

2015 OPEN WATER ISSUE

# SW

SWIMMING WORLD

NOVEMBER 2015 • VOLUME 56 • NO. 11 • \$3.95

## JORDAN WILIMOVSKY

MALE OPEN WATER  
SWIMMER OF THE YEAR

**TOP 9 OLYMPIC UPSETS:**

#9 IRON MIKE

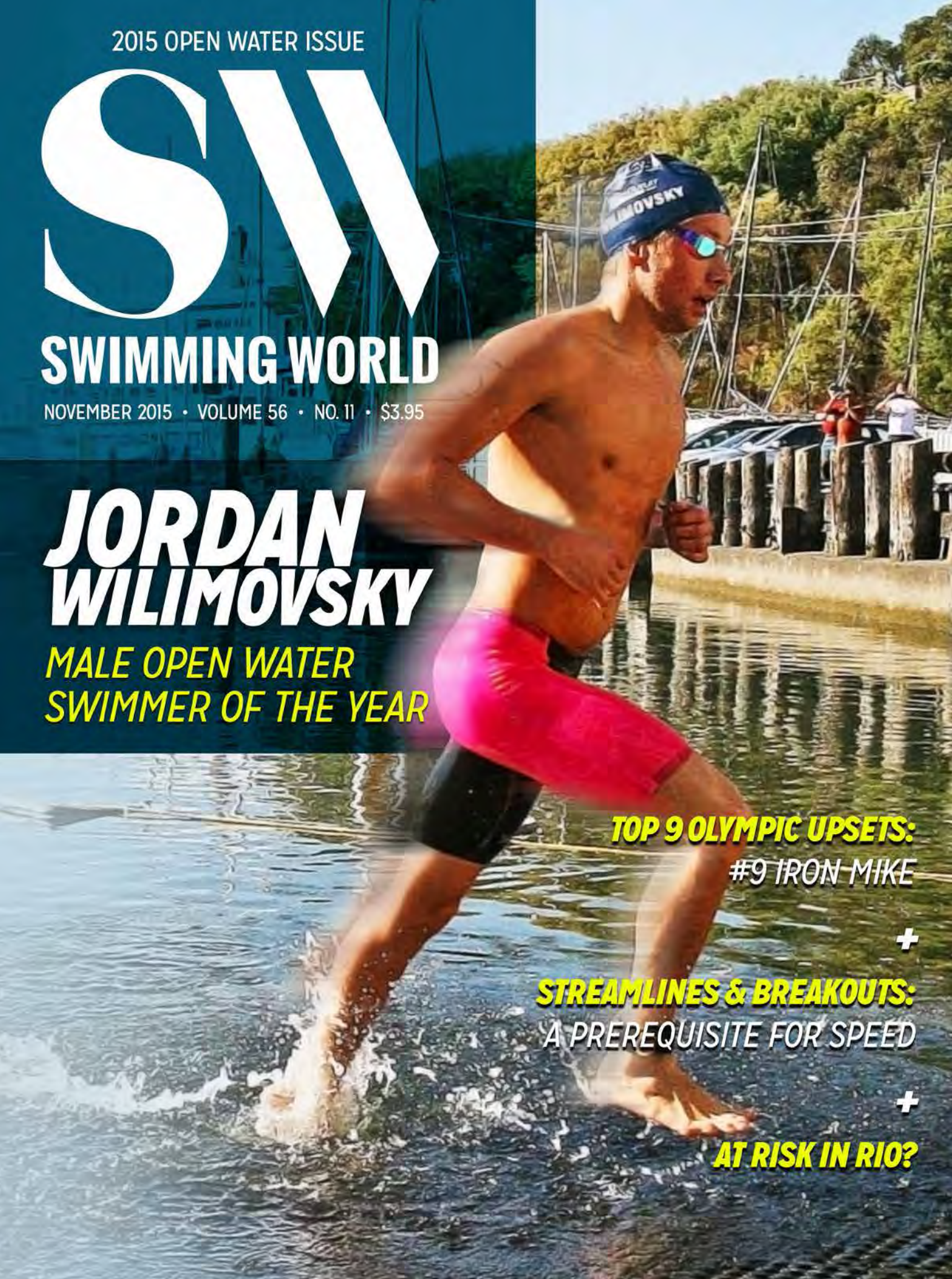
+

**STREAMLINES & BREAKOUTS:**

A PREREQUISITE FOR SPEED

+

**AT RISK IN RIO?**



MISFIT

# SHINE

SWIMMER'S EDITION




**MISSY FRANKLIN**  
5x OLYMPIC MEDALIST  
WORLD RECORD HOLDER

## MAKE EVERY LAP COUNT.

Speedo Shine tracks swimming as well as measures all your activity and sleep automatically. It never requires charging and is the thinnest, sleekest and only waterproof device of its kind.



[speedousa.com](http://speedousa.com)

Speedo and  are registered trademarks of and used under license from Speedo International Limited.

A swimmer wearing a white swim cap and goggles is shown from the chest up, emerging from the water. She is wearing a bright blue FINIS performance suit. Her right arm is raised, and a large splash of water is cascading down her side. The background shows a swimming pool with lane lines and a blurred audience in the stands.

fast is more fun.

coming soon!

## FUSE

The Fuse performance compression technical suit is affordable, fun and fast. The resilient properties of the fabric ensure a comfortable fit and reduce drag. The suit is designed to provide flexible compression without limiting range of motion. The Fuse provides UVA/UVB protection and is available in two fresh colors. Designed in California at the FINIS Stroke Lab. Race ready 2016.



Available in caribbean and slate  
[FINISinc.com](http://FINISinc.com)

**FINIS**<sup>®</sup>  
simplify swimming

# GEAR UP FOR SHORT COURSE SEASON WITH THE WORLD'S FASTEST FAMILY.



**CARBON CAGE**



**CARBON BANDS**

## CARBON TECHNOLOGY

### POWERSKIN TECHNOLOGY COMPARISON

|  | POWERSKIN<br>Carbon | POWERSKIN<br>Carbon pro | POWERSKIN<br>Carbon air |
|--|---------------------|-------------------------|-------------------------|
| CARBON CAGE                                      | ●                   | ●                       | ●                       |
| CARBON BANDS                                     | ●                   | ●                       | ●                       |
| INTELLIGENT MUSCLE COMPRESSION                   | ●                   | ●                       | ●                       |
| POWER RETURN CONSTRUCTION<br>EXTERNALLY SEAMLESS | ●                   | ●                       | ●                       |
| TWO-PANEL CONSTRUCTION                           | ●                   | ●                       | ●                       |
| V-FLEX SYSTEM                                    | ●                   | ●                       | ●                       |
| SLEEK CONSTRUCTION<br>ULTRA LIGHTWEIGHT FABRIC   | ●                   | ●                       | ●                       |
| SMARTSTRETCH SHOULDER STRAP                      | ●                   | ●                       | ●                       |

### POWERSKIN Carbon flex

## THE POWER OF CARBON GOES FLEXIBLE

#### CARBON CAGE



REVOLUTIONARY PLACEMENT OF FRONT AND REAR SEAMS FOR MAXIMUM RANGE OF MOTION

BONDED SEAMS FOLLOW BIOMECHANICAL "FLEX LINES" ON BOTH FRONT SEAMS

#### V-FLEX SYSTEM



BACK SEAMS CREATE A TENSION LINE TO OPTIMIZE BODY POSITION

BONDED AND TAPED SEAMS ALIGN WITH QUADS AND HAMSTRINGS, PROVIDING OPTIMUM MUSCLE SUPPORT.

### POWERSKIN Carbon pro

## EXPERIENCE THE POWER OF CARBON

#### CARBON CAGE



TWO-PANEL CONSTRUCTION

STRATEGIC PLACEMENT OF SEAMS



POWER RETURN SYSTEM

### POWERSKIN Carbon air

## COMPRESSION MEETS COMFORT

#### CARBON BANDS



EASY TO PUT ON

SLEEK CONSTRUCTION

SMART STRETCH SHOULDER STRAP

ULTRA LIGHTWEIGHT FABRIC



**AVICTOR**

THE ULTIMATE ADVANTAGE.

**OMAHA NIGHTS  
LIMITED EDITION**

COMING SOON...



MANUFACTURED IN THE U.S.A.  
OF IMPORTED MATERIALS

**TYR**

## FEATURES

### 016 TOP 9 OLYMPIC UPSETS: #9 IRON MIKE

by **Chuck Warner**

Beginning with this issue and running through July 2016—a month before the start of the Olympic swimming events in Rio on Aug. 6—Swimming World Magazine will bring you its top 9 upsets in the individual events in Olympic history—in particular, in the last 50 years.



016

### 018 2015 OPEN WATER SWIMMERS OF THE YEAR

by **Steven Munatones**

With impressive performances in the 10K marathon swim this past summer at the FINA World Championships in Kazan, 2015 Open Water Swimmers of the Year Aurélie Muller and Jordan Wilimovsky now have their sights set on Rio.

### 030 RCP TIBURON MILE

by **Steven Munatones**

With the ebb tide the strongest it's been in the history of the race, Jordan Wilimovsky and Ashley

018

### 021 MEMORABLE OPEN WATER MOMENTS OF 2015

by **Jeff Commings**

Swimming World presents this year's five biggest open water stories.

Twichell successfully battle the conditions to win the RCP Tiburon Mile.



038

### 023 AT RISK IN RIO?

by **Annie Grevers**

With less than a year away from the 2016 Olympics, there is still concern for the safety of athletes who will be competing in the waters off the coast of Rio de Janeiro.

### 026 THE ULTIMATE COMPETITOR

by **Annie Grevers**

A successful pool swimmer, American Haley Anderson has also become one of the world's most decorated and most consistent open water athletes. Since winning an Olympic 10K silver medal in 2012, she took the world title in the 5K in 2013 and struck gold in the 10K at Pan-Pacs in 2014. This past summer, she reclaimed gold in the 5K at Worlds and also qualified as the first female member of the 2016 U.S. Olympic team.

## COACHING

### 010 LESSONS WITH THE LEGENDS: JIM MONTRELLA

by **Michael J. Stott**

### 012 SWIMMING TECHNIQUE MISCONCEPTIONS: ARM COORDINATION (Part I of II)

by **Rod Havriluk**

In the first of a two-part series, Dr. Havriluk explains how the typical arm coordination (based on conventional wisdom) limits velocity and how a unique arm coordination can result in much faster swimming.

### 038 STREAMLINES & BREAKOUTS: A PREREQUISITE FOR SPEED

by **Michael J. Stott**

### 042 Q&A WITH COACH ADAM CROSSEN

by **Michael J. Stott**

### 043 HOW THEY TRAIN OWEN KAO

by **Michael J. Stott**

## TRAINING

### 045 DRYSIDE TRAINING: ON-LAND SWIM STROKE MOVEMENTS—BUTTERFLY

by **J.R. Rosania**

## JUNIOR SWIMMER

### 014 GOLDMINDS: THE LANGUAGE OF THE LANES

by **Wayne Goldsmith**

### 048 UP & COMERS

## COLUMNS & SPECIAL SECTIONS

### 008 A VOICE FOR THE SPORT

### 032 HOLIDAY GIFT GUIDE

### 046 GUTTER TALK

### 049 PARTING SHOT

## ON THE COVER

During the 2015 summer season, there was no one as technically perfect and strategically savvy as the USA's Jordan Wilimovsky, who was named Swimming World Magazine's Male Open Water Swimmer of the Year. The 21-year-old handily beat deeply talented fields in the 10K marathon swims at both the USA Swimming national champions and at the FINA World Championships. Then in September, he added the RCP Tiburon Mile title to his list of accomplishments. (See stories, pages 18, 21 and 30.)

[PHOTO BY **ELLIOT KARLAN**]



*agonswim.com*

CUSTOM CUSTOM CUSTOM

info@agonswim.com

www.agonswim.com

1.877.718.9403

# WHEN SHOULD YOU **CHANGE COACHES?**

BY CASEY BARRETT

We're months away from the next Olympic Games, a time when every workout and every meet takes on heightened significance. Not much time left until Trials, but plenty of time to second-guess every set if you're not confident in your current training situation. If that's the case, when is it time for a change?

There is, perhaps, nothing more essential to a swimmer's success than faith in one's coach. Whether you're an athlete who needs high volume or extreme race-pace quality, plenty of weights or none at all, you need to buy in to your coach's program. If you doubt your leader's prepared path, then how do you plan to have confidence at the destination?

The athlete-coach relationship is as dynamic and elastic as it comes. It's a marriage not exactly of equals, but of common goals. Like marriage itself, to stay healthy means accepting change and having unshakeable respect in your counterpart. Easier said than done, say the divorce rates. The decision to part ways can be agonizing—a defining trauma of life, regardless of what comes next.

In the Missy Franklin-starring documentary, *Touch the Wall*, a driving storyline was Kara Lynn Joyce's decision to join Franklin's team—the Colorado Stars, led by Coach Todd Schmitz—and her subsequent decision to leave just months before the 2012 Trials.

The film laid bare the brutal mental toll that comes with a crisis of coaching faith. As Joyce began to doubt Schmitz and his training plan, her meet results suffered, and it became a self-fulfilling spiral. *The coach doesn't know how to train me*, thinks the swimmer. Underwhelming in-season swims follow, further fueling swimmer's doubt. Fortunately, in the case of Kara Lynn Joyce, all was well that ended well. Joyce joined David Marsh's

team of post-grad stars in Charlotte, and the masterful Marsh knew just what to say to get Joyce's head right. In Omaha, she made her third U.S. Olympic team and ended her career in Olympic style.

An Olympiad later, it was Missy Franklin who faced a similar agonizing coaching choice. At the University of California, she thrived, helping the Golden Bears bring home the team title last spring, before declaring her pro status soon after—and then deciding to return home to Todd Schmitz rather than remain with Teri McKeever and her world-class crew at Berkeley. The weight of such a decision is hard to overstate. If you listen too closely, you'll hear the whispers of second-guessing every time you touch the wall and see a time that's not quite perfect.

Even the cradle-to-podium marriage between Bob Bowman and Michael Phelps has seen its rocky patches. (Just ask some Michigan teammates during their Ann Arbor years...) But if you want to find the single factor that's sparked Phelps' return to his own impossible standard, look no further than his coach. Bob Bowman hasn't changed much; it's just that Michael has bought back in. And that's made all the difference.

We've all been on teams where doubt in a coach can spread like a virus. It's a painful climate to be a part of, especially right about now with the next Olympics looming. When that happens, do you pack your bags or buckle down? There's no right answer, but whatever you decide, you'd better believe it with all your heart. Because when you touch that wall at Trials and look up at your time, you'll want to thank your coach, not blame him. ❖

**Casey Barrett**  
*Senior Commentator*



## PUBLISHING, CIRCULATION AND ACCOUNTING

www.SwimmingWorldMagazine.com

**Chairman of the Board, President - Richard Deal**  
DickD@SwimmingWorld.com

**Publisher, CEO - Brent T. Rutemiller**  
BrentR@SwimmingWorld.com

**Circulation/Art Director - Karen Deal**  
KarenD@SwimmingWorld.com

**Circulation Manager - Taylor Brien**  
TaylorB@SwimmingWorld.com

**Advertising Production Coordinator - Betsy Houlihan**  
BetsyH@SwimmingWorld.com

## EDITORIAL, PRODUCTION, MERCHANDISING, MARKETING AND ADVERTISING OFFICE

2744 East Glenrosa Avenue, Phoenix, AZ 85016  
Toll Free: 800-352-7946  
Phone: 602-522-0778 • Fax: 602-522-0744  
www.SwimmingWorldMagazine.com

### EDITORIAL AND PRODUCTION

Editorial@SwimmingWorld.com

**Senior Editor - Bob Ingram**  
BobI@SwimmingWorld.com

**Managing Editor - Jason Marsteller**  
JasonM@SwimmingWorld.com

**Assistant Managing Editor - Annie Grevers**  
AnnieG@SwimmingWorld.com

**Graphic Designers - Emmi Brytowski, Joe Johnson**

**Staff Writers - Michael J. Stott**

**Fitness Trainer - J.R. Rosania**

**Chief Photographer - Peter H. Bick**

**SwimmingWorldMagazine.com WebMaster:**  
WebMaster@SwimmingWorld.com

### MARKETING AND ADVERTISING

Advertising@SwimmingWorld.com

**Marketing Coordinator - Maureen Rankin**  
MaureenR@SwimmingWorld.com

### MULTI-MEDIA

**Senior Writer - Jeff Cummings**  
JeffC@SwimmingWorld.com

## INTERNATIONAL CORRESPONDENTS

Africa: Chaker Belhadj (TUN)  
Australia: Wayne Goldsmith, Ian Hanson  
Europe: Norbert Agh (HUN), Camilo Cametti (ITA),  
Oene Rusticus (NED), Rokur Jakupsstovu (FAR)  
Japan: Hideki Mochizuki  
Middle East: Baruch "Buky" Chass, Ph.D. (ISR)  
South Africa: Neville Smith (RSA)  
South America: Jorge Aguado (ARG)

## PHOTOGRAPHERS/SWTV

Peter H. Bick, USA Today Sports Images,  
Reuters, Getty Images

OFFICIAL MAGAZINE OF:



ENDORSED BY:



PUBLISHER:



P.O. Box 20237  
Sedona, AZ 86541  
Phone: 928.284.4005  
Fax: 928.284.2477  
www.SwimmingWorldMagazine.com





*“We have worked with leading coaches to develop the perfect end-to-end elite performance system for swimming”*

- Ryan Bennett, SwimPro Founder

**WORLD’S LEADING SWIMMING VIDEO ANALYSIS TECHNOLOGY INCORPORATING:**

- ✓ Purpose built preprogrammed **HD wireless cameras**
- ✓ Custom above and below water mounts
- ✓ Powerful and portable IQ2 Enterprise software
- ✓ Real-time, delayed streaming to pool-deck displays and iPads
- ✓ Extensive multi-view and frame-by-frame analyses
- ✓ CommentaryCAM for simple poolside and post analysis coaching
- ✓ SwimmingCloud for Internet storage, post analysis, collaboration and sharing
- ✓ 12 month full replacement warranty
- ✓ Online and telephone support



*“SwimPro has helped revolutionise how we work with swimmers. To be able to capture real-time footage from multiple angles, add delays, analyse, diagnose and then be able to communicate to a swimmer at the pool deck helps improve the quality and effectiveness of our coaching. Thus speeding up the improvement in the swimmers technique and performance.”*

Jim Fowle, elite Olympic coach, has joined SwimPro as our Director of Coaching

Enquire today at [info@swimmingcam.com](mailto:info@swimmingcam.com)

[www.swimmingcam.com](http://www.swimmingcam.com)

**DIVE INTO OUR WEBSITE**  
for our  
**Christmas Special**

# LESSONS with the LEGENDS

SWIMMING WORLD  
CONTINUES A SERIES  
IN WHICH TOP  
COACHES SHARE SOME  
OF THE SECRETS OF  
THEIR SUCCESS.

BY MICHAEL J. STOTT

SPONSORED BY



## JIM MONTRELLA

Jim Montrella has spent the last 56 years creating champions at all levels. Very precise in his instruction, he has built a career around four basic tenets: anticipation, preparation, dedication and love. His ability to innovate and educate are, perhaps, his greatest contributions to competitive swimming. This profile focuses on two: swim paddles and breathing.

The first U.S. patent for paddles was issued in 1898, but the real breakthrough came in the early 1970s when Montrella introduced the design that he licensed to Speedo. Made of polypropylene rather than the structurally unstable polystyrene, Montrella's paddle floated, had a single finger balancing point, tapered punched holes and routed edges.

Over the years, he has used paddles to teach feel, finesse, awareness and flow, especially when coupled with a pull buoy. While his swimmers utilized all sizes, Montrella is adamant that "a high percentage of U.S. coaches have kids using paddles that are too large, especially considering that the tendons and ligaments cannot support the muscle ligature of physically immature swimmers. Smaller is better," he notes.

"Two basic functions of paddles are to reinforce proper technique and to build power. Choice of paddle should not be based upon size or how fast they make you go," he counsels. He also recommends that as one's strength begins to wane, swimmers—as in many older Masters swimmers—need to decrease paddle size and workout volume while maintaining intensity.

Montrella's view on breathing departs from standard explanations. Instead of holding one's breath or concentrating on inhaling, he advocates that swimmers focus on quick exhalation/inhalation. "The reality is, from Day One, you should teach someone to exhale first, then quickly inhale, timing the breath with the stroke."

The timing basics—or what he calls the "synchronicity" of breathing and stroking—are the same for freestyle, butterfly and backstroke. "Ideally, the flexion of the wrist, the extension of the elbow and high point of the hip on its roll occur at the same time as the exhalation followed by a very quick inhalation. The idea is to time the exhale/inhale with the fastest part of the body moving through



**PICTURED >** Jim Montrella began his coaching career in 1959 at the Lakewood (Calif.) YMCA. With the help of Jerry LaVonte of the Lakewood Dolphin Swim Club, he then formed the Lakewood Aquatic Club, an organization that produced 10 Olympians (including Suzie Atwood, Kim Brecht, Steve Genter, Ann Simmons and Dana Shrader). His swimmers also include two world and 16 American record holders as well as athletes who have won more than 50 national titles. In 1971, he qualified 31 swimmers for nationals from a team of just 123 members.

After serving as a 1972 assistant Olympic coach for Colombia and as 1976 U.S. women's Olympic assistant coach, he relocated to Indian River Community College, where he chalked up four consecutive national championships and two Coach of the Year awards (1978, 1979). From there, he enjoyed a 17-year tenure at Ohio State, where he also received his master's in sports management in 1981. During that time, his Buckeye athletes (66 Big Ten titles, five Big Ten Swimmers of the Year, 48 NCAA All-Americans) garnered five straight Big Ten titles (1982-86), earning him Big Ten Coach of the Year accolades in 1985 and 1991. Beginning in 1997 and through 2000, he coached with Mark Schubert at the University of Southern California and the Trojan Swim Club before moving to the Mission Viejo Nadadores in 2002-06.

Ever the teacher, he has served as coach and manager of more than 20 U.S. Olympic Development Camps, has been head or assistant coach for numerous USA national teams, been a two-time CSCAA board member, a 25-year U.S. Swimming Olympic International Operations Committee member as well as a master coach consultant for USA Swimming. In 2005, he was elected to the ASCA Hall of Fame.

the water. When done right, those elements occur at the end of the stroke and when the body is at its highest point. In breaststroke, the end of the stroke and apex of body occurs when hands are underneath the chin just in front of the shoulders. The challenge for today's instructors is to teach the exhalation properly while timing it with the end of the stroke," he says. ❖

*Michael J. Stott is an ASCA Level 5 coach whose Collegiate School (Richmond, Va.) teams have won eight state high school championships.*

**DRAG TIGHTS...for happy legs!** 😊



**uglies™**

**DOLFIN®**

[www.dolphinswimwear.com](http://www.dolphinswimwear.com)

## SWIMMING TECHNIQUE MISCONCEPTIONS:

# ARM COORDINATION

## (Part I of II)

BY ROD HAVRILUK

*Many people believe that it is worth copying the technique of the fastest swimmers. In reality, even the fastest swimmers have technique limitations, but they offset them with strength and conditioning. The purpose of this series of articles is to address scientifically the technique misconceptions that have become “conventional wisdom,” and to present options that are more effective.*

*The four most recent articles in this series (July, August, September and October) addressed misconceptions about the limits of human swimming velocity, based on concepts of resistance and propulsion. The last article (October, Havriluk, 2015) explained how generating maximum propulsion is likely the key to overcome perceived swimming velocity limits. This article—the first of a two-part series—explains how the typical arm coordination (based on conventional wisdom) limits velocity and how a unique arm coordination can result in much faster swimming.*

### ARM INDEX OF COORDINATION

Even a naked-eye analysis can detect some arm coordination differences in freestyle. For example, some swimmers have noticeable phases of body acceleration and deceleration. Others move at a more constant velocity. Differences in arm coordination are usually responsible for these fluctuations in body velocity.

In 2000, three scientists (Chollet, Chabies & Chatard) developed an Index of Coordination (IdC) to quantify the relative position of the arms throughout the stroke cycle. They explained that when one hand begins to pull at the same time as the opposite hand completes the push, the arms are in opposition, and the IdC is zero (see **Fig. 1, top image**).

If the pulling (entry) arm remains motionless while the opposite arm begins the recovery, the IdC is negative—also called catch-up stroke (**Fig. 1, middle image**). If the pulling arm begins to generate force before the push is complete, the IdC is positive—also called superposition (**Fig. 1, bottom image**).

These three different arm coordinations (zero, negative and positive IdC) produce three different patterns of force curves (see **Fig. 2, next page**). If the IdC is equal to zero, the force curve for one arm begins when the force curve for the other arm ends (**Fig. 2, top image**). If the IdC is negative, there are gaps between the force curves (**Fig. 2, middle image**). If the IdC is positive, the force curves overlap (**Fig. 2, bottom image**).

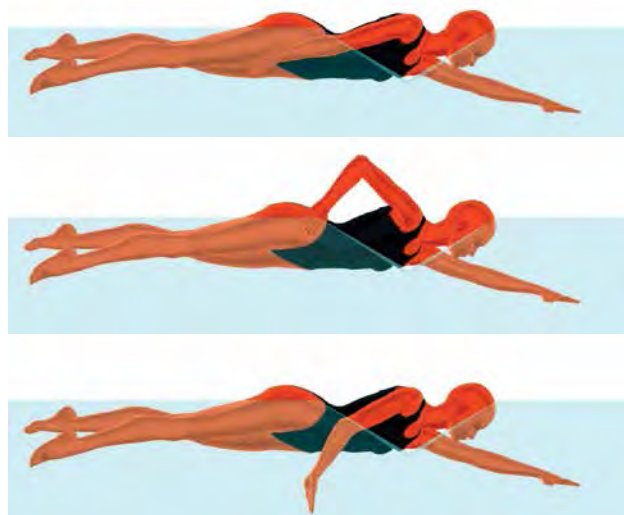
If the arms are in opposition throughout the entire cycle and the time for an underwater arm motion is 8-tenths of a

second, the recovery also requires 8-tenths of a second. A complete opposition (IdC = 0) stroke cycle then requires 1.6 seconds (**Fig. 2, top image**).

The negative IdC example has a 2-tenths of a second gap between force curves, resulting in a 2.0-second stroke cycle (**Fig. 2, middle image**). The positive IdC example has a 2-tenths of a second overlap of the force curves so that a stroke cycle requires only 1.2 seconds (**Fig. 2, bottom image**).

If we assume that the underwater arm motion is the same for all three coordinations, the resulting values for average force and swimming velocity are dramatically different (see **Table 1, next page**). (The velocity values were calculated from the drag equation, using drag coefficient and body cross-section values for an elite swimmer.) Notice that for the same application of force on each stroke, the swimming velocity is greatest when the arm coordination is superposition.

FIG. 1



**FIG. 1 > (ABOVE)** In the top image, the model has her arms in opposition for a zero Index of Coordination (IdC). In the middle image, the recovery arm is “catching up” to the other arm for a negative IdC. In the bottom image, the pulling (entry) arm is in position to generate force before the other arm finishes the push for a positive IdC.

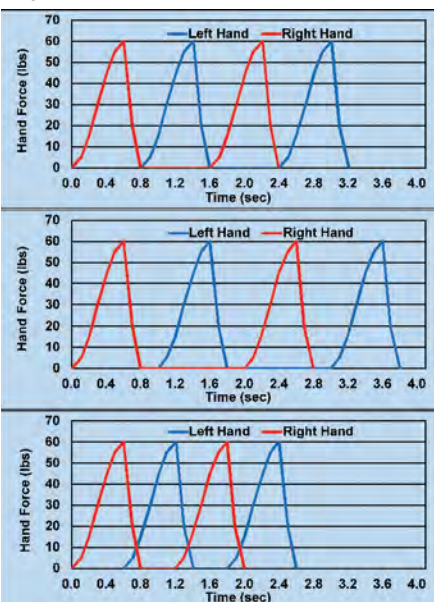
| Arm Coordination | Propulsion Gap/Overlap | IdC  | Average Force per Hand (lbs) | Swimming Velocity (m/sec) |
|------------------|------------------------|------|------------------------------|---------------------------|
| Opposition       | No gap or overlap      | 0    | 14.4                         | 2.0                       |
| Catch-up         | .2 sec gap             | -20% | 11.5                         | 1.8                       |
| Superposition    | .2 sec overlap         | +33% | 19.2                         | 2.3                       |

**TABLE 1.** Average force and swimming velocity values for three different arm coordinations.

### TYPICAL NEGATIVE INDEX OF ARM COORDINATION

In spite of the benefit of a positive IdC, many swimmers have a negative IdC for a variety of reasons. For example, some swimmers intentionally maintain the arm in a motionless position after the entry—as in catch-up stroke. Other swimmers unintentionally delay beginning the pull due to fatigue, wasted (lateral) hand motion or an ineffective arm entry.

**FIG. 2**



**FIG. 2 > (ABOVE)** Pictured are hand force curves for three arm coordinations: opposition (top), catch-up (middle) and superposition (bottom). Notice the gap in propulsion with catch-up and the overlap with superposition.



**FIG. 3 > (ABOVE)** Sun Yang swimming with catch-up coordination. The black arrow points to his entry arm.

Swimmers usually complete the arm entry by straightening the arm parallel to the surface. In the resulting position, it is only natural to “rest” the arm and delay beginning the pull. In addition to increasing the time for each stroke cycle, catch-up coordination puts the arm in a position with poor leverage, making it difficult to begin the pull. As a result, the parallel arm entry position restricts a swimmer’s ability to swim with a positive IdC.

### THE NEGATIVE IDC PARADOX

*If a negative IdC is completely counterproductive to swimming fast, then how do swimmers with an obviously negative IdC excel?*

Sun Yang, world record holder in the 1500 meter freestyle, is the premier example. His catch-up arm coordination is obvious with naked-eye observation (see Fig. 3, above right).

Table 1 shows that catch-up coordination can produce sufficient velocity (1.8 m/sec) to swim faster than world record pace in the 1500 (1.7 m/sec). The overwhelming challenge is to generate sufficient force on every stroke throughout the entire race. Evidently, Sun Yang has an extraordinary combination of muscular endurance and cardiorespiratory fitness that enables him to attain that force repeatedly.

Swimming fast with a negative IdC, then, is not a paradox, but an anomaly. The disadvantage of a negative IdC must be offset by other remarkable physical attributes. Because the arm is not generating force for such a large proportion of the stroke cycle, Sun Yang must generate force equivalent to a sprinter for the remainder of each stroke.

There is another way to present the question of the negative IdC “paradox”: *How does a swimmer with a negative IdC beat swimmers with a positive IdC?*

The answer is that all of the swimmers who Sun Yang races also have limiting factors. Some have a higher active drag coefficient (because of a lateral or vertical body motion). Some have a less developed cardiorespiratory system. Others have less strength or muscular endurance.

In most cases, swimmers have a combination of limiting factors. While Sun Yang has an eyeball-obvious limitation, his competitors’ limitations may not be as readily observable.

*Next month’s article on “Arm Coordination” will discuss:*

- *Positive Index of Arm Coordination to Increase Propulsion*
- *Technique Adjustments to Increase the Index of Arm Coordination*
- *Practice Strategies to Increase the Index of Arm Coordination* ❖

*Dr. Rod Havriluk is a sports scientist and consultant who specializes in swimming technique instruction and analysis. His unique strategies provide rapid improvement while avoiding injury. Learn more at the STR website—www.swimmingtechnology.com—or contact Rod through info@swimmingtechnology.com.*

**TOTAL ACCESS MEMBERS CLICK HERE**  
to learn more about the references for this article.

[PHOTO BY BECCA WYANT]

*Every sport, every field of endeavor, has its own unique jargon and terms. And if you're in a pool, you need to learn to speak and understand...*

## THE LANGUAGE OF THE LANES



In swimming, the language of the lanes involves a lot of chatter about sets and reps and energy systems; drills, skills and techniques; and strokes, starts, turns and finishes.

One of the most complicated, complex and confusing aspects of “swim-speak” is training sets. There are as many

variations of swim sets as there are swimming coaches, so learning the difference between a “sprint set” and a “skills set” can be difficult.

Here are just a few examples to help you translate your next training activity:

| Training Activity      | Example   | Explanation   |
|------------------------|---|---|
| <b>Broken Swim Set</b> | 6 x 100 as 25 meters race pace, 15 seconds rest, 50 meters race pace, 10 seconds rest, 25 meters race pace (three minutes rest between each broken 100) | A set of repeats “broken” into segments. For example, when preparing swimmers to swim 100-meter events, the coach may “break” 100-meter training repeats into 4 x 25, 2 x 50 or other combinations such as 25/50/25 with limited rest in between each effort. The goal is to simulate race pace, but provide the swimmers with short rest periods: just enough time to re-focus, control their breathing and concentrate on each specific phase of their event in practice. |
| <b>Choice Set</b>      | 6 x 50 choice on 1:15   | The swimmer chooses the stroke they would like to swim for the set.   |
| <b>Drill Set</b>       | 6 x 50 meters one-arm backstroke on 1:30  | A drill set allows the swimmer and coach to focus on the development of one aspect of technique and/or skill.   |
| <b>Endurance Set</b>   | 4 x 800 meters freestyle on 13:30   | A set of longer, slower swimming designed to build endurance.   |
| <b>Explode Set</b>     | 8 x 50 meters as explode 20 meters, recovery swim 30 meters on 1:45   | A set designed to help a swimmer build speed and power with periods of high speed or “explosions” separated by periods of slow recovery swimming.   |
| <b>Form Set</b>        | 12 x 50 meters butterfly on 1:45  | A training set involving swimming only backstroke, breaststroke or butterfly.   |
| <b>Heart Rate Set</b>  | 6 x 200 meters freestyle on 3:45 with a target heart rate of 75% of maximum heart rate  | A training set in which the goal is to swim with a prescribed heart rate as the determining factor of intensity.  |
| <b>Kick Set</b>        | 5 x 200 meters kick on 5:00   | The swimmers complete a kick set—often using a kickboard—to build strength and endurance in their legs.   |
| <b>Main Set</b>        | 24 x 100 meters freestyle on 1:40   | The primary or focus set of the training session. The main feature of the workout—usually the most important activity of the training session.  |
| <b>Medley Set</b>      | 4 x 50 meters medley order on 1:30<br><br>200 IM on 3:30  | A training set specifically designed to help medley swimmers prepare to race the individual medley (i.e., where the strokes are swum in the order of butterfly, backstroke, breaststroke and freestyle).  |

| Training Activity   | Example   | Explanation   |
|---------------------|---|---|
| Negative-split Set  | 8 x 200 meters freestyle on 5:45 negative-split   | Swimming a training set in which the focus is on the “back end” of the repeats (i.e., swimming at a faster speed in the second half of each repeat than the first half of the repeat).  |
| Power Set           | 6 x 10 strokes of butterfly with paddles at maximum speed, followed by 50 meters easy swimming recovery   | A training set of short duration at supra-maximal speeds (i.e., above racing speed) with the emphasis on maintaining pressure on the water while the arms are moving as quickly as possible.  |
| Pull Set            | 3 x 300 meters pull on 6:15   | The swimmers complete a pull set—usually involving placing a training aid called a pull-buoy between their legs and thereby emphasizing the arms.   |
| Race Set            | 4 x 50 maximum speed with race-quality starts (timed and recorded)  | A set that challenges swimmers to swim at their T.R.P. (Target Race Pace) in training. Efforts are timed and recorded. The goal is to simulate race conditions as closely as possible.  |
| Recovery Set        | Easy, relaxed 400 meters swim   | A low-intensity, relaxed swim in which the swimmer recovers after hard sets and challenging training activities.  |
| Reverse IM Set      | 12 x 25 meters RM0 on :40   | A variation on medley training in which the swimmers swim the four competition swimming strokes in reverse order (i.e., freestyle, breaststroke, backstroke and butterfly).   |
| Speed Set           | 10 x 15 meters maximum speed, easy 35 meters to the wall on 2:30  | A swim set in which swimmers swim at high speed over very short distances followed by a relatively extended rest. It may also involve some slow swimming to facilitate physiological recovery.  |
| Strength Set        | 10 x 50 meters on 2:00, pulling a towing device   | A swimming set that includes an external resistance (e.g., a towing sponge, a parachute or bucket) to overload the swimmers’ arms and legs and build strength.  |
| Sustained Speed Set | 24 x 100 meters on 1:40, all at 85% effort or greater   | A challenging training set targeting threshold speeds and the swimmers’ aerobic capacity limits.  |
| Swim-down           | Easy, relaxed 300 freestyle   | Slow, easy, relaxed swimming performed at the end of the training or after racing to help swimmers recover and unwind.  |
| Switch Set          | 10 x 50 meters as 25 meters fly/25 meters back on 1:15  | A set that conditions the swimmers to “switch” between the legs of the individual medley.   |
| Test Set            | 7 x 50 meters best stroke on 2:30—descending from personal best time plus 12 seconds, then 10 seconds, 8 seconds, 6 seconds, 4 seconds, 2 seconds and a maximum speed effort (record time, splits, stroke count, stroke rate) | A regularly scheduled set designed to test various elements of fitness, technique and skill.  |
| Warm-up             | 200 meters of easy swimming<br>4 x 50 meters on 1:30 as 25 meters drill/25 meters swim<br>4 x 50 meters on 2:00 as progressive “building” speed over each 50<br>100 meters of easy swimming                                   | A slow, controlled period of easy, aerobic swimming performed at the commencement of the training session or before competition to warm up the body and help the swimmer prepare to train or race. Usually, a warm-up also includes some shorter repeats of progressively increasing speed to stimulate the swimmer physically, technically and mentally for faster swimming. |

**SUMMARY**

- Swimming has more than its fair share of jargon and terms that can confuse even the most committed athlete. Take time to learn the language of the lanes so that you can better understand the different aspects of the sport.
- Keep it simple. In the end, all you really need to know is:
  - What are we doing?
  - How much of it are we doing?
  - How fast do we need to do it?

No matter how complex the workout may be, these three questions help to simplify and clarify what it is the coach is actually saying and expecting.

- And, as always, the way you do the training—the workouts, the sets, the repeats, the skills—is what really matters. *Don't count the laps...make every lap count!* ❖

Wayne Goldsmith is one of the world's leading experts in elite-level swimming and high-performance sport. Be sure to check out Goldsmith's websites at [www.wgaquatics.com](http://www.wgaquatics.com) and [www.wgcoaching.com](http://www.wgcoaching.com).

Who will shock the world of swimming in Rio? Is it someone we can anticipate if we take a deeper look into the backstory of past upsets? The understanding and appreciation of an Olympic upset can enhance our enjoyment of tracking athletes in the years, months and now days leading up to the 2016 Olympics.

Beginning with this issue and running through July 2016—a month before the start of the Olympic swimming events in Rio on Aug. 6—Swimming World Magazine will bring you its top 9 upsets in the individual events in Olympic history—in particular, in the last 50 years. This month:

# #9

## IRON MIKE

BY CHUCK WARNER

Retirement came much earlier to swimmers in the 1970s than it does today. The girls often hung up their suits after high school and the boys nearly always upon graduating from college. College post-grad swimmers were virtually non-existent in America until the 1990s, and often—especially in the distance races—supplanted from the top of the sport by teenagers who would surge forward as another Olympics neared.

In 1971, a 16-year-old Australian named Graham Windeatt was improving fast, and his time of 16:06.00 in the 1500 meter freestyle put him on the heels of reigning world record holder and Indiana University star John Kinsella, an American. In 1970, Kinsella had swum to a world standard of 15:57.10, and in 1971, posted a world best of 16:03.10. But in the twelve months leading up to the USA Trials, it was 16-year old American Rick DeMont who was making huge improvements in a string of major competitions.

Despite being primed in the NCAA program, Kinsella didn't make it through the brutally competitive USA Trials to earn a spot on the team. Mike Burton, 25 years

old and the 1968 Olympic champion in the 400 and 1500 freestyle, also looked like his best years were well behind him. After graduating from UCLA, Burton had married and had begun to work. Consequently, he wasn't able to train as much as he had in previous years. To add to his challenges, in the spring of 1972, he was diagnosed with a vitamin deficiency.

*Mike Burton had met difficulty head on before—literally. When he was 13 years old, he smoked cigarettes, wore black leather steel-toe boots, dangled a chain from his belt and enjoyed playing a little football, basketball and baseball. On one fateful day, his adolescent achievement was expressed by sitting on the handlebars of a friend's speeding bicycle. They collided with a furniture truck, and the accident changed the course of Burton's life. His injuries were so severe that his doctors told him the only sport in which he could hope to participate was competitive swimming.*

*Burton found the Arden Hills Swim Club and Coach Sherm Chavoor. Soon he told the coach, "I want to be the best swimmer in the world." Coach Chavoor was experimenting with a volume of training never*



*seen in the USA and, perhaps, around the world, of eight miles a day or more. And in the days before the advent of goggles, Burton accepted the challenges and squinted his way through long training sessions twice each day. He gradually improved, and in 1968, shrugged off abdominal sickness in Mexico City to win Olympic gold medals in the 400 and 1500 meter freestyles at 21 years old.*



Mike Burton holds his gold medal at the press conference in Munich after he became the first swimmer to win the men's 1500 free at two successive Olympics.

[PHOTO BY AL SCHOENFELD]



## NOT MUCH HOPE

Back in 1972—unlike today—three swimmers from each country were permitted to enter the Games for each event. Even so, Burton's possibility of making the USA squad looked futile. At the USA Trials, he failed to make the finals of the 200 meter butterfly, finished last in the finals in the 400 freestyle, and on the next-to-last day, he managed to squeeze into the finals of the 1500 freestyle by qualifying eighth. But on the last day of the Trials, the "Old Man" of the USA team finished third to slip onto the team (16:00.31) behind DeMont's world record of 15:52.91 and 17-year-old Doug Northway's 15:57.68.

Much of the attention of the press in Munich was on how many gold medals Mark Spitz or Aussie sensation Shane Gould would win. But for those talking about the men's distance races, the three names most bantered about were all high school students. They were DeMont, Northway, Windeatt and Brad Cooper—who had set the global standard in the 400 freestyle of 4:01.7 at the Australian Trials in January.

In Munich on Sept. 1, DeMont nipped Cooper by 1-hundredth of a second in the 400. Three days later, one of the great tragedies in the history of Olympic swimming took place. Just before the finals of the 1500—which was already delayed by about

lane 3 and Windeatt in 4. American Doug Northway was in lane 6. Mike Burton stepped up on the block in lane 5.

*The men's 1500 had been a part of every Olympics since the organizers decided on 1500 meters as the longest swimming event in 1908. No man since has ever won the event twice. However, between 1896 and 1906, the distances varied from 1,000 meters to one mile—about 1,600 meters. Britain's Henry Taylor won the 1-mile race in 1906 and the 1500 in 1908.*

## THE HISTORIC RACE

Burton immediately sped out to the lead. A show of foolish pride? A prayer he hoped to be answered? When he turned at 600 meters, Burton held nearly a body length lead over Windeatt. But 300 meters later, it appeared that Burton was tiring. Windeatt turned the tables on him, took control of the race and opened up a commanding lead of 2 meters.

*Mike Burton earned the nickname, "Iron Mike," many times over—as a high school swimmer scratching his way to the top rankings in distance swimming and later on in college at UCLA; and overcoming "Montezuma's Revenge" at the '68 Games. When he competed with torn knee ligaments to win the 1970 NCAA title in the 1650, the nickname and his growing legend was firm-*

screaming, Burton dug deeper and inched closer to Windeatt.

As the pair battled down the Munich Schwimmhalle toward the 1,150-meter turn, Iron Mike pulled even. Incredibly, the "Old Man" then began to pull away from Windeatt. Mike Burton not only won the gold medal to become the first swimmer ever to win the event in consecutive Olympics, but he also recaptured his world record, edging past DeMont's standard by 33-hundredths of a second with a 15:52.58. Over the course of his career, he had lowered the world record five times and by more than one full minute. In a post-race interview, he revealed a bit of his ability to tolerate pain when he explained, "God, that hurt a lot... but it was worth it."

There was no "home-country" bias in the broadcast by the Australian former swim star, Murray Rose: "Mike Burton has done more for swimming than just about any other person. He has extended the possibilities for everyone by showing how much work can be done in training."

That was the last race that Mike Burton ever swam. The advent of goggles shortly thereafter began to allow swimmers to train longer without the blurry, sore eyes that characterized Burton's rise to be the best in the world. And after barely making his country's team, Iron Mike produced one of



[PHOTO BY LYNN JOHNSON]



[PHOTO BY KEVIN BERRY]

**PICTURED > (PREVIOUS PAGE)** Albert VandeWeghe (a 1990 International Swimming Hall of Fame Honoree) and his sister, Lillian Becker (herself, a champion swimmer) stand by the larger-than-life photo of Mike Burton at the Hall of Fame in Fort Lauderdale, Fla. Burton was an ISHOF Honoree in 1977.

**PICTURED > (FAR LEFT)** Over the course of his career, Mike Burton (shown here during his college days at UCLA) had lowered the world record in the 1500 meter freestyle five times and by more than one full minute.

**PICTURED > (LEFT)** When Mike Burton first swam with Sherm Chavoort, the legendary coach was experimenting with a volume of training never seen in the USA and, perhaps, around the world, of eight miles a day or more. And in the days before the advent of goggles, Burton accepted the challenges and squinted his way through long training sessions twice each day.

10 minutes—an error by the USA medical team that led to DeMont being disqualified after winning the 400 also resulted in him not being allowed to compete in the 1500 (see "Top 10: Triumphs & Tragedies," SW May 2014, pages 36-38 online version).

The lanes were reshuffled in the finals with Australians and Americans filling the middle five. The field was set with Australians Graham White in lane 2, Cooper in

ly established. But it may have been what happened next in Munich that prompted legendary USA Olympic Coach George Haines to say, "Mike Burton is the toughest man to ever put on a swimsuit."

When Windeatt reached 1,000 meters, he began to tire. Burton could see through blurred vision that he had a chance and surged forward. Over the next 100 meters, with his heart pounding and muscles

the greatest upsets in Olympic swimming history. ❖

*Chuck Warner is a part of Swimming World Magazine's editorial board and author of "Four Champions: One Gold Medal" and "And Then They Won Gold." Both books are available for purchase online at [www.SwimmingWorld.com](http://www.SwimmingWorld.com). Next month: "Top 9 Olympic Upsets: #8."*

# 2015 OPEN WATER SWIMMERS OF THE YEAR

BY STEVEN MUNATONES

With impressive performances in the 10K marathon swim this past summer at the FINA World Championships in Kazan, 2015 Open Water Swimmers of the Year Aurélie Muller and Jordan Wilimovsky now have their sights set on Rio.



Aurélie Muller

[PHOTO BY LAPRESSE/FABIO FERRARI]

## AURÉLIE MULLER, FRANCE

### Female Open Water Swimmer of the Year

Aurélie Muller has a tattoo in English on her foot: *Chase your dreams* (see photo inset below).

That tattoo is not only imprinted on her right foot, but is also part of her competitive mindset.

Muller has always been an excellent swimmer. She has always finished near the top, competing head-to-head with the best, both in the pool and in the open water.

But Muller was never considered a pre-race favorite in any international pool or open water competition. All that changed in one 10,000-meter race in Kazan, Russia—the most important race of her career—where Muller chased and realized her dream.

Over the years, it was clear that the 25-year-old knew how to draft and position herself within the large lead packs at major races, but sprinting to the finish for a gold was on no one's radar but her own.

#### TIME FOR A CHANGE

Last year, she decided that she needed a change. She moved to Narbonne and started to train with Coach Philippe Lucas. On a daily basis, she pushed herself against several accomplished swimming stars. The pressure to perform was relentless.

The change of venue and coaches suited her very well. She performed like never before and won the 10K marathon swim this past summer at the FINA World Championships in Kazan going away with room to spare. Her unexpected victory—and a long-held belief in herself—led to her being named *Swimming World Magazine's* Female Open Water Swimmer of the Year.



Muller's blossoming into a world champion was a long time coming—and it came just in the nick of time, as she became the first female swimmer to qualify for a final at the 2016 Rio Olympic Games.

At the age of 18, she had plenty of pool swimming experience, but also had world-class stamina. She could stay with any elite pack of swimmers and qualified for the inaugural Olympic 10K marathon swim in Beijing. She was fit and confident, but she was less well-prepared for the physicality of the race and finished 21st. Despite the disappointment, Muller was still young and knew that another Olympic appearance—or two—was in her future.

But she did not expect her next Olympics to be eight long years in the waiting.

After her first Olympics in 2008, she continued to plug away in both the pool and open water. Her pool times continued to improve; still, her future at the Olympic level was clearly in the open water. But positioning, drafting, surging and the bumping and elbowing within the large lead packs continued to present obstacles. Fitness was never the issue; her inability to medal was more an issue of not being able to navigate between and among her hard-nosed competitors.

Her breakthrough came at the 2011 FINA World Championships in Shanghai where she finished second in the 5K, but she unexpectedly missed qualifying for the 2012 London Olympics—her younger French teammate, Ophelie Apsord, finished a surprising sixth.

Muller stoically put her second Olympic disappointment behind her and diligently set off on her third Olympic quadrennial plan.

With less than a year to the Olympic 10K qualification race, she decided to switch gears and joined Lucas' training group in Narbonne. With one decision, she found herself contending daily with established stars such as Sharon van Rouwendaal of the Netherlands. The weekly grind—sometimes up to 95 kilometers per week—was grueling and humbling. Set after set, she had to battle van Rouwendaal, one of the pre-race favorites for gold in Kazan in the 10K.

The change did her well on a variety of fronts: physically, mentally and strategically.

Not only did her stamina and speed increase, giving her more confidence, but she could now use her improved level of conditioning to lead the pack from the front and steer clear of the physicality that used to throw her off her game.

#### THE RACE OF HER LIFE

In Kazan in the race of her life, Muller put all her sacrifices and newly found stamina to very good use. With her modified strategy, she was able to compete like never before. She was now able to put on powerful surges during the race and string out the field behind her, starting with 3,000 meters to go.

When she swam out in front, she was able to swim in clear water and focused all her energy on swimming fast and straight. Instead of turbulence and tussling against others inside a large pack, she was simply able to swim fast.

Muller swam so fast that she effectively demolished the field—22 seconds ahead of bronze medalist Anna Marcela Cunha of Brazil. Only her Dutch workout partner was within striking distance, as Muller became France's first open water swimming world champion.

Her Olympic game plan has now shifted in her favor. She has a year to train specifically for the 10K marathon swim off Copacabana Beach, but she gets to train with van Rouwendaal. Arguably, she has the best possible training partner for her, as both women are considered among the gold-medal favorites.

In a race in which so much depends upon knowing how fast a pace can be maintained over 10,000 meters, Muller and van Rouwendaal have a distinct advantage over their competition. The pair can set the bar in Narbonne.

Two quadrennials ago, Muller's future seemed bright. Now in 2015 with her breakout year behind her and the 2016 Rio Olympics in plain sight, she is still chasing her dreams. ❖

— continued on 20

## JORDAN WILIMOVSKY, USA Male Open Water Swimmer of the Year



Jordan Wilimovsky

[PHOTO BY GRIFFIN SCOTT]

Because marathon swimmers take at least 7,000 arm strokes in a 10K race, it pays to be as technically perfect and strategically savvy as possible.

During the 2015 summer season, there was no one as technically perfect and strategically savvy as Jordan Wilimovsky, who was named *Swimming World Magazine's* Male Open Water Swimmer of the Year.

While open water races at the world-class level frequently come down to the final stroke and photo finishes, Wilimovsky's performances created a paradigm shift in the sport. The 21-year-old handily beat deeply talented fields in the 10K marathon swims at both the USA Swimming national championships in Fort Myers, Fla., and at the FINA World Championships in Kazan, Russia.

Wilimovsky's pace and second-half surges literally strung out the most fit and experienced endurance swimmers in the world during both of these races. He made world champions and Olympic medalists swim to his strengths instead of reacting to what others did. Instead of waiting for a final sprint and overcoming the brunt of physicality, the Southern Californian transformed 10,000-meter chess matches into chases in which he set the pace.

His upset of the fastest veterans of the sport—including three-time Olympic medalist, Oussama Mellouli, in Kazan—was based on the intensity of his pool training. His perfect storm of preparedness was years in coming under the direction of Team Santa Monica Swim Club coach, Dave Kelsheimer.

Both Kelsheimer and Wilimovsky developed building blocks of speed and stamina over the years, augmented by a high navigational IQ and exceptional situational awareness where Wilimovsky always seems to be in the optimal position at the right times.

The Northwestern redshirt senior was physically prepared and confident to swim away with national and world titles and become the first man to qualify for the 2016 Rio Olympic Games.

"It was fun to see what Jordan was doing in training," explains Kelsheimer. "His training camp beforehand was pretty groundbreaking. Very few swimmers could accomplish some of the sets that he was able to do in the pool. He did heart rate sets such as 100 meters on 1:40, holding :54-:55 per 100, and sub-three-minute 300s long course. To be able to swim at that volume and at that speed with such a high degree of sharpness gave Jordan a lot of confidence."

### CONTINUOUS IMPROVEMENT

Using the Japanese *kaizen* concept in which incremental improvements over time is the goal, Wilimovsky was able to fine-tune his technique. The result was an internal engine that was able to propel him faster over 10,000 meters than anyone else in the world.

"He spent a lot of time working on his technique and getting it just right," described Kelsheimer. "He is always making constant technical changes to be able to swim correctly. He really embraced managing both his stroke count and his stroke rate in the pool and understanding how not to waste any energy early in his open water races."

In his championship races, it was clear that Wilimovsky's *kaizen* enabled him to be one of the few competitors capable of significantly speeding up toward the end of 10,000 meters of racing.

Standing among his competitors, Wilimovsky is clearly among the most slender, lightest and least tall athletes in the elite crowd. Wilimovsky proved himself to be a brilliant utilizer of his natural build, physicality and innate intelligence.

It is that efficiency of his body and mind that changed the game in 2015.

"He works with the equipment he has," explained Kelsheimer, who has guided a group of similarly minded athletes at the Team Santa Monica Swim Club. "Growing up in Malibu, he loves the surf and any conditions—however dynamic and unpredictable—that the open water throws at him."

"He not only can manage his stroke count (his grip in the water as he gets farther for each stroke while drafting in a pack), but also his stroke rate (the number of cycles per minute). When he takes off on a surge, the field is challenged to stay up with him."

### HE HAS ALL THE TOOLS

His achievements in 2015 and his future potential are not strictly a result of his upper body strength and stroke efficiency, but also due to his relentless kick. Shifting seamlessly between a four-beat and six-beat kick throughout the race, Wilimovsky ends his races with a stream of whitewater propelling him forward. There is arguably no other swimmer who uses all four limbs so efficiently.

His kick strength comes from practice: "We do two workouts a week where his main set is kicking. Kicking is part of every warm-up, and we can do 1,800 meters of fast kicking as the main set during the course of a week," says Kelsheimer, who sees him regularly kick 2:40 for 200-meter kicks in a long course pool.

Open water swimmers are often fond of saying, "Open water swimming is 80 percent mental." This is where the Northwestern student really shines. He is always aware of his competitors' positions and can slow down or speed up whenever necessary. During his races, spectators can sense his degree of focus as he strategizes over every move and his next surge.

In a modestly imposing frame, Wilimovsky still has room for improvement. Calm or rough, waves or not, cold or warm, he is poised both mentally and physically to take his game up another notch before Rio.

And Wilimovsky's potential has changed the outlook among the open water competition for the upcoming Olympic year. ❖

---

*Steven Munatones writes for the Daily News of Open Water Swimming and created [www.kaatsu-global.com](http://www.kaatsu-global.com).*



# MEMORABLE OPEN WATER MOMENTS OF 2015

BY JEFF COMMINGS

[PHOTO BY GRIFFIN SCOTT]

Everything was on the line for open water swimmers in 2015. Twenty swimmers from this summer's 10K marathon swim at the World Championships in Kazan were to be selected for participation in next year's Olympics, putting extreme importance on being in peak form a year out from Rio. Concerns about water safety in Copacabana Beach again dominated the conversation this year, as the media and event organizers offered different viewpoints on the level of contamination off the shores of Rio de Janeiro. *Swimming World* presents the five biggest open water moments of 2015. (in chronological order).

## FINA HOLDS WORLD CUP RACE IN UAE

When FINA approved a 10K race in the United Arab Emirates as part of the World Cup tour, several top open water swimmers vocally protested the decision. The major issue was holding a race in a country where Fran Crippen died in 2010 during an open water race in extremely warm temperatures. The 10K race, March 13, was to be the first open water event in the UAE since Crippen's death, and many continue to believe that race organizers in 2010 handled the situation poorly.

At the center of the controversy was Ayman Saad, who was the race director in 2010 and was subsequently selected as director for the 2015 race as well as head of the FINA Open Water Technical Committee. Saad apparently made flippant comments about Crippen's death, essentially placing the blame on Crippen.

Alex Meyer was the first to publicly say he would not attend this year's race in Abu Dhabi, and his American teammates followed for a complete boycott of the race by Team USA. The race featured 69 athletes, and FINA increased the prize purse for the competition, evidently to "persuade" talent that might otherwise not have come.

Alex Reymond of France won the men's race; Rachele Bruni of Italy took the women's.

— continued on 22

When FINA approved a 10K race as part of the World Cup tour in the United Arab Emirates—the country where Fran Crippen died in 2010 while swimming in extremely warm temperatures—several top open water swimmers vocally protested the decision. Alex Meyer (left) was the first to publicly say he would not attend this year's race in Abu Dhabi, and his American teammates followed for a complete boycott by Team USA.

## OPEN WATER MOMENTS – cont'd from 21

### CHIP PETERSON WINS AT PAN AMS

Chip Peterson was one of the future stars of open water swimming in 2006, when the sport was gaining popularity with the upcoming debut of the event at the 2008 Olympics. Peterson was a world champion in 2005 in the 10K and silver medalist in the 10K race at the 2007 Pan American Games.

But shortly after his success at Pan Ams, Peterson began experiencing major physical problems. He was diagnosed with ulcerative colitis, which can cause major abdominal pain and diarrhea. He wasn't able to recover in time to fight for a spot on the 2008 Olympic team, but worked to get better in time for the 2012 Olympics.

Peterson won the 10K at the Pan Pacific Championships in 2010, but was still suffering pain. It continued to affect him so much that Olympic dreams had to be put away. Several surgeries removed his colon in the following years, and Peterson claims to be as close to 100 percent as he's been in eight years.

That recovery helped him dominate the field at this year's Pan American Games, July 12, where he upgraded from silver to gold and won the 10K by four seconds.

Peterson won't be able to compete at the 2016 Olympics, but getting to the top of the podium in a major international event after so many trials and tribulations is a major accomplishment.

### JORDAN WILIMOVSKY WINS WORLD 10K TITLE

Not many people knew of Jordan Wilimovsky before he dove into the water for the 10K race at the FINA World Championships, July 27. But everyone knows him now.

Called a "rising star" a year ago, Wilimovsky is now headed to the Olympic Games as the man to beat in the 10K marathon swim. He won the world title this year over several open water heavyweights, many of whom have been at the top of the sport for a decade. That included Greece's Spyridon Gianniotis, the two-time world champion, and Canada's Richard Weinberger, the 2012 Olympic bronze medalist.

Wilimovsky came into the race as the U.S. national champion in the 10K, which was his first win of any kind in a major open water event. He'd been working his way up the U.S. ranks since 2011, winning silver at the 2012 Junior World Open Water Championships. Now, the 21-year-old is on top of the world with nine months to go until he competes in Rio de Janeiro.

### "OLD MEN AND THE SEA" SET AGE RECORD FOR CATALINA CHANNEL CROSSING

Don Baker recruited six of his closest friends and swimming rivals to do something no one had dared to do. He wanted to be a part of a relay of men in their 80s that would successfully swim across the Catalina Channel.

Baker's team included Olympians David Radcliff and Graham Johnston, giving the event some star power. Three others—Bob Beach, Bill Spore and Norman Stupfel—had extensive open water swimming experience, while Bob Best agreed to be a part of the relay despite his lack of major open water experience.

The Catalina Channel is considered one of the most popular open water swims in the world, and is one of the Ocean's Seven swims. The team was concerned about getting hypothermia in the normally chilly water, but Mother Nature helped out, as the ocean temperatures hovered around the low 70s.

The swim started just after midnight, Aug. 20, with each swimmer in the water for an hour at a time. (Stupfel remained on the boat as an alternate.) A little more than 12 hours later, Baker walked onto the beach near San Pedro, Calif., to officially finish the swim.

Given that the men are in their 80s, it's not surprising that each had some degree of physical challenges. Baker postponed a round of chemotherapy for bone cancer in order to do the swim. The seven are now heroes across all ages, and they now can boast

the distinction of being the oldest men ever to swim across the Catalina Channel. (See "Parting Shot" photo, page 49.)

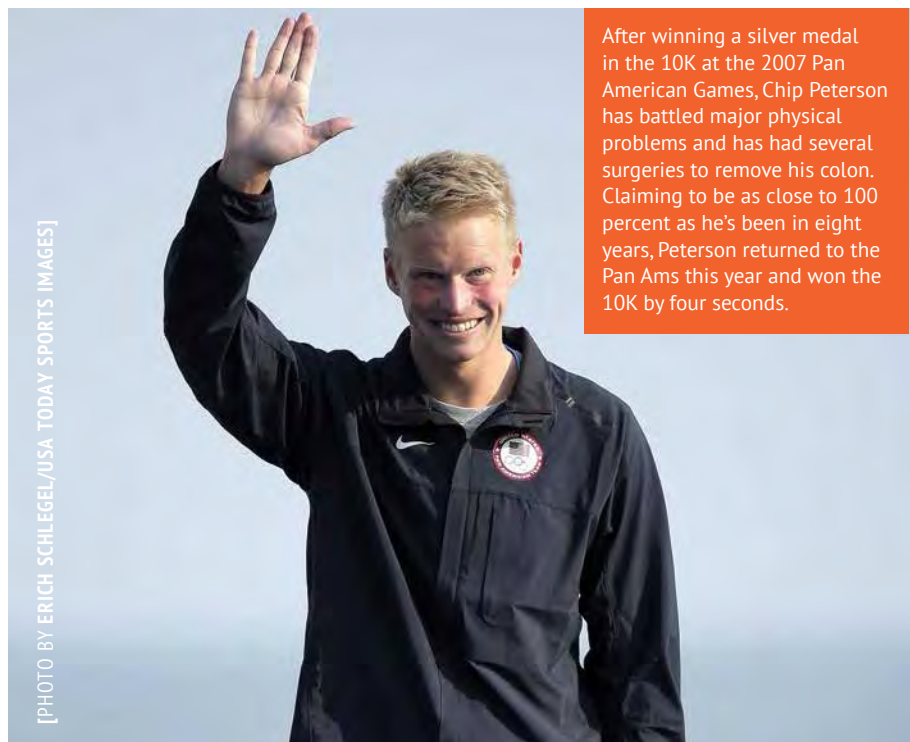
### RIO TEST EVENT PRAISED

In the early months of 2015, continued media reports claimed that the waters off Copacabana Beach were unsafe for swimmers, citing highly toxic levels of sewage and waste in the ocean. This led some to wonder if the venue for the 10K marathon swim at the 2016 Rio de Janeiro Olympics should be moved to a safer location.

But on Aug. 22-23, FINA held the 10K test event at Fort Copacabana—even after a shocking report by The Associated Press that detailed an independent investigation showing human feces in the water. But the two races (men's on Saturday, women's on Sunday) went off without any major problems, and none of the 50 swimmers (25 women and 25 men) who participated got sick. However, only nine women and nine men finished the race.

FINA's medical staff surveyed the athletes a week or so after the race to check on their conditions, and none reported anything out of the ordinary. "I didn't even get a stomach ache," said Canada's Richard Weinberger, who finished third in the men's race.

Other swimmers praised the venue, especially the views of Rio from the water and the course itself. FINA has since asked the Rio Olympic organizers to continually test the water for toxicity, though the test event shows that all is well—so far—in Rio. (See related story, page 23.) ❖



After winning a silver medal in the 10K at the 2007 Pan American Games, Chip Peterson has battled major physical problems and has had several surgeries to remove his colon. Claiming to be as close to 100 percent as he's been in eight years, Peterson returned to the Pan Ams this year and won the 10K by four seconds.

# AT RISK IN RIO?

BY ANNIE GREVERS

**WITH LESS THAN A YEAR AWAY FROM THE 2016 OLYMPICS, THERE IS STILL CONCERN FOR THE SAFETY OF ATHLETES WHO WILL BE COMPETING IN THE WATERS OFF THE COAST OF RIO DE JANEIRO.**

**N**ext August in Rio de Janeiro, Brazil, 1,400 Olympic athletes will be sailing in the waters close to Marina da Glória in Guanabara Bay, swimming off the coast of Copacabana Beach, and canoeing and rowing through the Rodrigo de Freitas Lake.

In December 2014, the BBC reported a super bacterial strain found in the Guanabara Bay. In April, The Associated Press released a startling report—33 tons of dead fish had been pulled from the bay.

In July, the AP posted an investigative report, citing U.S. expert in risk assessment for waterborne illnesses, Kristina Mena.

She estimated that athletes ingesting three teaspoons of water from *any* of the three Olympic open water venues would have a 99 percent chance of infection.

American open water swimmers Kalyn Keller and Chip Peterson participated in the 2007 Pan-American Games in Rio. Keller ultimately was diagnosed with Crohn's disease, and Peterson had his colon removed after years of struggles with ulcerative colitis. The swimmers became suspicious of the correlation of their GI issues.

"While the organisms found in the contaminated water are known to cause a wide range on enteric illness (diarrhea, stomach cramps, etc.) in addition to skin and eye infections, the presence of these contaminants in the water may or may not be related to Crohn's disease and colitis," Dr. Kelly Reynolds, a microbiologist specializing in water quality, said. "The cause of Crohn's disease and colitis are not well understood. Microbial infections may worsen these symptoms, but there is uncertainty as to a causal link."

## USA SWIMMING'S STANCE

Aside from sitting out the swim, "the next best practice is to avoid the primary routes of infection, which would be via contact with eyes and ingestion," Dr. Reynolds said. "Wearing goggles may help to protect

the eyes, and taking care not to swallow water during swimming activities will reduce exposure via the oral route."

USA Swimming is focused on being transparent about the questionable water in which Haley Anderson, Jordan Wilimovsky and Sean Ryan are expecting to compete. The trio became the first members of the 2016 U.S. Olympic team with their top-10 finishes in the 10K marathon swim at this summer's World Championships in Kazan, Russia.

"We're trying to keep the athletes completely up-to-date," National Team Director Frank Busch said. Busch, Executive Director Chuck Weilgus and Open Water Program Manager Bryce Elser host conference calls frequently to keep the open water Olympians and their coaches informed. "I've told our athletes we're going to apply as much pressure as possible to ensure their safety," Busch said.

"Since the test event in August, I have received two different sets of data from water quality tests done by the Brazilian Environmental Agency, INEA. The INEA is currently testing Copacabana Beach every other day in four separate areas. FINA has been very active with getting these results to the national federations every two to four weeks," Elser reports.

— continued on 24

## AT RISK IN RIO? — *continued from 23*

Rio 2016, the Olympic planning committee, has been pushed to begin viral testing, which Elser said is “a huge step toward understanding the potential impact on athlete safety.” USA Swimming expects to obtain viral results as soon as they become available.

Water contamination is not the sole safety issue. Ocean conditions can be utterly unpredictable as well.

“Conditions can go from calm to wavy and choppy. Adjusting to these varying conditions is a key part of our sport, and (for which) we have already started preparing our athletes,” Elser said.

### COPACABANA CONCERNS

Of the three venues, Copacabana is the only one that does not exceed Brazil’s fecal coliform (single-celled organisms originating in the intestines of humans and animals) level.

But “the level of microbial pathogens in these waters exceeds the acceptable level of disease risk set by the USEPA and the World Health Organization,” Dr. Reynolds said. “Thus, I would advise against swimming in these waters.”

However, no open water swimmers have reported illness after the test event held in

August on the Copacabana course.

American triathlete Erin Jones competed in the triathlon test event in the Copacabana waters and was given precautionary antibiotics before diving in. “I didn’t think too much of the water quality—we swim in waters all over the world, and they are not all perfectly clean,” Jones said.

“We’re trying to keep the athletes completely up-to-date. I’ve told (them) we’re going to apply as much pressure as possible to ensure their safety.”

— Frank Busch,  
National Team Director,  
USA Swimming

Nicolas Oliveira, a 2008 and 2012 Brazilian Olympian in pool events, has taken

many plunges at Copacabana, and says, locally, there has never been a fear of infection.

“The place where they will host sailing, rowing and kayak—that’s a different ball game—I honestly would not swim in those waters...and truth be told, I don’t think there will be enough time to fix those problems.

“I have no doubts that they will figure out a way to get everything ‘ready’ by the time the Games come around, and it will be one of the best Games of all time,” Oliveira asserts. “But what scares me is the thought of what will be left when this is all over—the Olympics should be a great legacy for a host country. I just don’t see this happening to Brazil.”

USC assistant coach Catherine Vogt, who was recently named the open water head coach for the 2016 U.S. Olympic team—and a longtime coach to Anderson and Peterson—feels confident that “USA Swimming is looking out for the best interests of our athletes. And that venue—one of the most famous beaches in the world, with Christ the Redeemer gazing down—it’s one of the most beautiful venues in the world.”

“I was there in 2007—it’s a fantastic course,” Coach Richard Shoulberg said. “It’s South America’s 17 days to shine. I think they will pull it together.” ❖

 **STRECHCORDZ**  
Gear for stretching, exercising and training.

www.nzcordz.com  
1-800-886-6621



*Hard work beats talent when  
talent doesn't work hard . . .*

*Tim Knotke*



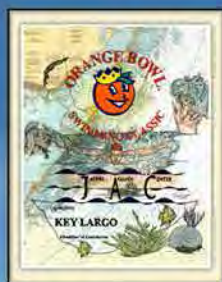
# JACOBS AQUATIC CENTER

EVENT

ORANGE BOWL SWIM MEET  
JANUARY 3, 2016

TIME

WINTER TRAINING DATES AVAILABLE  
DECEMBER AND JANUARY 2015/2016



**JACOBS AQUATIC CENTER  
KEY LARGO, FLORIDA**

**EIGHT LANE, 25 METER, MYRTHA COMPETITION POOL  
WWW.JACOBSAQUATICCENTER.ORG**

**1.305.453-SWIM**

# THE ULTIMATE



# COMPETITOR

BY ANNIE GREVERS

**On** June 9, 2012, Haley Anderson won the 10-kilometer race at the FINA Olympic Marathon Swim Qualifier in Portugal. She was the first of her Anderson clan to make an Olympic team.

“She (Haley) was a huge part of my making the team,” big sister, Alyssa, said. “Before (pool) Olympic Trials, I said to myself, ‘Well, you’re going to the Olympics...you can either be a spectator or a participant.’”

Nineteen days later, Alyssa punched her Olympic ticket at the Trials in Omaha, finishing sixth in the 200 freestyle to qualify for the women’s 4 x 200 free relay team.

Alyssa swam as part of the preliminary relay squad at the London Games, and helped secure a winning lane for the finals quartet. Team USA took gold on the evening of Aug. 1.

Haley’s 10K marathon swim took place eight days later. It was her turn to follow her sister’s lead, but from a very different perspective—Alyssa’s swim took under two minutes, and Haley’s would (hopefully) take just under two hours!

Freshly-minted gold medalist Alyssa took to the Olympic grandstand to watch her younger sister, Haley, race through the Serpentine, a lake course in Hyde Park.

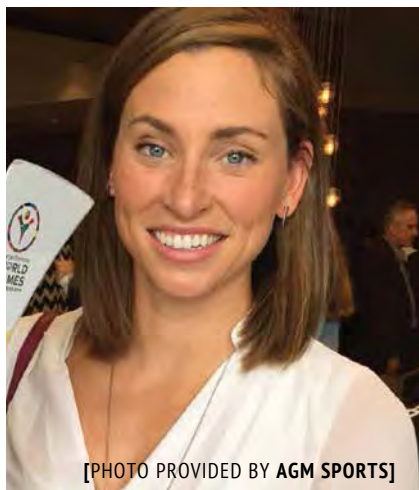
Haley is considered a marathon swimmer, but she is by no means a mono-speed swimmer. In the final 1,000 meters of her 10,000-meter Olympic debut, Haley surged from fourth

**PICTURED > (ABOVE AND RIGHT)**

Haley Anderson, a two-time world champion (2013 and 2015), will be competing for the United States in her second Olympics next year in Rio, hoping to improve upon her silver-medal performance in London. Not only has she been successful in open water, but she also had a remarkable college career at USC from 2010-13, winning three NCAA titles (two in the 500, one in the 1650) and swimming to school records in the 500, 1000 and 1650.

*A successful pool swimmer, American Haley Anderson has also become one of the world's most decorated and most consistent open water athletes. Since winning an Olympic 10K silver medal in 2012, she took the world title in the 5K in 2013 and struck gold in the 10K at Pan-Pacs in 2014. This past summer, she reclaimed gold in the 5K at Worlds and also qualified as the first female member of the 2016 U.S. Olympic team.*

[PHOTO BY GRIFFIN SCOTT]



[PHOTO PROVIDED BY AGM SPORTS]

to second, finishing just 4-tenths of a second behind Eva Risztov of Hungary.

For the second time in the 2012 Olympics, an Anderson sister was the recipient of one of the most coveted awards known to man—an Olympic medal.

Haley ran from the podium to the grandstand where Alyssa eagerly awaited her sister's embrace.

### **THE HUNTER AND THE HUNTED**

For as long as Randy and Colette Anderson can remember, their daughters have shared a sport, but that's where their similarities stop. Alyssa is the extroverted people-pleaser. Haley is the self-motivated introvert—stubbornly set on her goals, even if no one else knows what they are.

Wedged in birth order between her vivacious younger sister, Jordan, and her amicable big sister, Alyssa, Haley (who turns 24 on Nov. 20) is the first to admit she has middle child syndrome. "She would complain that no one paid attention to her, or we forgot to watch her in a race," mother, Colette, said. The middle daughter seemed to keep score of everything, and discreetly swam a little ticked-off, she added.

If you shook hands with Haley, you might note her tall stature, intense blue eyes and sublime nature. But seldom would you detect anger. Haley has used her poker face to her advantage, typically swimming "with a chip on her shoulder," as dad, Randy, puts it.

"Haley says she gets nervous, but I don't think she ever really does," Alyssa said. "She's always so cool and collected. She's like a hunter—just in it for the thrill of the catch. She helped me step back and see the race for what it was."

There were times Alyssa, just 14 months older than Haley, grew weary of the perpetual competition.

"She was constantly nipping at my heels," Alyssa recalls. "Sometimes I just wanted her to give me a break! She was always right there."

Right there to make the national junior team the year after Alyssa did. Right there to join the Pacific-12 Conference the year after Alyssa did. Right there to race for the win in the 500 in the NCAA finals, beside Alyssa. Right there to make the Olympic team weeks before Alyssa. Right there to medal at the Olympics days after Alyssa.

### **INTO THE OPEN WATER**

Open water racing was not for Haley. In 2009, Haley made the national junior team and traveled to Guam for the Junior Pan Pacific Championships. The senior in high school had committed to swim for the University of Southern California, and was in close contact with her future coach, Catherine Vogt.

There was an open water race offered, and Haley was feeling the pressure from all sides to enter the race. Coach Vogt (who was recently named the open water head coach for the U.S. Olympic team), Mission Viejo Coach Bill Rose and former Sierra Marlins Coach Jeff Pearson urged Haley to give open water a shot. National Team Representative, the late Fran Crippen, also encouraged Haley to dive in.

"I said, 'No.' I held my ground. If my mind is set on something, it's set," Haley insisted. The Anderson family would give a firm nod of agreement at that statement.

"Haley would swim a record one weekend, then go so slow the next weekend," Randy said of Haley as an age-grouper. The spirited middle child would stubbornly decide when to put it all on the line. "After a fast race, she'd come to us and say she overheard someone saying they were going to beat her." And *that's* what it took to get Haley Anderson ready to pounce.

Six months after Junior Pan-Pacs in Guam, Haley gave in. She attended the National Open Water Select Camp in Long Beach and competed in nationals as part of the camp. She came in fourth, qualifying her to swim at the 2010 FINA Open Water World Championships in Quebec in July and the Pan-Pacific Games (Irvine, Calif.) in August.

Instant love for open water? Not at all.

"I thought, 'What was that?'" Haley recalls. "The water was freezing cold; that was awful."

### **FIGHTING FOR WATER**

At Worlds in Canada, Haley swam the 25K (15.5 miles) and just missed the podium.

"It was 60 degrees, and I was swimming for six hours in a wavy lake. There were times I forgot how I got from one (feeding) deck to the next." During the epic race, Haley was elbowed in the face and recalls thinking, "Why me?!"

There were countless times Haley thought about quitting the race. But then she felt a weight of responsibility.

— continued on 28

“I had the USA cap on—there was no way I was getting out. That’s how I got through it.”

Haley has collected experience and open water navigation skills in the last five years, but open water swimming still has its unfair share of unpredictable moments.

During the 10K at the World Championships in Kazan, Russia last summer, “everything that could have gone wrong, went wrong,” Coach Vogt said. “We were pulled over (by Russian police) on our way there, they messed up her participant numbers three times, they weren’t going to let her swim with one of her earrings, and I thought, ‘If she can make the team with this type of day, she can do anything.’”

“There are lots of challenges in the middle of a two-hour race,” Vogt said. “Open water is not about racing the clock.” No, it’s just racing in its primal form—too primal, sometimes.

Haley was steamrolled (swum over) during portions of the race, and in the final stretch—when she was giving an all-out effort—another swimmer latched on to her ankle and pulled her back!

“It was frustrating. I fell from third to ninth. It can be scary because I think I know how many people are in front of me, but I’m not always sure,” Haley said.

When Haley saw the scoreboard after the tumultuous race, she was both relieved and disappointed. The fighter came in ninth, good enough to make her the first female member of the 2016 U.S. Olympic team with a top-10 finish, but she knew there were so many parts of the race that could be refined.

### THE UGLY STEPCHILD

Haley defines open water as “a mind game, a rollercoaster ride, the ugly stepchild of swimming.”

After the pool portion of the 2012 Games concluded, Michael Phelps sent out a tweet that was just what Haley needed. It read, “Swimming’s over! Time to celebrate.” But swimming was not over. The middle child was forgotten...again.

And it also happened before the 2013 college season. Despite Haley having won the 500 yard free at the 2012 NCAA Championships—most swimming forecasters were obsessed over which Georgia Bulldog distance star would seize the title. That just doused fuel onto Haley’s internal fire.

“I don’t read too many articles going into meets, but I did before NCAAs,” Haley said. “People never saw me as a good pool swimmer, and that always fueled me.”

After reading the predictions, Haley thought, “Oh really? I’m going to show them.” She overcame the talented field of Amber McDermott, Allison Schmitt, Shannon Vreeland and Lindsey Vrooman to defend her title with a 4:34.66.

As a USC Trojan, Haley won three NCAA titles (two in the 500, one in the 1650) and swam to school records in the 500, 1000 and 1650.

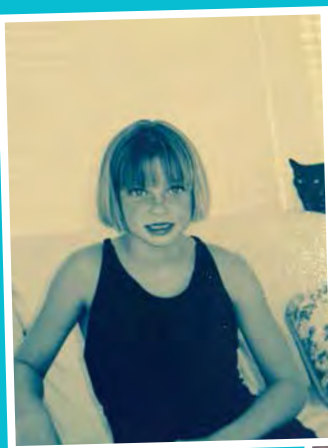
### MOTIVATED BY A SCENARIO

Haley wasn’t always a tenacious racer. Her dad recalled filming Haley’s first-ever summer league meet. Her coach had convinced her to swim on a relay with Alyssa. It took convincing because—at the time—Haley just liked practice and hated the thought of competing.

Randy watched things play out through his camcorder. Haley was on the block, 6-year-old Alyssa touched the wall, and Haley’s feet remained cemented on the block. After an uncomfortable delay, Randy saw an outstretched arm reach over and give Haley a gentle push toward the pool. The arm belonged to Mama, Colette.

## HALEY ANDERSON THROUGH THE YEARS

[PHOTOS PROVIDED BY THE ANDERSON FAMILY]



(From left) Haley, Jordan and Alyssa

True to form, Haley was not going to have someone else decide when she would enter the water. She latched onto her mother's arm and never took the plunge. The plan backfired. The relay was disqualified.

"It flipped later on," Haley remembers. "I was not the biggest practitioner—I'd much rather race—I think that's why my stroke is how it is."

Haley's stroke is neither graceful nor especially efficient. Rather, her arms spin like a turbine, continuously generating power, as she throws her hands to find traction on the water again.

"She's the ultimate competitor," Alyssa said. "I remember telling Dave (Salo, head coach at USC) before a meet, 'Maybe you shouldn't pay attention to her and she'll swim faster if she feels like she's forgotten.'"

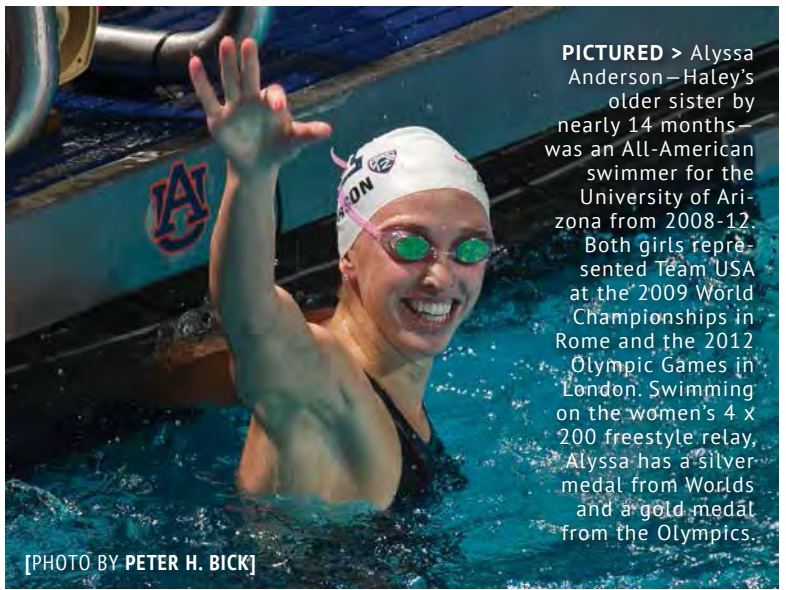
Coaches Vogt and Salo have had fun finding ways to motivate their introverted distance standout.

An avid reader (and lifelong Harry Potter superfan), Haley has an imaginative side that plays to her—and her coaches'—advantage.

"We've found that setting Haley up with a scenario is very effective," Vogt said. "We've used *The Hunger Games* analogy a lot."

Open water swimming is a lot like *The Hunger Games* arena. Each venue presents its own challenges, each tribute has its own skill set, and each competitor must have some fight in her to mentally endure the marathon swim at hand.

Since her Olympic silver in 2012, Haley has been the girl on fire. In 2013, she took the world title in the 5K. In 2014, she struck gold in the 10K at Pan-Pacs. In 2015, she reclaimed gold in the 5K at Worlds.



**PICTURED >** Alyssa Anderson—Haley's older sister by nearly 14 months—was an All-American swimmer for the University of Arizona from 2008-12. Both girls represented Team USA at the 2009 World Championships in Rome and the 2012 Olympic Games in London. Swimming on the women's 4 x 200 freestyle relay, Alyssa has a silver medal from Worlds and a gold medal from the Olympics.

[PHOTO BY PETER H. BICK]

"She is the most decorated, most consistent open water athlete of our time," Vogt said. "She still doesn't see herself in that way, but she's getting more comfortable with it."

Haley felt out of place on her first international team—the World Championships in 2009. Painfully shy, Haley was relieved to have her bubbly, big sister on the trip with her as a buffer.

"It took me a few years to feel like I belonged on the teams," Haley said. From open water underdog to one of the sport's fearsome veterans, Haley steadfastly evolves and performs at a level worthy of the cap she feels privileged to wear.

To the Katniss of Team USA, may the odds be ever in your favor. ❖

# start with **VELOCITY**

Designed for fast, solid starts, the Velocity series is the next generation of starting blocks.

Scan to see which Velocity will work for your facility or visit:  
<http://bit.ly/TrueTread>

SR Smith™  
Serious Equipment • Serious Fun

# OVERCOMING MOTHER NATURE

BY STEVEN MUNATONES

With the ebb tide the strongest it's been in the history of the race, Jordan Wilimovsky and Ashley Twitchell successfully battle the conditions to win the RCP Tiburon Mile.

The three world champions lined up on the shores of Angel Island for the start of the 15th RCP Tiburon Mile: Jordan Wilimovsky, Chip Peterson and Alex Meyer.

Never before had three American men who were previous world open water swimming champions lined up to race each other on the West Coast.

But when the gun went off and the 70 elite and collegiate swimmers sprinted in the unusually warm waters of San Francisco Bay, it was clear who the alpha dog was among the group. Wilimovsky, this year's national and world 10K champion, shot out from shore and quickly grabbed the lead. Rather than a 1-nautical-mile race, he made the race look more like a beach sprint.

The 21-year-old Northwestern senior established a clear lead by the time he reached the 100-meter mark. His Team Santa Monica teammate, Brendan Casey, and Peterson were hot on his heels as the three men decided to take a straight-line tangent across the Raccoon Strait. This was an unusually bold strategy since they had been told that the ebb tide they would face was the strongest in the history of the race.

So while the rest of the competitors were swimming far to their right in order to take advantage of the tidal flow, Wilimovsky simply decided to race across and rely on his strength and speed to overcome Mother Nature.

It was a gutsy move. But if there was anyone who could pull it off, it was Wilimovsky.

## TEST SWIM

*Twenty-four hours earlier, event founder Bob Placak had taken a group of top swimmers, including Ashley Twitchell, Olympic silver medalist Keri-anne Payne, Christine Jennings, Stephanie Peacock, Peterson and Meyer for a test swim. The ambience was loose and relaxed when they jumped from the ferry into the Raccoon Strait that lies between Angel Island and the upscale town of Tiburon.*

*With the Golden Gate Bridge looming large in the distance and the sun shining brightly, the swimmers had heard that the water was warmer than usual (67 F), and they were looking forward to racing in it.*

*But as soon as they hit the water, they were caught by surprise. Within a few strokes, they all knew the water below them was rushing toward the Golden Gate Bridge with unexpected strength. The ebb tide swiftly pushed them off course toward the mouth of the San Francisco Bay.*

*"We had some of the best and strongest open water swimmers in the world in the Bay, and they were getting sucked out toward the Golden Gate Bridge," explained Placak. "There was nothing they could do against that kind of tide."*

*While the athletes were getting swept well off course, they stuck together, and Placak had to re-think the race itself. He started to doubt that the race could even be held, given the risks involved.*

*"Safety is the No. 1 concern in the open water, and there was no way that we could*

## TOP 10 SWIMMERS

1. Jordan Wilimovsky 22:00
2. Chip Peterson 22:06
3. Brendan Casey 22:18
4. Ashley Twitchell 22:40 (first woman)
5. Becca Mann 22:41 (second woman)
6. Michael Sheil 22:43
7. Keri-anne Payne 22:48 (third woman)
8. Dan Connor 22:49
9. Tristin Baxter 23:23 (fourth woman)
10. Stephanie Peacock 23:25 (fifth woman)

*risk over 600 swimmers of various ages and abilities swimming in those kinds of conditions. If the strongest swimmers could not keep themselves remotely close to the straight-line course, I was very worried about the rest of the field."*

*After checking the tidal flow early the next morning, Placak and his team decided to cancel the race for the age group and wetsuit swimmers.*

*"The conditions were still tough, but they were manageable for the elite swimmers," said Placak. "Plus, with the significantly reduced field, we also had nearly a one-on-one ratio between the elite heat of swimmers and our safety net of boaters, kayakers, stand-up paddlers and lifeguards."*

## A CALCULATED RISK

Despite the conditions, Wilimovsky was perfectly willing to take a calculated risk. As he started to open up a larger lead over Casey and Peterson after the halfway point, he cut across the channel like an experienced mariner on a schooner. Making his lead look almost too easy, he methodically lengthened his advantage to more than 25 meters.

Swimmers knife their way in between the escort boats on their way from Angel Island to the Tiburon Peninsula as they reach the halfway point of the RCP Tiburon Mile in the Raccoon Strait of San Francisco Bay with the Golden Gate Bridge in the background.

[PHOTO BY ROB DAVIS]



PICTURED > (RIGHT) Elite swimmers Jordan Wilimovsky (left) and Ashley Twichell congratulate each other after earning the \$2,500 cash awards as male and female champions of the RCP Tiburon Mile.



[PHOTO BY ELLIOT KARLAN]

As he was setting the pace in a lead pack way out in front, the top women had latched themselves in a trailing pack right on the heels of Australian Michael Sheil and American Dan Connor.

Keri-anne Payne, Becca Mann and Ashley Twichell had sprinted out from shore together. Within a few minutes, they had established a clear separation over the next wave of women, led by Tristin Baxter, Stephanie Peacock and Christine Jennings.

While only Peterson and Casey were within striking distance of Wilimovsky from the halfway point on, Payne, Mann and Twichell remained in a tight group from shore to shore.

Payne and Mann had previously faced each other in Kazan, Russia at the FINA World Championships under different circumstances. Neither Payne nor Mann had qualified at Worlds for the Olympic 10K marathon swim, and their hunger for victory was palpable.

But their intensity was on friendly terms. The extreme physicality of international competitions was replaced by a straightforward high-paced swim, where each woman respected the space and line of their competitors. They could not shake each other, and they hung on in the wake of Sheil.

Up in front, as Wilimovsky headed into the marina toward the finish, he was a bit unsure of exactly where to go between the docks. His hesitation enabled Peterson to close the gap a bit, but just like at the FINA World Championships, Wilimovsky relied

on a tenacious 6-beat kick and cruised to victory by a comfortable six seconds.

Meanwhile, Mann had edged into a slight lead over Payne and Twichell coming into the harbor. While Mann and Twichell had taken some time off after the World Championships, Payne had continued her 14,000-meter workouts and lacked some closing speed.

Twichell, the defending champion, knew exactly the best lines coming into the finish between the docks. Mann hugged one of the docks a bit too close, and the momentary deceleration enabled Twichell to pull even.

The women swam stroke-for-stroke through the finish chute, stood up at the same time and simultaneously crossed the finish line. Twichell was judged the winner by 3-tenths of a second in a review of the photo finish.

### THE WINNERS' REACTIONS


"It was a great race," said Twichell, who was only a week away from her wedding ceremony. "Becca and Keri-anne are such

great competitors, but this race is always so unpredictable. We went hard right from the beginning, right until the last step."

A man of few words who lets his swimming speak volumes, Wilimovsky was characteristically nonchalant about his dominating victory: "It was good. I had to look up toward the end because I was not quite sure of the best line coming into the marina, but I quickly saw where to go. It was a beautiful day here in Tiburon and a great course."

Wilimovsky's father, a former ice hockey player from Vancouver, recalls that his son "was not the best swimmer when he was young. But all these little pieces of the puzzle have come together and have enabled him to get to where he is today. It has been great to see him develop." ❖

*Steven Munatones writes for the Daily News of Open Water Swimming and created [www.kaatsu-global.com](http://www.kaatsu-global.com).*

 **TOTAL ACCESS MEMBERS CLICK HERE**  
to learn the options that meet organizers considered before making a decision on this year's RCP Tiburon Mile.

# Holiday Gift



## IST's SWIMCLOCK

with Bluetooth (R) Wireless Technology

Control your pace clock with your cell phone. All of your workouts are in the palm of your hand.

Available with built in Bluetooth or as an adapter that connects to any IST clock.

Visit [www.istime.com](http://www.istime.com) or call 800-835-2611 for pricing and details.

## 1FASTCATCH PADDLES

The NEW Strapless

THE GEAR YOU'VE ALWAYS LOOKED FOR

## POWER BAGS

Power Four Kicks



[swimmersbest.com](http://swimmersbest.com)

[www.SWIMMINGOnTheWall.com](http://www.SWIMMINGOnTheWall.com)

DISPLAY YOUR AWARDED RIBBONS



Swim like a girl

FUTURE OLYMPIAN

SWIMMING  
Never settle for less than your best.

You can't put a limit on anything. The more you dream the farther you get. - Michael Phelps

I ♥ Swimming

SWIMMING

CUSTOM ORDER AVAILABLE



SWIMMING WORLD

THE GIFT THAT WON'T SHOOT YOUR EYE OUT

12 Issues | Subscribe at [SWIMMINGWORLD.COM/GIFT](http://SWIMMINGWORLD.COM/GIFT)

USE PROMO CODE: SWFRIEND

Twitter: @swimmingworld | Instagram: @swimmingworldmag



# Guide 2015

**HALO HEAT**

SWIM BENCH - \$444  
 HALO TUBING - \$30  
 HALO H.E.A.T - \$30

**HALOSWIM.COM**

TREAT SOMEONE SPECIAL TO  
**SBR** PRODUCTS  
 FOR THE HOLIDAYS

**TRISWIM**  
 Chlorine / Salt Water-Out Hair & Skin Care

**TRISLIDE**  
 Anti-Chafe Continuous Spray Skin Lubricant  
 Eases entries into tech suits

**DERMASPORT**  
 skincare  
 The ONLY facial skincare line formulated to gently remove chlorine / salt water

**FOGGIES**  
 Anti-Fog Cleaning Towlettes

20% OFF Code: SWHOL15  
[www.sbrsportsinc.com](http://www.sbrsportsinc.com)

U.S. MASTERS SWIMMING  
 #1 Tested & Approved

**Science of SWIMMING FASTER**  
 The training, technology, and evolution of extraordinary performance

**Give the Gift of Improved Swim Performance**

*Science of Swimming Faster* brings together many of the world's leading swimming experts to reveal the latest in research, technology, training, medicine, psychology, and performance across the sport.

NEW! Scott Riewald, PhD  
 Scott Rodeo, MD

**More great books**

**HUMAN KINETICS**  
 The Premier Publisher for Sports & Fitness

Order today @  
**HumanKinetics.com**

**Full Color Team Microfiber Towels**

• Compact, Lightweight • Ultra Absorbant • Fast drying • Soft on Skin

**Perfect for Fundraising!**  
 Custom Team Towels - We Print Any Artwork

2 Sizes available:  
 16" x 32"  
 32" x 60"

compared to standard towel

**No Minimums! Wholesale Accounts**

**AGRAPHICSOURCE**

For more information: [www.agraphicsource.com](http://www.agraphicsource.com) / Ken 602.359.5999

# Holiday Gift



## SEIKO & ULTRAK TIMERS

The 300 memory SEIKO S141 is the crown jewel of coaches' stopwatches with its revolutionary multi-mode memory function. . . . . \$198.00

The 100 memory Ultrak 495's exclusive memory function allows users to take splits in recall mode. Includes stroke frequency function. . . . . \$40.95

Purchase these and other SEIKO & Ultrak timers at <http://www.swimmingworldmagazine.com/swimshop>  
Distributed by CEI - (800) 735-0871

**Add another dimension to your training.**

Find out how we can help you swim stronger, smarter and faster! Bring this ad into any SwimLabs location and receive 10% off one video analysis session. Only one per swimmer. May not be used with other offers. Offer expires May 1, 2016.

## SPORT + SCIENCE

# SwimLabs

Swim School KIDS | COMPETITIVE | TRIATHLETE

Visit [swimlabs.com](http://swimlabs.com) for more information and to find the location nearest you.

## Our Towels Dry Faster... ...Than You Can Swim

- Dries Super Fast
- Silver Ions Inhibit Bacteria
- Better Than Microfiber
- High SPF Protection
- Soft to Touch
- Ultra-Light & Compact

Phone: 877-551-6577 [www.DiscoveryTrekking.com](http://www.DiscoveryTrekking.com) info@discoverytrekking.com

Discover you. Find your passion, life purpose, and take action.

# Sprint Aquatics

THE BEST SOURCE FOR YOUR AQUATIC EQUIPMENT

[www.sprintaquatics.com](http://www.sprintaquatics.com)  
info@sprintaquatics.com Ph. 800-235-2156

# Guide 2015

Talk or play music to your swimmers as they train up and down the pool!

Introducing:

## iCOACH



For more information contact us at:  
[swimwave1@gmail.com](mailto:swimwave1@gmail.com)  
[swimwaves.net](http://swimwaves.net)

## XMETRICS

THE ULTIMATE ACTIVITY TRACKER  
 DESIGNED FOR SWIMMERS

A uniquely positioned wearable device to improve performance via analytics & real-time audio feedback!

[xmetrics.it](http://xmetrics.it)

20% OFF  
 XMas-SW

## What's On Your Skin?



Extremely smooth and pain-free Shave Downs | No shaving cream required  
[miseldisel.com](http://miseldisel.com)

25% OFF

## HERE WE GO RIO!

SUBSCRIBE TO SWIMMING WORLD FOR THE LATEST NEWS, TRAINING & PERSPECTIVES LEADING TO RIO.

**USE SUBSCRIPTION CODE Rio2016**

# Holiday Gift



the perfect gift  
for every swimmer

**new!**  
DUO  
UNDERWATER MP3 PLAYER

**FINIS**  
simplify swimming



**PACE PAL**  
UNDERWATER PACE CLOCK

ENDORSED BY:  
USA HEAD COACH GREGG TROY  
& HEAD COACH MIKE BOTTOM

U.S. PATENT NO. 8,472,286

**\$179**  
Buy Now

[www.mypacepal.com](http://www.mypacepal.com)

- ▶ DIGITAL PACE TIMERS FOR SWIMMERS
- ▶ COUNTS UP FROM 0 TO 99:59 AND THEN AUTOMATICALLY RESTARTS AT 0
- ▶ CLOCK IS WATERPROOF TO 10 FEET UNDERWATER
- ▶ BATTERIES, CUSTOM CASE AND GO PRO ADAPTER INCLUDED



Made in USA

## Give the gift no swimmer can resist.

Increase flexibility, strength and endurance.  
Improve speed and maximize athletic performance.

Give the Drag Belt/Tow Tether this year to enhance the endurance and strength of the swimmer on your list.

 Gear up for the holidays with StrechCordz® training gear!  
**Order yours today!**

[www.strechcordz.com](http://www.strechcordz.com)

**STREHCORDZ**  
Gear for stretching, exercising and training.

   
/NZCordz  
800-886-6621



**FUNNIES**  
THE FINALS

THEFINALS.COM

# Guide 2015



The original • Made in the USA  
Patent No. 9,101,795

**SMACK**  
Strap

Available in these great **COLORS**:

Twist Steel Neon Beach Thunder  
Speed Blush Crush Lemon Frog  
Rugby Vibe Glory

Braided Elastic Goggle Replacement Strap  
It is so comfortable • No more headaches!

Visit us at: [www.smackswim.com](http://www.smackswim.com)



Simple  
Accurate  
Economical

WORLD'S BEST LAPCOUNTERS  
AND SPORTS TIMERS

**SPORTCOUNT.COM**

\$16  
Swim Beanies - various colors

\$38  
Life Is Good Swimming Tote Bag  
Made exclusively for Toad Hollow by Life Is Good

To Order, Call 800.322.8623 or  
[www.toadhollowathletics.com](http://www.toadhollowathletics.com)

**SW**

**GIVE 12 GIFTS IN 1**  
TO THE SWIMMER ON YOUR LIST WITH A  
SUBSCRIPTION TO SWIMMING WORLD!  
Go to [SwimmingWorldMagazine.com](http://SwimmingWorldMagazine.com) / Click on "Subscribe"

# A PREREQUISITE FOR SPEED

BY MICHAEL J. STOTT

PICTURED > Lauren Smart,  
University of Arizona (2012)

*Bill Pilczuk won the 50 free at the 1998 Perth World Championships. He was always a great starter, but what gave him the victory that day—and, incidentally, handing Alexander Popov his first loss in 10 years (he finished fourth)—was an exceptional streamline and breakout.*

“The topic of streamlines and breakouts is simple, but also complex,” says Emory head coach Jon Howell, who won 11 NCAA Division III individual titles, including three straight in the 50 yard free (1988-90)—unmatched in that event in D-III history.

Whether off the start or the turn, “the goal is to surface with maximum speed via an underwater kick and transfer it into the swimming stroke as efficiently as possible,” he says. “The second objective is to establish a really good body line. Flaws occur when swimmers decelerate because of bodyline loss created by faulty angle of exit or a lifting of head and dropping of hips,” he notes.

“Emory swimmers do drills a mil-

lion different ways to perfect breakouts,” says Howell. They include starting from a flat alignment dead-in-the-water pose, a feet-down position, counting kicks, assessment of angles and assignment of breakout points. “A lot of it is done through partnering,” he says, “which is a great way to get a lot done. Competition is another way to ramp up the focus. I try to make it fun

because through play, they learn so much more than through work. We measure push-offs, do plunge races in the diving well and especially plunge drills in which swimmers descend in streamline and fire to the surface with arms overhead. First to the top wins.

“We always want swimmers moving efficiently and carrying speed while being aware of individual drag points—be they shoulders, hips or head. Through measuring, we can help athletes understand efficiency and how their

Whether off the start or the turn, “the goal is to surface with maximum speed via an underwater kick and transfer it into the swimming stroke as efficiently as possible. The second objective is to establish a really good body line.”

— Jon Howell,  
Head Coach, Emory University

[PHOTO PROVIDED BY EMORY ATHLETICS]



— continued on 40

# AN AGE GROUP PERSPECTIVE

BY MICHAEL J. STOTT



[PHOTO PROVIDED BY SOCAL AQUATICS]

*Editor's Note: Steve Pickell (left), head coach of SOCAL Aquatics, shares his thoughts with Swimming World on streamlines, breakouts and underwater swimming:*

We practice streamlining and quality underwaters on every set, every day. I believe that skill is what separates the great underwater swimmers from just the good ones. My

best underwater swimmer, Ella Eastin, bought in whether it was an aerobic set, a sprint set or drilling technique.

Everyone on my team does a great job when we do specific sets stressing streamline and underwaters. What separates Ella from the rest is that she goes close to 15 yards on every turn, every day.

In a regular training week, our team has three morning and five afternoon practices. Weekday a.m. is all about kicking and underwater swimming. In one of the a.m. practices, each swimmer will do at least 10 starts, emphasizing streamlining and breakouts.

We begin almost every p.m. practice with some specific underwater/streamlining swimming. Beginning with specific streamlining drills helps establish an underwater mindset. At the start of a new season, I demand that kids do 15 meters underwater on everything for the first two weeks.

Underwater swimming is a priority for all SOCAL swimmers regardless of age. At local meets, SOCAL kids invariably go the farthest under water, whether they are age 8 or 18. In some in-

stances, for the very young swimmers, the length of their underwater swimming is probably slowing them down, but we believe it will pay off down the road.

We regularly time underwater swimming by doing sets at least once a week—for example, going ten 50s on two minutes from a dive. It's all underwater with a 10-second break at the 25. We track the times and have seen a big improvement for every swimmer.

As a team, we have three specific streamlining drills we do regularly:

## WARM-UP

- 100 free @ 1:30
- 4 x 25 underwater (UW) @ :30
- 100 IM @ 1:30
- 4 x 25 UW @ :30
- 4 x 25 with two front turns at 12.5 yards
- 4 x 25 12.5 sprint UW and 12.5 EZ

## VERY BEGINNING OF PRACTICE

- 32 x 25 @ :30
- 8 of each:
1. UW on front
  2. Dolphin kick above water on back
  3. UW on back
  4. Fast 25 with 15 yards UW

## VERTICAL KICKING

(as many as eight rounds of the following)

- 30 seconds vertical kicking in a streamline position (shoulders out of the water)
- Rest 10 secs.
- 2 x 25 UW fast @ :30

We do not use weights. I believe the advantages of a perfect streamline are more important than the extra resistance.

I find the great ones do quality underwaters on every set, every day. ❖

*Steve Pickell is the head coach of SOCAL Aquatics in Orange County, Calif. The two-time Canadian Olympian (1976-'80) won a silver medal in the men's 400 medley relay at Montreal. Pickell, a seven-time All-American and NCAA champion at the University of Southern California, also set two short course meters world records in 1977.*



[PHOTO BY DONNA NELSON]  
#SpeedoJrNats



**TOTAL ACCESS MEMBERS CLICK HERE**  
to learn more on streamlines and breakouts from Mark Gwidt, co-head coach, Ozaukee Aquatics, Wis.

SOCAL Aquatics coach, Steve Pickell, claims Ella Eastin is his best underwater swimmer. The payoff for the Stanford freshman and U.S. national junior team member has been a litany of stunning performances over the last two years. In 2013, she won the 200 and 400 IM at the FINA World Junior Swimming Championships, then repeated that performance at the Junior Pan Pacs in 2014. Earlier this year, she won three California high school state championships and captured the female high-point award at the U.S. Summer Junior Nationals (left).

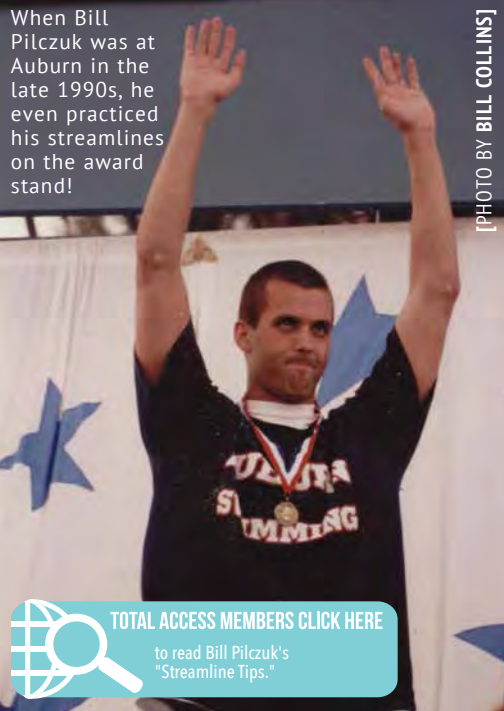
bodies move. Everybody has their own profile in the water, and being able to understand what it is and how to manipulate their bodies is key,” he says. Part of that individuality is swimmers determining depth of dive and length of breakout. A lot of it is just angle of entry and capitalizing on their strengths.

Pilczuk’s successful swim in Perth was the result of years of practice. Much of it was honed at Auburn, where attention to sprint details of streamline, balance and breakout was a way of life.

**URNS**

Pilczuk also shared with *Swimming World Magazine* his process of getting in and out of the wall: “Aside from maximizing the start, streamlining off a turn is the second easiest way to drop time without taking a stroke,” he says. As proof, he suggests comparing short course meters world records with long course, where every SCM time is faster.

“The only difference is the turn,” he says. “While a turn may allow a few seconds rest for different muscle groups, wall contact time and speed off the wall are equally significant.”



When Bill Pilczuk was at Auburn in the late 1990s, he even practiced his streamlines on the award stand!

[PHOTO BY BILL COLLINS]

**TOTAL ACCESS MEMBERS CLICK HERE**  
to read Bill Pilczuk's "Streamline Tips."

Pilczuk, the new head coach at Savannah College of Art and Design, believes setup is the key to good turn streamline execution: “For freestyle and backstroke, a submerged turn helps you get deeper on the wall with your feet, allowing a deeper push, which helps you get under the wave and begin your dolphin kicks. In executing the turn, only your ankles and feet should come out of the water. Your body is rotating and diving down at the wall.

“To do this, practice no-look turns (i.e., do not lift your head to spot the wall). On your last stroke, begin pressing your upper torso downhill while completing your final stroke. You should know your distance to the wall and not need to look. Be mindful of your heels in pools with overflow water, as you may smack them on the lip. Once you are deep enough, you will be ready to get set under water.

“On fly and breast, use your undulation and abs to drive your knees up to your chest while keeping your head down. By staying low on the wall, you will get a deeper push-off. To do this, practice knee-driven open pool reverse flips. If you can do a full reverse flip (laid-out arms overhead, then tuck in to a reverse flip in the middle of the pool), you will be using your knees to create the rotation instead of your arms or head.

“Leaving the wall, you should be balanced and streamlined. Ideally, you want to be in great jumping position on the wall. Whether you are on your side or back, your foot placement needs to be set in a power position for your legs to drive.

“A lot of swimmers get set with their knees together, their body twisted or torso

angled toward the surface or bottom. Taking the time to practice how you will leave the wall by doing drills (i.e., set/pause/push/glide) will help you find the best position for your body.

“An overlooked practice technique is by starting every set, every rep, in the push-off position you want to use on a turn. Most people start each distance by falling underwater—face and chest facing down—and push off in more of a start position. In a turn, you will always push off on your side in fly or breast and face up—actually, slightly to your side—in back and free. Ergo, you always push off in these positions.”

From a power position, the next goal is to hold the speed as long as possible.

“This means continuing your line off the wall with limited change in direction and maximum body length. In free, back and fly, swimmers should be doing dolphin kicks, extending their glide. Some swimmers will do short fast kicks into larger kicks off the wall, some large to small, and some the same amplitude. This is a personal decision, as it will depend on your personal lever system, your flexibility and how well you up-kick.

“Australian Michael Klim experimented with an open streamline. His hands were actually slightly apart, but everything stayed in line. This is not to say open your hands, but rather test everything and keep it all in the line you create.

“The streamline will require lots of practice to see which way is best for you and suited to your strengths—just as in breaststroke, where finding the spot in your first pull to place the perfect fly kick for maximum distance is crucial. Not changing direction multiple times or lifting your head out of streamline are other keys for all turns,” he says.

Regarding the breakout, Pilczuk says, “Once you get and hold speed, you need to transition into swimming with the speed. Again, balance is critical. Keeping everything in-line or slightly downhill is crucial for maintaining speed. Know the depth of your body at all times and avoid lifting up your head to feel for the surface. A good breakout will have minimum streamline disruption and maximum power.” ❖

*Michael J. Stott is an ASCA Level 5 coach whose Collegiate School (Richmond, Va.) teams have won eight state high school championships.*

**TOTAL ACCESS MEMBERS CLICK HERE**  
for a scientific explanation of streamlines and breakouts from Matt Kredich and Bill Boomer.





## BECOMING A BETTER STARTER: THE 8-AND-UNDER MEET

BY CECIL GORDON

The next time you go to an 8-and-under meet, take a close look at the deck officials. Notice anything missing? More times than not, absent will be the deck official who holds an advanced level of certification and experience. Typically, only the relatively “new” officials volunteer for these meets.

The 8-and-under meet is arguably the most underused tool at our disposal for advanced training of starters. Without a doubt, these young athletes are filled with energy and excitement, often presenting situations that are chaotic and unpredictable.

Confusion on the blocks, swimmers in the wrong lanes, swimmers arriving late to the blocks, others entering the water prior to the start signal—who could possibly want to officiate under these trying conditions?

*You do!* Or at least you should. Believe it or not, chaos is the very reason these meets are the ideal training ground. Yet, most starters fail to take advantage of the important lessons only a meet such as this can offer.

The true measure of an excellent starter is the ability to respond calmly, confidently and rationally in the face of adversity and uncertainty. Where better to sharpen these skills than at this type of meet? And why not work to improve as a starter in this relatively stress-free environment, where mistakes are often less consequential?

Each heat promises to be an adventure. Learning to control these young swimmers with the aid of only the starter’s voice is quite the challenge. Developing the patience and the skill to work effectively with these young athletes will likely serve the starter well if a heat unexpectedly falls apart at a higher-level meet.

I’ve sometimes wondered why these meets aren’t *required* for starter advancement. After all, evaluating how the starter reacts to unusual situations is one of the key determinants for national certification. Yet, unlike the 8-and-under meet, most of our official qualifying meets are relatively sterile, offering very little—if any—unpredictability. Rarely do OQMs allow us the opportunity to see how a starter will react under fire. On the other hand, this type of meet would provide more than a glimpse of how a starter reacts to a stressful situation.

As you continue along the journey of becoming the best starter you can possibly be, give an 8-and-under meet a try. Don’t be surprised to see how much the experience will enhance your skills. ❖

*Cecil Gordon, Middle Atlantic Swimming, was a starter for the 2015 summer World Championships in Kazan, Russia. He also has been selected to be a starter at the 2016 Olympic Games.*



MAXWELL  
MEDALS & AWARDS  
EXCELLENCE AWARD

## KATHY FISH

Kathy Fish and her family transferred to the Florida Gold Coast LSC five years ago from Adirondack Swimming. Kathy, her husband, Mike, and children, Hannah and Jared, quickly became fixtures within the LSC: Kathy as referee, Mike as the starter and Hannah and Jared as timers or serving as runners—when they weren’t swimming. Three years ago, Mike was tragically killed by a drunk driver. Throughout the aftermath of this tragedy, Kathy (as well as her children) has continued to support the sport she loves. To her, it is about supporting the athletes as they grow and pursue their dreams. She is fair, and her decisions are always in the best interest of the athletes. Fish is also qualified at all positions in the LSC level and as a clinic instructor. In the past two years, she has worked 69 meets (seven of them, OQM)/173 sessions and has taught 16 clinics. In addition to USA Swimming officiating, she serves as an official for the YMCA (as a trainer), NCAA and NFHS.



PROUD SPONSOR OF  
THE MAXWELL  
EXCELLENCE AWARD

Call for your free  
full-color Maxwell catalog:  
1.800.331.1383





[PHOTO BY SPENSER GOODMAN]

### Coach Adam Crossen

Associate Head Coach  
Irvine Novaquatics Swim Team  
Irvine, Calif.

- University of Southern California, B.S., exercise science, 1997
- Auburn University, M.S., exercise physiology, 2000
- Swam for Coach Mark Schubert at USC
- Assisted Coach David Marsh when the Tiger men and women began to claim national championships
- Worked at Cal with Coach Teri McKeever in the early 2000s before joining Coach Dave Salo at Irvine Novaquatics
- Was responsible for NCAA compliance, recruiting coordination, strength and conditioning programming and on-deck coaching while on the USC staff in 2006

Salo and Crossen founded the varsity swimming and diving program at Soka University of America, located in Aliso Viejo in Southern California. Now in his ninth year at Soka, Crossen is also a member of the NAIA Rules Committee.

# ADAM CROSSEN

BY MICHAEL J. STOTT

Adam Crossen continues to enhance the reputation of Irvine Novaquatics while transitioning the men's and women's program at Soka University into a national player in the NAIA.

**Q. SWIMMING WORLD:** *You have worked with several Hall of Fame coaches, including David Marsh, Teri McKeever and Dave Salo. What did you learn?*

**A. COACH ADAM CROSSEN:** I have been very fortunate to learn and observe many different styles of coaching from each, and I've taken their lessons and applied them to my own instruction. These coaches truly care and have an approach for the total swimmer. In any great swimmer-coach relationship, I learned you must have a tremendous belief in your swimmers, sometimes showing that times and achievements are possible and in other cases working to create a plan for success. I have also come to appreciate that they are great leaders of staff and managers of coaching talent.

**SW:** *You helped oversee the strength and conditioning program under Salo. How has strength and conditioning for swimmers changed over the years?*

**AC:** Dryland training has evolved from a small and basic piece of the training plan into a more specialized aspect of performance. We have gone from trying to gain strength to gaining the right strength through appropriate swimming movements.

**SW:** *At what point do you emphasize strength with your swimmers at Novaquatics?*

**AC:** We are always looking at gaining strength throughout all levels of our swimming groups. The only difference is how we look at gaining that functional strength. This could be just teaching a basic squat movement to our younger swimmers and working on correct form or looking at adding more advanced elements of the squat as they progress. The club has recently hired several strength and conditioning coaches to work at the different sites to help keep athletes safe and teach mastery of these skills to all of our groups.

**SW:** *How have you gotten so many relays to excel, especially your 13-14 boys who hold the NAG record in the 400 yard free relay and who still hold the 11-12 NAG mark set two years ago?*

**AC:** With any relay situation, you have a collection of swimmers who are motivated to swim for the team. We put great emphasis on championship team meets and relays for all ages. Our relay swimmers are very aware of past team performances and strive to continue or improve upon them. Our associate head age group coaches, Rod Hansen and Andi Kawamoto-Klatt, have continued to drive performance in our young swimmers and develop that pride in the relays.

**SW:** *What is the value and purpose of the Southern California Star League?*

**AC:** The Star League came about as a way for us to drive performance. We identify the top 10 swimmers in each age group and gender, and we race against other teams' top swimmers in a dual meet format. This allows us to promote racing and mimic the high school and college dual meet setting, which we hope translates to excitement in their continued swimming. There is great competition to become a part of the squad selected.

**SW:** *Swimmers such as Peirsol, Beard, Lezak, Hardy, Cavic, Stitts, et al. emerged from Novaquatics. How does that affect your younger swimmers?*

**AC:** The good news is that many of the coaches of those stars remain on staff today and are in position to motivate current swimmers to chase their club records.

**SW:** *What kind of expectations does the Salo presence place on the current coaching staff?*

**AC:** Coach Salo is involved from a management side and has been great to associate head coaches Ken LaMont, Jeri Marshburn and myself. He is a great resource and huge supporter of our performances.

— continued on 44

## HOW THEY TRAIN:

# OWEN KAO

BY MICHAEL J. STOTT

[PHOTOS BY SPENSER GOODMAN]



As swimmers enter the final year of this Olympic quadrennium, the focus turns to Rio and making cuts for Olympic Trials. Owen Kao, 15, of Irvine Novaquatics punched his ticket to Omaha last summer with a sterling 3:58.63 400 meter free. The swim was the result of his dedicated age group training and subsequent work since moving to the team's senior group as an eighth grader at age 12.

Kao has clearly benefitted from having a cadre of talented teammates. He and Shawn Lu, Kevin Tu and Hunter Hitchens currently hold the 13-14 boys national age group record in the 400 yard free relay (3:09.70) as well as the 11-12 NAG mark of 3:30.75. Kao has also teamed with Justin Nguyen, Andrew Koustik and Hitchens to set NAG records in the 13-14 400 and 800 meter freestyle relays (3:37.77, 7:58.03).

"Owen comes from an extremely athletic family in which his older sisters are Division I athletes in track and field and former swimmers," says his coach, Adam Crossen. "He exhibits a competitive nature in anything athletic and responds to coaching very well. He enjoys being challenged in a workout by me or his teammates. He accepts the results of his efforts and uses this feedback to improve in practice. Being younger than most in the senior group, he has grown into a leader by example. When surrounded by kids of his age group or in situations where he is one of the older swimmers, he is an excellent communicator and leader.

"This summer, he really focused on making his Trials cut (in the 400 meter freestyle), and his workouts reflected that determination. Moving forward, we are excited to start building his other strokes and having him become a more well-rounded swimmer over all strokes and distances. His future is bright," says Crossen.

Kao was a member of this year's Western Zone Select Camp team, and during the past high school season, he was one of only two freshmen to be ranked among *Swimming World's* top 16 prep swimmers in the 500 yard freestyle (16th, 4:25.07).

### SAMPLE SETS

#### • The 500 Set (SCY)

The following set was done periodically during the year with varying intervals. Kao often did the set with his age group coach, Andi Kawamoto-Klatt:

4 rounds of the following:

2 x 100 @ 1:20

4 x 50 @ :45

1 x 100 @ 2:30

Add total time and descend to a time better than Kao's best time in 500 free (Kao descended to 4:11).

\* As a change, Coach Crossen will adjust the interval to provide less rest.

#### • Fins and Paddles (SCY or LC)

7 x 100 ALL FAST (3 @ 1:30, 4 @ 1:40)

Kao did the set this summer with times of :55, :55, :55, :54, :53, :53, :52

#### • 5x {3 x 100 (no break)

R1: 1:25, 1:20, 1:15

R2: 1:20, 1:15, 1:10

R3: 1:15, 1:10, 1:05

R4: 1:10, 1:04, 1:00

R5: 1:05, 1:00, :55

\* Goal is to try and keep 5 seconds faster than the interval

#### • 3 Rounds

1 x 75 @ 1:10 - 1 x 25 Fast @ :30

1 x 75 @ 1:05 - 1 x 25 Fast @ :30

1 x 75 @ 1:00 - 1 x 25 Fast @ :30

1 x 75 @ :55 - 1 x 25 Fast @ :30

1 x 75 @ :50 - 1 x 25 Fast @ :30

1 x 75 @ :45 - 1 x 25 Fast @ :30

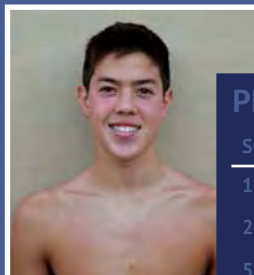
Bonus :30

R1: No gear

R2: Paddles (drop 5 secs per 75)

R3: Paddles and fins (drop 5 secs per 75)

\* 75s just make, sprint 25s ❖



### PROGRESSION OF TIMES

| SCY      | 2013    | 2014    | 2015    |
|----------|---------|---------|---------|
| 100 Free | 52.47   | 49.49   | 46.17   |
| 200 Free | 1:52.56 | 1:46.00 | 1:38.59 |
| 500 Free | 5:08.46 | 4:43.54 | 4:25.07 |
| LC       |         |         |         |
| 100 Free | 58.04   | 53.53   | 53.21   |
| 200 Free | 2:07.06 | 1:54.50 | 1:53.95 |
| 400 Free | 4:29.42 | 4:03.22 | 3:58.63 |

**SW:** How do you prepare a first-time swimmer for the experience of competing at nationals?

**AC:** We try to make attending nationals similar to any of the other travel meets. It has also helped us hosting nationals because we have been able to keep a much larger support network around our swimmers while allowing them to see higher-level swimming. We remind first-time swimmers that it is really just another swim meet, and to do your best is really all you can ask of yourself.

**SW:** Excellent organization and staff seem to be key to your program's success. Why is that?

**AC:** As a club, we know who we are, and we are able to sustain success because we are all committed to the team's goals. We have weekly staff meetings. It helps that many coaches have been with the club in excess of 10 years, while our associate head age group coaches have been here more than 20 years. This continuity allows us to be open, honest and progressive about club direction.

**SW:** With all the associate head coaches, who is in charge—and of what? Also, how do your age group coaches contribute?

**AC:** Because we operate our club out of three different sites, Jeri, Ken and I are each in charge. We are responsible for the operations of our individual sites within the club framework, and we work together to make decisions about what is in the best interests of the club. We work with the age group coaches to blend our concepts and plans into their programs while ensuring that every swimmer has his or her needs being met.

**SW:** How did you get involved with Soka University?

**AC:** The club was using Soka's facility as a training site during renovations to our Woollett Aquatic Center. After a couple of years, the school wanted to start up a university swim team. I initially got involved assisting Coach Salo when he became the first coach in school history in 2004. It was a natural progression since I was working at NOVA and had a pretty good collegiate coaching background. When Coach Salo left to work at USC, I returned to my alma mater for a year to assist him, but realized that I enjoyed working at Soka and was ready to take over that head coaching job as well as coaching the club.

**SW:** How do you manage both jobs?

**AC:** Fortunately, both the club and the college administrators understand the demands of each job and give me some freedom as to how I juggle those responsibilities. I am able to spread some of the administrative responsibilities among the club staff. That frees up the day to focus on the college administrative demands and any club responsibilities that need to be completed. On deck, swimmers get my full attention. Both jobs keep me busy, but I enjoy the responsibilities and love having an impact on all of the swimmers with whom I work.

**SW:** To a year-round swimmer, what is the importance of a summer break?

**AC:** It is the chance to let your body recharge, regroup, reflect and identify areas in which to improve. It also gives your body a chance to heal from any injuries or recover from fatigue so you can start next season fresh. ❖

*Michael J. Stott is an ASCA Level 5 coach whose Collegiate School (Richmond, Va.) teams have won eight state high school championships.*

**NEW EXCLUSIVES**

AS LOW AS **99¢**  
M-729W  
3"

AS LOW AS **\$395**  
B-33SAWBM  
7"

AS LOW AS **\$495**  
ACR-LEGW  
6"

AS LOW AS **\$795**  
ACR-PPW7  
7"

AS LOW AS **99¢**  
M-745W  
8"

AS LOW AS **99¢**  
M-733W  
2.5"

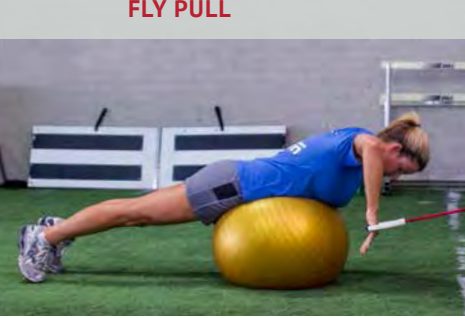
**SWIMMING**

www.hastyawards.com • 800-448-7714

## DRYSIDE TRAINING

### 1 ON STABILITY BALL TUBE FLY PULL

Begin by lying prone on a stability ball with legs straight and holding a stroke cord. Start the movement of a butterfly pull while balancing on the ball.



### 2 STABILITY BALL PIKE-UPS

Roll out on the stability ball to the ankles. Keep your legs straight and elevate your hips as high as you can, then slowly lower.



### 3

#### CABLE PULL-DOWNS FROM KNEES

While on your knees, grab the high-tower handles and perform a pull-down stroke.



### 4

#### SQUAT WITH VERTICAL MEDICAL BALL THROW

While holding a 4-to-12-pound medicine ball, lower into a deep squat, then thrust upward and toss the ball in a vertical motion upward.



## ON-LAND SWIM STROKE MOVEMENTS: BUTTERFLY

BY J.R. ROSANIA

PHOTOS BY EMMI BRYTOWSKI

DEMONSTRATED BY

CARL MICKELSON AND SUSIE PAUL

This month, butterfly is the focus of our swim stroke workout series. (See the March issue for freestyle and June for breaststroke.)

Butterfly has a unique blend of rhythm and power. Therefore, the exercises that I've chosen should help develop those two areas as well as others.

As with all of the strokes, the exercises are designed to mimic some of the stroke mechanics for that particular stroke. These movements—when resistance is added—will increase strength and power.

Some of the targeted muscles for butterfly are core abdominals, low back, glutes and hamstrings as well as shoulders and lats for the upper body.

The frequency should be two to three sessions each week, with two to three sets of 10 to 15 repetitions. Be sure to work the full range of motion for each exercise.

As always, back off the last few weeks and do not do the exercises the week of your important meet. Work hard and FLY!

*Editor's Note: Next month, the "On-land Swim Stroke Movements" series will conclude with backstroke. ❖*

#### MEET THE TRAINER

J.R. Rosania, B.S., exercise science, is one of the nation's top performance enhancement coaches. He is the owner and CEO of Healthplex, LLC, in Phoenix. Check out Rosania's website at [www.jrhealthplex.net](http://www.jrhealthplex.net).



#### MEET THE ATHLETES

Carl Mickelson swam for the University of Arizona. As a senior, he finished fourth in the 100 and 200 yard breaststroke at the 2012 NCAA Division I Championships.

Susie Paul has been a Masters swimmer for the past 10 years.

#### NOTICE

All swimming and dryland training instruction should be performed under the supervision of a qualified coach or instructor, and in circumstances that ensure the safety of the participants.

# HOW HAS HOLIDAY TRAINING CHANGED OVER THE YEARS?

BY JASON MARSTELLER



**BOB BOWMAN** / Head Coach,  
Arizona State University

“I think that holiday training is still a time to do higher-than-normal volume or frequency of training in a special environment. Because school is out, the athletes can focus more on training and recovery.

“Also, many club teams enjoy having their athletes who have been away at college return for a time over the holidays. This creates an enthusiastic and energized training environment.

[PHOTO BY GRIFFIN SCOTT]

**FKCC SWIM AROUND KEY WEST:**  
**JUNE 18, 2016**



**Sanctioned  
Swim Meet  
June 19**

**12.5 Mile  
1 & 2 Mile  
Open Water**

The Florida Keys  
**Key West**  
Close To Perfect - Far From Normal



**REGISTER TODAY!**  
**Contact Lori Bosco:**  
lori.bosco@fkcc.edu  
(305) 809-3562  
[www.fkcc.edu/academics/  
recreation/swim-around-key-west/](http://www.fkcc.edu/academics/recreation/swim-around-key-west/)

“The holidays are a great time to rekindle friendships and re-focus on training to put some ‘money in the bank’ for the spring championship season.”



**BRANDY MABEN** / Men’s & Women’s  
Assistant Coach, University of Arizona

“Training in past years was all about the grind—counting up how many workouts one could accomplish in a matter of a couple of weeks...grueling workouts of countless yards stacked on top of one another...a gladiator challenge!

“Now, however, it seems that coaches are using this extra time out of school to train with more focus and specificity—the same amount of workouts as usual, but with a focus on energy zones necessary for their time of the season.

“Extra time is still added for swimmers to work with underwater and above water film and review technique...watching video of professional and Olympic swimmers to see how to take their strokes to the next level.

“The current winter training is beginning to take the students’ time out of the classroom and make them students of the sport.”

[PHOTO PROVIDED BY UNIVERSITY OF ARIZONA]



**BILL WADLEY** / Head Coach,  
Ohio State University

“It’s changed for the vast majority of swimmers to more quality than quantity, more strategy, more technical work, starts and turns, and power work. But that aerobic work and endurance is still critical for the distance swimmers and the 400 IMers.

“I do think there’s a huge fitness component to swimming at pace. It’s every bit as tiring—if not more tiring—than swimming those longer distances at a slower pace. Holding pace is a function of strength and managing strokes at speed. We give our swimmers the freedom to slow it down if they feel their strokes breaking down. There is always something to be gained from a set.”

[PHOTO BY PETER H. BICK]

[PHOTO PROVIDED BY ARMY WEST POINT]



**ERIC BUGBY /**  
Associate Head  
Coach, Army  
West Point

“Holiday training is not the same anymore, especially at the collegiate level. In the past, it was a time to increase three aspects of swimming: yards, intensity and frequency. Doubles and triples were commonplace. Sprinters swimming middle distance, middle distance swimming distance, and distance swimming non-stop was the tendency.

“At the University of Pittsburgh (in the early 2000s), the cycle was three years in Fort Lauderdale and one year in Puerto Rico. We knew, as swimmers, that training was our only job, and we were being rewarded with a free trip.

“In 2007, I was a graduate assistant at ASU. There was no training trip. The weather and backdrop of Tempe, Ariz. is what most college teams want: warm weather, outdoor swimming and three pools. ‘Holiday’ training was simply ‘training.’ They didn’t need to bury themselves in yards to improve.

“Now, the goal is to prepare athletes for the competition phase of their season. The bulk of aerobic and base work has been completed, leading up to holiday training, which can see the beginning of speed and power work, a decrease in yardage, increase in intensity and the same frequency of practices. Lifting and dryland also change to accommodate changes in the pool.” ♦



**TOTAL ACCESS MEMBERS CLICK HERE**  
to read more responses.

## CLASSIFIED

### AQUATICS & FITNESS CENTER: SOUTHEAST USA LOCATION

Swim program was established in the '90s, and state-of-the-art indoor swim facility with two pools on 5 acres was built in recent times. Our client has a very active swim program, including some 300 active swim team members and hundreds of lessons each month. There are additional profit centers at the facility, including a 5,000-member workout facility. The sale includes the building on five acres of land, and there is an additional 10 adjacent acres available for expansion at an additional price.

Selling for less than the latest appraised value and located in one of the fastest growing metro areas in the Southeast USA, this is definitely an attractive acquisition candidate for anyone who is in the business and wants to expand. Serious candidates only, please.

**For more information, contact Brad Offerdahl at 888-676-0940 or brad@vikingmergers.com**

## SWIM MART

**LUMALANES**  
SWIM TRAINING SYSTEMS

[www.LumaLanes.com](http://www.LumaLanes.com)

**AQUATICA 1K SWIM**  
IMAGINE BECOMING THE LEGEND

FREESWIMMERS RULE

GATORS...YES  
MONSTER...MAYBE

CARRY A KNIFE...OK

LEGENDS CREATED DAILY

**WWW.LUCKYSLAKESWIM.COM**

FOR THOSE THAT DO!

**800-448-7714**

FULL COLOR NECK RIBBONS!

USA SWIMMING

2015 Central Zone CHAMPION

US MASTERS SWIMMING SPRING NATIONALS

America's #1 Custom Medal Supplier

Lowest Prices  
Highest Quality  
Exceptional Service  
Quick Turnaround

AS LOW AS **\$194**  
FOR A 2" CUSTOM MEDAL

[www.hastyawards.com](http://www.hastyawards.com)

If you fail to prepare, you're prepared to fail. -Mark Spitz

**STRECHCORDZ**  
Gear for stretching, exercising and training.

[www.nzcordz.com](http://www.nzcordz.com)  
800-886-6621

**SPH LAKES Bigger & Smarter**

[www.splashkr.com](http://www.splashkr.com)  
E-mail : yejinsp@unitel.co.kr

**SwimLabs**  
Swim School KIDS COMPETITIVE TRIATHLETE

FIND SWIMLABS IN  
CALIFORNIA  
COLORADO  
ILLINOIS  
UTAH  
VIRGINIA  
WASHINGTON

**FASTER SWIMMERS START IN THE LAB.**

Find out more and register today at [swimlabs.com](http://swimlabs.com)  
Visit [swimlabsfranchise.com](http://swimlabsfranchise.com) for more information about owning your own SwimLabs

# UP & COMERS

## AGE GROUP SWIMMER OF THE MONTH

BY TAYLOR BRIEN

# ROBERT FINKE

**R**obert Finke, 15, of St. Petersburg Aquatics has been making quite a splash recently, excelling in short course, long course and open water competition. The youngest of three swimmers, it's clear chlorine runs in the veins of the Finke family. Older sisters, Autumn (junior) and Summer (freshman), swim for the University of Florida and Florida State University, respectively.

With both sisters off to college, this is Finke's first season without the leadership of an older sister. However, head coach Fred Lewis says, "He has accepted the challenge, and he leads by example in the pool and on dryland sets."

This past year was a year of firsts for Finke. He competed in his first Arena Grand Prix meet, first open water nationals and first senior nationals. At the Orlando stop of the Arena Pro Swim Series, Finke qualified for next year's U.S. Olympic Trials by clocking 15:46.39 in the 1500 meter freestyle.

In April, he competed in the U.S. Open Water 5K National Championships and was crowned the 18-and-under champion with a time of 57:51.01. Recently, he was asked to attend the National Select Camp in Colorado Springs.

When he's not in the water, Finke enjoys making his own pepperoni pizza and spoiling the family's 13-year old Irish Setter. ❖



[PHOTO PROVIDED BY EDDIE FINKE]

Robert Finke (middle) with sisters (from left), Summer and Autumn

SPONSORED BY



### WHAT IS THE BEST THING YOU DO IN SWIMMING?

Pulling and kicking.

### WHAT ARE SOME OF THE TOUGHEST SETS YOU'VE DONE?

This is my goal set

- 10 x 200 free
- 6 x 200 reverse IM

Rest

- 3 x 200 breast/backflly

Rest

- 1 x 500 free w/paddles

- 10 x 75 stretch free

- 3 x 100 breast/backflly

Rest

- 1 x 1000 free with paddles

- 10 x 75 stretch free

- 4 x 50 fast breast/backflly

Rest

- 1 x 1500 free w/paddles

- 10 x 75 stretch free

- 8 x 25 fast breast/backflly

Rest

- 1 x 2000 free with paddles

- 10 x 75 stretch free

- 8 x 50 warm-down

### WHAT IS YOUR FAVORITE THING ABOUT SWIMMING?

The people-meeting and making new friends, the families and coaches.

### WHAT ARE YOU MOST LOOKING FORWARD TO THIS YEAR?

Olympic Trials.

### WHO IS YOUR SWIMMING IDOL...AND WHY?

My sisters, Autumn and Summer...because they have been there for me my entire life.

### WHAT ARE YOUR FAVORITE HOBBIES?

I like to play chess a lot...plus I try to beat my sisters at different games.



# PARTING SHOT



## 80 IS THE NEW 70!

**PICTURED** > The previous age record for crossing the Catalina Channel was set by six men in their 70s in 2013. This past September, seven men—all in their 80s—clocked 12 hours 15 minutes to become the oldest people to complete the 22-mile swim. After their crossing, the record breakers (from left) posed on the beach near San Pedro, Calif.: Graham Johnston, David Radcliff, Bob Beach, Don Baker, Norman Stupfel, Bob Best and Bill Spore.

[PHOTO BY CHERYL HUBAY]