

The World Swimming Coaches Association Newsletter

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The Trouble With Boys

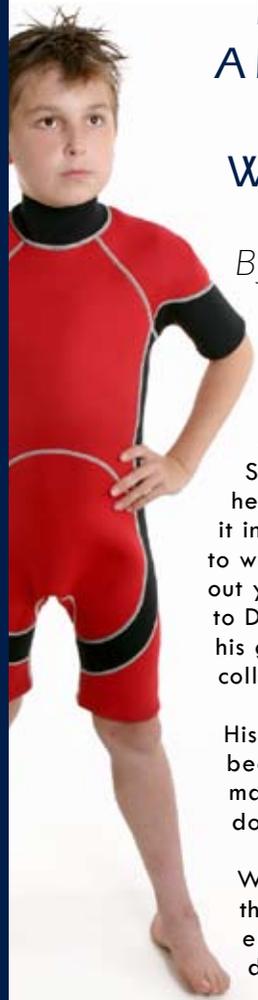
THEY'RE KINETIC, MADDENING
AND FAILING AT SCHOOL. NOW
EDUCATORS ARE TRYING NEW
WAYS TO HELP THEM SUCCEED.

By Peg Tyre - Newsweek - Jan. 30, 2006 issue

Spend a few minutes on the phone with Danny Frankhuizen and you come away thinking, "What a nice boy." He's thoughtful, articulate, bright. He has a good relationship with his mom, goes to church every Sunday, loves the rock band Phish and spends hours each day practicing his guitar. But once he's inside his large public Salt Lake City high school, everything seems to go wrong. He's 16, but he can't stay organized. He finishes his homework and then can't find it in his backpack. He loses focus in class, and his teachers, with 40 kids to wrangle, aren't much help. "If I miss a concept, they tell me, 'Figure it out yourself,'" says Danny. Last year Danny's grades dropped from B's to D's and F's. The sophomore, who once dreamed of Stanford, is pulling his grades up but worries that "I won't even get accepted at community college."

His mother, Susie Malcom, a math teacher who is divorced, says it's been wrenching to watch Danny stumble. "I tell myself he's going to make something good out of himself," she says. "But it's hard to see doors close and opportunities fall away."

What's wrong with Danny? By almost every benchmark, boys across the nation and in every demographic group are falling behind. In elementary school, boys are two times more likely than girls to be diagnosed with learning disabilities and twice as likely to be placed



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in special-education classes. High-school boys are losing ground to girls on standardized writing tests. The number of boys who said they didn't like school rose 71 percent between 1980 and 2001, according to a University of Michigan study. Nowhere is the shift more evident than on college campuses. Thirty years ago men represented 58 percent of the undergraduate student body. Now they're a minority at 44 percent. This widening achievement gap, says Margaret Spellings, U.S. secretary of Education, "has profound implications for the economy, society, families and democracy."

With millions of parents wringing their hands, educators are searching for new tools to help tackle the problem of boys. Books including Michael Thompson's best seller "Raising Cain" (recently made into a PBS documentary) and Harvard psychologist William Pollack's definitive work "Real Boys" have become must-reads in the teachers' lounge. The Gurian Institute, founded in 1997 by family therapist Michael Gurian to help the people on the front lines help boys, has enrolled 15,000 teachers in its seminars. Even the Gates Foundation, which in the last five years has given away nearly a billion dollars to innovative high schools, is making boys a big priority. "Helping underperforming boys," says Jim Shelton, the foundation's education director, "has become part of our core mission."

The problem won't be solved overnight. In the last two decades, the education system has become obsessed with a quantifiable and narrowly defined kind of academic success, these experts say, and that myopic view is harming boys. Boys are biologically, developmentally and psychologically different from girls—and teachers need to learn how to bring out the best in every one. "Very well-meaning people," says Dr. Bruce Perry, a Houston neurologist who advocates for troubled kids, "have created a biologically disrespectful model of education."

Thirty years ago it was girls, not boys, who were lagging. The 1972 federal law Title IX forced schools to provide equal opportunities for girls in the classroom and on the playing field. Over the next two decades, billions of dollars were funneled into finding new ways to help girls achieve. In 1992, the American Association of University Women issued a report claiming that the work of Title IX was not done—girls still fell behind in math and science; by the mid-1990s, girls had reduced the gap in math and more girls than boys were taking high-school-level biology and chemistry.

Some scholars, notably Christina Hoff Sommers, a fellow at the American Enterprise Institute, charge that misguided feminism is what's been hurting boys. In the 1990s, she says, girls were making strong, steady progress toward parity in schools, but feminist educators portrayed them as disadvantaged and lavished them with support and attention. Boys, meanwhile, whose rates of achievement had begun to falter, were ignored and their problems allowed to fester.

Boys have always been boys, but the expectations for how they're supposed to act and learn in school have changed. In the last 10 years, thanks in part to activist parents concerned about their children's success, school performance has been measured in two simple ways: how many students

are enrolled in accelerated courses and whether test scores stay high. Standardized assessments have become commonplace for kids as young as 6. Curricula have become more rigid. Instead of allowing teachers to instruct kids in the manner and pace that suit each class, some states now tell teachers what, when and how to teach. At the same time, student-teacher ratios have risen, physical education and sports programs have been cut and recess is a distant memory. These new pressures are undermining the strengths and underscoring the limitations of what psychologists call the "boy brain"—the kinetic, disorganized, maddening and sometimes brilliant behaviors that scientists now believe are not learned but hard-wired.

When Cris Messler of Mountainside, N.J., brought her 3-year-old son Sam to a pediatrician to get him checked for ADHD, she was acknowledging the desperation parents can feel. He's a high-energy kid, and Messler found herself hoping for a positive diagnosis. "If I could get a diagnosis from the doctor, I could get him on medicine," she says. The doctor said Sam is a normal boy. School has been tough, though. Sam's reading teacher said he was hopeless. His first-grade teacher complains he's antsy, and Sam, now 7, has been referring to himself as "stupid." Messler's glad her son doesn't need medication, but what, she wonders, can she do now to help her boy in school?

For many boys, the trouble starts as young as 5, when they bring to kindergarten a set of physical and mental abilities very different from girls'. As almost any parent knows, most 5-year-old girls are more fluent than boys and can sight-read more words. Boys tend to have better hand-eye coordination, but their fine motor skills are less developed, making it a struggle for some to control a pencil or a paintbrush. Boys are more impulsive than girls; even if they can sit still, many prefer not to—at least not for long.

Thirty years ago feminists argued that classic "boy" behaviors were a result of socialization, but these days scientists believe they are an expression of male brain chemistry. Sometime in the first trimester, a boy fetus begins producing male sex hormones that bathe his brain in testosterone for the rest of his gestation. "That exposure wires the male brain differently," says Arthur Arnold, professor of physiological science at UCLA. How? Scientists aren't exactly sure. New studies show that prenatal exposure to male sex hormones directly affects the way children play. Girls whose mothers have high levels of testosterone during pregnancy are more likely to prefer playing with trucks to playing with dolls. There are also clues that hormones influence the way we learn all through life. In a Dutch study published in 1994, doctors found that when males were given female hormones, their spatial skills dropped but their verbal skills improved.

In elementary-school classrooms—where teachers increasingly put an emphasis on language and a premium on sitting quietly and speaking in turn—the mismatch between boys and school can become painfully obvious. "Girl behavior becomes the gold standard," says "Raising Cain" coauthor Thompson. "Boys are treated like defective girls."

Two years ago Kelley King, principal of Douglass Elementary School in Boulder, Colo., looked at the gap between boys and girls and decided to take action. Boys were

lagging 10 points behind girls in reading and 14 points in writing. Many more boys than girls were being labeled as learning disabled, too. So King asked her teachers to buy copies of Gurian's book "The Minds of Boys," on boy-friendly classrooms, and in the fall of 2004 she launched a bold experiment. Whenever possible, teachers replaced lecture time with fast-moving lessons that all kids could enjoy. Three weeks ago, instead of discussing the book "The View From Saturday," teacher Pam Unrau divided her third graders into small groups, and one student in each group pretended to be a character from the book. Classes are noisier, Unrau says, but the boys are closing the gap. Last spring, Douglass girls scored an average of 106 on state writing tests, while boys got a respectable 101.

Primatologists have long observed that juvenile male chimps battle each other not just for food and females, but to establish and maintain their place in the hierarchy of the tribe. Primates face off against each other rather than appear weak. That same evolutionary imperative, psychologists say, can make it hard for boys to thrive in middle school—and difficult for boys who are failing to accept the help they need. The transition to middle school is rarely easy, but like the juvenile primates they are, middle-school boys will do almost anything to avoid admitting that they're overwhelmed. "Boys measure everything they do or say by a single yardstick: does this make me look weak?" says Thompson. "And if it does, he isn't going to do it." That's part of the reason that videogames have such a powerful hold on boys: the action is constant, they can calibrate just how hard the challenges will be and, when they lose, the defeat is private.

When Brian Johns hit seventh grade, he never admitted how vulnerable it made him feel. "I got behind and never caught up," says Brian, now 17 and a senior at Grand River Academy, an Ohio boarding school. When his parents tried to help, he rebuffed them. When his mother, Anita, tried to help him organize his assignment book, he grew evasive about when his homework was due. Anita didn't know where to turn. Brian's school had a program for gifted kids, and support for ones with special needs. But what, Anita asked his teachers, do they do about kids like her son who are in the middle and struggling? Those kids, one of Brian's teachers told Anita, "are the ones who fall through the cracks."

It's easy for middle-school boys to feel outgunned. Girls reach sexual maturity two years ahead of boys, but other, less visible differences put boys at a disadvantage, too. The prefrontal cortex is a knobby region of the brain directly behind the forehead that scientists believe helps humans organize complex thoughts, control their impulses and understand the consequences of their own behavior. In the last five years, Dr. Jay Giedd, an expert in brain development at the National Institutes of Health, has used brain scans to show that in girls, it reaches its maximum thickness by the age of 11 and, for the next decade or more, continues to mature. In boys, this process is delayed by 18 months.

Middle-school boys may use their brains less efficiently, too. Using a type of MRI that traces activity in the brain, Deborah Yurgelun-Todd, director of the cognitive neuroimaging laboratory at McLean Hospital in Belmont, Mass.,

tested the activity patterns in the prefrontal cortex of children between the ages of 11 and 18. When shown pictures of fearful faces, adolescent girls registered activity on the right side of the prefrontal cortex, similar to an adult. Adolescent boys used both sides—a less mature pattern of brain activity. Teenage girls can process information faster, too. In a study about to be published in the journal *Intelligence*, researchers at Vanderbilt University administered timed tests—picking similar objects and matching groups of numbers—to 8,000 boys and girls between the ages of 5 and 18. In kindergarten, boys and girls processed information at about the same speeds. In early adolescence, girls finished faster and got more right. By 18, boys and girls were processing with the same speed and accuracy.

Scientists caution that brain research doesn't tell the whole story: temperament, family background and environment play big roles, too. Some boys are every bit as organized and assertive as the highest-achieving girls. All kids can be scarred by violence, alcohol or drugs in the family. But if your brain hasn't reached maturity yet, says Yurgelun-Todd, "it's not going to be able to do its job optimally."

'Often boys are treated like defective girls,' says Thompson.

Across the nation, educators are reviving an old idea: separate the girls from the boys—and at Roncalli Middle School, in Pueblo, Colo., administrators say, it's helping kids of both genders. This past fall, with the blessing of parents, school guidance counselor Mike Horton assigned a random group of 50 sixth graders to single-sex classes in core subjects. These days, when sixth-grade science teacher Pat Farrell assigns an earth-science lab on measuring crystals, the girls collect their materials—a Bunsen burner, a beaker of phenyl salicylate and a spoon. Then they read the directions and follow the sequence from beginning to end. The first things boys do is ask, "Can we eat this?" They're less organized, Farrell notes, but sometimes, "they're willing to go beyond what the lab asks them to do." With this in mind, he hands out written instructions to both classes but now goes over them step by step for the boys. Although it's too soon to declare victory, there are some positive signs: the shyest boys are participating more. This fall, the all-girl class did best in math, English and science, followed by the all-boy class and then coed classes.

One of the most reliable predictors of whether a boy will succeed or fail in high school rests on a single question: does he have a man in his life to look up to? Too often, the answer is no. High rates of divorce and single motherhood have created a generation of fatherless boys. In every kind of neighborhood, rich or poor, an increasing number of boys—now a startling 40 percent—are being raised without their biological dads.

Psychologists say that grandfathers and uncles can help, but emphasize that an adolescent boy without a father figure is like an explorer without a map. And that is espe-

cially true for poor boys and boys who are struggling in school. Older males, says Gurian, model self-restraint and solid work habits for younger ones. And whether they're breathing down their necks about grades or admonishing them to show up for school on time, "an older man reminds a boy in a million different ways that school is crucial to their mission in life."

In the past, boys had many opportunities to learn from older men. They might have been paired with a tutor, apprenticed to a master or put to work in the family store. High schools offered boys a rich array of roles in which to exercise leadership skills—class officer, yearbook editor or a place on the debate team. These days, with the exception of sports, more girls than boys are involved in those activities.

In neighborhoods where fathers are most scarce, the high-school dropout rates are shocking: more than half of African-American boys who start high school don't finish. David Banks, principal of the Eagle Academy for Young Men, one of four all-boy public high schools in the New York City system, wants each of his 180 students not only to graduate from high school but to enroll in college. And he's leaving nothing to chance. Almost every Eagle Academy boy has a male mentor—a lawyer, a police officer or an entrepreneur from the school's South Bronx neighborhood. The impact of the mentoring program, says Banks, has been "beyond profound." Tenth grader Rafael Mendez is unequivocal: his mentor "is the best thing that ever happened to me." Before Rafael came to Eagle Academy, he dreamed about playing pro baseball, but his mentor, Bronx Assistant District Attorney Rafael Curbelo, has shown him another way to succeed: Mendez is thinking about attending college in order to study forensic science.

Colleges would welcome more applications from young men like Rafael Mendez. At many state universities the gender balance is already tilting 60-40 toward women. Primary and secondary schools are going to have to make some major changes, says Ange Peterson, president-elect of the American Association of Collegiate Registrars and Admissions Officers, to restore the gender balance. "There's a whole group of men we're losing in education completely," says Peterson.

For Nikolas Arnold, 15, a sophomore at a public high school in Santa Monica, Calif., college is a distant dream. Nikolas is smart: he's got an encyclopedic knowledge of weaponry and war. When he was in first grade, his principal told his mother he was too immature and needed ADHD drugs. His mother balked. "Too immature?" says Diane Arnold, a widow. "He was six and a half!" He's always been an advanced reader, but his grades are erratic. Last semester, when his English teacher assigned two girls' favorites—"Memoirs of a Geisha" and "The Secret Life of Bees" Nikolas got a D. But lately, he has a math teacher he likes and is getting excited about numbers. He's reserved in class sometimes. But now that he's more engaged, his grades are improving slightly and his mother, who's pushing college, is hopeful he will begin to hit his stride. Girls get A's and B's on their report cards, she tells him, but that doesn't mean boys can't do it, too. ■

Bob Bowman Named Terao Award Winner for 2004-2008



Coach Bob Bowman, formerly of Michigan and currently coaching at North Baltimore Aquatic Club, and Coach of the great Michael Phelps, has been named by the World Swimming Coaches Association Board of Directors, as the winner of the Yutaka Terao Award winner for the quadrennium 2004-2008.

Bowman, who has coached Phelps from age 11 onward, has been widely recognized as the coaching mentor and genius behind the excellence of Phelps. Bowman has also been the American Swimming Coaches Association Coach of the Year in 2001, 2003, 2007 and 2008.

Yutaka Terao was one of the great "movers and shakers" in world swimming and the single most important founder of the World Swimming Coaches Association in 1988. A protege of the American Olympic Coach Don Gambril, Terao ran a series of swimming schools and swim team operations in Japan prior to his untimely and early death from cancer. Terao was active in supporting coaches and the WSCA right up to the day he died and his memory lives on through the award.


John Leonard

The Power of Thought

By Kamal Vinodrai Shah

We live in a world that is governed by information and it is a result of mankind's collective thinking. Each nation is in its present state of either peace and prosperity, or poverty, murder and anarchy, simply as a result of its thinking as a nation. Additionally, each individual is what he is, and his life is what it is, and his circumstances are what they are, simply as results of his thoughts. With more insight into the way nature governs our lives, it is very important to understand that your thoughts have the ability to create miracles for you in your life. By thought man either blesses or curses himself. Furthermore, he brings into his life either success or failure, health or disease, happiness or unhappiness, poverty or prosperity. It is all in his mind and the character of his thought. Whatever there is in your life or mine of disharmony, lack, sickness or unhappiness is the result of our disharmonious thought.

The universe is very sensitive to the vibrations of your thoughts and it senses that if you are not in alignment with its course you will face difficulties to teach you and remind you that nature has the overall control of life. To understand your thoughts better there is a significant relationship between thoughts and actions. Most motivational and spiritual gurus have always spoken about the cliché "your thoughts shape your habits and also the way you act to different situations." Although we have heard it many times do we really understand why we need to ensure that we have positive and good thought? The mind is composed of the conscious and subconscious mind.

The conscious mind gathers knowledge and experience through the senses and it learns from books, conversation and experience. Additionally, it reasons and forms conclusions. After synthesizing the information its thought passes down into the subconscious mind. The subconscious mind on the other hand is the mind of action. The seat of memory and of instinct, a reservoir of tremendous power and extraordinary intelligence carries out all the complicated processes within the body which make life possible. The extraordinary powers act entirely upon suggestion from the conscious mind. Thus, upon our thoughts depend what sort of actions are brought forth. Life is not a matter of change or luck; it is not something out of our control; it is largely the result or effect of our thoughts.

So how do you ensure that your thoughts are in alignment with nature and you attract the right opportunities in life? Some of the steps towards improving your thought process from the conscious mind to the unconscious mind are as follows:

1. Whatever you experience in life should be taken with a positive outlook. No matter what has happened to you may it be a failure or success, ask the key question,

"What have I learnt out of this experience that I can improve upon or will remember when a similar situation arises?"

2. Surround yourself with positive people and people who view life differently from the rest. Remember the common proverbs "Birds of a feather flock together," and "You can tell a man's character by the company he keeps." The source of your thoughts will attract similar people like you and therefore always constantly keep sending messages of attracting the people who are going to uplift you as well as assist you to become more evolved human beings. We are drawn together by the invisible forces of attraction. It is true that the character of our thoughts becomes, in course of time, written on our face, so that all the world can see if we are pure or filthy, strong or weak, loving or hard, noble or base; but it is largely the attractive power of thought that draws people to us.
3. Prayer is one of the key fundamentals to ensure positive mindset. Why do we need prayer in our lives? Prayers provide purity and also open a stream of heavenly, good, beautiful, ennobling, healthful and wholesome thoughts. To add further, prayers lead us to pay attention to the blessings that we have in life and also the wonderful situations that are in front of our eyes.
4. Goodwill towards people. Each one of us has an energy system that we exhibit outside our body known as aura. This energy can either be attractive or the opposite. It is very important if we want to get along with people as well as ensure that we are generating positivity to people around us and the environment that we are currently occupying that we intentionally train our minds to radiate positive energy. The moment we do that we shall see so many people who will want to be around us and want to get to know us. Your energy levels will also increase. We must also bear in mind that we are drawing others to us not in order to serve our own selfish ends, but in order to bless them, help them and make them happier.
5. Believing in our own abilities to strive for a better life. We all have the ability to improve upon our weaknesses and make the necessary impact that we wish to make in life. It is important to always tell yourself and recite that you are a beautiful human being with great gifts who is born on this earth to leave a legacy behind. Of course, it is important to remember there is a fine balance between being confident about yourself and arrogant about your gifts that you have been given by nature to nurture. Therefore, constantly remind yourself that you are also a blessed human being and no matter what circumstances you are in currently, things will get better. ■

"No pessimist ever discovered the secrets of the stars, or sailed to an uncharted land, or opened a new heaven to the human spirit." – Helen Keller

Historical Article from 1984

THE USE OF GOAL SETS AND CRUISE INTERVAL SETS OF REPEATS TO DETERMINE TRAINING INTENSITY

By James E. Counsilman, Ph. D. – Indiana University

Individual differences among swimmers in their capacity for hard work makes it difficult for a coach to prescribe a training program that will be suitable for every swimmer on his team. Overtraining occurs most frequently from excessive amounts of high intensity (anaerobic lactate) work. What is the proper balance between endurance and high intensity work?

Frequently, overtrained swimmers are pushed into failing adaptation, resulting in poor performance and illness. Certain physiological parameters, such as evaluation of blood lactate, hematocrit, keto-steroids, EKG, blood cell count and so on, have been used to predict the onset of overtraining. How reliable and valid are these measurements? Can they be used by the coach in a practical setting or are they unwieldy and expensive? What are the best measurements?

The coach can use three simple measurements that will help in evaluating overtraining better than any of the more complex physiological parameters. These three items are: (1) average time on a goal set, such as 20 x 50 on 1 ½ minutes, (2) number of strokes taken per repeat and (3) pulse rate after repeats.

The East Germans, particularly Mader¹, have used blood lactate measurements to determine anaerobic threshold and have based the intensity of their swimmers' training program for endurance on these results. According to Mader, when the blood lactate level reaches 4 mmol/L, the swimmer has reached his anaerobic threshold.* When performing high quality sets of repeats, we have found many of our swimmers to run blood lactate levels of 16 mmol/L and higher. While the East Germans have used this measure primarily as a means to evaluate the desired level of training intensity for endurance, some researchers now use it to evaluate short term, high intensity exercise as an indicator of recovery from this type of exercise. In the American College of Sports Medicine Meeting this year, an entire section was devoted to the use of blood lactates to evaluate training.

Last spring at a total of four clinics I asked over 1200 coaches how many had ever used blood lactate measurements to help them evaluate their training programs. Only two people raised their hands. At Indiana we have taken blood lactate measurements off and on since the era of Mike Troy and Chet Jastremski. The procedure has

been expensive in terms of equipment needed, personnel to draw blood and supervision of the medical equipment needed, personnel to draw blood and supervision of a medical doctor. We will continue to take them for research purposes, but will probably not do so as a means of evaluation. We believe the three measurements mentioned earlier are better. Even the East Germans test for blood lactate only with their elite group of swimmers. For all of the above reasons it is unlikely that this method will become common practice.

A great deal of variability exists between individuals on the three measurements listed above. The swimmer and coach must realize that the swimmer is, in essence, comparing his average time for a set of repeats, his heart rate and his stroke number with measurements taken from sets of repeats he has done previously.

While the process of keeping times for each repeat swim is critical to the success of this method, the counting of all of the strokes taken for the entire distance plus the measurement of the pulse rate after each repeat swim would become unwieldy. Instead, we count only the strokes on the last length of every second, third or fourth repeat swim. We also do not take the pulse rate after each repeat swim, but only occasionally. If the swimmer is swimming slow or if he has a high stroke rate or both, I will ask him to take his pulse rate. Personally, I do not like to see swimmers taking their pulse rates constantly. It is distracting and they can become pulse-rate freaks.

We use these three measurements on two types of repeat swims: (1) Goal sets – high quality repeats with long rest and (2) Cruise Interval sets – moderate effort, repeat swims with short rest.

Goal Sets

Goal sets are high-quality or anaerobic repeat swims with a long interval of rest. The interval of rest is usually on the order of 1, 2, 3 or 4 times longer than the duration of the effort. When performing goal sets, it is more efficient to use the same departure times for each swimmer, such as 20 x 50 on 1:30, rather than to attempt different departure times for each.

If the time to swim the repeat is between 22 and 30 seconds, the work-to-rest ratio would be approximately 1 to 2 minutes. The goal sets are started from a dive, af-

*Anaerobic threshold is the point at which the energy for muscular contraction changes from aerobic to anaerobic. From this point onward the body can no longer keep up with the muscular requirement for oxygen and goes into oxygen debt, causing the muscles to build up lactic acid, which is subsequently picked up by the blood.

for an opportunity to work on the racing start and to get accustomed to establishing race pace from a dive. The swimmers are directed to maintain the same breathing pattern they will use in competition. If the number of swimmers is not too great, it is better that they swim down the center of the lane, as they would in an actual race. We usually go our goal sets in three waves rather than in circles, consequently we can swim down the middle of the lane. Other types of repeat sets are swum from a push-off and in circles.

Goal Set Distances

Since the purpose of the goal set is to develop the ability to sustain racing for the desired period of time, they are nearly always done at or under race distance and, at least, at 90% effort. After each swim the pulse rate should be 170 to 180 or even higher. Since the anaerobic threshold is reached by most swimmers at a pulse rate of 150 to 180, all of these swims can be characterized as primarily anaerobic.

The long period of rest between each repeat swim should permit the pulse rate to return to normal or, at least, under 100.

When a swimmer is given a goal set with long rest, in effect, he is being asked to swim a set of repeats at almost maximum effort. He should distribute his effort so the average time for all repeats is the best possible average time he can achieve. When we do a goal set, I have the assistant coaches or managers help me time each individual on each repeat swim down to the one hundredth of a second. The assistants or managers record each time and calculate the average time for the entire set. This average time is then recorded in the workout book.

We place a great deal of importance on the goal sets and if I ask any swimmer his best average time for a set of 20 x 50 or 10 x 100, he can usually tell me within a tenth of a second. We usually give the swimmer an extra minute of rest before doing the last repeat swim and we expect him to go a little bit faster than on the other repeats.

There are several decisions to be made by the coach when he devises a goal set. In addition to determining the departure interval, he must decide:

1. The total distance of the goal set,
2. The frequency of use of goal sets, and
3. The modification of the goal set to be used

Total Distance of Goal Set

Through trial and error experience we have found that senior swimmers and most good age-group swimmers can go a total of about 1000 yards or meters in their goal sets. Since goal sets are extremely stressful, high quality goal sets of 1500 yards or more have proved to be too hard for our swimmers. Once we tried 32 x 50 on 2 minutes from a dive at near maximum effort and it took all of our swimmers, with the exception of a couple of distance men, over four days to recover enough to swim decently in prac-

tice. To overcome this problem, we plan different goal sets for our sprinters, middle-distance swimmers and distance swimmers. Our distance swimmers often go up to 2000 yards/meters in their goal sets, but these are not so intense as the goal sets of only 1000 yards/meters.

Chart 1 shows the various goal sets that can be used. Departure times must be adjusted to the level of the swimmer.

Sprinters	15 x 50 on 1:30 to 3 mins	10 x 75 on 2 to 3 1/2 mins	7 x 100 on 2 1/2 to 4 mins	5 x 150 on 3 to 5 mins	4 x 200 on 4 1/2 to 6 mins	Total Dis- tance 700 to 800 Yds/ Meters
Middle Distance	20 x 50 on 1:30 to 3 mins	14 x 75 on 2 to 3 1/2 mins	10 x 100 on 2 1/2 to 4 mins	7 x 150 on 3 to 5 mins	5 x 200 on 4 to 6 mins	Total Dis- tance 1000 Yds/Meters
Distance*	10 x 200 on 3 to 5 mins	7 x 300 on 4 to 6 mins	5 x 400 on 5 to 7 mins	4 x 500 on 6 to 8 mins	3 x 800 on 9 to 11 mins	Total Dis- tance 2000 to 2400 Yds/ Meters

*These goal sets do not conform to the rule for long rest ratios, but do provide the distance men with the chance to return their heart rate to close to or under 100 beats per minute. The distance swimmers often do the same goal sets on the same departure interval as the middle-distance swimmers.

**Chart 1
Goal Sets for College Sprinters, Middle Distance
and Distance Swimmers**

**Total Distance in a Goal Set for Age Group and
Master Swimmers**

Both age group swimmer and masters swimmers, depending on their level of training, should be able to handle goal sets of at least 500 yards (10 x 50, 5 x 100, and so on). This past summer a ten year old swimmer who trained with our college swimmers and who had been training less than two years, could handle goal sets of 1000 yards/meters distance by the end of the season. Most age-groupers and masters swimmers should progress into this type of training by doing a few repeats at first and increasing the number steadily. For example, begin with 4 x 50 on 3 minutes; next time do 5 x 50 and so on.

Older masters swimmers who have not trained intensely before should progress into this type of training in a much more gradual way. In the first week, go 2 x 50, the next 3 x 50, and so on. A good friend of mine, a masters swimmer over 50 years of age, suffered a heart attack after doing a goal set of 20 x 50 at near maximum effort with a high school team. I mention this in order to scare some older swimmers into exercising caution. They should give their hearts the chance to adapt to this more intense kind of training. This may take months or years if the person is just starting his training regimen.

The Frequency of Use of High-Quality, Long Rest Goal Sets

We use full goal sets once or twice a week. If we are scheduled to swim one or two swim meets on a weekend, we may use only one goal set for that week and allow the races themselves to serve as goal sets.

If we have a very low key meet on a weekend and don't want the swimmers to swim fast, we will give them a tough goal set one or two days before the meet. This assures me they will not swim fast.

It takes two or three days following a tough goal set for most swimmers to recover their speed. While we do some near all-out efforts at other times in the week, they are restricted to such efforts as 4 x 50 from a dive on 2 ½ minutes or to swim 12 x 100 descend each 4 on 1:30 with every fourth one at 90% effort. We also do a lot of short, all-out sprints, such as 20x25 on 30 seconds, sprinting every other one.

It is my opinion that goal sets provide us with our most intense practice insofar as anaerobic work is concerned and they must be used consistently, but with an awareness on the part of the coach that they can push an athlete into physiological failing adaptation. There is a limit to the amount of high intensity swimming that an athlete can absorb and still adapt to the training stress.

If the coach balances the aerobic and anaerobic phases of the training program properly, the three variables discussed earlier should change as follows:

- 1.The average time for the set of repeats should drop as the season progresses,
- 2.The pulse rate should also drop, and
- 3.The number of strokes should stay the same or decrease.

If one, two or all three variables increases, the coach should be alerted to find out why. Most frequently, the person will be fatigued. This fatigue may be due to factors other than training. If all of the swimmers on the team except Tony swim very well, the coach should check to see if Tony is coming down with a cold or find out if he stayed up late studying, etc. If the whole team swims poorly, there is a strong possibility that the training program has been too intense and has tired the swimmers excessively and he should let up on the intensity of training.

I don't like to give the swimmers a goal set unless I believe they are going to do at least moderately well. If I have been watching them carefully in practice for signs of fatigue, I usually do not make this mistake. Occasionally I plan a goal set when they are too tired and, in the middle of the workout, when I see I have made a mistake, I will change from a goal set to a routine set of repeats from a push-off and direct the swimmers to back off on intensity.

**Best competitive times: :55.7 and 2:02.6 - yds
1:04.0 and 2:23.3 - meters*

***During taper we reduce the total number of repeats in the goal set*

Using the Goal Set to Determine Progress and Level of Fatigue

The average time on a goal set is not enough information to comprehend the level of fatigue of a swimmer. He could be slow because he isn't sufficiently motivated or because he has other things on his mind. The additional indicators, pulse rate and stroke number, provide two more parameters that make the evidence more conclusive.

W.M. is a breastroker* who loves to work hard on his goal sets. I have taken three of his goal sets from our workout log to show how a coach can use goal sets to tell if the swimmer is overworked or is unduly fatigued for some other reason.

Nov. 15 20 x 50 breaststroke on 1:45
Average time - :28.2
Average pulse rate – 188
Average stroke number - 9.5

Jan. 29 same set on same departure interval
Average time - :27.27
Average pulse rate – 182
Average stroke number – 9.1

In this goal set nearly the whole team did their best for the season. The fact that the times improved, the pulse rate was lower and the stroke rate was slightly decreased showed that W.M. was improving his conditioning and that the work intensity – at least in the past few days – had not been too great. In other words he was making satisfactory gains in training.

Mar. 10 10 x 50 on 2:00**
Average time – :28.8
Average pulse rate – 206
Average stroke number – 10.2

The other swimmers were doing average to better than average times. W.M. seemed to be the only one performing poorly. The next day he came down with a case of flu.

In What Part of the Season Should Goal Sets be Used?

During September and October of the indoor season, swimmers should be concentrating primarily on endurance training. Goal sets should be introduced into their training routines from November and continued until the taper begins. During November one goal set a week is sufficient, but, beginning December, the frequency should increase to the levels mentioned earlier. If a coach wants to experiment with overwork, he should do it early in the season.

The hardest I have ever worked a team – not in total yardage, but in intensity – was over a Christmas training session, when we went three goal sets in one week. On December 23rd we went a goal set of 10 x 100 on a departure time of 3:45; on December 26th we went 5 x 200 on 6:00; and on December 29th we went 14 x 75 on 3:00. We averaged 14,000 yards a day for the middle-distance

swimmers. It took over a week and a half before the swimmers swam well again. I was trying to see how much work they could take. I found out: we stunk up the pool in the International Meet in Texas on January 5, 6, and 7. On December 29th the times were slow, the pulse and stroking rates were high. I had every indication that the boys were overworked. Since the overwork was intentional, designed to educate the coach and swimmers, I found it easy to forgive the coach, who was testing a hypothesis.

During the taper period (the three week period before championship competition) only partial goal sets should be used, such as 4, 6, or 8 x 50 or 3 or 4 x 100. It is a good policy not to do large numbers of intense efforts during the taper. Too often swimmers "sprint themselves out" during the taper and wonder why they go into the meet tired, even though they have reduced the volume of their work.

Modifying Goal Sets

Does the use of goal sets lock a swimmer into a boring and repetitious routine? This is possible, if the coach uses only one of two goal sets or does not modify them to make them interesting. We change our goal sets a little each year and there are a number of ways that modification can be planned.

Goal Sets in which Distances are Mixed

- A. 2 x 200 on 3 to 6 mins; 3 x 100 on 2:30 to 4 mins; 6 x 50 on 1:30 to 2:30
- B. 3 x 100 on 2:30 to 3:30 mins; 4 x 75 on 2 to 3 mins; 8 x 50 on 1:30 to 2:30
- C. 2 x 150 on 3 to 4 mins; 4 x 75 on 2 to 3 mins; 8 x 50 on 1:30 to 2:30 and so on

Breaking Up Goal Sets

All the repeats in a goal set do not have to be consecutive. Outlined below is a workout in which the goal set is broken into three sections:

- 1. WU 300 swim, 200 kick, 300 pull, 300 swim
- 2. Swim part of a goal set: 4 x 100 on 3 mins
- 3. Kick 400, then 8 x 100 on 1:45
- 4. Swim 3 x 100 on 3 mins
- 5. Pull 20 x 50 free on 40 secs. Hypoxic 5/6
- 6. Swim 3 x 100 on 3 mins, recording average time of 2, 4 & 6
(10 x 100 – goal set)

Ordinarily we do our goal sets at the end of practice. On the days we do goal sets, we do not cover as much yardage as we would during a practice without them.

During the indoor season, since our afternoon practices are the longer of the two workouts, we do the majority of our goal sets then. In the summer we still do most of our goal sets in the afternoon practice, but we try to do some in the morning. The prelims are in the morning of many summer-time competitions and the swimmers must get used to swimming early in the day.

Decreasing the Number of Repeats and Increasing Departure Time as the Season Progresses

In 1976 we used this type of goal set to train Jim Montgomery for the Olympics in which he set the world record for the 100 meters freestyle. Ten weeks before the Olympic Trials he would go a goal set of 10 x 100 (yards or

meters, depending on the availability of the 50 meter pool) on 3 minutes from a dive. We planned to change the goal set each week by reducing the number of repeats by one and increasing the departure time by one minute each week. The resulting schedule of goal sets was as follows:

- First Week: 10 x 100 on 3 minutes
- Second Week: 9 x 100 on 4 minutes
- Third Week: 8 x 100 on 5 minutes
- Fourth Week: 7 x 100 on 6 minutes
- Fifth Week: 6 x 100 on 7 minutes
- Sixth Week: 5 x 100 on 8 minutes
- Seventh Week: 4 x 100 on 9 minutes

Last Three Weeks of Taper: no goal sets

Jim went other goal sets, such as 20 x 50 on 2 minutes and 5 x 200 on 5 minutes, but, since he was training primarily for the 100 meter event, we concentrated on 100 repeat swims.

Should Every Possible Goal Set be Used each Season?

A coach may decide to use 20 x 50, 10 x 100 and 5 x 200 as goal sets for his middle-distance swimmers in a particular season and never or only occasionally use the other distances. The next season he may use 20 x 50, 14 x 75 and 7 x 150 as the standard goal sets. He may also throw in a few modified goal sets of varying distances for variety. Using all the different distance goal sets in one season makes it hard for the coach and swimmers to evaluate progress, since there may be too great a time interval (sometimes a month or two) between identical goal sets. I think the 20 x 50 set should be adopted as a basic goal set in every season.

The Psychology of Goal Sets

There is a great deal of psychology involved in the use of goal sets. They motivate both the athlete and coach. The swimmer can see his times improve as the season progresses. It is stimulating to him if he does a good set of repeats, but it can also be very discouraging if he swims a slow set of repeats. The coach should be ready to explain why the swimmer has swum slow. A careful check of the pulse rate and stroke number will tell both of them if the swimmer is tired.

Team spirit is heightened during goal sets as the swimmers cheer for one another to do good times. It is the closest thing to actual competition that the swimmer can do, other than all-out time trials. A swimmer learns how to distribute his energy and pace himself for a given distance. His perceived exertion is similar in both a goal set of repeats and a race.

The use of goal sets and cruise interval sets gives structure to the workout and to the planning of a season's program. This structure should have some flexibility, but it can prevent a smorgasbord of training methods from being served up in a random sampling of a little bit of everything and not a lot of everything. The concepts involved in the use of this type of program are logical and easily comprehended by the swimmers, especially if the coach has gone to the trouble of explaining them and engaging the swimmers' intellect. Under such conditions the swimmer tends to cooperate more and work harder than otherwise.

Cruise Interval Sets of Repeats

While the high quality goal sets build near maximum anaerobic capacity, they are not effective in building cardio-vascular endurance. The reason is that there is a long rest between each repeat and the heart rate is allowed to decrease, nearly to normal. An important factor to remember in building cardio-vascular endurance is that the heart rate must be kept elevated for a relatively long period of time.

Cruise interval sets of repeats are exactly opposite from goal sets in that they contain short rest intervals and, consequently, the heart rate is not permitted to drop significantly. While goal sets are used only periodically, cruise interval sets can be done in every workout. They are used primarily to build muscular endurance and cardio-vascular fitness.

The term, cruise interval, was given to me by Dick Bower. While all of us use short rest sets of repeats in our workouts, he has formalized departure intervals according to the following formula:

Cruise Interval = the fastest departure interval at which an individual can swim 5 x 100 repeat swims plus five seconds

For example, Joe can swim 5 x 100 on 1:05, averaging 60 secs. His cruise interval is determined to be 65 + 5 secs or 70 secs. The cruise interval when he swims repeats of other distances is determined merely by doubling the cruise interval of the 100 for 200, tripling it for 300 and so on. His cruise intervals for the repeat sets of the various distances is as follows: 50 = 35 secs; 100 = 1:10; 200 = 2:20; 300 = 3:30; 400 = 4:40; 500 = 5:50; 800 = 9:20; and so on. While the departure time of cruise interval sets is determined by the formula described above, Chart II calculates the approximate interval departure times for good swimmers in the various age groups, including those for masters and age-group swimmers for freestyle.

* These departure times are calculated for very good swimmers. They should be easily made by nationally ranked swimmers and by those just under that level.

I like the term cruise interval and cruise speed because they convey the impression of speed without extreme intensity. The swimmers learn that I expect an effort that will raise the pulse rate to 150 to 180 beats per minute when I use that terminology. Such a rate would indicate that the swimmer is reaching anaerobic threshold during at least the last part of each repeat swim. In a study recently concluded here at Indiana University, in which the heart was telemetered during the entire workout, it was determined that the swimmers were constantly pushing themselves up to and occasionally above the anaerobic threshold when swimming cruise interval sets as outlined here. The short period of rest, usually only two to six seconds, permits the heart rate to drop slightly (5 to 15 beats per minute) and allows some reduction of oxygen debt. The swimmer can maintain a faster pace when swimming this type of repeat than when swimming continuously. Such short rest interval repeats as these also keep the heart rate elevated continuously and thus improve cardio-vascular endurance.

A Workout for Establishing C.I. and C.S.

Swimmers will need some guidance in establishing their cruise interval and cruise speed, the latter being the approximate speed at which they should swim their repeat swims. We set up a workout early in the season to establish CI and CS for freestyle for all the swimmers regardless of their stroke specialty. A few days later we will do the same for each swimmer's specialty stroke. It is very important that CI and CS be reevaluated every month or two. If, for example, a swimmer's CI is 1:10 and his CS :67 in November, by January both should have improved to, say, 65 and 63 respectively. By March an even further improvement should have taken place, perhaps to 63 and 60.

	50s	75s	100s	150s	200s	300s	400s	500s
Senior Men	30.0 to 35.0	45.0 to 52.0	1:00 to 1:10	1:30 to 1:45	2:00 to 2:20	3:00 to 3:30	4:00 to 4:40	5:00 to 5:50
Senior Women	32.5 to 37.5	42.5 to 55.0	1:05 to 1:15	1:32 to 1:50	2:10 to 2:30	3:15 to 3:45	4:20 to 5:00	5:25 to 6:15
Agr Groupers 12 to 14 Masters 25 to 34	35.0 to 40.0	47.5 to 60.0	1:10 to 1:20	1:45 to 2:00	2:20 to 2:40	3:30 to 4:00	4:40 to 5:20	5:50 to 6:40
Age Groupers 11 & 12 Masters 35 to 49	37.5 to 42.5	50.0 to 1:05	1:15 to 1:25	1:52 to 2:07	2:30 to 3:50	3:45 to 4:15	5:00 to 5:40	6:15 to 7:05
Age Groupers 9 & 10 Masters 50 to 59	40.0 to 45.0	52.5 to 1:10	1:20 to 1:30	2:00 to 2:20	2:40 to 3:00	4:00 to 4:30	5:20 to 6:00	6:40 to 7:30
Masters 60 & over and Beginning Competitive Swimmers 8 to 12	42.5 to 47.5	55.0 to 1:12.5	1:25 to 1:35	2:07.5 to 2:25	2:50 to 3:10	4:15 to 4:45	5:40 to 6:20	7:05 to 7:55

Chart II
Range for Cruise Interval Departure Times (in Yards) for various Age Groups and Various Distances*

As the swimmers improve their conditioning, obviously, their CI and CS should improve. If they do not, the program is not well designed or the swimmers are too tired. This is a good time to take the other two measurements: heart and stroke rate.

A workout for setting up the CI and CS is as follows:

1. WU 300 swim, 300 kick, 300 pull, 300 swim
2. Swim (for collegiate men swimmers)

	Free	Back/ Fly	Breast	IM
5 x 100 yds on	1:10	1:15	1:30	1:15
5 x 100 yds on	1:05	1:10	1:25	1:10
5 x 100 yds on the shortest departure time you can make I suggest	1:00	1:05	1:20	1:05

3. Continue with rest of workout, after recording each swimmer's CI and CS

Is the CI Always in Five Second Increments?

The CI does not have to be in increments of five seconds, although this is usually the way it works out. The reason for this is that most of these short rest repeat swims are swum in circles and if everyone in a circle left on a different departure time, it would be chaos. Toward the end of the indoor season we try to organize our lanes to allow the better crawl swimmers to do their cruise interval repeats for 100 yds on 63 seconds, the flyers and backstrokers on 66 and the breaststrokers on 1:16.

Determining Cruise Speed

Cruise speed is determined by taking the average time for the 5 x 100s that were used in determining the cruise

	100	200	300	400	500	800
	1 x AT*	2 x AT	3 x AT	4 x AT	5 x AT	8 x AT
ADD	2 to 4 secs	5 to 11 secs	9 to 18 secs	13 to 25 secs	18 to 32 secs	35 to 38 secs

interval, multiplying it by the increase in distance and adding the following increments for the various distances:

*Average Time of original 5 x 100. Note: The slower the swimmer, the greater the increments of time in the above chart.

The reasons for the wide range in the CS in the above chart are that there are so many individual differences among swimmers and that an individual will vary from day to day, depending on his level of fatigue or his level of motivation. While the cruise interval varies directly with the distance swum, the CS does not vary directly, but in a curvilinear manner.

How to Use Cruise Interval repeats in Workouts

In most of our workout sessions, after the swimmers have warmed up, I like to give them a set of cruise interval repeats in which the CI plus 5 seconds is used on the first sub-set of repeats, the CI is used on the second sub-set

and the CI minus 5 seconds is used on the last sub-set. One minute of rest or more is allowed between each sub-set. The swimmers can swim one of the following sets of repeats with the indicated CI:

Individualized CI	Set 1	Set 2	Set 3	Set 4
CI plus 5 secs	8 x 75	6 x 100	4 x 150	3 x 200
Cruise Interval	12 x 75	10 x 100	6 x 150	5 x 200
CI minus 5 secs	6 x 75	4 x 100	3 x 150	2 x 200

When we telemetered pulse rate on these types of repeats, we found it went progressively higher on each succeeding sub-set and that the pulse rate nearly always exceeded 180 beats per minute on the last sub-set, indicating that the efforts were increasingly anaerobic.

This type of CI repeats would not be used if the swimmers were extremely tired, as in a workout that follows one which featured a goal set. In such a circumstance the swimmers should go the CI sets on their CI plus 5 seconds.

The coach should also adjust the cruise interval according to the length of the set of repeats. As the set of repeats become longer, the adjustment should be toward a slightly slower departure time, such as 30 x 100 on CI or CI plus 5. Under average conditions, however, the coach will discover that most swimmers can go the shorter sets of repeats on the CI without making any time increases, (10 x 100 or 14 x 75, etc.).

Can the Entire Training Program be Based on Goal Sets and Cruise Interval Sets of Repeats?

While priority can be given to these two methods of training, other types are also needed in order to optimize the development of speed, anaerobic capacity and endurance. Below are listed the various methods of training and the qualities they develop:

CHART on page 12

It is important to use all methods of training. Some types of repeat swims combine at least two of them, as in out-slow, back-hard (negative splitting) sets of repeats such as 5 x 200 on 6 minutes. When swimming such sets – the first 100 is primarily aerobic, the last 100 anaerobic. Another example of this type of repeat set is the “descend each repeat set” in which such sets as 16 x 50 on 45 secs, descending each 4, can be characterized.

While these types of repeat sets are beneficial, I believe they are being overused in many programs today. They don't sustain the stress long enough to bring about maximal adaptation to either endurance or anaerobic capacity. They should be used each week and almost every day during the taper period, but should be worked in around the use of goal sets and CI sets during the regular season.

Type of Training	Quality Developed	Qualities not Affected
Sprint Training (anaerobic alactate) 20 x 25 on 60 secs	Speed or explosive power - improves strength and ability to stroke faster	Endurance, especially cardio-vascular endurance, almost unaffected
Anaerobic lactate training, i.e., goal sets, races, all-out time trials	Anaerobic lactate ability - ability to sustain a moderately high level of intensity for a moderate period of time, as in a 100 or 200 race	Contributes somewhat to endurance - not as much as overdistance training or CI sets of repeats. Contributes somewhat to speed, but not as much as sprint training
Cruise Interval Sets, such as 15 x 100 on CI	Endurance is the primary quality developed, but some contribution is made to anaerobic capacity	Contributes little to speed or explosive power
Overdistance training, such as a 3000 swim or 4 x 800.	Endurance	No contribution to speed and very little to anaerobic capacity

Sprint training (all-out sprinting of 25 yards or less, i.e., 12 x 25 or 18 x 20 and so on) can be used nearly every day. They are not extremely stressful if the rest period between each effort is 20 to 30 seconds or longer.

An example of a workout in which four methods of training are integrated is listed below:

1. WU up 250 swim, 250 kick, 250 pull, 250 swim
2. Swim 4 x 150 on CI plus 5 sec)
Swim 7 x 150 on CI) Short rest, moderate effort set
Swim 3 x 150 on CI minus 5 secs)
3. Kick 800 for time Overdistance
4. Swim 16 x 25, every other all out sprint on 60 secs
5. Pull 2 x 400 on 5 mins Overdistance
6. Goal set: 18 x 50 on 2 mins.

Summary

The use of goal sets (long rest, intense effort) and cruise interval sets (short rest, moderate effort) provide the coach with a good basis around which to evaluate the progress and state of training of the swimmers. Through careful evaluation of any one or a combination of these three parameters – average time for repeat swims, pulse rate after the swim and stroke rate – the coach can determine whether to increase, decrease or maintain the training intensity. ■

KAATSU

By John Leonard

Apparently, Kosuke Kitajima of Japan (Olympic Champion, Breaststroke) incorporated an unusual type of training (called KAATSU in Japan) into his workout program. KAATSU is a type of compression training where the lactic acid is spiked because compression belts are tied around one's upper arms and legs. Bob Gillett experimented with this sort of training with Misty Hyman years ago, but a Japanese inventor received a patent on this methodology and designed equipment which was used by many Japanese Olympians in track and field, soccer, baseball, softball, wrestling, judo and other sports. In addition, the Japanese medical and insurance system has recognized this compression training for rehabilitative purposes. Steve Munatones has met the inventor and arranged for the American College of Sports Medicine to conduct tests and research on this methodology. Thanks to Steve Munatones for this information.

Upcoming Clinics

ascta Convention & Swim Australia LTS Conference 2009 Broad-beach

QLD, Australia (Sofitel Gold Coast Hotel)

ascta: April 28-May 3, 2009

LTS: May 4+5, 2009

Further information available on the ascta site

https://www.clubsonline.com.au/customdata/index.cfm?fuseaction=display_image_listing&CategoryID=5175&itemLayout=1&headerselector=3&OrgID=3429&cfid=27929901&cftoken=32950690&dts=142200929123

38th DSTV International Swimming Coaches Conference Goch

North Rhine-Westphalia, Germany (Sport & Conference Hotel De Poort)

April 30-May 3, 2009



2009 ASCA World Clinic

Fort Lauderdale, FL, USA

(Harbor Beach Marriott)

September 8-13, 2009

<http://www.swimmingcoach.org/worldclinic/asca2009/>

46th Annual BSCTA Swimming Coaches Conference

Cheltenham, Gloucestershire, England, UK (The Thistle Hotel--Cheltenham)

September 25-27, 2009

<http://www.bscta.com/vsite/vcontent/content/transnews/0,10869,5090-161520-19728-33576-293818-12774-5108-layout08-178735-news-item,00.html>