does not mean you will do it under stress, let alone do it correctly. And even if you know that correct things should be done and how to do them, it does not mean you will remember to do them under duress. To have critical thinking work, the athlete needs to be repeatedly trained such that all appropriate movement occurs in a timely fashion throughout the event. This should be orchestrated at a pace that will not totally tax the physiology. By staying relatively in the comfort zone at first and then building speed

throughout the event over time, impulses TO all of the aforementioned segments of the brain can occur and be correctly analyzed while impulses FROM them can be handled appropriately through the duration of the event. Ancillary thoughts can be analyzed during training such as: "how do I feel at this point in the event" and at various points throughout. With proper analyses of how the body's physiology and mentality change during prolonged vigorous movement at faster and faster speeds, the athlete becomes better prepared to tackle the challenges of his event during competition. When he places himself deep into the scenario of his event BEFORE he actually does it, the athlete is practicing visualization. If executed properly (the athlete seeing himself executing everything perfectly and putting in a fine effort) this type of mental training becomes invaluable.

The final element for discussion has to do with the amount and type of input stimuli the athlete takes in from ambient surroundings. Too much extraneous input, and the athlete can easily become overwhelmed and distracted from the immediate task at hand. Recent research from Stanford University has shown that too much electronic stimulation from various sources caused the participants to become "suckers for irrelevancy" as the lead author put it. Everything seemed to distract them. The researchers also found that heavy multi-taskers consistently underperformed those who preferred to complete one task at a time. Weaknesses were shown to include their inability to pay attention to detail, organize memory, and switch from one job to the next. But there is the converse to this finding.

Too little stimuli, and the athlete can suffer listlessness and insufficient arousal for optimum performance. The expression for this input is called F/1 noise. Years ago in the 1930's and '40's, Hollywood made a certain type of movie called film noir. They were shown in black and white, were mostly well written, and usually presented a dark topic. The story line was worked out by the end of the movie with good conquering evil as the take home point. But they only had on average 230 "cuts" for the whole movie. A "cut" is what the industry calls a dramatic change in scene on the screen...something of sufficient stimulating impact that rivets the viewer; an action scene after some important dialogue along with appropriately-integrated music causes the viewer to re-focus and become submersed into the story. In today's film presentations the average is 1400 "cuts." The story line can be weak, even poor, but the viewer is riveted to the screen with intense computer-generated images, even though he feels the film might have been frivolous. The extra cuts comprise negative F/1 noise. It is excessive incoming stimulation. Sometimes, as the Stanford research has shown, this is just too much to integrate properly over a set period of time as when we see people constantly working their MP3's, talking on cell phones while driving, or ear phones always worn. Excessive sensory bombardment can negatively

impact critical thinking. But there is a time and place for positive F/1 noise.

To work athletes such that they have to think more during training sets is to bring in more input, more positive F/1 noise. More thinking equals more analysis; more analysis equals more conscious effort required if combination tasks are the challenge. Swimming combined with kicking and maybe another stroke with extra tight streamlines off each wall during various lengths of a prescribed distance brings in more F/1 noise than just asking people to swim a distance. Running and/or biking at varying intensities over distance with flat and hilly terrain and imagined scenarios of competition can also provide for positive F/1 noise.

The coach needs to emphasize to the athlete that all correct movement must be thought through and focused on before starting the effort and that proper execution be instituted throughout. This type of F/1 noise causes the various segments of the brain to strongly re-enforce the important elements for winning form. These types of combination sets are just complicated enough to bring in the need for extra thinking and analysis. This is the final touch for preparing athletes for quality performances. But it takes extra effort for both coach and athlete in organization, execution, and analysis. Time and energy well spent to make "I CAN DO THIS!" a reality.

# DIXIE ZONE CALENDAR

Feb. 18-20	SCY	South Carolina SCY Championships – Mt. Pleasant, SC
Feb. 25-27	SCY	<b>Dixie Zone SCY Championships</b> – Ft Lauderdale, FL
Mar. 5	SCY	Frank Clark Masters Open – Greensboro, NC
Mar. 5	SCY	Ocala Marlins Spring Splash – Ocala, FL
Mar. 5	SCY	John O’Keefe Spring Splash – Miami, FL (FIU)
Mar. 12-13	SCY	Daytona Beach Masters National Qualifier – Daytona Beach, FL
Mar. 18-20	SCY	Crawfish Aquatics SCY Championship – Baton Rouge, LA
Mar. 19	SCY	Middle Tennessee State Univ SCY Invitational – Murfreesboro, TN
Mar. 26-27	SCY	St. Patrick’s Invitational – Atlanta, GA
Apr. 1-3	SCY	St Pete Masters SCY Championships – St. Pete, FL
Apr. 2-3	SCY	North Carolina SCY Championships – Raleigh, NC
Apr. 8-10	SCY	Hammerhead Invitational – Pompano Beach, FL
Apr. 9	OW	Swim Miami – Miami, FL
Apr. 14-17	SCY	YMCA Nationals – Fort Lauderdale, FL
Apr. 23	OW	14 <sup>th</sup> Annual Tampa Bay Marathon – Tampa, FL
Apr. 28 – May 1	SCY	USMS SCY Nationals – Mesa, AZ
Apr. 30 – May 1	LCM	May Day Sprint Meet – Ft Myers, FL
Apr. 30 – May 1	SCY	Clemson Tigers Masters Meet - Clemson, SC
April 30	OW	Lake Weir Open Water Swim – Ocala, FL
May 7	OW	Hurricane Man (1000 yd, 2.4 mi) – St Pete Beach, FL
May 22	LCM	Ocala Marlins Summer Splash – Ocala, FL
May 28	OW	Dixie Zone Open Water Championship/Ed Gaw Amelia Island Open Water Challenge – Fernandina Beach, FL
June 3-5	LCM	Southern Masters LCM Championships – New Orleans, LA
June 4	LCM	Classic City Masters Meet – Athens, GA
June 10-12	LCM	<b>Dixie Zone LCM Championships/Bumpy Jones</b> – Sarasota, FL
June 11	OW	Death Valley Open Water Swim – Lake Hartwell/Clemson, SC
June 11	OW	USMS 10K Open Water Championships – Fort Myers Beach, FL
June 18-19	LCM	June Krauser Summer Splash – Ft. Lauderdale, FL
June 25-26	LCM	Team Greenville Invitational/SC Championships – Greenville, SC
July 6-10	LCM	IGLA Championships – Honolulu, HI
July 9-10	LCM	St. Pete Masters LCM Championships – St. Pete, FL
July 16	LCM	Ocala Marlins Summer Splash – Ocala, FL
July 16-17	LCM	Upper Keys Summer Invitational – Islamorada, FL
August 3-6	LCM	USMS LCM Nationals – Auburn University, AL
Aug. 27	OW	Hickory Nut Gorge Olympiad VII – Lake Lure, NC
Oct. 15-16	SCM	<b>Dixie Zone SCM Championships</b> – Charlotte, NC

For more calendar details, check out [www.usms.org](http://www.usms.org) and [www.dixiezone.org](http://www.dixiezone.org).

It is recommended that meet directors post their meet information on the main USMS Calendar as well as on the Dixie Zone Calendar.

<b>Zone Website:</b> <a href="http://www.dixiezone.org">www.dixiezone.org</a>	<b>Zone Chair:</b> Debbie Cavanaugh <a href="mailto:cavdeb@juno.com">cavdeb@juno.com</a>	<b>Newsletter Editor:</b> Barb Protzman <a href="mailto:swimbarb@hotmail.com">swimbarb@hotmail.com</a>	<b>USMS Website:</b> <a href="http://www.usms.org">www.usms.org</a>
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