

OPEN WATER ISSUE

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SWIMMING WORLD

INSPIRING STORIES

About Paralympians
Jessica Long
& Brad Snyder

FUTURE OF WADA:

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Open water swimmers enter the water for the start of the women's 10K marathon swim in the Rio Olympics at Fort Copacabana. The Netherlands' Sharon van Rouwendaal captured the gold medal and was named Swimming World Magazine's 2016 Female Open Water Swimmer of the Year. A Dutch swimmer was also named the male SOY—Ferry Weertman—who along with van Rouwendaal, became the first swimmers from the same country to sweep Olympic gold medals in Olympic swimming's longest race. (See feature, page 16, plus other open water-related stories on pages 19, 22, 46 and 48.)

[PHOTO BY JACK GRUBER-USA TODAY SPORTS]

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SWIMMING WORLD BIWEEKLY: THE BEST OF THE WEB

BY BRENT T. RUTEMILLER

On January 20, 2015, *Swimming World* introduced *Swimming World Biweekly* to digital devices around the world. Forty issues later, we are proud to announce that the concept of producing a biweekly magazine dedicated to aquatic sports has been an overwhelming success.

When others in the publishing industry were moving away from the magazine format, *Swimming World* doubled down and became the first in the sports industry to publish a biweekly digital-only magazine dedicated to aquatic news and stories that have appeared on its website.

I first announced our decision to produce 24 additional magazine issues per year in addition to our 12 monthly *Swimming World Magazine* print issues at the ASCA World Clinic in September of 2014. The announcement raised eyebrows.

At the time I said, "Internet news is fleeting. *Swimming World* posts more than 100 stories a week. Sometimes, we post close to 300 stories every two weeks. People just can't keep up with it all and often either miss the news or have to go back and search for it.

"*Swimming World Biweekly* will be designed to aggregate the top internet stories into a magazine format allowing people to catch up on important news stories every two weeks."

I predicted back then, "The day will come—and I think it will be soon—where people don't want to be connected to their mobile devices 24/7. *Swimming World Biweekly* will be poised to bring them the top stories that they missed."

We at *Swimming World* are happy to report that the gamble paid off—not only for

our users, but for our advertisers. Today, *Swimming World Biweekly* is viewed by more than 250,000 people each month and continues to be offered as a free publication to all of our visitors. Total Access members can quickly download each issue through the *Swimming World Magazine* Vault.

Swimming World Biweekly was designed by Joe Johnson, *Swimming World's* newest graphic artist. "We are still getting our feet wet with each issue," Johnson said. "As we move forward, we fully expect the magazine to continue to expand with each issue. We also expect to learn more about what remains newsworthy two weeks after it is posted. The entire process is meant to

keep news alive, but more importantly, allow us to bring news to our readers instead of having to search for it."

The monthly print version of *Swimming World Magazine* will continue to provide unique content centered on features, analysis, training, technique, nutrition, commentary and perspectives.

Now, with the addition of 24 biweekly editions to the 12 monthly print editions, a version of *Swimming World Magazine* can now be read 36 times a year. No other publication in the sport of aquatics offers readers more than *Swimming World Magazine*.

Thanks for your support...and happy reading! ❖



Brent T. Rutmiller
Publisher of Swimming World Magazine



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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

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DAVE ROBERTSON



PICTURED > “This photo shows dad in the pool doing what he considered as important as anything: teaching the children of the township to swim—boys and girls equally. The New Trier system he perfected was copied nationwide and worldwide. Actually, it was rare for him to do the actual teaching. The Guards did that, either from the deck or in the pool with the ‘first-graders.’ I am proud to say that I, too, became Head Guard my senior year (1970-71), and cherish my experiences teaching swimming to little kids.”

—Dave (Duke) Robertson, son of David H. Robertson

(Above: Coach Robertson with Betsy Burson—circa 1960s— who later attended New Trier. Betsy’s brother, Bill—New Trier ‘62, a Guard and distance swimmer—was a high school All-American in the 200 and 400 freestyles.)

New Trier (Winnetka, Ill.) Township High School coach David H. Robertson resides in the pantheon of American swim coaches. While he later coached at Waubonsie Valley High School (Aurora, Ill.), to many younger coaches, he is an unfamiliar name. Soon to be 91, Robertson has a resumé marked by achievement and influence that has extended well into the 21st century. Let us count the ways:

In 1944, Robertson was an all-state and All-American backstroker on New Trier’s state championship team. In March 1946, he was lured away from the University of Michigan by his long-time mentor, Edgar B. Jackson, to accept his dream job of coaching at New Trier.

Over the next 30 years, his teams won 14 state titles, finished second 12 times and third three times. His squads were undefeated from 1946 to 1951, and in time, accumulated 475 varsity meet victories. Robertson steered more than 150 individuals and 47 relays to All-American status while guiding his swimmers to 65 national high school records.

For many years, his 1961 squad was considered the best high school team ever assembled. Eleven athletes from that team were named high school All-Americans. Two—Fred Schmidt (gold, 4 x 100 medley relay; bronze, 200 fly) and Dave Lyons (gold, 4 x 200 free relay)—earned medals at the Tokyo Olympics in 1964. Along with teammates Dale Kiefer (son of Olympic champion Adolph Kiefer), Roger Goettsche and Terry Townsend, they set 10 high school national records. At the 1961 AAU Championships, New Trier finished third—behind two college teams, Yale and Indiana University.

QUALITIES OF EXCELLENCE

Robertson was highly organized, a disciplinarian and a devoted student of the sport. He was keenly influenced by training methods he observed at Yale, and he applied the revolutionary interval training techniques adapted by Roger Bannister to swimming. Repeats of varying lengths, six-beat kicks, stroke and dryland strength work were program staples. By the mid-’60s, he regularly filmed his swimmers, insisting that they become technically excellent.

He was also a master motivator: New Trier swimmers were expected to “rise to the occasion.” Robertson had conversations with the likes of George Haines, and stayed current on times being posted by California high schoolers, especially those at Nort Thornton’s Los Altos High—and he made sure his swimmers knew those times as well. Later, Los Altos alum and Olympian Steve Clark joined Goettsche, Kiefer and Lyons at Yale.

Outside Robertson’s pool office was Jackson’s motto, “What I am to be, I am now becoming.” Robertson added three words: “Try for excellence.”

In that pursuit and to demonstrate that athletes could perform beyond their own expectations, he promised them a special Saturday. Asking for lifetime bests, he held a morning time trial. Hours later, New Trier blew out Iowa state champion Clinton in a regular dual meet. The team then capped off the day with another time trial, in which many swimmers again produced best times.

Several weeks later, he had Schmidt swim a 100 yard fly using fins. The junior clocked a 53. Robertson told him in his senior year, he’d go that fast without fins. Fifteen months later, Schmidt went 52.7, setting a national high school mark. Six months after that and Indiana-bound, he set a world record in the 100 meter fly (58.6).

Sports Illustrated profiled that team, Robertson’s best, in April 1961. In the article, he said, “I love to win.” To his charges and opponents, especially Coach Dobbie Burton of arch-rival Evanston High School, that sentiment was never in question.

— continued on 12

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- Gregg Parini, NCAA Coach of the Year



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MORE THAN A SWIM COACH



But he was more than just a swim coach. He was a teacher whose mission was the development of young people, accomplished largely through the New Trier Guard. To this select cadre of boys and girls, he conferred responsibility with the expectation that they would develop not only as outstanding swim instructors, but also school and community leaders at New Trier and beyond.

The Guard epitomized The New Trier Swimming Organization. Its members were life-guards and taught the township to swim in Saturday morning and summer swim programs. Robertson created and refined the station method of teaching swimming to great effect. “I used swimming as the device to make kids stand a little straighter,” he says, considering the Guard “my greatest contribution to aquatics.”

There were other accomplishments as well. New Trier Swim Club summer workouts and August canoe trips to Canada strengthened team camaraderie and served as off-season conditioning. In the late '40s, he began taking New Trier swimmers to Fort Lauderdale for Christmas training sessions, a tradition that grew to include families. There he linked with the College Swimming Coaches Association Forum, which ultimately developed into the International Swimming Hall of Fame, expanding his service to the wider aquatic community.

LEADERSHIP ROLES

Robertson immersed himself in leadership roles, serving on 18 local, national and international swimming committees and organizations, including as a longtime member of the college and high school rules committees. He served as president of ISHOF from 1975-77 and at least a dozen other organizations making up the Council of National Cooperation for Aquatics. He was inducted into ISHOF in 1989, and in 1991, he became the first swimming coach inducted into the National High School Hall of Fame. For years, he participated in swim clinics around the globe in the role of manager for many USA Swimming teams at international events from the 1980s into the 2000s.

Robertson is linked intrinsically with the National Interscholastic Swimming Coaches Association. For decades, he served in all of NISCA's offices, acting also as the swimmers' well-informed national high school liaison to and between the Olympic Swimming Committee, the Boy Scouts, Red Cross, National Federation of High Schools, College Swimming Coaches Forum and the NCAA, among others.

To this day, NISCA presents the David H. Robertson Excellence in Coaching Award to high school coaches whose teams have won five state championships. For his many leadership services, he also was given the Silver Beaver, the highest honor conferred by the Boy Scouts of America.

Dave Robertson: teacher, winner, leader, legend. ❖

Michael J. Stott is an ASCA Level 5 coach whose Collegiate School (Richmond, Va.) teams have won nine state high school championships. He has been named a 2017 recipient of NISCA's Outstanding Service Award.

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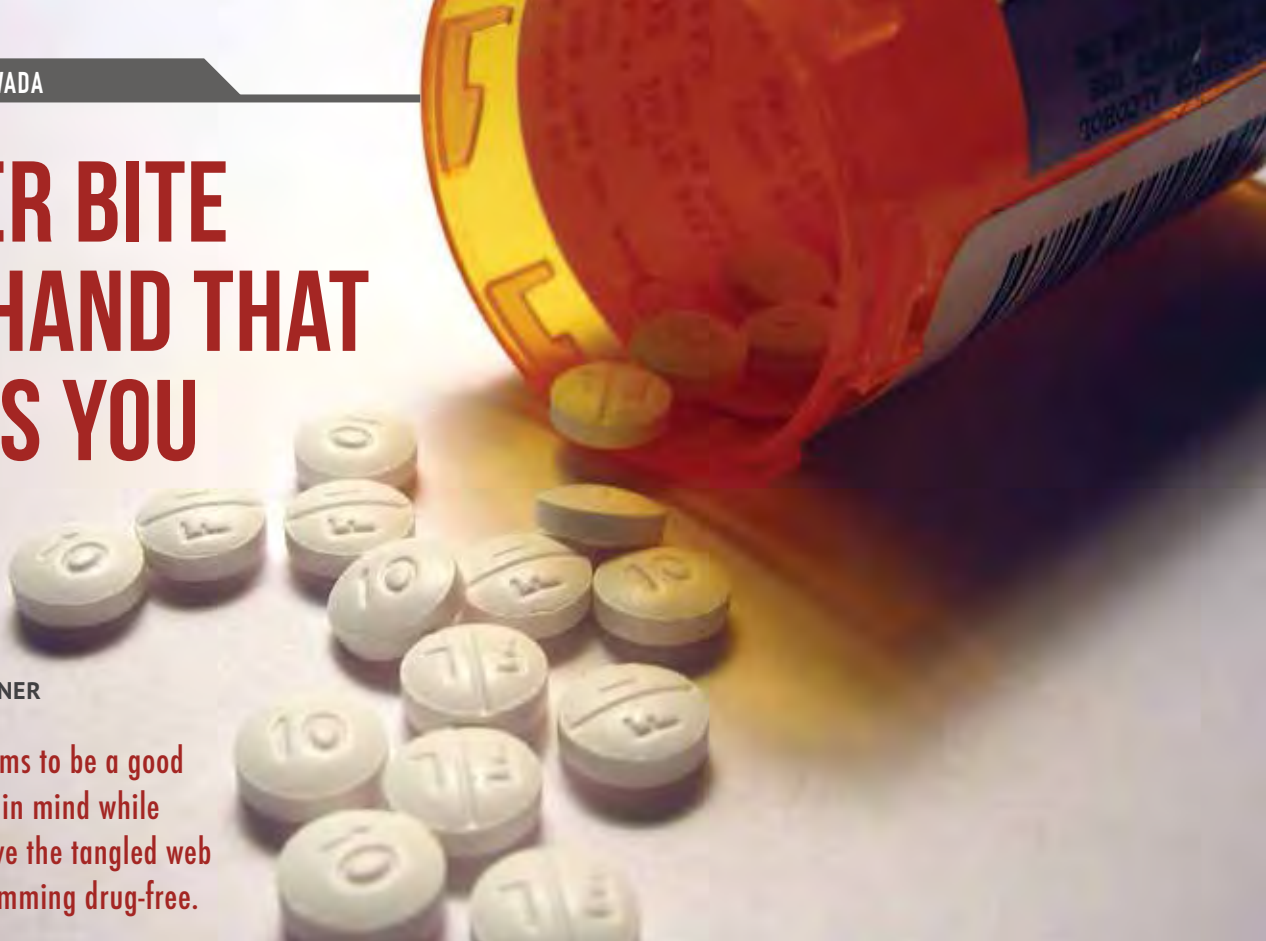
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NEVER BITE THE HAND THAT FEEDS YOU

BY CHUCK WARNER

This adage seems to be a good theme to keep in mind while trying to resolve the tangled web of keeping swimming drug-free.



Once upon a time, we would joke that “swimmers were the cleanest kids in town.” After all, they swam nearly every day in chlorinated water, and most swimmers added a shower to boot! But this summer in Rio, the stories of doping and, thus, “dirty swimmers” rightfully grabbed the headlines of news outlets worldwide.

Why should we care whether athletes use performance-enhancing drugs? In short, sports are about excelling with mind and body within a set of rules. Without rules, there is no game, and there is no sport.

Remember the adage, “Never bite the hand that feeds you”? Keep that in mind as you read further.

The media contracts, bid fees and branding fees feed the International Olympic Committee (IOC) and the international sports federations with 90 percent of their funding. The IOC feeds the sport federations—which, for aquatics, is FINA—and the various countries’ federations such as the United States Olympic Committee (USOC). The USOC feeds USA Swimming \$5 million a year.

Openly drugged athletes aren’t good for branding and broadcasting, and, therefore, aren’t good for the IOC image nor the IOC budget. In order to keep their sports “clean,” in 1999 the IOC established WADA (World Anti-Doping Agency) to establish codes for “clean sport” and help affirm the legitimacy of government-run, anti-doping agencies such as the USADA in the United States.

WADA is funded about 50 percent by the IOC and about 50 percent by governments around the world.

When WADA discovered that the Russian government had been systematically doping its athletes—and covering up those positive tests—Russian president Vladimir Putin argued for Russian participation in the Rio Olympics, saying, “...(it would) diminish the spectator value of the forthcoming events.”

And from there, the circle flows.

Russia had paid huge sums of money to the IOC to host the 2014 Winter Olympics in Sochi and the 2015 FINA World Swimming Championships in Kazan. By not banning Russian athletes from

participating in the Rio Olympics, the IOC directly avoided biting “the hand that feeds them.” Instead, it gave convoluted authority and formulas to FINA to make the decision.

Was FINA willing to bite the hand that fed them? No.

With this in mind, it’s easier to understand the logic of WADA president Sir Craig Reddie from Great Britain, who recently called on their funding to be derived from five percent of an estimated \$35 billion annual media rights fees to generate a budget of \$175 million for anti-doping efforts. This would dramatically increase WADA’s \$30 million budget and potentially remove governments from biting the hand that feeds WADA.

Reddie, who also serves as an IOC vice president—tangling this web even further—recognizes the cycle of money when he warns, “As sports integrity is increasingly under threat, it is the fans—the very people who turn on the television to watch sport—who will tune out and directly affect the broadcasters.”

However, WADA is struggling not only to increase its independence, but also to survive in this process. If it survives, then the next step should be to look inside its own testing process. Many view their current labs as using methodology from the 1970s, when there is more recent technology that relies more thoroughly on “High Throughput Testing” that can be done as easily as with a puff of the breath.

Why not update the testing methodology? We go back to the earlier adage. The sport labs that WADA feeds with money for their work would have to do expensive re-tooling to update their testing. And those profiting from the use of their labs for testing might become obsolete.

If WADA lives, is it likely that it will insist on revamping the labs with a more complete use of “High Throughput Testing” that would much more likely catch the cheaters and expose countries if they support doping? Unfortunately, it is likely to depend upon whether or not WADA would be biting the hand that feeds it. ❖

SWIMMING TECHNIQUE MISCONCEPTIONS:

NATURAL TALENT

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.

This month’s article was inspired by a chapter in the recently published book, “Peak,” by Dr. Anders Ericsson, who developed the “deliberate practice” concept. His research identified the essential practice strategies necessary to develop expertise. His chapter on natural talent addresses the misconception that some individuals excel because of natural talent. Instead, Ericsson explains that:

- *Exceptional performance is the result of practice;*
- *An initial advantage (often identified as natural talent) is usually due to intelligence or age relative to peers; and*
- *There is a dark side to even believing in natural talent.*

EXPLAINING EXCEPTIONAL PERFORMANCE

Ericsson first presented the concept of deliberate practice in 1993. He determined that a number of practice strategies in a wide range of activities were common to expert performers, such as: clear instructions, appropriate task difficulty, a sufficient number of repetitions, individualized supervision, immediate feedback, a variety of learning strategies, maintaining focus in the first two learning stages (cognitive and associative), and replicating superior performance.

He explained that deliberate practice was the *type* of practice necessary for exceptional performance, and that a considerable *amount* of practice was necessary, which varied by activity.

In “Peak,” Ericsson explains that deliberate practice is necessary even for those described as “natural talents.” He details the facts behind the performance of three “natural talents”: Paganini (violinist), Mozart (composer) and Donald Thomas (high jumper). In each case, he refutes the designation of “natural talent” and presents, instead, the record of extensive practice responsible for their exceptional performances.

For example, Mozart’s accomplishments as a composer at a very early age are well publicized. However, Ericsson notes that Mozart was well into his teenage years before his achievements could be solely attributed to him without the help of his music teacher/composer father.

This means he had about 10 years of closely supervised practice (which, because of his father, was quite likely deliberate) before he began to make his noteworthy accomplishments.

While Mozart is a very recognizable example, Ericsson reports a similar type and amount of practice by those recognized as experts in many fields. The takeaway message is that even a swimmer who appears to have natural talent will probably need a decade or more to achieve an “expert” level of skills. And this is only if he/she practices deliberately for that entire time.

AN INITIAL ADVANTAGE FROM INTELLIGENCE OR AGE RELATIVE TO PEERS

There are some younger individuals who rapidly achieve an impressive level of performance and, as a result, are then identified as a natural talent. Ericsson argues that an initial rapid improvement is often due to one of two factors: intelligence or age relative to peers.

Ericsson acknowledges that in studies of children playing chess, “Those with higher IQs do, indeed, become better players faster.” However, studies of elite players clearly showed that a higher IQ was not the critical factor in achievement. Beyond that initial advantage attributed to intelligence, “Practice is the key factor in success.”

Similarly, young Canadian hockey players lucky enough to be born in the first few months of the year have a body size and coordination advantage over their peers. Consequently, coaches are likely to identify these players as more talented, resulting in “more praise,” “better instruction” and “more opportunities to play in games.” However, Ericsson explains that “in the long run, it is the ones who practice more who prevail, not the ones who had some initial advantage in intelligence or some other talent.”

In a 2006 study on swimmers, Dr. Genadijus Sokolovas also found that early success did not predict later elite performance. He found that of the swimmers ranked in the top 100 as a 17-18-year-old, only about 10 percent had been ranked in the top 100 as a 10-and-under age grouper (see Fig. 1, next page). He offered two possible explanations: “early biological maturation and/or an inappropriate training volume at a young age.”

It is easy to imagine that a coach would consider a relatively larger body size and the ability to handle an increase in workload as “natural talent.” However, the early signs of exceptional performance were generally neutralized in less than seven years, calling into question their practice habits.

FIG. 1 > (RIGHT)

This chart takes the top 100 swimmers from the women's and men's 17-18 200 IM in 2006 and shows how many of those swimmers also ranked among the top 100 when they competed in younger age groups.

THE DARK SIDE OF BELIEVING IN NATURAL TALENT

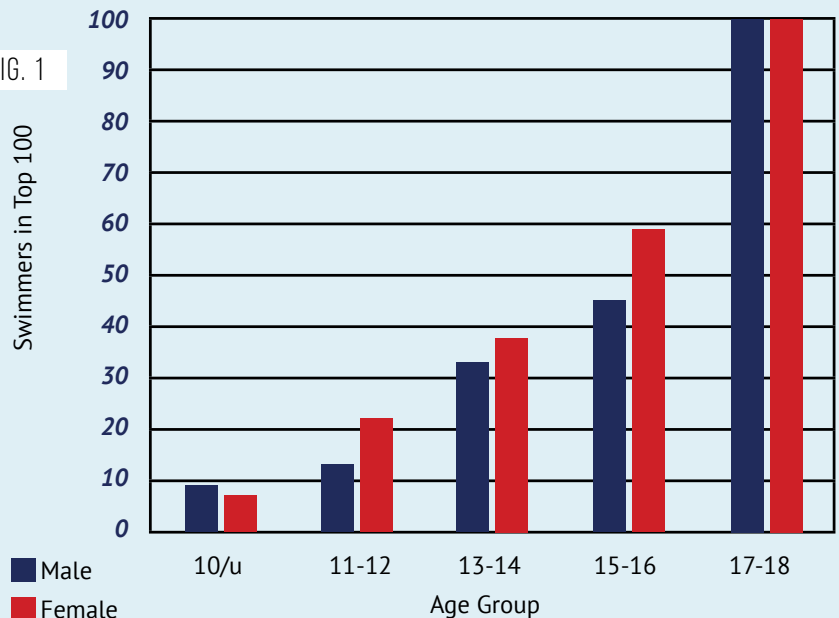
The most emphatic message in Ericsson's chapter relates to the danger of "believing in natural talent." He believes there is an "urgent reason to emphasize the role of practice over that of innate differences, and that is the danger of the self-fulfilling prophecy." If someone is not identified as naturally talented, he/she is often "encouraged to try something else."

In swimming, it is probably unheard of for a coach to encourage a child to abandon the sport. Most swim coaches are sincerely dedicated to helping every one of their swimmers progress. However, the course of action that results from identifying natural talent can have an inadvertent effect and limit the progress of a swimmer not classified as a natural talent.

A swimmer who does not initially exhibit an impressive level of talent would probably be relegated to train in a beginning group with the least experienced coach on the team. The swimmer would undoubtedly have less training time, less skilled instruction and less practice (with less chance of any deliberate practice). Most importantly, the swimmer's friends who are recognized as more talented would likely be promoted to higher-level training groups. Since being with friends is one of the top reasons that swimmers stay in the sport, the logistics that result from "believing in natural talent" drives many swimmers who are not "natural talents" out of the sport.

It is easy to understand why a coach in any sport would want to recognize and cultivate "natural talent." However, according to Ericsson, the temptation to produce an exceptional performer quickly is the equivalent of a force from the dark side. Even the most successful swimmers need extensive, deliberate practice to achieve the highest level of performance. ❖

FIG. 1



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. All scientific documentation relating to this article, including scientific principles, studies and research papers, can be provided upon demand.

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The Netherlands' Sharon van Rouwendaal joined Russia's Larisa Ilchenko (3) and Great Britain's Keri-Anne Payne (2) as the only women to have earned multiple Open Water Swimmer of the Year titles. Van Rouwendaal also won in 2014.

2016

OPEN WATER SWIMMERS OF THE YEAR

[PHOTO BY ERIC SEALS-USA TODAY SPORTS]

BY ANNIE GREVERS

Sharon van Rouwendaal and Ferry Weertman of the Netherlands were named *Swimming World's* 2016 Female and Male Open Water Swimmers of the Year after sweeping Olympic gold medals in the 10K marathon swim—the first time swimmers from the same country had accomplished that feat. The Netherlands has now won a record five SOY titles, tying them with Germany.

SHARON VAN ROUWENDAAL, NETHERLANDS

Female Open Water Swimmer of the Year

At the 2011 World Championships in Shanghai, the Netherlands' Sharon van Rouwendaal won the bronze medal in the 200 meter backstroke. The following summer, she swam both the 100 and 200 back at the London Olympics.

In 2014, the Dutch backstroker competed in her first open water race. Two years later, she took home gold in the 10K at the Olympic Games in Rio. How does one make such a seamless transition from pool swimming to open water swimming?

TRAINING FOR THE LONG HAUL

In 2013, van Rouwendaal needed a change. She uprooted from her homeland to grind out yards under “the crazy French coach,” Philippe Lucas. Under Lucas' tutelage, van Rouwendaal reaches 90 kilometers of training per week—ten three-hour swim sessions, two gym sessions and one running session.

“There is no warming up,” van Rouwendaal said. “Everything

is fast. If you don't swim fast—Philippe yells at you. You always have pain everywhere, but I like it because I get out of the water feeling satisfied.”

Van Rouwendaal said she lacked this satisfaction after her practices in Holland. They were more sprint-centric, and the distance-minded swimmer never felt she was doing enough to finish her races.

In 2014, she was alone in France, often wondering if the risk she was taking would pay off. Her answer came at the 2014 French Championships. Lucas had encouraged his Dutch protégé to give open water swimming a try. She had been training for the 400 and 1500 meter freestyle events, so Lucas thought she might surprise herself.

Van Rouwendaal won the 10-kilometer race by three minutes. Among her competitors was French swimmer Aurélie Muller, who would go on to win the 10K at the 2015 World Championships and be named *Swimming World's* 2015 Female Open Water Swimmer of the Year.

“I thought, ‘What is this? I won my first race. Wow—this is

nice! I like this,” van Rouwendaal recalled.

Her second race came at the 2014 European Championships in Berlin. This time, she faced the defending Olympic champion in the 10K, Hungary’s Éva Risztov.

The open water rookie touched first. “I beat the Olympic champion...I thought, ‘This could be interesting—I seem to be really good at this, I’m making smart choices (in the race), and it comes naturally,’” van Rouwendaal said. She won another gold as part of the Dutch 5K relay, then took silver in the 5K individual event.

By year’s end, she was named *Swimming World’s* Female Open Water Swimmer of the Year.

As van Rouwendaal’s open water talent was quickly unveiled, her pool swimming did not fall by the wayside. She swam a 4:03.76 in the 400 free to garner silver behind Great Britain’s Jazmin Carlin at the 2014 European Championships in Berlin. That meet served as a springboard into 2015: van Rouwendaal had never trained faster or felt stronger.

At the 2015 World Championships in Kazan, Russia, the emerging open water star took fourth in the 5K, second in the 10K (behind Muller), and second in the 400 free (behind the unbeatable American, Katie Ledecky). The silver in the 10K had qualified her to swim the event at the 2016 Olympic Games in Rio. Van Rouwendaal was overjoyed.

SHOULDERING A NEW BURDEN

In October of 2015, van Rouwendaal began feeling discomfort in her shoulder. She shrugged it off for two months, but by December, she couldn’t swim 50 meters without excruciating pain. She needed *rest*—a word that makes distance swimmers writhe. Van Rouwendaal stayed dry for three weeks before returning to the pool.

“With Philippe (Lucas), it’s hard—he wanted to begin with six to seven kilometers after Christmas vacation,” she said.

The pain didn’t go away. Van Rouwendaal tried to psyche herself up, but she kept comparing her times to those from 2015, and it began to destroy her confidence.

“In April (2016), I thought, ‘OK, I have three months left. I can’t do this.’” Van Rouwendaal dealt with depression as she tried to continue her preparations for the Olympic Games.

A month prior to Rio, the 23-year-old competed in the 10K at the European Championships in Hoorn, a town in North Holland. She was winning until the final 20 meters—van Rouwendaal went to the right of the buoy—rather than left—and swam away from the finish line. She came in fourth. “I lost in my own country,” she said. “I’m sure people thought, ‘How stupid can she be? She misses the buoy one month before Rio?!’”

But the fourth-place finish made van Rouwendaal an underdog going into the Olympic Games—a role she fully embraced.

Her pool performance in Rio was sub-par. She swam a 4:11 in the 400 free, eight seconds off her best time. Her speed was not there, but the rhythm and stamina she needed for open water was. She scratched her 800 free to prepare for the 10K.

“I was a little stressed before my race, but a good stressed,” she recalled. “All the girls had a lot of pressure on them, but nobody pressured me because I was the ‘Loser of the Year.’”

During the race, van Rouwendaal’s mind was lively: *What are they doing? They’re like sardines on each other!*

“At the 6K, we were all next to each other. I thought, ‘What are we doing?! Let’s try something—what do I have to lose?’” she recalled.

She upped her pace for 100 meters, then took the lead.

“I was in front for 45 minutes, and every second was really long—it was horrible! Everybody is following you, and you don’t

know if you’re going to die at the end.’”

With 200 meters to go, van Rouwendaal saw the Chinese, Brazilian and Italian competitors chasing her.

This is when the Dutch swimmer’s stalwart mental game—acquired through thousands of hours of treacherous training—came into play.

“They can’t keep up because they need each other,” van Rouwendaal thought. She was hopeful. With 1500 meters to go, she realized, “They don’t have my wave—I can do this.”

She chanted to herself: *I train the hardest...Three years with Philippe...Only 400 to go...Stay focused.*

Van Rouwendaal cruised the last five strokes. Then “I touched the finish plate like I was going to kill it,” she said. Her time: 1 hour, 56 minutes, 32.1 seconds—17 seconds faster than silver medalist Rachele Bruni of Italy.

“I won that race mentally,” van Rouwendaal said. “Who else is going to swim 4K in front of the pack at the Olympic Games?! That’s crazy. But at the moment, it felt right.”

The new Olympic champion ruminated on the sacrifices she had made, the rivals who had written her off as well as the coaches and family who had lifted her up throughout her career. The tumultuous year van Rouwendaal was dealt leading up to the Games may have not translated into Olympic gold for any other athlete. But the path requiring the utmost perseverance gave the versatile Dutch talent the grit she needed to conquer the world in Olympic swimming’s longest race. ❖

— continued on 18

Sharon van Rouwendaal



[PHOTO BY ERIC SEALS-USA TODAY SPORTS]

FERRY WEERTMAN, NETHERLANDS

Male Open Water Swimmer of the Year

Ferry Weertman



[PHOTO BY KYLE TERADA - USA TODAY SPORTS]

Ferry Weertman of the Netherlands knows that a lot can happen over the course of 10 kilometers in open water. Weertman found the turbulent alternative to the pool after missing out on the 2009 European Junior Championships in the 800 meter freestyle. The then 17-year-old was told his time in the 800 was fast enough for pre-qualification in the open water department.

“That’s how I rolled into the open water,” Weertman recalls. “The first year at juniors wasn’t great—I finished 26th (in the 5K). But the year after (in 2010), I moved to Eindhoven to improve my swimming, and I finished third.”

Weertman was always more of an endurance swimmer in the pool, but he says, “The 400 is my best distance in the pool, not the 1500—like most people expect.” The speed involved in the 400 certainly played a role in Weertman’s tremendous success in Rio.

The 24-year-old went out with the pack in Rio, but trailed Australian Jarrod Poort, who led the field for the first nine kilometers of the race. In the final 1,000 meters, Weertman passed Poort and allowed himself to think: *Maybe I can win...*

“I had a small gap (between myself and second) and was feeling good. But about 200 meters later, everything changed. Jordan Wilimovsky (of Team USA) had closed the gap and was swimming next to me. About 50 meters later, we were swimming with six or seven guys next to each other,” Weertman recounted.

“So it was a totally different race, and I knew I had to save energy and wait for the right moment. When I saw (Greece’s) Spyridon Gianniotis (starting to) swim away, I knew it was now or never.”

Weertman engaged that foreign cluster of fast-twitch muscle fibers in the final 200 meters and had what he called “the perfect finish,” which proved to be the difference between gold and silver. The Netherlands had taken gold in both the men’s and women’s open water races. The sea of orange-clad fans went wild on the shores of Copacabana.

CONTROVERSY AT THE FINISH

The Olympic gold medalist said he was inspired by the presence of his friends and family at the start of the race, but the impression his gold medal left on his country wasn’t fully realized until Weertman landed in Holland.

“The most crazy part was when I got back home and heard how many people watched the race on TV and how exciting they thought the open water swimming was,” Weertman said.

Yes, marathon swimming is not often thought of as the nail-biter of sporting events, but Rio’s races proved to be as unpredictable as the pool’s 50-meter splash-and-dash. Both the men’s and women’s marathon swims came down to the final 25 meters.

Weertman’s duel in the final straightaway was with Olympic veteran Gianniotis. Rio was the Greek swimmer’s fifth and final Olympic appearance.

“Spyros”—as the veteran power is known—had a decisive lead over the pack of swimmers who were voraciously clawing for a top-three finish. Then, in the final 30 meters, one competitor started finding clear water to the left of Spyros.

Weertman claimed he had the perfect finish, and when you re-watch the footage of the final touch, there’s no other way to describe the Dutchman’s impeccably-timed slap of the touchpad.

Controversy ensued after the race, though, as Gianniotis was initially declared the Olympic champion despite the explicit video footage showing Weertman squarely hitting the touchpad nearly a second before Gianniotis.

The confusion came because the Greek swimmer’s body seemed to cross the finish line before Weertman’s, but the elevated touchpad is what decides the winner in an open water race.

Finish judges deliberated for 15 minutes before eventually declaring Weertman the winner of the Olympic gold medal. Both swimmers were credited with the same time—1 hour, 52 minutes, 59.8 seconds—but Weertman’s exquisite touch merited gold.

“Spyridon is definitely an inspiration to me,” Weertman said. “He’s been one of the best open water swimmers in the world for 10 years!” At 36, Gianniotis was the oldest man in the field. He had won a medal on nearly every international stage, but an Olympic medal had eluded him until the 2016 Games. The medal was also Greece’s first in swimming in 120 years. Joannis Andreou was second in the 1200 meter freestyle—the longest race that year—at the inaugural 1896 Summer Games in Athens.

Weertman couldn’t wrap his mind around being in the sport for another 12 years and compete at the age of 36 like Gianniotis: “Twelve years is a long time—let’s try to get to Tokyo (in 2020) first!”

The Olympic champion trains in Eindhoven with famed Dutch coach, Marcel Wouda, who has 25 international medals to his credit, including a bronze medal in the 800 free relay at the 2000 Sydney Games.

Weertman can serve as inspiration to anyone who doesn’t have access to open water for training. He trains solely in the pool, but the meters put in are not for the faint of spirit. A typical week consists of 75 kilometers, with peak training reaching 90 kilometers per week. Weertman says much of it is “easy pace,” but we can imagine his definition of “easy pace” most likely equates to a grueling rate for most swimmers.

He shares pool space with female sprinter Ranomi Kromowidjojo, the 2012 Olympic champion in the 50 and 100 free (and who also happens to be Weertman’s girlfriend). “I sometimes look at how she sprints, but I don’t think I’d win a 50-meter battle,” Weertman admits. The marathoner does include a pinch of sprinting in his workouts, which evidently paid off big-time in those final 20 meters of the open ocean waters course at Copacabana. ❖

Memorable

OPEN WATER HIGHLIGHTS OF 2016

BY DAVID RIEDER

Two beautiful Brazilian mornings at Copacabana Beach, two exciting 10-kilometer races and two orange-clad swimmers winning gold for the Netherlands. But the gold medalists were only part of the story. The Rio Games provided open water swimming its biggest stage, and there was controversy... and there was heartbreak. The Olympics leads off our countdown of the top five open water stories of 2016.

1. CONTROVERSY REIGNS AT THE FINISH OF OLYMPIC 10K RACES

Sharon van Rouwendaal won gold in the women's 10K by more than 17 seconds—eight times the combined margin of victory from the previous two Olympic marathon races combined. But the battle for silver was intense, with France's Aurélie Muller, Italy's Rachele Bruni and Brazil's Poliana Okimoto battling down the stretch.

Muller and Bruni were head-to-head as they approached the finishing pad, but Muller, though inside the finishing shoot, was too far left to hit the pad properly and on course to crash into a buoy.

Muller ended up swimming right on top of Bruni as the two came to the finish. Muller touched 8-tenths ahead, but was immediately disqualified—leaving Bruni with the silver medal and Okimoto with the bronze, Brazil's only medal of the Games in swimming.

The men's finish was even nuttier as Greece's Spiros Gianniotis appeared to have the lead on the Netherlands' Ferry Weertman coming down the finishing shoot. But Gianniotis missed the pad when he reached up the first time, leaving Weertman an opportunity to take advantage and win gold by less than a tenth of a second.

Great Britain's Jack Burnell touched third, apparently for the bronze, but he was disqualified after he knocked Tunisia's Ous



Mellouli's arm away after Mellouli grabbed his leg. Both men earned yellow cards for the infraction, but the violation was Burnell's second, and so he was done.

After the race, a furious Burnell blamed Mellouli for the loss of his medal, and no one could figure out exactly what he had done to earn his first penalty of the race.

2. JARROD POORT GOES FOR BROKE, PAYS THE PRICE

The drama at the finish of the men's 10K in Rio distracted from what had been the story of the race for the first hour and 50 minutes: Australia's Jarrod Poort and his bold gamble.

"I hatched this plan after my qualifying race in Portugal," Poort said. "I knew I was fit—I'd done a lot of work. Everyone trains to finish fast—no one trains to go from the start—so I thought I'd switch it around."

Rather than hanging with the pack to conserve as much energy as possible for the finishing sprint, Poort pressed the gas pedal right away and jumped out to a lead of al-

In a controversial finish for the silver medal in the women's Olympic 10K Marathon Swim, Italy's Rachele Bruni went from third place to second after France's Aurélie Muller was disqualified for interfering with Bruni as the two came to the finish. (Pictured: Bruni, facing camera, receives a congratulatory hug from Germany's Isabelle Härle, who finished sixth.)

most a minute after the first of four laps of the 2.5-kilometer course and then pulled away even more by the halfway point.

But the chase was on as Poort started hurting during Lap 3, and Weertman was the first to pass him—about halfway through the fourth and final lap of the course.

Poort was completely out of contention before long. In the end, he came in 21st out of the 23 men who finished the race legally.

"It's a bummer. I used a lot of heart... I was hurting at the end. I could smell it—couldn't quite taste it. Just couldn't hang on," Poort said. "I'm pretty shattered because I know I'm better than that. I just hope I did my country proud."

— continued on 20



Australia's Jarrod Poort swam all by himself for the first hour and 50 minutes of the men's Olympic 10K Marathon Swim. After building up a sizable lead with his jackrabbit start, he began to fade during the fourth and final lap of the 2.5-kilometer course and finished 21st.



OPEN WATER HIGHLIGHTS – cont'd. from 19



University of Kansas teammates Haley Bishop (left) and Libby Walker (right) tied for first at the inaugural CSCAA 5K National Collegiate Open Water Championships in September.

[PHOTO BY KANSAS ATHLETICS]

3. COLLEGE OPEN WATER NATIONAL CHAMPIONSHIPS MAKES ITS DEBUT

In July, CSCAA and the University of Kansas announced a partnership that would create the first Open Water National Championships. Men and women from the NCAA, NAIA, California Community College Athletic Association (CCCCA) and NJCAA would compete in a 5-kilometer race in Lone Star Lake in eastern Kansas.

The race took place Sept. 17, and two women from the host Jayhawks tied to win the inaugural title. Haley Bishop and Libby Walker both touched the pad in 1 hour, 5 minutes, 48.32 seconds, and their freshman teammate, Jenny Nusbaum, came in just a half-second later to secure a podium sweep and give Kansas the team championship.

On the men's side, Emmanuel College's Stanislas Raczynski led wire-to-wire to win in 1:01:06.43, holding off Carson-Newman's Marcelo Figueiredo by less than a second.

But it was the University of Cincinnati that was victorious in the team competition, placing fourth, fifth, seventh and eighth to win by a combined margin of more than three minutes.

4. ANDREW RESS BECOMES FIRST DEAF MAN TO SWIM ENGLISH CHANNEL

Welshman Andrew Ress pulled off a monumental accomplishment this past July when he became the first deaf person to swim across the English Channel.

Ress, who previously represented Great Britain's deaf swimming team international competition, was seeking to raise money for the British swimmers bound for next year's



Adam Ellenstein (right), who wanted to honor his aunt, Susan Scarlet (left), who suffers from Parkinson's, swam 65 miles—and 41 hours—to raise money and awareness for the disease.

[PHOTO BY LAUREN KEHN]

Deaflympics in Samsun, Turkey. Ress raised over £6,000—or about \$7,800—for that cause.

His journey across the Strait of Dover was not an easy one—after setting a quick early pace, Ress hit rough weather and large swells once he entered French waters. Then he had to battle a swarm of jellyfish and the tide pushing him out to sea. As night came, Ress began to get tired, and he had trouble communicating with his crew.

But he pushed through and ended up crawling onto the beach in France shortly before midnight—about 15 hours after he entered the water in Dover. And as news spread of his accomplishment, Ress became an inspiration.

“Don’t let your deafness stop you from doing what you really want to do,” Ress said, according to the BBC. “There are no barriers if you really want it.”

5. ADAM ELLENSTEIN SWIMS 65 MILES TO RAISE MONEY FOR PARKINSON’S AWARENESS

Adam Ellenstein swam 65 miles across Okanagan Lake in British Columbia, Canada, this past summer with the intent of raising money and awareness for Parkinson’s disease via the Davis Phinney Foundation.

Ellenstein wanted to honor his aunt, Susan Scarlet, who suffers from Parkinson’s. To do so, he was willing to swim for nearly two days straight in water with temperatures in the low 70s—but he was prepared, having trained hard for the swim and having organized a team to help him with guidance and nutrition while he was in the water.

Ellenstein began his swim early in the morning on Monday, July 25, and he completed the grueling effort late the next evening after 41 hours in the water!

The effort was more mentally taxing than physically, Ellenstein admitted afterward, but nothing was going to stop him when he caught sight of the crowd gathered on the beach and cheering him into the finish.

HONORABLE MENTION. NICK THOMAS PASSES AWAY WHILE CROSSING ENGLISH CHANNEL

Sixteen hours into his English Channel crossing, Aug. 27, 45-year-old Nick Thomas fell unconscious and then later died at a French hospital.

Thomas was 10 miles from shore when he became unresponsive.

The swim was his second attempt at crossing the Channel after a successful effort in 2014.

Swimming World seeks to honor Thomas and remember all he offered to the sport. ❖



Greece’s Spiros Gianniotis (left) missed the finishing pad the first time he tried and had to settle for second behind the Netherlands’ Ferry Weertman (center) by less than a tenth of a second. France’s Olivier Marc-Antoine (right) was third. Competing in his fifth and final Olympics, Gianniotis, 36, had finally won his first Olympic medal.

[PHOTO BY KYLE TERADA-USA TODAY SPORTS]

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Ashley Twichell (left) and Keri-Anne Payne (right) sprint to the finish of the RCP Tiburon Mile in what turned out to be a photo finish to determine the women's champion. Both competitors clocked identical times of 26:06, with Twichell winning her third straight race.



A PICTURE-PERFECT START AND A PHOTO FINISH

It was a perfect day for the RCP Tiburon Mile in the San Francisco Bay between Angel Island and the Tiburon Peninsula. And although Chip Peterson won the men's elite competition by six seconds, it took a photo finish to determine the women's champion, Ashley Twichell over Keri-Anne Payne, as both women clocked identical times.

STORY BY **ROB DAVIS**

PHOTOS BY **ELLIOT KARLAN PHOTOGRAPHY**

A photo finish captured the spirit of the 16th edition of the RCP Tiburon Mile. Many of the world's top open water swimmers assembled on the shores of Angel Island, located in the San Francisco Bay, for this premier event. The date was Sept. 11, and it was a perfect day for a "sprint mile" across the cool waters of the Raccoon Strait. Participants, officials, volunteers and fans all felt an extra touch of patriotism in commemoration of those fallen on that fateful day 15 years earlier.

This epic open water event attracted many of the world's best distance swimmers, including:

- Three-time Olympian Keri-Anne Payne (Great Britain)
- Former short course 1500 meter freestyle world recorder holder Lauren Boyle (New Zealand)
- Former open water world champions Chip Peterson (USA),



Men's elite champion Chip Peterson (left) won his second RCP Tiburon Mile race (2010, 2016), while Ashley Twichell (right) made it a three-peat (2014-16). Making it all possible is Robert Placak (center), who founded the race in 1999.

- Ashley Twichell (USA) and Evgeny Bezruchenko (RUS)
- 2013 FINA women's 10K World Cup champion Emily Brunemann (USA)
- Australian international Michael Sheil
- Former NCAA 1650 champion and record holder Stephanie Peacock.

PRE-RACE PREPARATION

Several of these elite swimmers tested the waters of Raccoon Strait the day before to familiarize themselves with the tidal currents and sightings as well as to attempt acclimatization to the brackish waters (63 F).

Around 8:20 in the morning on race day, swimmers ranging from seasoned veterans to weekend warriors boarded the ferry in

the picturesque town of Tiburon and headed to Angel Island. Once there, it was a short five-minute walk from the dock over to the sandy cove where the Spanish Naval officer, Juan Manuel de Ayala, had anchored his ship back in the year 1775. Some intrepid swimmers tested the waters of Ayala Cove by going in for a warm-up, however most chose to stay on the shore to watch these hardy souls.

DIFFERENT STRATEGIES

At 9 a.m. sharp, the starting gun was triggered by the vice commodore of the Corinthian Yacht Club, Jim Erskine. The elite swimmers were quick to enter the waters, make their way past several moored boats, and swim toward the rocky outcrop of Point Lone, located approximately 300 yards away.

Some swimmers took a line closer to the shore, while others made a more direct trajectory by going in between boats and dodging anchor lines. The waters within Ayala Cove were relatively calm as the swimmers jostled for position to pass the barnacle-encrusted jagged rock.

Aussie Michael Sheil felt that he had an absolutely blinding start and was somewhat surprised that Chip Peterson, the former All-American from the University of North Carolina, had an even better start to take the early lead.

A similar scene was unfolding among the elite women, where Ashley Twichell and Keri-Anne Payne were battling it out with former University of Michigan Wolverine, Emily Brunemann, in close pursuit.

Peterson had earlier predicted that each swimmer would take a different line toward the entrance to the Corinthian Yacht Club, located roughly 2,000 yards away. With these swimmers now experiencing choppy waves from the slack tide and the brisk wind, each, indeed, took a unique line.

For the men, Peterson headed to the left toward San Francisco's iconic Golden Gate Bridge, while Sheil decided that a line a little bit more toward the north would be better for him. For the elite women, Twichell decided to follow Peterson's trajectory across the Strait, and Payne chose to follow Sheil. In between these two women was Brunemann, who decided to split the difference and race toward the marina in downtown Tiburon.

THE GREAT RACE

What unfolded was open water swimming at its best.

There wasn't any pack swimming, drafting or a flotilla of boats that sometimes creates a channel to make sighting a breeze. As each of these athletes raced, they put their heads down, focused on their stroke and navigated toward the bright orange buoy at the entrance of the breakwater at the yacht club. The wind chop and slack tide made for challenging conditions, as the swimmers battled waves from both sides, risking mouthfuls of water, no matter the side on which they were breathing.

Peterson and Sheil converged on the entrance to the marina. As Sheil took a breath over his left shoulder, he sighted Peterson coming up fast. Both swimmers were targeting the same spot and appeared to be heading on a collision course. Peterson hammered down with a burst of speed and entered the harbor just ahead of Sheil. The race toward the finish line 150 yards ahead was on. Peterson rounded the second sighting buoy ahead of Sheil and crossed the finish line in 25 minutes, 12 seconds to earn the \$2,500 cash

TOP 5 ELITE SWIMMERS

MEN	WOMEN
1. Chip Peterson, USA 25:12 (#1 overall)	1. Ashley Twichell, USA 26:06 (#3 overall)
2. Michael Sheil, AUS 25:18 (#2)	2. Keri-Anne Payne, GBR 26:06 (#4)
3. Dan O'Connor, USA 28:18 (#9)	3. Emily Brunemann, USA 26:26 (#5)
4. Sean Percin, USA 30:10 (#11)	4. Lauren Boyle, NZL 28:06 (#6)
5. Patrick Li, USA 30:14 (#12)	5. Katy Campbell, USA 28:09 (#7)

award as the elite male first-place finisher. Sheil finished six seconds behind and recorded his best result in his five years of competing in the RCP Tiburon Mile.

Meanwhile, the elite women, who were also competing for their own \$2,500 first-place prize, were closing in on the orange buoy at the entrance to the harbor, where another collision course appeared to be in the making—this time between Twichell and Payne. The two refrained from contact as they raced toward the second sighting buoy, with Twichell gaining a slight advantage as she rounded the buoy.

In the tumultuous white-water frenzy, these two battled side-by-side, stroke-for-stroke, toward the finish—about 50 yards ahead. Twichell popped up first to start her run to the finish line as Payne took one more stroke before her dash—which proved to be the difference between the two swimmers.

It was Twichell in a time of 26:06 who crossed the finish line just ahead of Payne—who also clocked 26:06—in a dramatic photo finish.

The 2,000 spectators who had assembled for the competition received the exciting race for which they had hoped! Brunemann placed third with a time of 26:26, while Kiwi Lauren Boyle finished in fourth place. In fact, of the top 10 overall swimmers, seven were women!

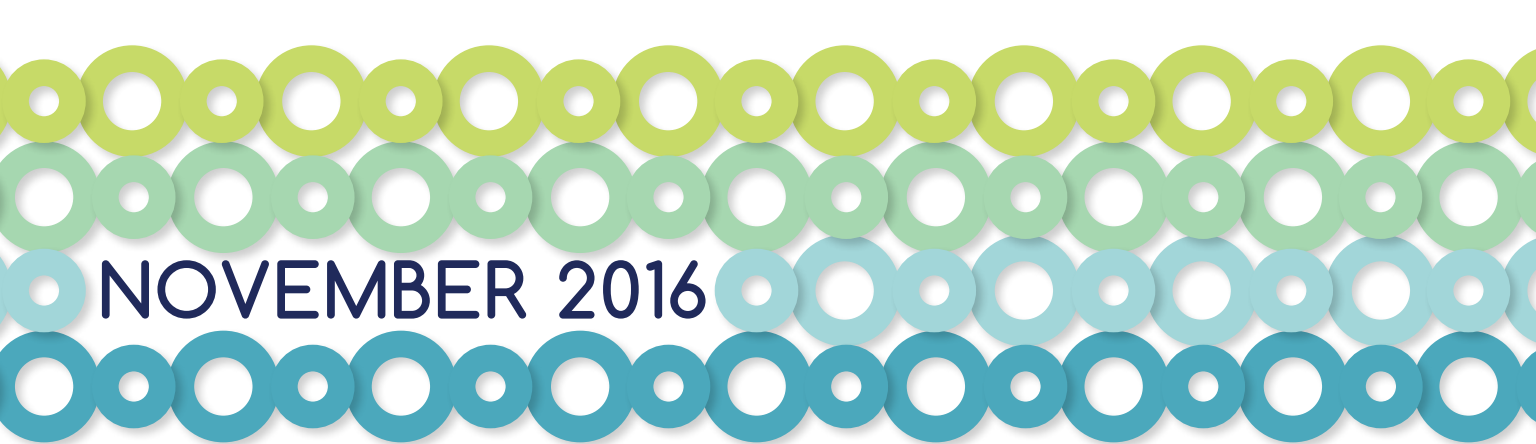
Twichell, the former Duke University All-American, won her third straight RCP Tiburon Mile race, and Peterson earned his second title, having won the event in 2010.

* * *

Robert Placak, founder of the RCP Tiburon Mile, yet again orchestrated and delivered an amazing event, as swimmers, parents, officials and fans enjoyed listening to the sultry sounds of the Cole Tate Band while dining along the San Francisco Bay waterfront and enjoying a delicious buffet picnic provided by some of Marin County's best restaurants.

The awards ceremony followed later and was emceed by Placak, Payne and her husband, three-time British Olympian David Carry. Each entertained the crowd with their relaxed—and, at times, very comical—interviewing skills. It was a wonderful way to cap off the very exciting 2016 RCP Tiburon Mile! ❖

Rob Davis is a Canadian who swam varsity at the University of New Brunswick. His lifelong interest in swimming was strongly influenced by coaches Gary Kinkead and Tomas Arusoo, two former University of Michigan All-Americans. These days, Rob trains with the Calgary Masters Swim Club and competes in open water races. He can be reached at davson9@yahoo.com.



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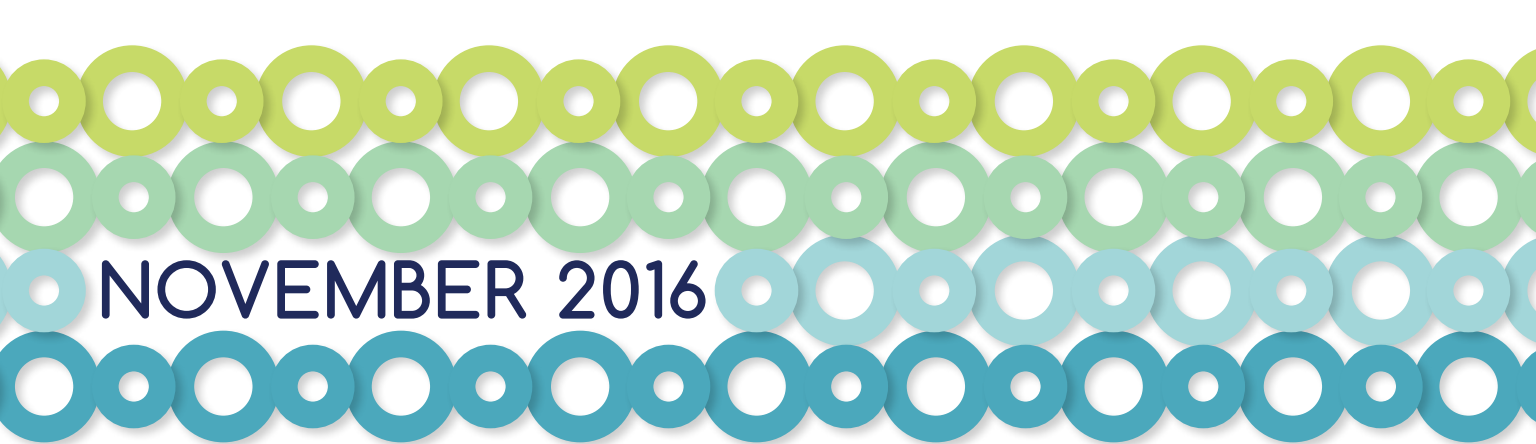
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SUCCESS

IN THE FACE OF ADVERSITY

Jessica Long and Brad Snyder share their inspiring stories about the challenges they've had to overcome in becoming successful Paralympians.

Jessica Long: Mixed Emotions

BY ANNIE GREVERS

Jessica Long was adopted from a Siberian orphanage at 13 months old. She had her lower legs amputated at 18 months due to a condition called fibular hemimelia (the congenital absence of the fibula). Long learned to walk with a prosthesis and had an active childhood—and her aptitude for swimming was apparent early on.

She started swimming at 10, and was named Maryland's Female Swimmer of the Year with A Disability the following year. In 2004, at age 12, Long qualified for her first Paralympic Games. As the youngest athlete on the U.S. Paralympic team, Long "was just happy to go," as she recalls.

The 12-year-old went on to win three Paralympic gold medals in the S8 classification. By 2006, Long was in a league of her own. With 18 world record-breaking performances, she was named the USOC's 2006 Paralympian of the Year.

At her second Paralympic Games in Beijing, Long felt the cross-hairs on her back. She came away with four golds (three world records), a silver and a bronze. Long's third Paralympic appearance, London 2012, was different. "I was 20, I felt no pressure—I was just there having fun," she said.

No doubt, winning five golds, two silvers and a bronze bolstered the fun factor. Long received the 2012 ESPN Best Female Athlete with a Disability ESPY Award after her remarkable showing in London. If she hadn't already been "the face of Paralympic swimming," she was now. She took home the ESPY yet again in 2013.

PAVING THE WAY

Long recognizes the platform she has because of her consistent success and is honored to help pave the way for the next generation of Paralympians. Now 24, she has watched the Paralympics evolve in many ways over 12 years—some good, some sad.

Let's start with the good—Long remembers people confusing the Paralympics with the Special Olympics when she went to the Games in 2004. "They're both wonderful organizations," Long points out. "But the Paralympics is very different from the Special Olympics..."

The public knows what the Paralympic movement is now. "What I'm most excited about is the sponsorships," Long said. "There were so many incredible commercials—you couldn't get away from the Paralympics this summer!"

Long has an inspiring story herself, but she is continually inspired and awed by the tales of the athletes who surround her. "NBC did an incredible job telling the stories," she notes. But, in Long's opinion, the time during which much of the Paralympics was televised could have been better.

"From what I was hearing, it (the Paralympics) was on between 1 and 5 a.m. We're really grateful for the coverage, but I think we can still learn from other countries (which had channels devoted to live coverage)," Long said.

After wrapping up her fourth Games in Rio, Long now has 23 Paralympic medals—13 of which are gold. She's the second most decorated Paralympian of all time behind swimmer Trischa Zorn-Hudson—who competed in seven Paralympic Games.

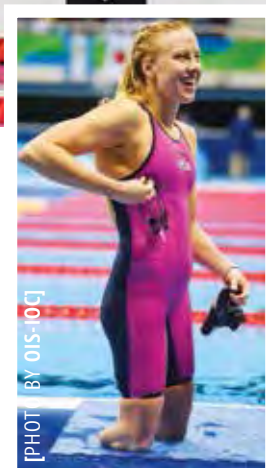
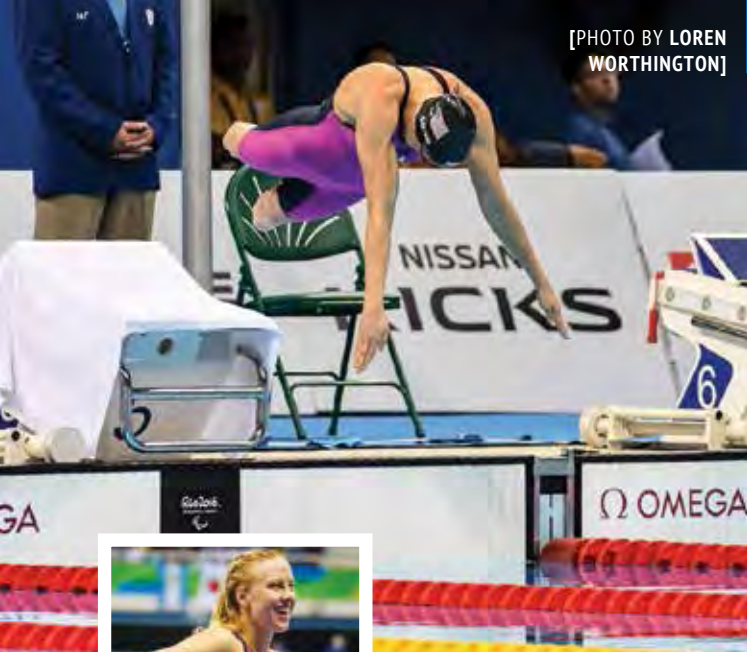
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[PHOTO BY OIS-IOC]

Jessica Long had her lower legs amputated at 18 months due to a condition called fibular hemimelia. She first competed as a 12-year-old in the S8 classification of the Paralympic Games in 2004. Now 24, Long has 23 Paralympic medals from four Games—13 of which are gold. She's the second most decorated Paralympian in the Games' 15-year history.

[PHOTO BY LOREN WORTHINGTON]



PARALYMPIANS
— continued from 29

PARALYMPIC PURITY THREATENED

So, is Long satisfied? Not especially.

Not because she's not pleased with her own swimming, but because she sees the purity of the Paralympic movement threatened. In June, Long's father, Steve, spoke out on an issue plaguing Long's S8

category—intentional misrepresentation (or IM). IM involves athletes who exaggerate the effects of their disability so they may be placed in a classification in which they can become more successful.

According to the International Paralympic Committee, “Swimmers who have lost either both hands or one arm...(and) athletes with severe restrictions in the joints of the lower limbs” are eligible for the S8, SB7 and SM8 classes.

Long has witnessed members of her own classification show that they can kick in warm-up, then stop kicking in the middle of the pool to make themselves appear more disabled than they are.

“I've been home for two weeks now, and I don't know whether or not to celebrate,” Long honestly states. “I'm proud of six medals. I know my worth doesn't come from that—it comes from God.” But there's a bitter taste in Long's mouth after seeing people “play the classification system” to their advantage.

Long won a single gold medal in Rio. It came on the final day of competition in the 200 IM.

“Mental training has always been my secret weapon, but every day in Rio was really challenging,” Long said. On Day 5 of the 10-day competition, Long broke down. “*Dear God, I don't know what you're trying to teach me,*” she cried out in her head.

Long's emotional reaction to winning her long-awaited gold medal on the final day said it all—“I touched the wall and felt such relief after the entire week—there were a lot of tears.”

She'd been through a mental wringer and still managed to come away with a gold, three silvers and two bronze medals. Long loves the Paralympic movement and yearns to see it moving forward—that includes finding ways to prevent competitors from cheating the classification system.

THE NEXT EIGHT YEARS

As for Long's future? “I will be swimming in Tokyo,” Long asserts. “Then, I'll have a Paralympic Games ring for each finger.” Long can't stay dry for more than two weeks. “I don't have ligaments in my knees—my form of exercise is swimming. If the Paralympics are in L.A. in 2024, I'd have to swim. I'd only be 32.” ❖

No Intentions of Living Life Differently

BY DAVID RIEDER

The confines of North Shore Pool in St. Petersburg, Fla., were all too familiar for Brad Snyder. He could hear the usual sounds of wind blowing and the harsh caw-like call of the sea gulls, and he knew every detail of the black lines below him and the lane lines to either side.

It was no different than any of the other hundreds of times Snyder had worked out in that pool—except that he could not see any of it.

Just months earlier in 2011, Snyder had lost his eyesight forever after stepping on a landmine while serving his country in the United States Navy in Afghanistan. He was attempting to help victims of another bombing.

Yet, after all of that, here he was swimming once again, feeling decidedly normal. “It didn't feel much different,” Snyder said, “and that's what made it so magical.”

FOLLOWING IN HIS GRANDFATHER'S FOOTSTEPS

Military service and swimming had long been intertwined for Snyder, who swam for the men's team at the U.S. Naval Academy and served as team captain his senior year. Snyder considered himself a good-not-great swimmer growing up—he had junior nationals

cuts and came close to senior nationals—and felt he could fit in well with Navy's squad.

“There was no career in swimming after college for me, so why not use swimming to get where I want to be career-wise?”

The Navy had long attracted Snyder after he saw the example of his grandfather, who fought in the Pacific during World War II.

“I picked up on how people treated my grandpa,” he said. “I think from a very early age, I knew I wanted to follow in his footsteps.”

As much as Snyder enjoyed his time on Navy's team, he never met his own expectations in the pool. After dropping just two seconds in the 1650 in four years, a frustrated Snyder was finished in the pool, but had a great career in service ahead of him.

That was until the accident.

“DON'T BE SAD, DON'T BE UPSET”

When Snyder finally returned home to the St. Petersburg area after losing his eyesight, he met with friends, all sympathetic and somber—except for his longtime swim coach, Fred Lewis, who tried to keep the mood light.

“Will we see you at practice tomorrow?” Lewis asked.

“It was rhetorical,” Snyder said. “It wasn’t really serious. But I saw it as an opportunity to show everyone—don’t be sad, don’t be upset. It’s not going to beat me up, so it shouldn’t beat you up.”

Snyder, indeed, showed up to practice and got in the water. Lewis placed pool noodles a few feet from either end so that Snyder would know when the wall was approaching. As he swam back and forth, he wore a big scuba mask to cover his still-sensitive eyes and baggy swim trunks because he had misplaced his drag suit.

“The initial me getting in the pool didn’t have anything to do with Paralympics or goals or any of those things,” Snyder said. “It was really just a way to seek a sense of normalcy in a really dynamic environment.”

Snyder only swam about 200 yards that first day, but he kept coming back for more. He adapted quickly to blind swimming and after mere months was one of the top S11 swimmers in the country. And less than a year after the life-changing explosion, Snyder went to the 2012 Paralympics in London and won two gold medals and a silver medal.



[PHOTO BY JOE KUSUMOTO]



[PHOTO BY JOE KUSUMOTO]

SETTING AN EXAMPLE

Snyder hoped that in London, he would prove a point—even without his eyesight, he had no intentions of living life any differently.

He could almost hear what other challenged athletes might think: “If Brad can conquer that blindness and minimize it to the point where he could succeed on that level, who knows what other challenges we can overcome. If Brad can do that, what can I do?”

But even with all of his unlikely accomplishments that summer, Snyder still felt like he had some unfinished business.

“I went to practice, did about five-grand per day for a while. I worked hard—don’t get me wrong—but I didn’t dedicate the essence of my being to being a champion or being a part of Team USA,” he said. “I got lucky. The circumstances kind of lined up in my favor.”

Snyder thought of Robert Margalis, his longtime training partner growing up in St. Petersburg and a six-time finalist at the U.S. Olympic Trials. As hard as Margalis worked in the pool, he never managed to get over the hump and make an Olympic team, finishing as high as third in the 400 IM in 2008.

But Snyder still felt that his friend had earned his marks as a champion, and Snyder wanted to do the same.

“I wanted to stand on the blocks in Rio and know, without a doubt, that I was the most prepared swimmer in the pool,” he said.

MOMENTOUS ACCOMPLISHMENTS IN RIO

Snyder would compete in all five events offered in the S11 division in Rio, but the event he had circled was the 100 free. One year earlier, at the IPC World Aquatics Championships in Glasgow, Snyder had won gold in 56.78, just short of John Morgan’s 30-year-old world record of 56.67.

“The world record in the 100 was something I set out to do,” he said. “With the help of an amazing network, I put in that work, and I killed myself every day.”

In a meet full of momentous accomplishments—Snyder won three gold medals and a silver in Rio—it was breaking that world record that meant the most to the 32-year-old. He touched in 56.15, winning gold by more than three seconds and taking more than a half-second off Morgan’s mark.

Brad Snyder had lost his eyesight forever after stepping on a landmine while serving his country in Afghanistan in 2011. While competing in the S11 category at the 2012 and 2016 Paralympics, Snyder, now 32, has seven medals (five gold, two silver). His most prized accomplishment in Rio was setting the world record in the men’s S11 100 meter freestyle.

Swimming under pressure on the biggest of stages, Snyder shined. After all, he had some experience in performing while in a high-pressure environment.

“The tactics I used to navigate the Paralympics were very similar—if not the same—as the tactics I used in combat,” he said. “With maturity and experience, I was able to feel comfortable in a very stressful environment and really enjoy it.” ❖

A HISTORY OF SWIMMING RULES (Part I)

BY CAROL ZALESKI

Editor's Note: This is the first of a two-part article that will provide some history of the changes and development of swimming rules. Part II, which will run in January, will focus on backstroke, butterfly, freestyle and individual medley.

For FINA, there is opportunity to change swimming rules every four years at a FINA Technical Congress. All member federations are invited to submit proposals that are reviewed by the Technical Swimming Committee (TSC). The Committee then recommends action to the Bureau. All proposals come to the Congress with a Bureau recommendation. The Congress then votes on the proposals as recommended by the Bureau. The next Congress is in the summer of 2017 in Budapest.

START

There was a time when three starts could occur before a disqualification. If there was movement, a false start was charged to the field—but not to an individual until the third start.

The rule was changed to allow two starts around 1990. The first false start was charged on the field; an individual DQ could be called on the second start.

In 1998, it became optional whether to use a one-start or a two-start rule. If one, the individual DQ would come at the end of the race. If two, the first start would be recalled, charged to the field, and the individual DQ would be made at the finish of the race after the second start.

The starting rule has now been the same since 2001: any swimmer starting before the signal shall be disqualified. If the starting signal has been given before the disqualification is declared, the race shall continue with the DQ declared at the end of the race. *Note:* false-start DQs must be observed and confirmed by both the starter and the referee.

BREASTSTROKE

For many years, breaststrokers were required to have the head above the “calm surface” of the water throughout the race. The rule was changed in 1996 to allow some part of the head to break the surface during each cycle of one arm stroke and one leg kick.

The other big breaststroke change came in the kick. In about 1990, we began to see some breaststrokers use a butterfly kick on the starts, turns and sometimes throughout the race.

Television showed this very clearly, but it was difficult for the officials to see from the deck level. As a result, rule proposals were submitted to allow butterfly kicking in the breaststroke.

All of the proposals failed when they were first submitted to the Congress. For the 2005 edition of the rules, a single butterfly kick was allowed at the start. There have been several changes since that time to clarify the timing of the kick, etc. to the present version allowing a single butterfly kick during the first arm stroke at the start and each turn. ❖

Carol Zaleski is the technical swimming chairman of FINA.



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JULIE GREENAWAY



Julie Greenaway of Oregon Swimming has been officiating for nearly 10 years. She is affiliated with Mt. Hood Aquatics, one of the biggest clubs in Oregon, which hosts 15 to 20 meets a year. She has put in countless hours organizing and running both small and large meets. Besides serving as a meet

director, she was certified as a timing judge in 2007 and was grandfathered in as an admin official when the certification came out two years ago. This past summer, she was a meet director for both the long course Sectional meet and the USA Swimming Futures meet, and assisted with many others. Greenaway is considered an expert trainer and is counted on by her LSC for her skills in training admin officials, timing judges and meet directors. No matter how chaotic or hectic things may be, she always has a positive attitude with a smile on her face.

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BY J.R. ROSANIA
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 CARL MICKELSON AND SUSIE PAUL

What type of dryland training is most beneficial for swimmers? What types of exercises are best for swimmers to gain strength in the gym and to be able to “take” that strength and turn it into speed?

There are several methods that can provide results in strength. Some—such as Olympic lifting, powerlifting and strongman lifting—will improve a swimmer’s starts, walls and even stamina.

Although I may use all of the mentioned methods to some degree at some stage of a swimmer’s program, I prefer to utilize multi-muscle movements that are functional in nature. This means that at some point in the movement, there is a connection to a similar movement to a swimmer’s stroke in the water. This applies to all strokes and starts plus wall push-offs.

Here are several functional exercises that, if done over several weeks, will improve stroke rate and distance, and improve muscle endurance and power. They will also work your core.

Perform three sets of 12 reps for each exercise, using weights light enough to perform all the reps. Continue the program for six to 10 weeks. Discontinue exercises 10 days prior to a taper competition. ❖

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.



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.



1 DUMBBELL (DB) BENCH PRESS WITH STRAIGHT-LEG RAISE

While lying on your back, perform a bench press using DBs and performing a leg lift as you raise the dumbbells off your chest.



2 DB BENCH PRESS WITH SPLIT-LEG RAISE

Use the same movement as in Exercise #1, with legs being split and alternating.

3 SUPINE DB FLUTTER KICK WITH ALTERNATE DB PULLOVER

While lying on your back, perform a flutter kick. At the same time, do a single-arm pullover with light dumbbells.



4 ONE-ARM BARBELL PRESS WITH TUBE-STROKE PULL

Stand with a bar resting at your shoulder. With the other arm, grab a stroke cord with slight tension. Begin by pushing the barbell to a vertical position. At the same time, perform a freestyle stroke with the cord. They should be alternating movements.





WITH
KATIE MEILI

BY ANNIE GREVERS and
TASIJA KOROSAS
PHOTOS PROVIDED BY
KATIE MEILI



PICTURED > Katie Meili

[PHOTO BY ROB SCHUMACHER-USA TODAY SPORTS]

Katie Meili would be considered a late bloomer in swimming circles. It wasn't until last year that she began winning internationally. And at 25, she's now an Olympic gold (400 medley relay) and bronze (100 breast) medalist!

She showed her aquatic prowess during her college years at Columbia, making a hobby of collecting Ivy League Championship titles. By her senior year in 2013, she swam a :58 100 breast, 2:08 200 breast and a 1:54 200 IM—times that dominated the Ivy League and were highly competitive at Division I NCAAs.

Upon graduation, though, Meili believed she had unfinished business in the pool, so she decided to keep swimming.

Her belief paid off. Training under renowned coach David Marsh of SwimMAC Carolina, Meili became a force in the long course domain, winning titles in 2015 at U.S. nationals, Pan Ams and the Duel in the Pool.

Her drastic improvements were due to finer-tuned training, surrounded by some of the most elite swimmers in the world. But she also paid more attention to decisions outside of the pool that could affect her performance—namely nutrition.

“Training many hours a day can take its toll on the body,” Meili said. “Nutrition and making sure my body gets the proper type of fuel is probably the most important factor in my training routine.”

Meili is a lean 5-foot-seven, rippling with muscles that are byproducts of swimming, lifting and eating right.

“Not only does eating right help me have enough energy to complete my training schedule, it is also essential in helping me recover after each practice and get ready to go for the next one!” Meili adds.

Want to eat like a gold medalist? Check out the following Meili menu:

BREAKFAST OPTIONS

Toasted english muffin with avocado spread and diced tomatoes



Why It's Good: This is a perfect meal for a morning off of swimming. Since it's your day to sleep in, a high-protein-content meal is not necessary—but it is still important to start your day off right with a healthy breakfast. Avocados are not only delicious, but they contain healthy fats, which keep your stomach full and your body happy. Adding tomatoes on top of your avocado with toast will increase flavor and nutrient density.



Oatmeal topped with pumpkin seeds and mixed berries

Why It's Good: Oatmeal is a wondrous food. It is a rich whole grain with tremendous health benefits. Along with containing viscous fibers, oatmeal has a large amount of your daily iron needs. Eating your oatmeal with berries or orange juice (vitamin-C-rich fruits) will increase your iron absorption, which is crucial for athletic performance. Add pumpkin seeds or your choice of nut for added flavor and nutrition! (Drinking coffee with your oatmeal is usually not recommended because it decreases your absorption of iron. So, if you are a coffee lover, like Katie, have a cup of coffee—or two—approximately 30 minutes after eating your oatmeal.)

Eggs, potato hash and turkey sausage

Why It's Good: Eggs are a great option for any time of the day. But they are especially tasty for breakfast. After a tough morning practice, an egg with a side of potatoes and sausage perpetuates the recovery process. Eggs and sausage make this meal high in protein, which aid your muscles as they work to rebuild and replenish, getting ready for the next practice. Adding potatoes will provide the proper amount of carbohydrates to support muscular development.



LUNCH OPTIONS

Mixed veggie chopped salad with garbanzo beans



Why It's Good: For lunch, salads are a great option because you can put all your nutrition needs into one bowl! When it comes to making salads, be sure to meet your specific protein needs. Legumes, such as garbanzo beans, are a great protein supplement, especially if meat isn't your thing or doesn't sit well before practice.

Grilled chicken salad with egg sunny side up and a side of pesto toast



Why It's Good: A plate full of color is a beautiful thing! And this plate certainly has all the colors of the rainbow. In this meal, Katie does a great job in meeting ALL her nutrient needs. The chicken and egg act as her protein. The bread and her vegetables act as her carbohydrates. The pesto acts as her healthy fat. During days where you have

a double, having a balanced lunch is exactly what you need to aid in recovery and fuel you for your next practice.

SIDES/SNACK OPTIONS

Espresso drink



Why It's Good:

Because who doesn't need a little caffeine bolster every now and then?! Just take it easy on the creamer and sugar.

Caprese salad: mozzarella cheese, tomatoes, arugula, with pesto and balsamic dressing



Why It's Good:

If you are ever stuck on what to have for a mid-day snack, a caprese salad is a great go-to. As well as adding nutrients to your diet, this snack will fill you up, but also not leave you too full where your other meals will be compromised. The most predominant macronutrients in this

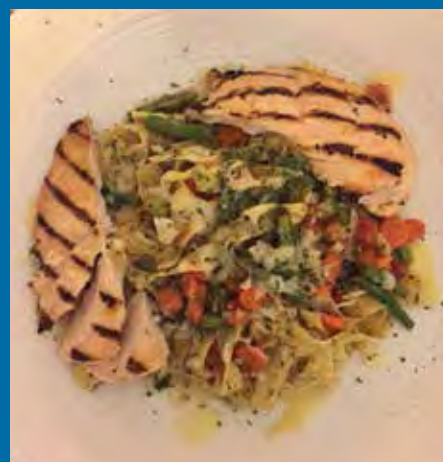
meal are fats, which will be distributed throughout your body to help with muscular and cerebral energy.

DINNER

Pasta with mixed greens and grilled chicken or chicken penne with olives

Why It's Good: During tough training, easy training, moderate training—whatever type of training phase you're in—dinner is one of the best meals to focus on recovery for the whole day. If you train like Katie does, I'm sure you had a morning swim practice, a weight session and another afternoon swim practice. After this long day, it is *extremely* important to make sure you're fueling right

so this training is not done in vain. Chicken is a lean meat, which acts as your main source of protein to rebuild and replenish muscles. Pasta is a big source of carbohydrates and will assist the protein in helping rebuild muscles while replenishing glycogen stores that were used up throughout the day. Vegetables also act as carbohydrates, but most important, they add vitamins and minerals to the diet that aid protein and carbohydrate metabolism. Without the help of vitamins and minerals, broken-down muscles cannot be restored and energy cannot be produced! Therefore, vegetables play a crucial role in your diet and should be consumed at every meal—*especially* dinner. ❖



HOW TO SWIM

THE 100 AND 200 BACKSTROKE

BY MICHAEL J. STOTT

Olympic coach Bob Bowman uses two words to compare the 100 versus 200 backstroke events and yards versus meters: “very different.”

He says that the difference between short and long course is that “there are a lot more underwaters in short course. The people who are good dolphin kickers are more competitive,” noting that endurance background and training are what separates the proficient 200 swimmers from the sprint backstrokers.

Bowman adds, “The 200 back is the most taxing event on your legs. It is probably the highest blood lactate that you can swim.”

Following are thoughts from three well-known backstrokers from the United States—past and present—on how to swim the 100 and 200 back.

RACHEL BOOTSMA

*3x NCAA champion in the 100 back (2013, 2015, 2016),
2012 Olympic gold medalist (4 x 100 medley relay),
former NAG and national high school record holder*

“For me, the 100 back in short course yards is all about the underwaters. Mine are very strong, so I try to spend as much time under water as allowed. It is important for anyone to come out of the underwater dolphin kicks with the same momentum as when they first push off the wall. If I begin to lose momentum, I know I need to come up and start swimming. Another important factor is stroke rate. I try to keep a fast stroke rate during the whole race—fast, but still allowing me to hold water.

“Long course is a completely different race. Because there are only two walls, I can’t rely as much on my underwaters, so I emphasize my legs. I tend to hold back on them the first 50 so that I can use them for a strong second half. Tempo is also important, but it’s a little slower, so I can maintain it for a longer distance,” she says.

Bootsma, who retired in June following Olympic Trials, was a sprint backstroker from Day 1, affirms Bootsma’s high school and



Rachel Bootsma [PHOTO BY PETER H. BICK]

club mentor Kate Lundsten. “Everything Rachel did was fast twitch and moving quickly. I coached her from when she was 9, and everything about her was tempo and kick.

“Her yards and meters swimming were very different,” says Lundsten. “In yards, you are swimming 10 to 12 seconds and then have a turn where you get an incredible push that you can’t duplicate in your swim. In meters, you are swimming twice (as long before the turn), and you do things that you have to change within the stroke itself.” Lundsten trains swimmers to think of the 100 yard back in terms of 4 x 25 and the 100 meter back as 2 x 50. Her Aquajets kick at least 1,200 a practice—often with fins.

“With the 100 back going into 2012, we said, ‘Rachel, you are going to have to go out fast. You are not going to die, but we know that your competition is going to come back, and their last 50 meters will be unheard of.’ So her whole goal was to see how fast she could go out in control, and come back holding tempo as much as it was in the beginning,” says Lundsten. The result: she finished second at Trials, unseating Natalie Coughlin.

The 200 back was never a Bootsma strength. When she swam it, the plan was “quiet legs on the first 100, and then go for it,” says Lundsten.

NICK THOMAN

2012 Olympic gold medalist (4 x 100 medley relay) and silver medalist (100 back), world record holder (100 back SCM)

“The 100 and 200 backstrokes are completely different animals to me,” says Thoman. “The long course 100 backstroke is a tactical dogfight where you can only see your competition if you’re ahead of them. Knowing your strengths and weaknesses is the most important part of that race for planning, but sometimes you just have to throw the plan out the window and do what feels right.”

“The 200 backstroke is a thinking man’s race. Steady first 50, don’t back off the second, build the third, and come home like a freight train. All of that is easy to say, but once you’ve been swimming for 175 meters and the end is in sight, your lungs are burning, your arms ache and your legs feel like a pair of lead pipes. It’s im-



Nick Thoman [PHOTO BY ROB SCHUMACHER-USA TODAY SPORTS]

portant not to overswim the first half, but still keep yourself in position to have a great race. The 200 is a balance between fast underwater and oxygen debt. Planning out each 50 is incredibly important for a good swim and so you don’t black out at the end,” he says.

“For me, short course was where I got to use my legs and underwaters to full advantage. The short course 100 back is hands-down my favorite race. Four laps of speed, power and precision where you can chart out every kick, stroke and breath. I would always have a great race plan that I put together with my coach, but my best swims were where I just let it all go and raced.”

“I was better at the 100 because I hated the 200. Before I was at SwimMAC, I trained primarily as a 200 swimmer, but I didn’t like it. At the end of a race, I felt like death-warmed-over, and several times I could hardly drag myself out of the pool. The 100 back was always my calling. It’s why I loved the sport as much as I did—and that’s why I was more successful,” says Thoman.

AARON PEIRSOL

7x Olympic medalist (2004, 2008), won 36 medals in major international competition, current world record holder (200 back)

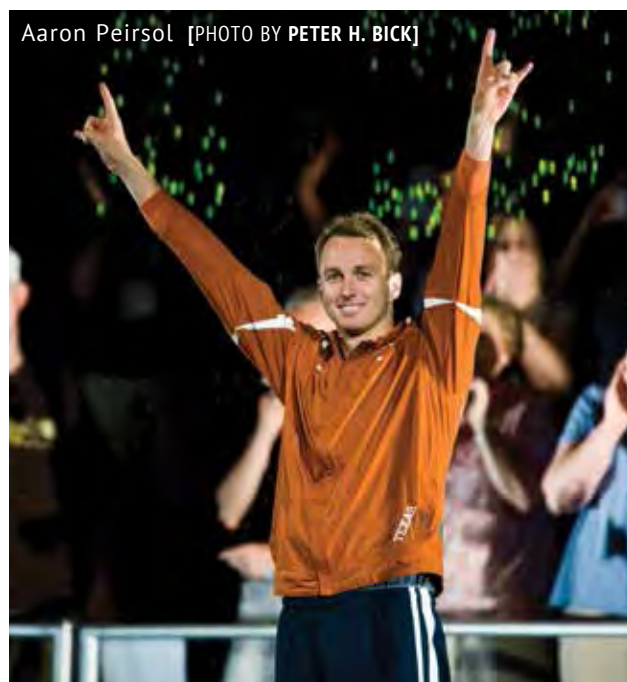
Peirsol’s first major backstroke rival, Lenny Krayzelburg, described the 200 back as a strategic event—“a fine line between being aggressive, conserving energy and building the race.”

“The 100 is all about having a plan and practicing your race approach. Every swimmer needs to dig down deep inside and try. The results will speak for themselves, and whether it is positive or not, you will learn from that experience,” says Krayzelburg.

“I had to learn to swim the 200 first,” says Peirsol. “As a kid, I wasn’t really strong, so I had to rely on technique and back-half it. I tried to take it out, but I just couldn’t,” he says.

Peirsol’s breakthrough swim came at spring nationals in 2000 when he went 1:57.03, his best time by more than two seconds. “That’s when I stopped reserving anything for the back half,” he says. A lot had to do with the training and confidence he gained under Coach Dave Salo.

Peirsol admits, “I could go out faster than the guy next to me,



Aaron Peirsol [PHOTO BY PETER H. BICK]

pushing the third 50 and then beat him in the last 50. That’s the way I trained. I didn’t hold back. I built into each part, better than anyone else.”

His early training was a key. “I did a lot of 200 pace stuff and broken 200s, 250s, 300s, fast 75s,” he notes. “Plus, I had a good stroke. I could get right into a rhythm where I pulled a lot of water without expending too much energy, enabling me to push the last 75. My top speed and my 200 speed weren’t all that different,” he says.

Like Krayzelburg, Peirsol had to learn to swim the 100. He normally started at a 200 pace, “but I had to learn to push that first 25, 50 and really nail that turn.” Increased strength and turnover rate combined with his great catch ultimately gave Peirsol the confidence to “race with the ‘big boys’ who had more speed.”

Later in his career, Peirsol focused on improving his walls and push-offs. Training with great dolphin kickers, Dave Cromwell and Ian Crocker, forced him to concentrate on developing underwater speed and power. While he preferred to surface and swim the whole time, he realized that strategy was doomed when it got down to the “nitty gritty,” he says—which makes sense now, given how much of the 100 back short course is swum underwater. ❖

GETTING READY FOR THOSE BIG DECEMBER MEETS

BY MICHAEL J. STOTT

This month's "Special Sets" feature profiles two 16-year-old girls—Cassidy Bayer and Ruby Martin—who finished third and fourth in the 200 meter butterfly at last summer's U.S. Olympic Trials. It highlights sets they did in 2015 and will probably do in 2016 as they prep for their big December meets.

[PHOTOS BY PETER H. BICK]



Cassidy Bayer of the Nation's Capital Swim Club was a USA team captain at last summer's Junior Pan Pacs, where she won the 200 fly in a meet record 2:08.48. CollegeSwimming.com currently ranks Bayer second in its power statistics for the Class of 2018.

It's been three months now since American swimmers shone in Rio and four months since more than 1,800 athletes vied for team spots at the U.S. Olympic Trials. Chances are you remember the names of those who represented the Red, White and Blue. But how about the names of the women who finished third and fourth in the women's 200 meter butterfly at Trials? A little tougher, right?

Here's a hint: they're both 16 years old, extremely versatile, and they made the Junior Pan Pacs team that competed successfully in Hawaii in August.

The latest CollegeSwimming.com power statistics rank these girls second and 10th in the Class of 2018. Cassidy Bayer, a Nation's Capital national team member coached by Jeff King, ranks second and has already made a bit of a name for herself. Ruby Martin of the Iowa Flyers in Iowa City (10th) is padding her resumé with each meet.

In 2013 at age 13, Bayer broke Mary T. Meagher's 34-year-old 13-14 national age group record (1:56.38) in the 200 yard fly by going 1:56.01. And at one time, the former national junior team member also held 11-12 NAG records in the 50, 100 and 200 meter fly (28.23, tied with Dana Vollmer; 1:01.75; 2:15.02).

At Junior Pan Pacs, Bayer, a team captain, won the 200 fly in a meet record 2:08.48, finished fourth in the 100 fly (59.07) and swam a 59.14 butterfly leg on the "B" 4 x 100 medley relay that would have placed third in the championship final.

Martin, who credits coaches Richard Salhus and Robert Pinter with her training and success, went to Omaha with eight Olympic Trials cuts—more than the rest of the Hawkeye State combined. At the time, she held 92 Iowa Flyer long course and short course team records and 40

Iowa state records. At the end of August, she was the top-ranked swimmer in Iowa in 18 long course and short course events. In Hawaii, Martin finished fourth in the 200 fly in 2:12.99 after taking a big gulp at the first turn, won the "B" final in the 100 fly in 59.81 and led off the heat-winning "B" 4 x 200 free relay in 2:02.44.

Now with the short course season under way, each young woman is focused on the task at hand, which is to perform well at holiday meets, post improved times and, perhaps, impress some college coaches looking for immediate NCAA scorers.

Following are workouts each swimmer did a year ago in November and December and will probably be doing this year in preparation for their major pre-Christmas meets.

CASSIDY BAYER

“Following is what we will be doing up until Thanksgiving,” says Coach King. “Afterward, we will bring the distance down, doing more quality repeats—oftentimes with less rest. For example: three 50 flys on 30 seconds. The first two are done, no problem; the third hurts a lot.”

Then Bayer will do a 1,000 kick for time. Last year without fins, she recorded a 13:47 followed by 25-50-75-100-125-150-175 fly.

“I take splits on a 200 for time, which she did in in 2:04,” says King. “The third 50, she did a 32. On this one, she had a great finish. A majority of the time, we go on rest intervals of 15 to 20 seconds.”

Next, Bayer swims three cycles of:

- 100 (75 free-25 fly) on 1:30
75 (50 free-25 fly) on 1:15
50 (25 free-25 fly) on 1:00
25 fly on :45
- Repeat, substituting back for free on 1:25/1:10/:55/:40
- Repeat, substituting breast for back on 1:20/1:05/:50/:35

“So, it is three rounds always ending in a 25 perfect fly. Fun,” he says.

“For an entire week, we do two 200s on five minutes somewhere during the workout. On these, our goal with fins is sub-1:50; and without fins, 1:57. The first one is swum working on

technique (i.e., walls, underwaters, etc.) The second one is always for time. The goal is to keep the first two 50s close and have all 50s under 33 seconds. Cassidy does a lot here with tempo (1.2 seconds).

“Monday, Wednesday and Fridays, Cassidy does five 100 flys all-out on five minutes. She has her choice of short or long fins for (the first three), and then no fins for (the fourth and fifth 100 flys)...OR no fins for one-to-three and then fins. The goal time with fins is :50; without fins, :56.”

General observations from Coach King:

- “I insist she keep her head down on all finishes.”
- “Cassidy has pretty bad asthma, so breath control is difficult. We are evolving her stroke specifically to accommodate how she breathes.”

- “She also does tether resistant swimming (14 strokes-12-10-8-6-4-2).”
- “We have begun parachutes—mostly doing 25s, but occasionally doing 50s.”
- “She enjoys drilling fly with free kick.”
- “Cassidy constantly tweaks her meet warm-up, writing it on her phone as a reminder.”

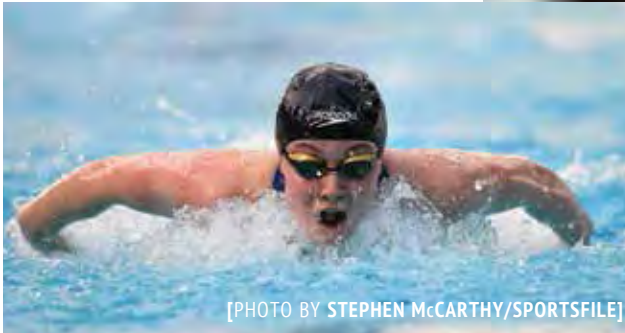
RUBY MARTIN

Following are the two sets done five weeks and three weeks out from Martin’s major December meet:

Five weeks out: SCY

- 2 x 50 (200 pace + :02) + 2 x 100 + 8 x 50
- 4 x 50 (200 pace + :01) + 2 x 100 + 6 x 50

Ruby Martin of the Iowa Flyers in Iowa City made U.S. Olympic Trials cuts in eight events—more than the rest of the state combined. At the end of August, she was the top-ranked swimmer in Iowa in 18 long course and short course events.



[PHOTO BY STEPHEN McCARTHY/SPORTSFILE]

- 6 x 50 (200 pace) + 2 x 100 + 4 x 50
- 8 x 50 (fastest average) + 2 x 100 + 2 x 50

“The first grouping of 50s are done fly on 50 seconds. The 100s are freestyle on 1:15 at a heart rate of 140 to 150 beats per minute. The second grouping of 50s are done dolphin kick, and I let her choose how she wants to do those on an interval of one minute,” says Coach Salhus.

“In November 2015, she held the following with a stroke count of less than 15 to 16 on each one. We will try to improve that this year.”

- 2 x 50 = 30.2
- 4 x 50 = 29.8
- 6 x 50 = 28.6
- 8 x 50 = 28.2 to 28.6

Three weeks out: SCY

“We do this four times throughout the resting phase, and we drop a round as we move forward closer to the meet,” says Salhus. “The 100s are done at the second 100 of her 200 goal, but must be even-split or negative-split. It is easy for her to hold multiple 50s at her given pace, but we try to challenge her to extend it to the 100s. We use the term back-end speed (BES) to indicate that in the set.”

“The following set was done three rounds with about 20 days left before the Speedo Short Course Junior Nationals.”

Three rounds of the following:

- 1 x 100 (BES + :04)
@ 1:30 + 100 recovery @ 1:30

[PHOTO BY PETER H. BICK]



- 1 x 100 (BES +:02)
@ 1:45 + 200 recovery @ 3:30
- 1 x 100 (BES or faster)
@ 2:00 + 300 recovery @ 6:00

100 BES :04

- Round 1: 1:02 (:31/:31)
- Round 2: 1:02 (:30/:32)—“Not a good one!”
- Round 3: 1:01 (:30/:31)

100 BES :02

- Round 1: 1:00 (:29/:30)
- Round 2: 1:00 (:29/:30)
- Round 3: 1:01 (:31/:30)—“I asked her to be ‘lighter’ on the first 50 and be more aggressive on the second 50.”

100 BES

- Round 1: :58 (:29/:29)
- Round 2: :59 (:29/:30)
- Round 3: :57.8 (:28.9/:29.0)—“A little fast for the second 100, but she got the idea of how to approach the 100s through the set.” ❖

SPEED IS EVERYTHING!



You win titles because you're the fastest swimmer in the race. You get gold medals because you've found a way to swim at higher speeds than your opposition. You achieve PRs because your swimming speed is improving. So, how do you develop swimming speed? Here are the 10 "B.E.S.T." scorching, super-speed development sets for every swimmer!

[PHOTO BY TIM MORSE PHOTOGRAPHY]

Speed is what excites every swimmer. That indescribable feeling of moving fast through water is something most people can't imagine. Yet it's that thrill—that sheer exhilaration—of rushing through water that inspires and motivates swimmers all over the world to get up out of bed while the moon is still in the sky and *train, train, train!*

TOP 10 SPEED SETS

1. Explodes!

Explodes work just the way you might imagine. At the commencement of a repeat, explode for 10 to 15 meters at maximum speed—as always using the **B.E.S.T. approach**—i.e., *learning to swim fast with controlled Breathing, Effortless movements at maximum speed, outstanding Skills and brilliant Technique.*

The beauty of explodes is that you can do them anytime—anywhere. For example, even if swimming a long, endurance-type set such as "5 x 400 easy," you can explode at maximum speed for the first 10 to 15 meters of the repeat, then settle back into a more relaxed, aerobic, low-intensity pace for the remaining 385 to 390 meters.

2. KSSK—Kick Swim Swim Kick

Start your KSSK set by swimming a 50 at maximum speed. After a few minutes' rest, grab a kickboard and kick 25 at maximum speed; then leave your kickboard at the other end of the pool and

swim at maximum speed for 25 back to the start. Your goal is to try to get your **combined 25 kick and 25 swim times** to be within five seconds of your 50 swim time.

Now reverse it. Swim 25 at maximum speed, grab your kickboard and kick at maximum speed for 25. Once again, this **combined swim-kick time** should be within five seconds of your straight 50 swim time.

3. Speed Targets

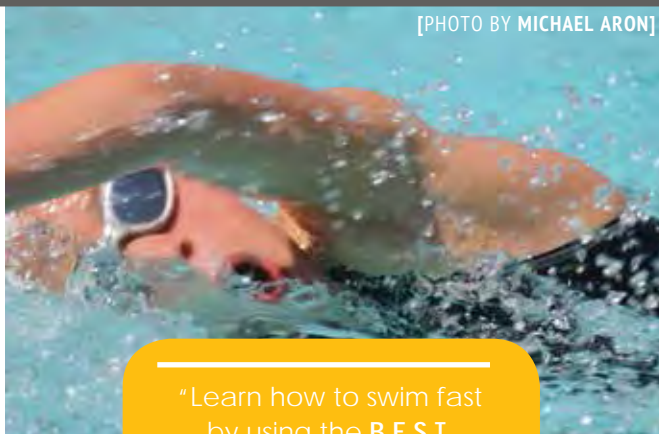
This requires a bit of planning, but it's worth it. Imagine you're trying to swim a time of one minute for your 100 freestyle. Traditionally, we've split this time and distance goal into easy-to-measure distances—e.g., 25, 50 and 75 split times. However, knowing your speed at other distances such as 10-20-30-40-50-60-70-80-90 meters is not only great feedback on how your ability to sustain speed is improving, but you've got a lot more goals to try and reach.

Take a tape measure to the pool and mark out five-meter and 10-meter marks along the side of the pool with plastic "cones." These markers then become speed targets for you to reach at maximum speed.

For example, a traditional speed development set could be 10 x 25 meters at race pace on two minutes. A speed target set would be: 2 x 10 meters at race pace; then, if you've achieved target race pace over 10 meters, move on to a speed target of 2 x 20 meters at race pace...and so on.

4. Mini-max

An oldie, but a “goldie”: Swim 25 meters at maximum speed. Note your time and your stroke count and add them together (e.g., 20 seconds plus 10 strokes = 30 points). Now swim another 25 at maximum speed, but work hard to decrease your stroke count (e.g., 20 seconds plus 9 strokes = 29 points). This set is particularly effective, as it teaches swimmers the importance of maintaining long, powerful, technically-efficient swimming strokes at maximum swimming speed.



“Learn how to swim fast by using the B.E.S.T. approach—controlled Breathing, Effortless movements at maximum speed, outstanding Skills and brilliant Technique.”

5. Whistle Sprints

Coaches should ask the swim team to start swimming very slowly—but to do so using the B.E.S.T. philosophy. Every two minutes, blow a whistle loudly, which is the signal for every swimmer in the pool—regardless of where they are—to sprint at maximum speed.

After 10 to 15 seconds, blow the whistle loudly again, indicating that the swimmers should return to slow, easy, relaxed B.E.S.T. swimming. Repeat the whistle sprints eight to 10 times over a 10-minute swim.

6. Percentage Kick Sets

Swim a 50 at maximum speed. Note the time. Now grab a kickboard and—with the help of your coach or a good calculator—figure out what 120 percent of your swim time is. If your swim time was 36 seconds, take 120 (percent) and move the decimal point to the left two places, resulting in 120 becoming 1.20. Multiply your time by 1.20 (e.g., $36 \times 1.20 = 43.2$). That now becomes your 50 kick goal—i.e., to kick 43.2 seconds for a 50.

If you can do that, aim for 115 percent (e.g., $36 \times 1.15 = 41.4$ seconds). Then, aim for 110 percent...and so on. Swimming fast means learning to kick fast. This set is a great way to increase your focus on fast kicking. Within a very short time, you’ll be swimming faster than you ever thought possible.

7. Six Strokes, Super Sprints

This is a really fun way to improve your swimming speed. Dive—or race start—then sprint at maximum speed for six strokes. Note where you finished your sixth stroke. Rest for one or two minutes, then do it again. The goal is to learn how to swim at maximum speed while you maintain your focus on long, powerful, effective swim-

ming technique and outstanding skills—i.e., B.E.S.T. swimming.

8. Fast Fins

Here’s another speed development set that swimmers really love to do. Swim a 50 at maximum speed. Rest for one or two minutes. Now, put on your fins—your goal is to swim at least five seconds faster over 50 than you swam without fins.

Take the fins off and repeat the maximum speed 50. After another few minutes’ rest, it’s fins on again—and try to beat your non-fins 50 time once more.

9. Halfway Speed Challenges

Grab a partner. Go to the middle of the pool. Say “go,” and race off in opposite directions simultaneously, execute lightning-fast turns and sprint back to the halfway point in the pool at maximum speed—making sure, obviously, not to collide with your training partner! Take a minute-or-two break, then challenge someone else to the halfway speed challenge.

10. Handicap Match Racing

Nothing develops real speed like racing. The toughest racing you can do is match racing: one-on-one contests in which you try to match your B.E.S.T. speed with another swimmer.

The beauty of match racing is you can challenge *anyone*! Offer a slower swimmer a handicap head start—or ask a faster swimmer for a handicap—and it becomes a tough test of swimming speed and high-speed swimming skills. ❖

Wayne Goldsmith has worked with swimmers, coaches, swimming clubs, swimming parents, sports scientists and swimming organizations all over the world for 25 years. He has contributed to Swimming World Magazine for nearly 16 years. He 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 and www.wgcoaching.com.

NOTICE

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



TOTAL ACCESS MEMBERS CLICK HERE

to download Wayne Goldsmith’s “The Three Golden Rules of Swimming Speed.”

SUMMARY

1. You get faster by swimming faster. Want to get smarter? Read a book and study smarter and more often. Want to learn how to scuba-dive? Take a scuba course, join a scuba club and dive regularly. Want to swim faster? *Sprint...sprint...sprint.*
2. Swim fast every day. You can’t pass a history exam by studying math! If you want to swim faster, you have to learn how to sprint in training and to practice swimming fast every day.
3. It doesn’t need to be much. Some days, just swimming a few 10-meter sprints or two all-out dive 25s is all it takes. But try to include some speed development training in every pool training session you complete.
4. Try the B.E.S.T. approach. Swimming fast is important, but learning to swim fast with controlled breathing, relaxation, outstanding skills and brilliant technique is the ultimate goal for every competitive swimmer.

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TODD MARSH

BY MICHAEL J. STOTT

Thanks to head coach Todd Marsh, the Boise YMCA has become a Top 10 fixture at the YMCA Nationals.

Q. SWIMMING WORLD: *What was it about being a junior national and college swimmer that led you to a career as a swim coach?*

A. COACH TODD MARSH: As a recreation major, I thought I would work in the fitness business. I did some summer club coaching with my old team in Gillette, Wyo. Following an internship at the Boise YMCA in 1983, I became aquatic director and assistant coach there.

SW: Any mentors along the way?

TM: My Dad (and coach) emphasized the value of hard work. I saw the impact he had on the sport and lives of his student-athletes. Kevin O'Shea at the Boise Y swim team—currently at the Chinook Aquatic Club (Renton, Wash.)—was my first real job boss, and he taught me valuable lessons about relating to athletes. Doug Ingram with Southern Illinois University and now with the USOC—an amazing leader and role model—taught me about organization and the importance of empowering staff and expecting them to be everyday contributors.

SW: As a youngster, you regularly commuted 68 miles just to swim in a motel pool.

TM: We moved from California to Gillette in 1970. I had just started competitive swimming. When we moved, Gillette did not have an indoor pool. My dad found a 20-yard motel pool 68 miles away and bought a VW Bug for the trip just to keep me swimming. He knew nothing about swimming, but he bought Doc Counsilman's book, "The Science of Swimming." We made the trip two to four times per week during the school year for two years until Gillette built a community rec center, six-lane, 25-yard pool nearby.

SW: Level 4 in the USA Swimming's Club Recognition Program, Bronze Medal Club in 2014 and 2016—what do those accolades mean to your program?

TM: We are proud of those recognition levels and hope to improve upon them in the future. I believe it means we are progress-

ing as a YMCA and a USA swim team.

SW: Boise Y has had tremendous recent success at the YMCA Nationals.

TM: That's because of hard work by our swimmers, coaching staff, YMCA and parent support groups. We set high expectations and team goals annually. Last year we had a team goal of finishing in eighth place at YMCA Nationals, and our team took ninth. We have had progressive improvement and are looking forward to this season.

SW: What do people such as Thomas Roark and Abbey Erwin mean to the program?

TM: They bring a competitive level to our entire team that helps everyone believe they can accomplish more individually and as a team. Thomas is like a racehorse, a true sprinter. He is all in when it comes to a race challenge. Abbey has an internal pace clock and loves training distance. I think she even likes doing all the IM training that we do, and she's getting pretty good at it. They are a pleasure to coach, and finding ways to challenge them and the rest of the team is fun for me.

SW: Why is it that Boise Y is one of the few West Field-Pacific Region North teams that participates at Y-Nats?

TM: The Northwest does not have a large number of YMCAs or YMCA "competitive" swim teams as compared to the East Coast. The cost of attending the meet is a big factor, and the geographic distance between YMCAs to have YMCA meets is a hindrance. Many teams have to travel 400 to 500 miles just to attend the YMCA Regional Championships. Our Boise Y Swim Team has made it a priority to support and attend the YMCA Short Course Nationals. We love the excitement of the meet, and it has become very competitive over the last 10 years.

SW: Do you publicize the team's impressive records as a motivator for current athletes?

— continued on 45

[PHOTO BY JOAN WONG, BOISE Y SWIM TEAM PHOTOGRAPHER]



Coach Todd Marsh

Head Coach
Boise YMCA Swim Team
Boise, Idaho

- Western Illinois University, B.S., recreation, '83
- Coached in the summers with the Gillette (Wyo.) Swim Team (1982-83)
- Assistant Coach, Boise Y Swim Team (1983-85)
- Head Swim Coach, Saluki Swim Club, and Volunteer Assistant Coach, Southern Illinois University (1985-88)
- Head Swim Coach, Spokane Area Swimming (1988-2012)
- Head Swim Coach, Boise Y Swim Team (2012-present)
- ASCA Level 5 Coach

Marsh has developed numerous junior and senior national qualifiers. Two of his athletes, C.J. Neuss and Coleman Allen, were former national junior team members. He has also taken at least 10 to 24 swimmers each year to YMCA Nationals. He and his wife, Vicki, have been involved in virtually every facet of regional and national YMCA and USA Swimming governance.

HOW THEY TRAIN: ABBEY ERWIN AND THOMAS ROARK

BY MICHAEL J. STOTT

PICTURED > (From left) Abbey Erwin, Coach Todd Marsh and Thomas Roark



[PHOTO BY JOAN WONG, BOISE Y SWIM TEAM PHOTOGRAPHER]

SAMPLE SETS (SCY)

Abbey Erwin

- 1 x 800 negative split (4:41/4:19)
- 1 x 500 free @ 6:15 with fast turns (5:44)
- 3 x 100 @ 1:15 ez
- 1 x 400 free @ 5:00 with fast turns (4:32)
- 4 x 100 @ 1:10 ez
- 1 x 300 @ 3:45 with fast turns (3:15)
- 5 x 100 @ 1:05 ez
- 1 x 200 @ 2:30 with fast turns (2:08)
- 6 x 100 @ 1:00 (went :58, :57, :56, :57, :56, :57)
- 1 x 800 negative split (4:34/4:15)

Thomas Roark

(May 4, 2016)

- 15 x 50 from dive @ 3:00 (fastest was 22.3; slowest, 22.7) ❖

According to CollegeSwimming.com, Boise YMCA head coach Todd Marsh boasts the No. 1 female (Abbey Erwin) and male (Thomas Roark) swimmers in the state of Idaho.

ABBIEY ERWIN

This past summer at the Long Course YMCA Nationals, Erwin, 17, finished second in both the 800 and 1500 freestyles (8:54.65, 17:05.24) and placed third in the 400 free (4:19.41).

A senior at Boise High School (Idaho), she has already committed to the University of Minnesota. Heading into this year's high school state meet, Erwin will attempt to add a fourth straight crown in the 200 and 500 yard freestyles. She is also a two-time USA Swimming Scholastic All-American and a National Merit semifinalist.

"Abbey loves training and competing in distance freestyle," says Marsh. "I make all my swimmers train for the IM and 200s of stroke. Abbey has experienced some pretty good time drops over the last four years, and I have been really pleased with her IM and butterfly performances. She did a 4:56 in the 400 IM last summer, but was DQ'd on a turn.

"Abbey is a total 'feel' swimmer. She has to get warmed up progressively in practice or a meet to perform at her best. She records all of her practices, warm-ups at meets and performance times at meets. There are some days at swim meets where she has swum—with warm-up/warm-down, individual and relay swims—more than 10,000 yards," Marsh says.

THOMAS ROARK

Last year as a sophomore competing for Bishop Kelly High School (Boise, Idaho) in the 2015 Idaho state meet, Roark finished second in the 50 and 100 yard freestyles (21.17, 45.98).

At this past summer's USA Swimming Futures Championship, he blasted long course 50 and 100 freestyle swims of 23.90 and 51.48, good for fifth and third place, respectively.

Now a high school junior, the 16-year-old is currently ranked 54th nationally by CollegeSwimming.com.

"Thomas loves to compete and knows how to mentally prepare himself for championship meets," says Marsh. "Several summers ago, he missed most of his training because of a concussion. Cleared to swim about two weeks before the Western Zone Championships, he won two events at the meet.

"His mental toughness at swim meets is awesome. Last year at Winter Juniors, he broke 1:40 in his 200 (yard) free (despite feeling ill). He doesn't hold anything back in a race!"

PROGRESSION OF TIMES - ABBEY ERWIN

SCY	2012	2013	2014	2015	2016
500 Free	5:25.80	4:59.10	4:48.52	4:45.83	4:50.56
1000 Free	11:05.45	10:15.28	9:45.06	9:47.74	9:47.37
1650 Free	18:11.97	17:08.22	16:17.67	16:25.58	16:22.91
200 Fly	2:25.53	2:17.60	2:07.33	2:03.63	2:05.87
400 IM	4:58.27	4:45.47	4:29.72	4:23.23	4:16.45

LC	2012	2013	2014	2015	2016
400 Free	4:47.90	4:27.59	4:23.12	4:19.63	4:18.62
800 Free	9:45.51	9:01.04	9:03.50	8:52.67	8:52.38
1500 Free	18:09.18	17:18.94	17:07.08	16:57.01	17:05.24
200 Fly	2:44.56	2:30.52	2:29.52	2:21.56	2:20.25
400 IM	5:35.68	5:23.91	5:11.61	5:02.26	4:59.10

PROGRESSION OF TIMES - THOMAS ROARK

SCY	2012	2013	2014	2015	2016
50 Free	25.02	22.95	22.54	21.17	20.77
100 Free	54.06	49.64	48.45	45.98	45.09
200 Free	1:59.84	1:54.53	1:50.04	1:43.90	1:39.53

LC	2012	2013	2014	2015	2016
50 Free	27.07	25.69	24.96	23.88	23.90
100 Free	59.85	55.41	53.80	52.07	51.48
200 Free	2:12.27	2:04.12	2:02.00	1:58.00	1:54.39

TM: We use time standards, team records and team placing as motivators. My head age group coach, Mike Lewellyn, just made up a percentage motivator chart based on our team records for practice and meet performances. We have some impressive alumni who have set team records. We hope to break all of them over the next few years.

SW: Dryland?

TM: All of our age group swimmers do a pre-practice dryland routine set up by Coach Mike (Lewellyn). I run a pre-practice routine for our senior and national group swimmers. Our high school-aged swimmers do 30 to 35 minutes of dryland on Monday-Wednesday-Friday after they swim, and (they do) weight training on Tuesday-Thursday-Saturday.

SW: How did Boise Y advocacy impact or influence Idaho high school swimming?

TM: Our YMCA and our former CEO played a huge role in starting Idaho high school swimming; it is a great working relationship and bonus for our swimmers.

SW: Do many Boise State University and University of Idaho swimmers join the Boise Y team for the summer?

TM: We work closely with the BSU women's swimming program, and we help host all of its home meets at our facility. BSU girls in town for work or summer classes stay and train with our team. The BSU coaching staff, Jeremy Kipp and Meghan Hawthorne, volunteer-coach not only the collegiate swimmers, but all of our club swimmers.

SW: You and your wife, Vicki, appear to be YMCA lifers. In fact, the entire Boise Y staff has been heavily involved in local and national swim administration.

TM: Our Boise Y Swim Team is a USA Swimming and a YMCA swim team. Be-

cause of our location, the majority of our swim meets are USA swim meets. Vicki and I have been coaching together before we were married (32 years). She is also a USA and YMCA swimming official. She referees all of the local high school meets and the state meet plus most of our USA and YMCA meets. She also has worked many of the USA Sectional, Grand Prix, Juniors and Nationals. She is an awesome starter and referee. Both of us have been associated with the YMCA most of our careers, and we like the core values the Y promotes on a daily basis.

I have always felt an obligation to promote our sport by volunteering for positions that look out for the best interests of all swimmers, teams and coaches. Our team is the largest in our LSC, and many of my assistant coaches and parent volunteers serve on the LSC board of directors and committees. Vicki is the general chairman of Snake River Swimming and was a former USA Swimming national board member as the Western Zone Coach Representative. I have been the YMCA Regional Northwest Rep since 2011.

SW: The Caitlin Visonhaler Memorial Achievement Meet—how does that work?

TM: It is traditionally our first meet of the short course season. We have more than 200 of our own swimmers along with a few other local teams. We have an all-team barbecue and team games for the swimmers. The meet honors one of our swimmers, Caitlin, who passed away in an auto accident at age 19. We wanted to remember one of our team family members because she was so team-oriented. ❖

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

He has been named a 2017 recipient of NISCA's Outstanding Service Award.

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Eaglebrook's prep school listing was misprinted in Swimming World's October issue. Here is the correct listing:

Theodore Low, Director of Admissions
271 Pine Nook Rd., P.O. Box 7
Deerfield, MA 01342
413-774-9110
tlow@eaglebrook.org

Head Coach Swimming, Max Butler
mbutler@eaglebrook
Head Coach Water Polo, Jack Mahoney
jmahoney@eaglebrook

Eaglebrook is a world leader in boarding and day school education for middle school boys. Located on 750 acres in historic Deerfield, Mass., 100 miles west of Boston, our diverse student body represents 14 states and 22 countries. Our students benefit from: a vigorous curriculum that prepares them for secondary school; a student-to-faculty ratio of 5:1; average class sizes of 8-12 students; and outstanding secondary school placement assistance.

The aquatics center, opened in 1997, has a six-lane, 25-yard state-of-the-art pool equipped with an electronic timing system. We have both junior varsity- and varsity-level teams for water polo and swimming. Our teams compete with secondary school JV and varsity teams in the New England Prep School League. The team has earned four Division III championship titles for the Western New England Prep School League Championship, one Division II title in the same league and one Division III championship title in the New England Prep School Championships.

Varsity athletes go on to participate on secondary school varsity teams, including Deerfield Academy, Peddie School, Mercersburg Academy, Suffield Academy, Phillips Exeter, Phillips Andover, Choate Rosemary Hall and Hotchkiss plus college teams, including Harvard, Columbia, Middlebury College, Dartmouth, Bates College, University of Florida, Southern Methodist University, Claremont McKenna and Connecticut College.

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UP & COMERS

AGE GROUP SWIMMER OF THE MONTH

BY TAYLOR BRIEN

Eliot Kennedy

Eliot Kennedy, 13, of Waves Bloomington-Normal Y Swim Team (Ill.) has discovered the best of both worlds, becoming a dominant force both in the pool and in open water competition.

Kennedy participated in her first-ever open water nationals last spring, finishing as the 14th fastest American in the 5K. She then represented Team USA at the FINA World Junior Open Water Championships, July 16-18, in Hoorn, Netherlands.

In the pool during the 2015-16 season, Kennedy ranked No. 1 in the 1500 meter freestyle for girls 13-14 (16:48.59). She also ranked second in the 800 (8:55.12) and seventh in the 400 (4:24.53).

Coach Charles Yourd explained to *Swimming World* that Kennedy is “outstanding at outside-of-the-pool recovery. When it’s time to relax, Eliot knows how to relax!”

Kennedy—nicknamed “Big El” by her older sister, Sidney—enters the 2016-17 season as a member of the national junior team with cut times for the 2017 Phillips 66 Nationals and World Championship Trials in the 1500.

When not swimming, she enjoys shopping and going to the beach. She also studies Chinese—a special language for her since her parents first met while living in China. ❖



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WHAT IS THE BEST THING YOU DO IN SWIMMING?

I think that what I do best in the sport is get up and race. I do good under pressure, so I have mental toughness. Even after I’ve had a bad race, I don’t let it get to me and I move on to the next race. At Junior Nationals this summer, I had a bad race in the 800, but I came back and had a good swim in the mile. So, racing is what I do best in the sport.

WHAT ARE SOME OF THE TOUGHEST WORKOUTS/SETS YOU’VE DONE?

The following set (SCY) is swum all freestyle. Each thing varies in speeds, and the intervals can get difficult. Before I do this, I do a pull set—something like 16 x 125 with paddles. Then I work on some technique before getting to the following main set:

- 5 x 100 @ 1:15 race pace
- 4 x 200 @ 2:25 descend 1-4
- 3 x 300 @ 3:35 descend 1-3
- 2 x 400 @ 4:40 first 400 fast; second 400 faster
- 1 x 800 @ 9:30 negative-split
- 2 x 400 @ 4:40 first 400 fast; second 400 faster
- 3 x 300 @ 3:35 descend 1-3
- 4 x 200 @ 2:25 descend 1-4
- 5 x 100 @ 1:15 race pace
- 200 warm-down

WHAT IS YOUR FAVORITE THING ABOUT SWIMMING?

Meeting new people—I like meeting people from different teams. When I traveled to The Netherlands last summer, I was able to make friends with people from all over the world.

WHAT ARE YOU MOST LOOKING FORWARD TO THIS YEAR?

Going to the national junior team camp in February. I’m excited to learn new things and to train with other elite athletes while I’m at the Olympic Training Center.

WHO IS YOUR SWIMMING IDOL...AND WHY?

Haley Anderson...because she has gotten to a level in swimming where I really want to be in the future. She has had success in both open water and pool swimming. She competed in the Olympics in open water in 2012 (10K, silver medal) and 2016, and she also was competitive in the pool at the last two U.S. Olympic Trials.



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OPEN WATER FINISHES

WHAT CAN BE DONE TO AVOID CONTROVERSIAL FINISHES IN OPEN WATER?
 COULD THERE BE A MORE NATURAL, PRECISE WAY TO TRACK FINISHES—
 RATHER THAN HAVING ATHLETES REACH UP TO SLAP THE TOUCH PAD?

BY ANNIE GREVERS



HALEY ANDERSON /

2012 10K Olympic silver medalist,
 2016 U.S. Open Water Olympian

[PHOTO PROVIDED BY DOLFIN]

In terms of close calls and things like that—when the technology gets better, it will be easier to call who gets the win. In terms of controversy with violence—it's all a part of the competitive nature of elite athletes. And that really depends on the athlete as well—many athletes don't do what the French girl (Aurélie Muller, 2015 10K World Champion) did in Rio. She was about to get third, but pushed the Italian girl (Rachele Bruni) down, and she ended up getting disqualified.

The elevated touchpads are the best option, and it's something we get used to having to do since it's a huge part of our sport. It's similar to batons in track relays. We wear transponders on our wrists, which are not always the same standard, meaning some can be a lot more bulky than others. I would love to see that technology get better to track the athletes physically and to track the times.



TYLER FENWICK / Associate Coach, University of Tennessee

[PHOTO BY AZARIA BASILE]

We have put astronauts on the moon, we have ski resorts in Dubai, and we have phones that can hold conversations with us if we are bored or need advice. Technology has come a long way. Hitting a small board with your hand seems a bit archaic.

My four recommendations would be as follows:

A Longer Finish Structure: If we are going to use a board, let's increase the length. Right now, the standard FINA regulation finish structure is 10 meters. The ending of the men's race in Rio illustrated that this is too small. Extending it to 15 meters may solve the issue and allow the best swimmer to finish first!

Video Review and Retroactive Disqualification: We currently have video review for the finish of races, but often times, the quality of the images are poor. I just bought a 65-inch curved 4K TV. On Sundays, I can see the direction a football player's cleats are laced! Let's utilize high-definition cameras, drones and video framing to review not only the order of finish, but to help officiate or overturn an unwarranted disqualification retroactively. If baseball is finally willing to use replay...so should we!

Better Officiating into the Chute: There have been several international and domestic races over the last few years in which the officials' boat has peeled off with 400 meters left in the race...or there has been an inadequate level of officiating into the finish. This is often when races become the most physical, and the outcome is impacted heavily. To ensure the best swimmer wins, the finish chute needs to become a top priority for our officials.

Spectator Access: Open water races can be long and can take place across extended venues. It is inherent that spectator access and engagement presents a challenge. Utilizing announcers and drones is essential. Beyond those resources, I would like to see a further emphasis on spectator access to the finish. This is often the most exciting piece of a race, and many venues make it near impossible to see who wins. Why?! Let's market our sport better to the casual fan!



BRUCE GEMMELL / 2016 Olympic coach; head coach, Nation's Capital Swim Club (Georgetown Prep location)

[PHOTO BY TAYLOR BRIEN]

In lots of ways, I think it comes down to the consistency and experience of the officiating. In many cases, the athletes are not sure what will and will not get called as fouls. If that were sorted out, I think the finishes would become more "fair and equally competitive." ❖

PARTING SHOT



It seems that one of the prerequisites for becoming an Olympic open water swimmer—besides swimming fast enough to qualify—is to be able to recognize your country's flag while swimming. Hydration and feeding are an essential element of success, as these swimmers maneuver to locate their respective feeding stick. (Pictured: women's 10K Marathon Swim in the Rio Olympic Games at Fort Copacabana)

[PHOTO BY ERIC SEALS-USA TODAY SPORTS]

The Speedo logo, featuring the brand name in a white, italicized sans-serif font above a white chevron symbol, all set against a red rectangular background.

speedo


A high-angle, action shot of a female swimmer, Maya Dirado, in a pool. She is wearing a white swim cap, blue-tinted goggles, and a black Speedo swimsuit. She is captured mid-stroke, with her right arm raised and water splashing around her. The background is a blurred blue pool.

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MAYA DIRADO

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