FASTLANE

USMS PLANNERS NOW AVAILABLE!!!

Back by popular demand! The 2004 USMS Planners are now available at the USMS National Office. The Planner is an invaluable resource for keeping track of your swimming activities and progress, as well as a calendar for recording workouts and schedules. Valuable coupons from our sponsors, found in the back of this Planner will save you money on your swimming necessities.

The Planner is free, you just have to send a self addressed stamped ($.60) envelope (5 x 7) and upon receipt, a Planner will be sent right out to you. Send your request to USMS National Office, PO Box 185, Londonderry, NH 03053-0185. If you have questions, call them at 800-550-SWIM.

Are you a coach? Are you hosting a meet? Order in quantity and give them out to all your members/participants. Contact the National Office for postage fees.

INSIDE THIS ISSUE

PAGE 2 WINNING WHEN SHORT OF TALENT

PAGE 3 ALL THE BENEFITS OF RESISTANCE TRAINING (PART 2)

PAGE 5-6 COLONIES ZONES SHORT COURSE YARDS CHAMPIONSHIP ENTRY FORM

PAGE 7 LOOK WHAT'S NEW

AGING UP

PLACES TO SWIM

PAGE 8 MEET CALENDAR

UNIVERSAL LAWS AFFECTING COMPETITIVE SWIMMERS (MUCH LIKE SIR ISAAC NEWTON'S LAWS OF MOTION)

(This was taken from the Virginia LMSC 2/15/04 newsletter. An editor's note from Betsy Durrant said that she took it from a website. When she asked for permission to use it and who to attribute it to, the person told her he didn't know where it came from originally. So, if anyone has seen this before and knows who the author is, let me know).

Law of Competitive Gravity

When left unattended, a swimmer will gravitate to the worst technique possible.

Law of Inertia

A swimmer at rest will tend to remain at rest unless acted upon by an outside force. A swimmer in motion will tend to rest as soon as possible unless acted upon by an outside force.

Opposition Principle

When asked to kick rapidly, swimmers tend not to; when told not to kick, swimmers tend to kick rapidly.

Space, Time Continuum

When swimming breaststroke or butterfly in practice, swimmers hands are attracted to the turning wall, each hand at a different speed, at different times, at different points not in the same place.

Laws of Acceleration & Momentum

The law of acceleration may only apply for 3 minutes after coach reminds swimmer it is important, then the law of Momentum becomes dominant soon to be replaced by the law of Inertia.

Law of Static Levels

Swimmers will automatically seek their own comfort level and tend to attract others to do the same.

Mind over Matter

The mind can overcome many obstacles during competition but the same does not usually apply during practices.

Law of Finite Attraction

Even after carefully explaining the efficiency and effectiveness of an ideal stroke rate, within 3 minutes swimmer will invariably lose the ability to count strokes and think about any related concept. See similar anomaly under the Law of Acceleration.

Relativity

The position of the swimmer's body in relation to the position it is supposed to be in, may vary up to + or – 100%.

Vertical and Horizontal Telemetry

When rotated 90 degrees from the vertical or supine or sublime position, the brain loses most of its ability to function.

Historical Principle of Babylon

Within 3 minutes of the start of coach speaking, the swimmers begin hearing unrecognizable tongues. See similar anomaly under Law of Finite Attraction.

Fluid Mechanics

The amount of fluids the bladder can retain is directly proportional to the difficulty of the middle of the current practice set. The same principle seems to apply to ripping caps and broken goggle straps, but no scientific evidence connecting the 3 has been documented.

WEBMASTER STILL NEEDED

We're looking for someone who wants to showcase his or her talent and take our website (www.gsmswim.org) up a notch from a design standpoint. If you are interested contact Ed Tsuzuki at edtsuzki@patmedia.net.

NJ LMSC OFFICERS

CHAIRPERSON

Julie Stewart
39 Briant Parkway
Summit NJ 07901
908/598-0589
jastwart10@comcast.net

CLINICS COORDINATOR/WELLNESS & FITNESS/OFFICIALS

Ed Nessel
10 Irene Ct.
Edison, NJ 08820
908/561-5339
ednessel@aol.com

SOCIAL/SANCTIONS & SAFETY AND OPEN WATER CHAIRPERSON

Judy Ramirez
882 Landers St.
Toms River, NJ 08753
732/244-4602
jiramirez00@aol.com

TREASURER & REGISTRAR

Tom Brunson
11 Garret Dr.
West Paterson, NJ 07424
973/279-7153
tbrunson@worldnet.att.net

SECRETARY

Sandy Carosi
9 Charlotte Dr.
Lebanon, NJ 08833
908/236-0086
jcarosi@aol.com

TOP TEN

Ed Tsuzuki
103 Orion Way
Neshanic Station, NJ 08853
908/371-9179
edtsuzuki@patmedia.net

OPEN WATER CHAIRPERSON

Jack Frain
3409 Sandpiper Way
P.O. Box 702
Allenwood, NJ 08720
732/528-8482
jjfrain@hotmail.com

NEWSLETTER

Linda Brown-Kuhn, *Editor*
451 Sweet Hollow Rd.
Bloomsbury, NJ 08804
908/479-1038
lbk@sprintmail.com

Jeanne Coon, *Graphic Designer*
687 Route 9 North
Bayville, NJ 08721
732/269-6725
jeannecoon137@aol.com

AD HOC POSITIONS

MARKETING & PUBLICITY

Millicent Kaplan
1402 Boxwood Dr., Unit G
Sommerville, NJ 08876-3674
908/725-3342
cordeliaii@aol.com

SPORTS NUTRITION

Bridget Coll; 973/783-0854
bridgetcoll@hotmail.com

WINNING WHEN SHORT OF TALENT

Sooner or later, every athlete has to compete against someone who has physically superior talent. But going against someone who is physically superior doesn't have to be an automatic loss. There are ways to win regardless of the match-up.

Observe

Even elite athletes have weaknesses. Greg Maddux can't hold runners on first base. Andre Aggasi is not a good vollyer. Shaquille O'Neal can't shoot free thows. Tiger Woods…okay, bad example, but he tied for 25th in the British Open and barely made the cut in the PGA, so there is something he can't do. Lesser athletes have to look for the few deficiencies great athletes possess. By observing, making mental notes, or asking questions, you can steal points, games, races, and other events by exploiting minor weaknesses.

Work

Physical prowess comes easily to gifted athletes. But that doesn't mean the rest of us can't master sports skills. It just takes us longer to reach the same level. Some children learn to read quickly; others need more time and effort. But the end result is that both groups can read. If you can't match your opponent's natural physical skills, you may be able to make up the deficit by out-working him or her on the practice field (or in the pool).

Anticipate

Athletes who are a step slower than world-class athletes can make up some of the difference in quickness and speed by anticipating what is about to happen. Through experience and with good coaching, a tennis player starts moving to either the forehand or backhand side in anticipation of where the next shot will be hit. A baseball player knows which pitch to look for based on the game situation and the count. A runner can learn to anticipate when an opponent is about to make a move and plan his or her race strategy accordingly. Anticipation is a great equalizing attribute, but you don't just wake up one morning with the ability to know what is about to happen. It takes intelligence, experience, and the physical ability to act on anticipation.

Control

The worst mistake an underdog can make is trying to play the type of game preferred by the superior athlete. You can't match the distance of a power golfer, so don't try. Beat him with your short game. You can't beat a baseliner in tennis by outlasting him on ground strokes. Shorten points by getting to the net or making him get to the net. You can't outshoot a pure shooter in basketball. But you can slow the game down so she gets fewer shots. Play within your physical limits. One hundred percent of your limited ability may be enough to beat a star who plays at 80 percent of perfection.

Survive

Whether it is by skill, guile, luck or perseverance, your goal is to survive and stay close to the talent-heavy leader as long as possible. If the score or race is close near the end of the contest, it doesn't matter who has the most talent. The person who wins is often the one who makes a big play, avoids a mental error, is in better physical condition, or just gets lucky. In those situations, physical talent is not a prerequisite.

— Taken from the 2/04 Lane Line. They got it from the Georgia Tech Sports Medicine Newsletter

CORRECTION

Ed Nessel has two clinices left one on April 3, focusing on butterfly and breststroke. And one on May 1, focusing on power swimming and sprint training. **The cost is $30 for each.** For information and to sign up, call **732/445-0462.**

ALL THE BENEFITS OF RESISTANCE TRAINING (PART 2)

by Edward H. Nessel, RPh, MS, MPH, PharmD.

(Editor's note: The February issue of the Fast Lane carried part 1 of this piece which discussed the first three benefits of resistance training: improvements in strength and function, bone mineral density and aerobic capacity. Here are the rest.)

Body Composition

Obesity is a risk factor for several health problems including diabetes mellitus, arthritis,

cardiovascular disease (CVD), and kidney dysfunction. In addition, several new arterial and venal pathways, forced to travel through the increased fatty tissue, have to be fed and lead by the heart placing a correspondingly excessive stress on it. Though it is a given that dedicated aerobic activity has been prescribed successfully to control body weight and reduce fatty tissue, there is also increasing evidence indicating that strength exercise is an effective means of influencing body composition.

Muscle tissue is more dense than fatty tissue. Since muscle is classified as part of the lean body mass (LBM), as we add it to the skeletal structure and reduce body fat content, we may see only a slight reduction in total body weight unless large amounts of fat are eliminated. (The logical combination of aerobic and resistive training is the most efficient way to eliminate the fat and put on the muscle. The more muscle on the body, the greater the calorie expenditure with any movement). Then a noticeable metamorphosis occurs. What is produced is the presenting of an appropriate athletic body composition: average athletic (but not elite) male under 25 years of age—10-12% body fat. Average athletic male 25-35 years of age: 12%-15% body fat. Average athletic male over 40 years of age: 15-20% body fat. Women who classify as an average moderately-dedicated athlete need to just add 5% to the above listing.

The aging process lends itself to a cascade of physiological and biochemical events that result in a reduced resting metabolic rate in the general population. A reduction in muscle mass, growth hormone, and testosterone all act to produce a diminished resting metabolic rate which allows for increased fatty tissue buildup. To counteract this decline in metabolic activity, participation in an aerobic exercise program that includes consistent resistive weight training is the most logical, the most practical and the most successful path to push back Father Time and produce a more youthful and healthful body type.

Even with a genetic tendency to expand the waistline and soften all around, dedicated participation in the above combined type of physical activity will belie the chronological age and hold in check any deleterious effects that could arise over time.

What This Means to Masters Swimmers

Consistent vigorous swim training positively stresses the body by bringing into play most of the appropriate musculature for movement through water. The resultant physiology, to a greater or lesser extent, depending upon the athlete's genetics, will adapt such that a more completely toned body will be produced. Seeking this, a growing number of competitive Masters swimmers have found that time spent in the weight room or with dryland activities is time well spent. Though swimming itself is not the ideal activity for weight reduction as compared to running, for example, due to the reduced need to move against gravity, the addition of weight room activity will add the desired increased muscle size and strength.

Masters swimmers are in a perfect situation to add valuable physiologic information to the study of aging in comparison to the relatively sedentary general population. It has been well documented (and readily seen) that the dedicated Masters swimmer (who only swims for exercise) has more body fat and is somewhat heavier than the corresponding dedicated Masters runner. But add the benefits of strength training, and we see a closer ratio of body fat between the two.

The combination of training regimens allows the swimmer's body to present quite well as to a leaner, more toned generalized musculature (regardless of gender) than one who only swims; this leads to a greater strength-to-weight ratio and a reduced body/mass (weight-to-height) index…both desired markers for the vigorous athlete.

Effect on Cardiovascular Risk Factors

There is growing evidence to indicate that strength training may also be important to cardiovascular risk intervention. Strength training exercise has been shown to increase insulin sensitivity, decrease glucose intolerance, and has a modest effect on decreasing diastolic blood pressure and may positively alter serum lipids.

Several studies have been designed and conducted to present the positive effect strength training has on the physiology related to insulin regulation. As lean body mass increases so does the insulin response to ingested glucose. Studies comparing aerobic and strength training regimens have proved that both modalities positively controlled insulin physiology on a day-to-day basis.

Problems arise when insulin regulation is not tightly controlled, and uncontrolled insulin leads to diabetes, and diabetes very often has as its side effect vascular problems. It is from these vascular problems that circulatory disturbances to the heart and other vital organs and the extremities produce the debilitating and deadly sequalae we so often see.

Aerobic endurance exercise is a well-established method for raising high-density ("good") cholesterol (HDL-C) in many people. The HDL-C works its "magic" by scowering the inside lining of blood vessels to draw out the type of cholesterol (Low-Density—LDL) that can become oxidized and clog (harden) the arteries. These produce the single most morbidity and mortality in the United States.

Several studies have given conflicting results as to how efficient resistance training is in raising HDL-C. Some researchers have found that heavy strength training over a period of several months can produce the positive results we seek (as much as a 13% increase in HDL-C). Others have derived results that show only a slight positive influence, while still others have proven that strength training is not beneficial in this instance. What has come from several analyses of resistance programs is the fact that one would have to do several exercises quickly and sequentially with very little time to rest between exercise bouts to produce any positive results; in effect, the resistance training becomes somewhat of an aerobic exercise.

What This Means to Masters Swimmers

As a group, Masters swimmers are relatively knowledgeable about health matters. Most choose to take the "high road" as regards to what constitutes overall good general health and well-being. They eat relatively healthy, or at least know

Continued on page 4

 Continued from page 3

they should. They know or at least surmise the benefits of regular vigorous exercise. And they are mostly aware of what precautions should be taken as they approach the various markers of aging.

Though whether by genetic default or advancing age, even Masters swimmers may find themselves prisoners of their own metabolic defects. The very popular (and now common) addition of strength training to their in-pool time, affords them an additional method of controlling glucose metabolism, keeping any aberrant cholesterol readings under control, and bringing blood pressure into line.

If, in fact, any of the above physical means is not adequate to keep either blood sugar or serum lipids (fats) under control, Masters swimmers as a group are educated enough to become guided by the appropriate health professionals, and chemical intervention with any number of medicinal choices will most likely occur. It is out of the norm for a long time masters swimmer to ignore any biochemical or physiological warnings that may arise as aging takes place. Though they rely heavily on the continuous and dedicated aquatic training Masters swimming offers, and the dryland exercise they seek out to augment their strength, power, and endurance, very few are foolish enough to go through life not being monitored adequately so as to evaluate the total benefits of both aerobic and strength training.

Safety and Practical Application

Data regarding the safety of strength training and testing show that it is safe if properly administered and performed. No adverse cardiovascular events should occur if appropriate steps are taken to account for relative strength at the time of participation and the effects of aging.

There is one precaution that should be addressed: there could be a problem in some people if they hold their breath when performing strength training. This puts extra pressure on the internal organs and cause blood pressure spiking and vascular difficulty. It is called the "Valsalva Manuver." To prevent this build up of pressure on the internal organs, one should blow out as the strength movement is made and should breathe in as the recovery takes place.

Muscle soreness is a common resultant especially as one ages or for beginners into the regimen. Special care must be taken to prevent injuries at this point by not moving too much resistance too quickly. No more than a 10% increase in resistance per week is a usually safe modality.

Also, as one ages, there develops a need for an exogenous source (outside the body) of substances that normally protect the joints. Glucosamine and chondroitin, taken as a dietary supplement, act to replace what naturally becomes diminished, reduce pain and discomfort, and allow more complete functionality of all the stress-bearing joints.

An important reason why strength training is beneficial in daily life and may cause less risk in doing various lifting tasks is related to the training effect of simply getting stronger. The spine is protected by stronger supportive muscles of the trunk and all the joints enjoy the same protective condition throughout most movements.

We also see that blood pressure measured during sub-maximal lifting decreases following the training period. Thus, strength training can decrease the stress placed on the heart during lifting tasks and any other demanding activity that requires vigorous effort. Heart attacks that are a risk factor with such activities as shoveling snow, lifting heavy objects and executing vigorous movements whether by choice or need can be lessened by the overall beneficial adaptive effects of strength training.

What This Means to Masters Swimmers

It is a wise choice to include strength training on a regular basis through the training week along with the regular swim bouts that Masters swimmers endure. The number one over-use injury with aquatic training is "swimmer's shoulder." What this most often turns out to be is that the four muscles of the rotator cuff (supraspinitus, infraspinitus, teres major, and subscapularus) are not strong enough to handle the repetitive movements through the various planes the shoulders must move to execute the four main competitive strokes. Educated and experienced Masters swimmers wisely spend time keeping the rotator cuff strong enough to balance the work of the major shoulder and upper arm muscles like the deltoids, biceps, triceps, trapeziums, pectorals and rhomboids.

Swimming places the body in a horizontal position in an medium that produces a gravity-free ambiance. This usually keeps the blood pressure and heart rate at a lower number than would be seen in an upright athlete dealing with body weight, resistive elements of the chosen activity, and the all-encompassing presence of gravity.

Making the muscles of the trunk as strong as practical is key to moving through water in a powerful manner. Whether swimming the long-axis strokes (free and back) or the short-axis strokes (breast and fly), the true power is basically generated from the hips and includes the whole torso. Strength training with free weights, latex tubing, and/or mechanical devices is as important to fast swimming as in-water training.

On average, it takes a land-based athlete about three years to fully acclimate to the gravity-free environs of the pool. The reverse is true but with a caution: as one ages, gravity and ground can take their toll on joints that have not had to endure the pounding and weight-bearing that non-swimmers do. Overall strength can only act to help the body deal with whatever we put it through.

Conclusion

The effects of resistance/strength training on muscular strength and endurance (muscle mass) and rehabilitation from musculoskeletal injury is well known. As a result, most of the major health organizations have included it as an important component of a well rounded exercise program along with aerobic endurance and flexibility exercise. More recently, strength training has been shown to be beneficial in improving many factors associated with good health. These factors include increased function and prevention of falls, decreased pain in chronic low back pain patients, improved glucose tolerance and insulin sensitivity, increased BMD, increased basal metabolic rate (weight control), and improved quality of life. It appears that most of the above findings can be attained in strength training programs that include, for instance, 8-10 exercises that are performed 2-3 days per week, using one set of 8-15 repetitions to fatigue.

Coach Ed Nessel heads up the Rutgers Masters Swimming program; he is the USMS National Resource Librarian and a member of the Sports Medicine and Coaches Committees. He was selected USMS Coach of the Year in 1998 and to coach at the Olympic Training Center in 2002.

Colonies Zone Short Course Yards Championship
April 2 – 4, 2004

Sponsored by Patriot Masters & George Mason University Aquatic and Fitness Center
Fairfax, Virginia
Sanctioned by Potomac Valley LMSC for USMS, INC. # 104-001

Welcome to the 2004 Colonies Zone Short Course Yards Championship meet. The swimming facility will be configured as two separate 8-lane competition courses, women in one course and men in the other, with both courses displayed on the scoreboard. The all deep-water lanes, overflow gutters and non-turbulent lane lines should allow for some very ***fast*** swimming! A separate 6-lane 25-yard pool will be available for continuous warm-up/cool-down throughout the meet.

ENTRIES: ***Must be postmarked by Saturday March 20, 2004.*** Competitors may enter up to 5 individual events per day, plus relays. You must enter a time, NT entries will not be accepted. The meet is open to all Masters Swimmers holding a valid 2004 USMS registration card. A copy of this card must accompany your entry! Age is determined by a swimmer's age on April 4, 2004. (2004 USMS rules and regulations will apply).

SEEDING: Events will be seeded slowest to fastest, men and women separate. All relays will be deck seeded.

RELAYS: Relay Deck Entries will be accepted prior to 8:05am each day or they may be mailed in with your meet entry. Relay Entry Forms are available at www.patriotmasters.org.

DISTANCE EVENTS: You do not need to check-in prior to swimming the distance events however please e-mail the Entries Chair before the meet starts if you do not plan on swimming any of the events you're entered in. *Choose either the 1000 free or the 1650, not both.*

AWARDS: Medals will be awarded to the first three places in each age group, and to each member of a winning relay. Special Championship awards to the highest scoring team in three divisions: Large, Medium and Small Team**.** Individual events are scored 9-7-6-5-4-3-2-1, relays 18-14-12-10-8-6-4-2.

T-SHIRTS: A new long-sleeve T-shirt has been custom designed for this meet. Please order it in advance with your meet entry, as we will not have extras for sale at the meet.

RESULTS: Available on-line at www.patriotmasters.org or by mail upon request. Results will be submitted for top-ten recognition.

DIRECTIONS: To George Mason University Aquatic and Fitness Center:

- **From the West** Take I66 east to Route 123 (exit 60), south on Route 123 for 2.7 miles to Braddock Rd, left on Braddock, left on Sideburn, park in Lot C.
- **From the South** Take I95 north to exit 160, north on Route 123 for 14.5 miles to Braddock Rd, right on Braddock, left on Sideburn, park in Lot C.
- **From the North** Take I95 south to the Capitol Beltway (495), 495 west to Braddock Rd (exit 54), Braddock Rd west 5 miles to Sideburn, right on Sideburn, park in Lot C.

HOTELS: Courtyard by Marriott Fairfax/Fair Oaks 1-800-321-2211
Ask for the George Mason rate if reserving a room at the following 4 hotels:
Comfort Inn University Center - 703-591-5900
Holiday Inn Fair Oaks - 703-352-2525
Best Western - 703-591-5500
Hyatt Fair Lakes - 703-818-3181

QUESTIONS: Meet Director: Peter Ward (703) 993-3930 e-mail pward2@gmu.edu
Entries Chair: Cheryl Ward (703) 359-5366 e-mail cherylaward@yahoo.com

Place Copy of USMS Card Here (Trimmed and Stapled)			Please supply the following information also:
USMS Number	Team		Daytime Phone Number:
Name (as it appears on USMS Card):			Evening Phone Number:
Birth Date:	Age:	Sex:	E-mail:

I, the undersigned participant, intending to be legally bound, hereby certify that I am physically fit and have not been otherwise informed by a physician. I acknowledge that I am aware of all the risks inherent in Masters Swimming (training and competition), including possible permanent disability or death, and agree to assume all of those risks. AS A CONDITION OF MY PARTICIPATION IN THE MASTERS SWIMMING PROGRAM OR ANY ACTIVITIES INCIDENT THERETO, I HEREBY WAIVE ANY AND ALL RIGHTS TO CLAIMS FOR LOSS OR DAMAGES, INCLUDING ALL CLAIMS FOR LOSS OR DAMAGES CAUSED BY THE NEGLIGENCE, ACTIVE OR PASSIVE, OF THE FOLLOWING: UNITED STATES MASTERS SWIMMING, INC., THE LOCAL MASTERS SWIMMING COMMITTEES, THE CLUBS, HOST FACILITIES, MEET SPONSORS, MEET COMMITTEES, OR ANY INDIVIDUALS OFFICIATING AT THE MEETS OR SUPERVISING SUCH ACTIVITIES. In addition, I agree to abide by and be governed by the rules of USMS. (Rule Book Article 203.1)

SIGNATURE_____ **DATE** _____

WOMEN			MEN	
Event #	**Seed Time**	**Event Name**	**Seed Time**	**Event #**
		Friday April 2, 2004 (Warm-up at 5:30 pm – Meet Start at 6:30 pm)		
1	_____	**400 IM**	_____	**2**
3	_____	**1000 Free**	_____	**4**
5	_____	**1650 Free**	_____	**6**
		Saturday April 3, 2004 (Warm-up at 8:00 am – Meet Start at 9:00 am)		
7	(use relay form)	**800 Mixed Free Relay**	(use relay form)	**7**
9	(use relay form)	**400 Mixed Medley Relay**	(use relay form)	**9**
11	(use relay form)	**200 Mixed Free Relay**	(use relay form)	**11**
13	_____	**200 Breast**	_____	**14**
15	_____	**50 Free**	_____	**16**
17	_____	**200 Back**	_____	**18**
19	_____	**100 IM**	_____	**20**
21	_____	**100 Fly**	_____	**22**
23	_____	**50 Breast**	_____	**24**
25	_____	**200Free**	_____	**26**
27	_____	**50 Back**	_____	**28**
29	(use relay form)	**400 Free Relay**	(use relay form)	**30**
31	(use relay form)	**200 Medley Relay**	(use relay form)	**32**
		Sunday April 4, 2004 (Warm-up at 8:00 am – Meet Start at 9:00 am)		
33	_____	**500 Free**	_____	**34**
35	(use relay form)	**400 Mixed Free Relay**	(use relay form)	**35**
37	(use relay form)	**200 Mixed Medley Relay**	(use relay form)	**37**
39	_____	**200 Fly**	_____	**40**
41	_____	**100 Breast**	_____	**42**
43	_____	**100 Free**	_____	**44**
45	_____	**200 IM**	_____	**46**
47	_____	**100 Back**	_____	**48**
49	_____	**50 Fly**	_____	**50**
51	(use relay form)	**400 Medley Relay**	(use relay form)	**52**
53	(use relay form)	**200 Free Relay**	(use relay form)	**54**
55	(use relay form)	**800 Free Relay**	(use relay form)	**56**

	Surcharge (required)	**$15.00**	**Entries Due:** **Saturday March 20, 2004**
_____	**Events @ $5 each**	**$**_____	
_____	**Results Mailed @ $5**	**$**_____	**Mail to:** **Cheryl Ward, Entries Chair**
_____	**Long sleeve T-shirt @ $15 each**	**$**_____	**4207 University Dr.**
	(circle) : Med - Large - XL		**Fairfax, VA 22030**
	TOTAL FEE ENCLOSED	**$**_____	**Check Payable to: George Mason University**

LOOK WHAT'S NEW

Aquanex+Video, a new product (used for underwater videotaping) of Swimming Technology Research, is a finalist for Product Design and Development's 2003 Engineering Awards. The finalists are featured in the December issue of the magazine. The winners were announced at an awards ceremony in Chicago in February.

The awards program was developed to "recognize engineering achievements and salute design ideas that improve the world in which we live and work." The level of competition for this prestigious award is exemplified by last year's winner—an automatic external defibrillator.

Aquanex+Video has both medical and sports applications. The system synchronizes underwater video and force data and can be used to analyze almost any type of aquatic activity, including swimming, rowing, and aquatic therapy.

Aquanex+Video has many applications in aquatic performance:

- Reinforce positive technique elements
- Identify factors that limit performance
- Monitor patient progress in aquatic therapy
- Evaluate the effectiveness of a therapy program
- Compare aquatic equipment designs
- Conduct research on improving performance

The original version of Aquanex also received acclaim. Aquanex was selected as one of 100 ways in which the microchip is changing our world. Aquanex was also featured on TV as part of the ESPN Sports Technology Series. Information about Aquanex is available at - www.swimmingtechnology.com or contact Sharon Kidd by email - kidd@swimmingtechnology.com

ABILITY IS WHAT YOU'RE CAPABLE OF DOING. MOTIVATION DETERMINES WHAT YOU DO. ATTITUDE DETERMINES HOW WELL YOU DO IT.

LEE HOLZ

AGING UP

This March ten swimmers move up to a new age group. Happy birthday to:

Maris Buttacavoli	55	Mike Kriley	45
Julie Corpus	50	Nancy Conroy Leib	45
Donald Asay	50	Mike Waldron	40
W. Thomas Gutowski	50	Bretta Jacquemin	35
Steven Putterman	50	Sarah Rankowitz	25

PLACES TO SWIM

Please let me know if changes need to be made at any time. I rely on you to keep this list updated. You can contact me (Linda Brown-Kuhn) at 908/479-1038 or lbk@sprintmail.com. -Thanks.

COACHED WORKOUTS

Berkeley Aquatics Contact: Coach Eric Fucito at the Berkeley Aquatic Club, Berkeley Heights; 908/464-0574 or njmasters@msn.com. Workouts: M 8:30-9:30pm, W 8-9:15pm, F 8-9pm, Sun. 8:15-9:45am

Bridgewater Pool/Somerset Valley YMCA Contact: Don Fink at donfink@comcast.net, workouts T at 8pm & H at 5:30am.

Hunterdon County YMCA at Deerpath Contact: Nancy Shapiro at the Y; 908/782-1030. Practice is W 8:30-9:45pm. Sandy Carosi holds workouts T, H 9:15-10am. Contact her at 908/236-0086 or jcarosi@aol.com.

Lakeland Hills Masters Team Contact Pam Banks at swimbanks@earthlink.com or www.lhymasters.tripod.com\lhyms.html

Madison YMCA Contact: Jon Seigel; 973/822-YMCA, ext. 228 or marinersSwimming@aol.com or www.marinersswimming.com. Workouts are M & W 8:20-9:30pm.

Monmouth Swim Hawks Monmouth University, West Long Branch Workouts are T & F mornings from 7am-8am. Call Murray Simon at 732/229-7623.

Morris Center YMCA Contact: Jack Lawson at 79 Horsehill Rd., Cedar Knolls 07927; 973/267-0704.

Ocean County YMCA Masters Contact: John Morrison; 732/341-YMCA.

Peddie Aquatics Association Contact: Michelle Wriede, email at mwriede@peddie.org or call 609/529-4011. Practices are M-H 8-9:30pm, F 5:45-8am, 8-9:30pm, Sun. 4-6pm.

Ridgewood Y Contact Garret Orr; gso@entrepreneur-equity.com or 201/934-4222. Workouts are M & F 8:30-9:30pm.

Rutgers University Contact Ed Nessel; 908/561-5339 or Alex Antoniou; 732/445-0457. Workouts are held at the Sonny Werblin Rec Center pool. Workouts: M-F noon-2pm, Sunday 5:30-7pm, M, T, H, F 6-7am, T & H 8-10pm, F 7:30-9pm

Stevens Sting Rays Contact: Cheryl Lee 201/216-8039. Workouts are M, W, F 7:30-9 pm; T & H 6-7:30 am and 8-9 pm; Sun 10-12.

The Atlantic Club Contact: Stephanie Crofto; 732/223-2100, ext. 318.

Union Boys and Girls Club Ron Karnaugh at RonKarnaugh@aol.com or call 973/868-9922. The Club is located at 1050 Jeanette Ave., Union, NJ 07083 908/687-BOYS ext. 24; Directions: www.bgcucaquatics.org; Updates: www.SwimMD.com

West Morris Area YMCA Contact: Bob Hopkins at 973/729-3686.

Westfield Masters Contact: Bill McMeeekan at 220 Clark St., Westfield; 908/233-2700. Workouts: M, F 7:30-9pm, W 8:30-10pm.

Wycoff YMCA Masters Contact: Doug or Ray at the Y; 201/891-2081. Workouts are T & H 7:30-8:30pm and Sat., 7:30-8:30am. During the winter call before Tues. workouts, as time june/july change due to kid's meets.

NON-COACHED WORKOUTS

Hamilton Area YMCA Contact: Nancy Shapiro; 609/585-1014. Workouts: M 8:30-9:45pm and Sun., 11am-12:30pm.

Newark YMCA Contact: Joy Henderson; 973/624-8900, ext. 6811. Workouts: M-F, 6-9am, 12-2pm, 6-7:30pm, Sat. 1-2pm.

Montclair Masters Contact: Omar Cruz, Montclair YMCA, 25 Pine Street, Montclair, NJ 07043; 973/744-3400x109. Workouts held M, W 6-7 pm, F 6:30-7:30 pm.

Princeton Area Masters Contact Paul Mucciarone, evenings at 609/655-0997 or at pfmooch@hotmail.com or contact Princeton Recreation Dept.; 609/921-9480 and ask for Katie Herlihy. Workouts are M-F, 5-6:45 am at the Princeton DeNunzio Pool.

Red Bank YMCA/Deal JCC Contact: Doug Rice; 908/741-2503.

Sussex County Masters Contact: Bob Hopkins; 973/729-3686.

Metuchen/Edison YMCA Contact: Jay Koperwhats at 908/548-2044.

Western Monmouth YMCA Contact Richard Wallace; 732/446-4589 (H). 973/482-6400, X 2256 (W), swimphil@optonline.net

Whippany Waves Masters Contact: Ben Gilbert; 201/428-9300

FASTLANE

NJ LMSC
451 Sweet Hollow Road
Bloomsbury, NJ 08804

STAMP

ADDRESS:

MEET CALENDAR

MEETS IN NEW JERSEY

March 27
18th Annual Unofficial Team Championship, Toms River, NJ. Contact Gretchen Surette; 732/341-9622, x2221.

June 25
1 Mile Bay Swim, Kennedy Park, Somers Point, 6:30 pm start. Contact Karen Pratz, Ocean City Aquatic & Fitness Center; 609/398-6900.

June 27
6th Annual Plunge for the Patients Swim (1 or 3 Mile), Wildwood. Contact Vicki Anders at 410/502-5395, andervi@jhmi.edu

MEETS OUTSIDE OF NEW JERSEY

March15-15
Asphalt Green SCY March Madness Meet, tentative.

March 21
SC Yard Sprint Fling Meet, Nassau County Aquatic Center in Eisenhower Park, East Meadow, Long Island. Entries must be received by 3/12. Contact Ray Farrell at 631/501-5702 (days) or rfarrell@cdfslaw.com

April 18
SCY April Showers Meet, Nassau County Aquatic Center, East Meadow, Long Island.

June 13
4.4 Mile Chesapeake Bay Swim. Race was full as of 2/2/03. Call 856/468-0010 or www.lin-mark.com

June 13
1 Mile Bay Challenge Swim, run at finish of 4.4 Mile Chesapeake Bay Swim. Go to www.lin-mark.com

June 26
Madison Mile, Madison, CT. Contact Dave Parcells, 17 Yankee Glen Drive, Madison, CT 06443; 203/606-4529, dave@force5sports.com.

June 27
1 and 2 mile Lehigh River Swim, Allentown, PA. Contact James Platt, PO Box 3304, Allentown, PA 18106; jhp35@hotmail.com or Mike Seip, seip@enter.net

CHAMPIONSHIPS

April 2-4
Colonies Zone Championship, George Mason University, Fairfax, VA. Entry enclosed.

April15-18
YMCA Nationals, Fort Lauderdale, FL.

April 22-25
2004 SC Nationals
Indiana University, Indianapolis, IN. Contact Mel Goldstein; 317/253-8289 or Goldstein@mindspring.com. Entry will be in SWIM magazine

June 2-13
2004 Worlds, Riccone, Italy
www.masters2004.itltaly, (39) 06362 000 469

June 27
USMS One Mile Open Water Championship
Wildwood, NJ. Contact Vicki Anders at 410/502-5395 or andervi@jhmi.edu. www.usms.org/longdist/ldnat04/lmientry.pdf

August 12-15
2004 LC Nationals, Savannah, GA.
Contact Scott Rabalais at Scottrabalais@compuserve.com