

WORLD MASTERS OF THE YEAR ISSUE

# SW

## SWIMMING WORLD

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TEACHING THE  
**DOLPHIN KICK**

**DO'S &  
DON'TS**  
OF A  
**SWIM  
MOM**

# DARIAN TOWNSEND

MASTER OF TWO CONTINENTS

+

**SWIMMING'S  
MOST  
IMPORTANT  
LESSONS  
PART I**

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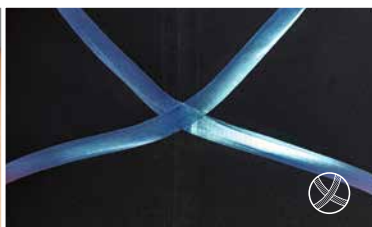
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## FEATURES

### 012 **DARIAN TOWNSEND: CAPTAIN AMERICA** by Annie Grevers

Darian Townsend was a member of South Africa's 4 x 100 freestyle relay that upset the United States men for Olympic gold at Athens in 2004. Just last summer, he became a U.S. citizen, and the 30-year-old is now viewed as a veteran and a leader for the Red, White and Blue.

### 016 **EVENT SPECIALIZATION: WHAT TO LOOK FOR, WHEN TO DO IT** by Michael J. Scott

### 026 **2014 TOP 12 WORLD MASTERS SWIMMERS OF THE YEAR** by Jeff Commings, Annie Grevers, Jason Marsteller and Emily Sampl

### 035 **WHAT IS A "MASTER"?** by Jeff Commings

Masters swimmers come in all shapes and sizes. Some are ultra-competitive; others are in it just to stay fit and possibly live longer. Swimming World profiles three different types of Masters swimmers, and they all seem to agree on one thing: Masters swimming is a lifelong sport.

## COACHING

### 010 **LESSONS WITH THE LEGENDS: NORT THORNTON**

### 020 **SWIMMING TECHNIQUE MISCONCEPTIONS: BUTTERFLY UNDULATION**

by Rod Havriluk

A common swimming technique misconception is that an emphasis on undulation (a wave-like motion of the body) is necessary for an effective butterfly. In reality, an optimal butterfly has minimal undulation.

### 022 **TEACHING DOLPHIN KICK** by Bridger Bell

Dolphin kick appears in all four strokes—including starts and turns. The following program can help swimmers of any aptitude learn to execute effectively what may be the fastest movement in competitive swimming: the dolphin kick.

### 025 **TECHNIQUE: BREATHING DURING BACKSTROKE**

### 042 **Q&A WITH COACH JASON WEBER** by Michael J. Stott

### 043 **HOW THEY TRAIN JENNY HILL** by Michael J. Stott

## TRAINING

### 037 **DRYSIDE TRAINING: SPRINT FREESTYLE SET** by J.R. Rosania; demonstrated by Darian Townsend

## JUNIOR SWIMMER

### 038 **GOLDMINDS: SWIMMING'S MOST IMPORTANT LESSONS (PART I: #s 1-15)**

by Wayne Goldsmith

Here is a summary of the most important lessons the author has learned in the business of helping swimmers and coaches realize their potential—a personal journey 25 years in the making!

### 045 **UP & COMERS**

## ON THE COVER

Darian Townsend is an Olympic gold medalist, a world record holder, an NCAA champion and one of Swimming World's 2014 Top 12 World Masters Swimmers of the Year. He's represented South Africa internationally for years, but after becoming a U.S. citizen last summer, the 30-year-old will now focus his attention on swimming fast for the United States. A natural leader, he already captained his first U.S. national team in January at Australia Swimming's Super Series. (See stories, pages 12 and 26, plus related story, page 37.)

[PHOTO BY EMMI BRYTOWSKI]

## COLUMNS

### 008 **A VOICE FOR THE SPORT**

### 040 **MOMS AT MEETS**

Swimming World presents a quarterly series that showcases moms and dads of swimmers from around the country.

### 046 **GUTTER TALK**

### 048 **PARTING SHOT**





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# CUSTOM DYED SWIMWEAR

# Swimming's Master(s) Plan

BY CASEY BARRETT

What if there were a focus group of older, wiser supporters who shared your greatest passion and had a vested interest in seeing you be successful? What if that group were composed of demographics that force decision-makers to sit up and listen?

There is. They're called Masters—and for good reason.

Masters swimmers have long been a silent majority who toil alongside club and college swimmers, too often without enough communication between the tiers of our sport.

We all celebrate the crazy fast times of age groupers, and the brightest lights will always shine on our national champions and Olympians, the ones who reach the pinnacle of pool-bound success. However, the ones who continue on—for decades longer—tend not to receive the same headlines or praise.

Masters are a proud bunch, and they don't need pats on the back from the young folk. That's not why you stay in the water. Sure, times will always be fun to track, and the rush of competition never gets old. But when you continue coming to the pool, year after year, well past the age of retirement, it's more than that.

It's because swimming is part of your soul. You're the elders of our tribe. *Swimming World* recently spoke to Joel Shinofield, the executive director for the College Swimming Coaches Association of America (CSCAA). He's a believer in United States Masters Swimming (USMS), and he's quick to point out that their support goes a lot further than simply respect. Masters swimming can have a major impact on the long-term survival of college swimming.

Back to those demographics: most Masters swimmers have a college degree and earn a good living. Many earn a better

than good one. A large portion of them swam in college, often on scholarship, and every last one of them understands the bone-deep values that being a swimmer instills.

College athletic directors need to hear from them. They will listen.

Said Shinofield: "College institutions need to hear from the Masters swimming community. The cost to run athletic departments are rising at a rate of 8 to 12 percent per year with income for those departments only rising 4 percent per year. They will have to make hard decisions. The discussion for Masters swimmers is not about monetizing the sport. The discussion is about what value the sport brings to the university and community. Colleges will keep the sports that bring the greatest value."

*Swimming World* remains committed to trumpeting the health of our sport. We all know that many college programs are endangered species. We understand that pools cost plenty to run and maintain. But this isn't just about saving programs. There is a domino effect that will affect every level of the sport. Fewer college programs will mean a drop in participation in high school, particularly for boys. Without that destination out there, many will choose to pursue other sports. Less high school swimming will then lead to less club and age group swimming, and down it goes.

And up it goes, too—to that large and powerful demographic of aquatic athletes who love this sport so much, they've decided never to climb from the pool. No one wants to see the entire sport of swimming remain healthy and successful more than Masters.

They have your back, and they used to be just like you. ♦

**Casey Barrett**  
Senior Commentator



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# LESSONS with the LEGENDS

BY MICHAEL J. STOTT

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

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## NORT THORNTON

**B**efore he became a household name nationally, Nort Thornton worked his aquatic magic in suburban San Francisco. He first coached at newly formed Los Altos High School and quickly produced powerhouse teams that featured Olympian Steve Clark and Bob Benson, who waged intense “paper battles” with New Trier (Ill.) for high school supremacy. Staying in Los Altos, he then coached at Foothill, the local community college, where he led his teams to 11 national championships.

Thornton evinced a talent for recruiting internationally, melding athletes such as Canadian Graham Smith and Sweden’s Par Arvidsson with American Peter Rocca to win the 1979 and 1980 NCAA crowns. In 1973-74, he also helped train Australia’s Shane Gould at the Foothill Aquatic Club (Calif.) immediately before her retirement.

Forgotten these days is that early on, Thornton regarded himself as—and was, indeed—a very successful water polo coach. However, an encounter and subsequent lifelong relationship with Doc Counsilman steered him into swimming. Thornton was quick to embrace Counsilman’s enthusiasm for technical excellence that has served as a basis for his subsequent success and current focus as a coach.

He retired as head Golden Bear in 2007 and has stayed on as coach emeritus with Dave Durden, whom Thornton credits for Cal’s re-emergence as a D-I juggernaut. Thornton continues to coach because of the

attendant joy he gets from working with kids and watching them progress.

### SCIENCE OF BREASTSTROKE

In the last eight years, Thornton has delved extensively into the science of breaststroke, reaping impressive rewards for the Bears at NCAA Championships. In the period 2011-14, the Bears have had nine top-eight finishers and two consol swimmers in the 100-yard event and 10 in the 200 with two in consols. “What I am finding as I go forward,” he says, “is that these days, I am doing more technique work and less yardage.”

In his breaststroke research and practice, Thornton has focused specifically on fast breaststroke turn work: “A secret is to minimize drag and resistance, especially narrowing the stroke to stay within the body line. As the guys get better, I teach them the ‘steam engine breaststroke,’ where the chest and core are like a steam engine and the shoulders ride up and over, putting wheels to the engine while the attached pistons and arms produce a forward-and-back motion as opposed to a whip.”

To facilitate such adaptation, Thornton has used neoprene bands around the waist and above the knees: “This keeps the knees from coming up too far, which is one of the biggest mistakes breaststrokers make. Dropping their hips and bringing the knees up creates a tremendous amount of drag.

“I only have the breaststrokers a couple of days a week, so it’s nothing too much,” he says modestly. “It’s like a gem. You take it out, polish it and put it back.”

And in the process, produce gold-medal performances while quietly burnishing your own legend. ♦

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

**PICTURED >** In the 33 years that Nort Thornton coached the Cal-Berkeley men’s team, he compiled a dual meet record of 231-85 (73.1 percent). He had athletes who won 48 NCAA individual and relay titles as well as two national championships (1979, 1980). In 28 of those years, his teams finished in the top 10 in the national rankings. An education major at San Jose State (1956), he followed his father into swim coaching, mentoring All-Americans by the bushel, including Olympic medalists Matt Biondi, Anthony Ervin, Milorad Cavic and Nathan Adrian. During his Cal tenure, 48 of his athletes participated in the Olympic Games, winning 29 medals, including 14 gold, 10 silver and five bronze. Thornton was also ever-present internationally, coaching American squads at the 1979 FINA World Cup, 1983 Pan Am Games, 1986 and 1997 World Championships and 1997 Pan Pacific Championships. He is a past president and board member of the American Swimming Coaches Association and former member of the NCAA Rules Committee. He also resides in the ASCA and International Swimming halls of fame.





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# DARIAN TOWNSEND: **CAPTAIN AMERICA**

Darian Townsend was a member of South Africa's 4 x 100 freestyle relay that upset the United States men for Olympic gold at Athens in 2004. Just last summer, he became a U.S. citizen, and the 30-year-old is now viewed as a veteran and a leader for the Red, White and Blue.

BY ANNIE GREVERS



[PHOTO BY EMMI BRYTOWSKI]



## BORN INTO SWIMMING

Darian Townsend was born in Durban, South Africa to Rita and Ted Townsend. His mother was born in the Netherlands, but lived in Zimbabwe during her prime swimming years. Rita held most age group records in Zimbabwe until Kirsty Coventry swept the record board clean. Darian's dad represented both Zimbabwe and South Africa in water polo. Cheryl, Darian's younger sister, swam for Texas Christian University.

Yes, chlorine definitely runs in the Townsend veins.

Wayne Ridden was Townsend's first coach at the Seals Swimming Club in Pietermaritzburg, South Africa. He helped Darian grow from an eager, "green" age grouper to a mature, self-aware athlete. Townsend attributes his longevity in the sport to the way Ridden trained him during his first decade in the water.

"The decision was always up to the swimmer," Townsend said. "If you didn't want to work hard, Ridden wouldn't yell at you."

The way a swimmer advanced with Ridden was by "taking the wheel."

"I took ownership of my swimming at 14 or 15," Townsend said. Ridden expected his swimmers to be in touch with their bodies and learn what they needed and did not need.

That South African approach to training has stuck with Townsend. Club swimming in the U.S. leans toward meeting the general needs of the group, but Ridden's training catered to the individual. The focus in South Africa was typically swimmer before team.



[PHOTO BY PETER H. BICK]

## ATHENS 2004

Darian Townsend was one quarter of the relay that put an end to the USA's amazing Olympic unbeaten streak that began in Tokyo in 1964. Townsend was only 19 years old when he was tested on the Olympic stage with three of his fellow countrymen. After finaling in the 4 x 100 free relay at the 2003 World Championships in Barcelona, the South African crew began to dream big.

Roland Schoeman and Ryk Reethling were already famous names in the South African swimming scene. After South Africa's Olympic Trials in April 2004, the veterans crunched some numbers. Reethling and Schoeman added up a remarkable relay time. On paper, it was the fastest in the world.

Schoeman sent out an email to the potential members of the 4 x 100 free Olympic relay: "Guys, we have a chance to do something big in Athens."

The email gave Townsend permission to believe "we might do this" for the first time.

But before Townsend could visualize an Olympic gold medal draped around his neck, he had to secure a relay spot. Four days before the relay at the Olympic Games, he raced in a time trial.

"I was more focused on getting on the relay than winning gold," Townsend said.

Neethling and Schoeman were the only shoo-ins. Townsend and Lyndon Ferns earned the other two spots to make the final relay roster.

Townsend thinks the time trial helped him keep his nerves in check. After the spots were finalized, the relay poured their energies into making the final. They lit up the pool in prelims and were the No. 1 seed going into finals.

The top spot rolling into finals put the wind at their backs. Team South Africa had an opportunity to shock the world. "We can win this," they thought.



[PHOTO PROVIDED BY DARIAN TOWNSEND]

**PICTURED ABOVE (from left) >** South Africa's Ryk Neethling, Lyndon Ferns, Roland Schoeman and Darian Townsend show off their Olympic gold medals after putting an end to the USA's amazing Olympic unbeaten streak in the men's 4 x 100 freestyle relay that began in Tokyo in 1964. Of the six Olympic gold medals that RSA has won in swimming since its first in 1928, its WR performance of 3:13.17 in 2004 remains as the country's only Olympic gold medal in a men's relay.

**PICTURED TOP >** Besides being part of the world record-setting 4 x 100 freestyle relay at the 2004 Olympics in Athens, Darian Townsend also held the world record in the short course 200 meter IM with a 1:51.55 from Nov. 15, 2009 through Dec. 17, 2010.

— continued on 14



While other countries had a fresh batch of swimmers to race in the Olympic final, South Africa kept their prelims relay intact, which was fast enough to beat the normally dominant Australians, Americans and Dutch in all four legs of the relay.

Neethling touched 1.2 seconds ahead of a fast-closing Pieter van den Hoogenband, whose 46.79 anchor split gave Holland the silver over the USA. The South Africans then flexed every muscle fiber in their pumped bodies as they celebrated, knowing how many jaws had dropped witnessing their feat. They had captured Olympic gold and slammed down a world record in the process.

Townsend's first Olympic experience was historic and euphoric. Not many people add the titles, "Olympic gold medalist" and "world record holder," to their resumé before entering college. The present was sweet, and the future was bright.

### STATESIDE

The other three members of South Africa's famed 4 x 100 free relay were planted in sunny Tucson, Ariz. Schoeman, Ferns and Neethling had all graduated from the University of Arizona by 2006, but were all sticking around to train with Coach Rick DeMont through the 2008 Olympics.

Townsend transferred from the University of Florida to UA in the fall of 2006, and the heroic relay was reunited. The training in Tucson was different—less yardage than UF, but more weight training.

The Athens relay world record will forever be a glimmering moment in Townsend's career, but there's another race that stands alone.

It was at the Berlin World Cup meet in 2009 when Darian went

head-to-head against the greatest Olympic swimmer of all time, Michael Phelps, in the 200 IM. Townsend did not let Phelps' pre-race shoulder slap shake his race plan.

Townsend beat Phelps that day, and his 1:51.55 wiped out Ryan Lochte's SCM world record by a hundredth of a second.

The swim was a needed confidence booster for Townsend. "It was an emergence from my role as a relay swimmer," Townsend said. Yes, this time he had a world record all to himself.

### MASTERS

Fast forward to 2013. Many swimmers ease off in a post-Olympic year, but Townsend has never been the type to stray from the pool. He's a disciplined soldier of the sport. He marched on with serious training, but his heart was not in it.

Townsend began coaching for Tucson Ford Aquatics while still training with the Arizona post-grad group.

His days were grueling. When he was not in the pool, he was on the pool deck. Townsend decided to take a step back from his swimming, so he could keep on with the coaching.

"Coaching has really helped me become a student of the sport," Townsend said. "I used to be more focused on achievements, accolades and medals. I would never watch film from my bad races. Now I look at the sport from a coach's perspective, and I watch those bad races more than the good ones."

Enter Masters swimming. Townsend was looking to keep fit and continue racing, but in the most efficient way possible. Jim Stites heads up the Tucson Ford Masters program and was ecstatic to have Townsend join the party.

"If a swimmer ever needed an example of a turn or technique, I'd just point to Darian," Stites said.

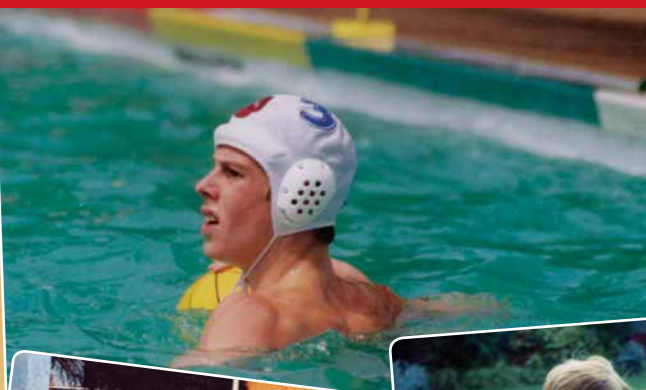
## DARIAN TOWNSEND THROUGH THE YEARS

Wednesday, September 8, 2004



Pietermaritzburg's golden boy visits his roots. See page 7.

[PHOTOS PROVIDED BY  
DARIAN TOWNSEND]





It was a major shift for Stites to see a Masters swimmer throw down a 47-second 100 yard free in practice.

"You do what you want to do in Masters," Townsend said. "It's only one hour, so I had plenty of energy to attack the main set."

Townsend was spending more time in the weight room, gaining strength and allowing his body more recovery time away from the pool.

During his stint of training with the Masters group from August 2013 through March 2014, Townsend started to see some swift times. His breakout meet was in November at the Minneapolis Grand Prix, where he flew to a 1:43.73 in the 200 yard IM.

"I saw times I had not seen in two years at that meet," Townsend said.

His four best times ever in the 200 IM came in the fall of 2013. That December at the Oklahoma Pro-Am, he blazed to a 1:41.79.

Townsend fondly recalls his time training with the Tucson Ford Masters: "My body and my mind recovered. Swimming did not feel like a job anymore. It was fun again."

### BECOMING AMERICAN

Through 2012, Townsend felt obligated to represent his home country. But at the 2012 Olympics, he looked at the Americans with envy. Team South Africa had some in-house fighting going on at the Olympic Games, and the politics were getting in the way of Townsend's priority—swimming fast for his country.

Townsend had no funding from South Africa when he traveled to the World Cup meets. He started to notice the many advantages of swimming for the U.S. Certainly the caliber of swimming was higher, therefore qualifying for teams would be tougher. But the biggest difference to Townsend was the American approach to swimming.

PICTURED > Darian Townsend (third from left) with mom, Rita; dad, Ted; and sister, Cheryl



"Everyone wants everyone to do well," Townsend said of the U.S. team.

His experience competing with American pro swimmers at the 2012 Elite Pro-Am in Oklahoma was a turning point.

"All the Americans got along so well, it reminded me of college swimming," Townsend said. "It was there that I thought, 'I want the rest of my career to feel like this.'"

Townsend became an American citizen in the summer of 2014. It did not take long for other Americans to view Townsend as a veteran and a leader. He captained his first U.S. national team in January at Australia Swimming's Super Series.

"Frank (Busch, USA Swimming's national team director) pointed out how our swimmers waited for their two relay members on the other side of the pool to join them before clearing the deck as a unit in Australia. Other countries walked off deck individually as soon as the race concluded."

It's cohesiveness like that which makes the U.S. team successful, and the American team-as-family mentality that makes a native South African want to represent the Red, White and Blue.

"Swimming is not a team sport, but the U.S. does a great job making it feel like one." ❖

### CURRENT STATUS



Townsend trains with the Scottsdale Aquatic Club [Ariz.] and is coached by Kevin Zacher and Darian's best friend, Johno Fergusson, who is also from South Africa. His training is sprint-centric for the first time ever. He tries not to let 16-year-old wonder kid, Ryan Hoffer, beat him in practice. J.R. Rosania, former strength coach to Olympic gold medalists Misty Hyman and Gary Hall Jr., works closely with Townsend to complement what he does in the pool. Rosania admires Townsend's "intentional focus," and he loves training elite athletes such as Townsend because "there's little gray area—they either train at a high level or are completely thrashed." ❖

# EVENT SPECIALIZATION:

## WHAT TO LOOK FOR, WHEN TO DO IT

BY MICHAEL J. STOTT



[PHOTO PROVIDED BY USA SWIMMING]



[PHOTO PROVIDED BY  
WASHINGTON STATE UNIVERSITY]

**PICTURED >** Tom Jager, who now coaches the women's team at Washington State University (inset), held the world record in the 50 free for more than 10 years. He was also world-ranked in backstroke and a national champion in butterfly. "In those days (1970s), we swam all events," says Jager. "None of us were specialized. A swimmer was a swimmer—every stroke, every distance."

**T**ime was when swimmers were just swimmers rather than the specialists they are today.

In 1979, Tom Jager (then 15), now the Washington State women's coach, was ranked 10th in the world in the 200 meter backstroke. Later, he also became NCAA champ in the 100 back and beat Pablo Morales to win a U.S. national championship in the 100 fly.

Really? Isn't this the same guy who held the world record in the 50 meter free for more than 10 years and swam 20,000 meters a day for three weeks during summer training?

"I did all that '70's stuff, but I don't believe it made me a faster 50 guy. It made me a better swimmer," he says. "The 50 came later."

"In those days, we swam all events. None of us were specialized. When I was on the Olympic team (1988, 1992), there were 23 men, and all of us could have swum nine of 13 events. A swimmer was a swimmer—every stroke, every distance. It was how we were trained."

### FROM DISTANCE TO SPRINTS

Aquatic history is rife with athletes who started as distance or mid-distance swimmers and found success in shorter events. Frank Busch, USA Swimming's national team director, is familiar with two: Olympian and long-time Arizona assistant (now head) coach Rick DeMont and four-time Olympian Ryk Neethling.

— continued on 18





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In the early-to-mid-'70s, DeMont was the world record holder in the 400 and 1500. As he matured, he developed “long power with a monster six-beat kick,” and in 1977, he swam on a world record 400 freestyle relay team.

“Ryk Neethling was a world-class distance swimmer (who) really flourished in shorter distances as he aged,” says Busch. “His confidence rose, too.”

Another example of a distance-trained athlete-turned-elite-sprinter is Nathan Adrian, the 2012 Olympic 100 freestyle champion. Back in 2001, when he was 12, he worked with Coach Jay Benner of the Tacoma Swim Club (Wash.).

“Nathan’s development was never fast-tracked,” says Benner, now the head coach and CEO of Ridgefield (Conn.) Aquatic Club. “He trained with a primary focus on endurance. Our average weekly training volume was consistently around 60,000 to 70,000 during the school year. During the Christmas break and the first three weeks of summer, we would peak at 100,000 yards while doing three sessions a day.

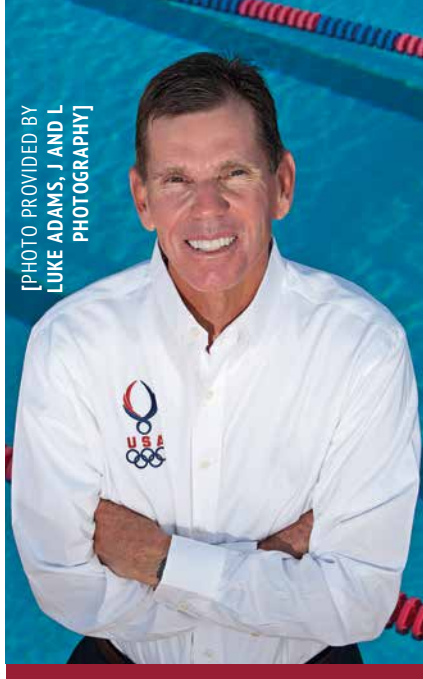
“Our program not only established a great aerobic base, but it also created mental toughness. We didn’t prioritize in-depth dryland, but centered strength work on in-water resistance training, using parachutes, long belts and, later in the development (of our elite swimmers), power racks. Core exercises and surgical tubing were the extent of our dryland program,” says Benner.

“Event specialization can be addressed once a significant training base has been established,” he says. “My program was always centered on building a huge aerobic base once swimmers started to mature. For girls, that is usually ages 10-11, and for boys, 12-13. Our job as club coaches is to set the table for future success. I believe that even when swimmers show great ability in the sprint events, they should continue to train and ‘race up’ during their high school years.

#### WHAT TO LOOK FOR

“More often than not, genetic make-up will choose the path for specialization,” says Benner. “Middle distance swimmers may have an easier time both swimming up and swimming down. Unquestionably, the bigger one’s aerobic base, the greater the future potential to go either way. There is no exact gauge to determine when an aerobic base is thoroughly established. After four years, I make it a goal for swimmers to be able to

[PHOTO PROVIDED BY  
LUKE ADAMS, J AND L  
PHOTOGRAPHY]



*“You just can’t put everybody in a box and expect them to grow. So whether it is an increase in load, strength, dryland or a reduction in training, the smart coach figures that out and evolves with the athletes.”*

*— Frank Busch, national team director, USA Swimming*

handle the volume and attack training with quality effort. A swimmer’s daily recovery is also a good indicator of aerobic development. Getting athletes to swim fast and efficiently with less effort is always a priority.

“The role of age and physical and emotional maturation determine whether a swimmer can commit to an increased training load. Swimmers (like all athletes) develop at different rates. Some struggle to stay motivated when the payoff is slow to come,” adds Benner. “I urge swimmers to embrace the process and understand that the struggle builds a toughness and resilience that will help them later on. The training load required for distance and middle distance events provides a greater mental and physical challenge as swimmers get older. Here, a great aerobic base will also greatly aid recovery.

“When developing swimmers during early maturation, I prize quantity over quality (i.e., anaerobic training). We do a lot of ‘cruise effort’ swimming, in which swimmers do a set of 3,500 to 5,000 yards with heart rates 40 to 50 beats below maximum. This enables swimmers to maintain good technique and swim for 40 to 60 minutes. We use this approach as recovery work throughout the season—e.g., 4x the following: 3 x 300 cruise effort @ 3:30; 4 x 25 (4) stroke cycles sprint @ :30 (the four cycles are strong/fast out of the breakout, then easy the rest of the 25).

“I emphasize a lot of sub-threshold swimming, just below anaerobic threshold. Negative splitting along with descending kick sets is a program standard. Once swimmers start to mature, we view it as a transition year, where athletes can progress without being overwhelmed physically and emotionally. Girls usually handle the increased workload better than young boys. In the second year, we add one to two training sessions per week.”

#### THE LONG AND SHORT OF IT

“A lot of distance swimmers are wannabe sprinters,” says DeMont. “Maturation plays a huge role physically and mentally. Older bodies need more rest and recovery and take longer to adapt to stress. The older guys I coach don’t bounce back quickly, but they can still get going maybe better than they ever did.”

For the many swimmers who have come down in distances, there are precious few who have gone the other way. “A lot of it is about desire,” says DeMont. “Most people don’t want to go in that direction. When someone does, it is great, but it is kind of rare.”

Busch reports he’s had a number of sprinters who ended up being very good 200 swimmers. However, “very rarely do you find someone who comes in as a 100 person and winds up being great in the 500. USC’s Lindsay (Benko) Mintenko was one of those (two-time Olympian, three-time NCAA 500 champ). To go from short to long, you have to have the mindset and talent.”

Another example of a swimmer going from “short to long” is North Baltimore’s Cierra Runge, now a freshman at Cal. In December 2013, the accomplished sprinter and 200 back specialist swam a 1000 yard free. “She popped a 9:30-something (9:25.79), and that pretty much changed her life,” says Busch. She finished high school No. 4 all time in the 1000 (U.S. 17-18 girls), was second in the 400 meter free at 2014 Pan Pacs, and made the 2015 World Championships team (400 free, 800 FR). Last February, she set an NCAA record in the 500 (4:31.90, fourth fastest American all time).

Of course, it is more common to go from long to short—such as Tom Jager, who made his first senior cut as a 1650 swimmer, leading Busch to conclude:

“To think there is just one way to bring someone along is a huge mistake. You just can’t put everybody in a box and expect them to grow. So whether it is an increase in load, strength, dryland or a reduction in training, the smart coach figures that out and evolves with the athletes.” ♦

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



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# BUTTERFLY UNDULATION

BY ROD HAVRILUK

Many people believe that the technique of the fastest swimmers is worth copying, resulting in numerous misconceptions. 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 more effective options.

## SWIMMING TECHNIQUE MISCONCEPTION

**A common swimming technique misconception is that an emphasis on undulation (a wave-like motion of the body) is necessary for an effective butterfly. In reality, an optimal butterfly has minimal undulation. When a swimmer emphasizes undulation, he/she inevitably has excess vertical hip motion that distorts the body position and interferes with arm propulsion.**

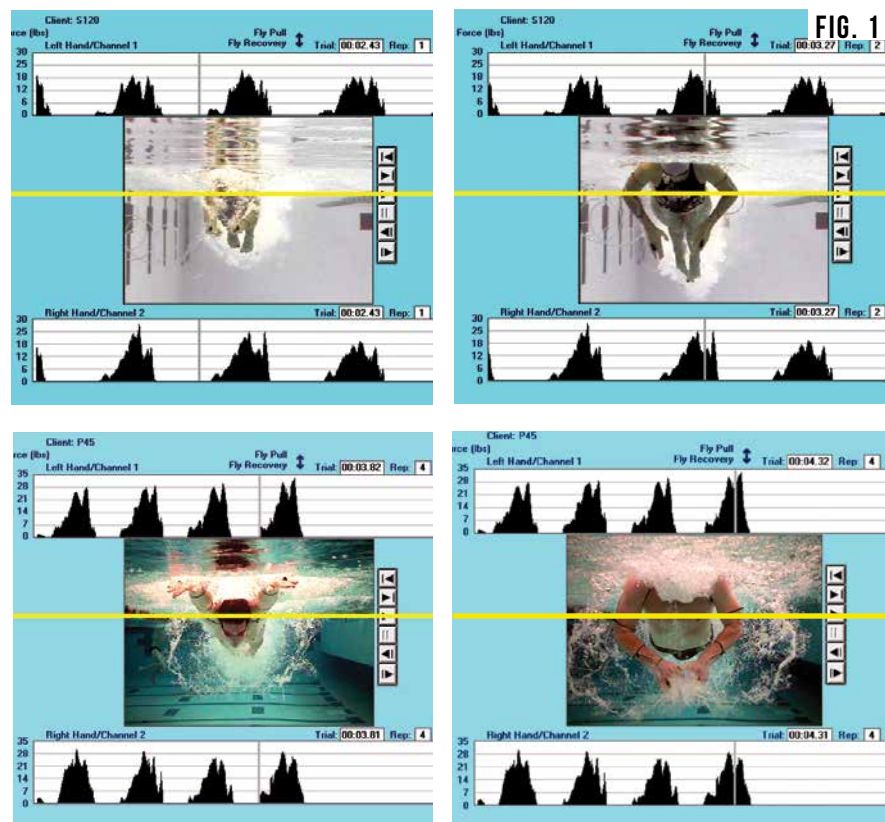


FIG. 1

The most obvious characteristic of butterfly undulation is the vertical motion of the hips. Consequently, swimmers often initiate (and exaggerate) hip motion to undulate, but it is actually an effective kick that causes hip motion and noticeable (but minimal) undulation. Minimal undulation keeps the body relatively level and provides a stable base of support for maximum arm propulsion.

## TYPICAL EMPHASIS ON UNDULATION

Because undulation is so noticeable from the pool deck, it is generally linked to success in butterfly. For this reason, swimmers often initiate undulation with the hips or press the chest down to elevate the hips or dive the head underwater with the arm entry. While these instructions are consistent with *typical* technique, they are inconsistent with *optimal* technique.

Fig. 1 shows two typical swimmers emphasizing undulation in butterfly. At the completion of the arm entry (images at left), both swimmers are in an ineffective position and can only generate a trivial amount of hand force for about 2-tenths of a second.

As the swimmers push their hands back, their shoulders move upward to the surface. Note the difference in the position of the shoulders with respect to the yellow lines in Fig. 1. As the shoulders move upward, so do the hands. Consequently, both swimmers suffer force losses on the push phase.

A biomechanical model with an optimal arm entry (and minimal undulation) is shown in Fig. 2 (next page, top right, left image). Her shoulders are near the surface at the completion of the arm entry and stay near the surface throughout the push phase (right image). Her level body provides a stable base of support for an effective arm motion.

The excessive undulation problem frequently begins when a swimmer first learns to swim butterfly. Swimmers often learn to kick with an exaggerated hip motion, and then add the arm motion. However, the vertical motion of the hips causes vertical motion of the shoulders and arms so that it is impossible for a swimmer to maximize arm propulsion.

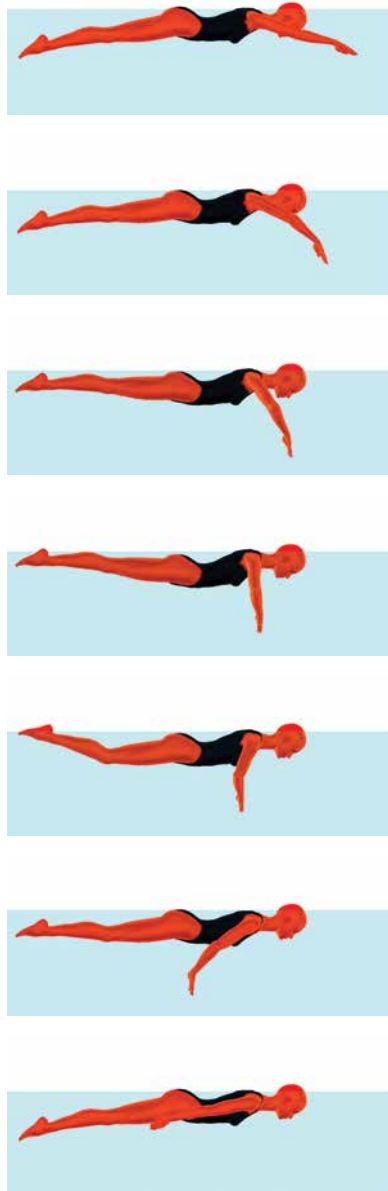
**FIG. 1 > (ABOVE)** Here are two examples of swimmers emphasizing butterfly undulation, showing the arm entry (images at left) and push phase (images at right). The vertical gray lines on the force curves are synchronized with the video images. The yellow lines indicate the level of the shoulders at the completion of the arm entry.



## BENEFITS OF MINIMAL UNDULATION

A swimmer does not need to exaggerate undulation to achieve an effective butterfly. On the contrary, an effective kick begins with downward motion of the upper legs (not the hips). The knees flex to about 30 degrees, and then the lower legs and feet rapidly move downward. As the feet suddenly stop at the deepest point of the kick, the legs straighten and the hips move up-

FIG. 3



ward in reaction (as shown in the bottom four images of **Fig. 3**).

When the downbeat is complete, the feet move upward with the legs straight to recover for the next downbeat. As the heels break the surface, the hips submerge. While the obvious hip motion appears to be initiating the undulation, it is actually a reaction to the leg motion.

To master an effective butterfly, a swimmer must realize that most of the propulsion is generated by the arms. For this reason alone, it is senseless to interfere with arm propulsion for the sake of emphasizing undulation for leg propulsion. When a swimmer can maintain a relatively level body position throughout the stroke cycle, there is a better base of support for the arms to generate force on both the pull and push phases (see **Fig. 3**).

## EFFECTIVE LEG PROPULSION WITHOUT COMPROMISING ARM PROPULSION

By using the following drill, swimmers can learn an effective butterfly kick that has adequate (but minimal) undulation and does not interfere with arm propulsion:

- Push off in a streamline at the surface.
- Look ahead at a slight angle so the water level is at the middle of the top of the head.
- Point the toes and feel the heels at the surface.
- Begin a kick by moving the upper legs downward and flexing the knees to about 30 degrees.
- Forcefully snap the lower legs and feet downward until the legs straighten.
- Bring the feet upward with the legs straight until the heels break the surface.

Repeat the above steps, making sure that the head remains at the surface and that only the heels break the surface on the kick upbeat. Once a swimmer shows consistency with this kicking drill, he/she can increase the kick rate. Most swimmers can master this skill fairly easily and will quickly appreciate that they can kick faster with less effort.

When a swimmer complies with these instructions, the legs feel very straight even though the knees are actually bending to 30 degrees. Conversely, if the knees feel bent, the angle is probably closer to 90 degrees

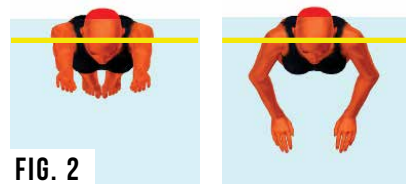


FIG. 2

**FIG. 2 > (ABOVE)** These illustrations demonstrate an optimal butterfly arm entry (left) and push phase (right).

**FIG. 3 > (LEFT)** Pictured is a biomechanical model of optimal butterfly technique. The images (top to bottom) show an effective kick with minimal undulation.

and has a negative impact on the torso position and arm propulsion.

When a swimmer minimizes undulation, there is a dramatic improvement in performance. In one study on younger teens (Havriluk, 2006) and another on older, elite teens (Havriluk, 2014), the swimmers significantly improved their butterfly technique after a short-term treatment focusing on minimal undulation. ❖

*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. He can be reached at the website for Swimming Technology Research (Tallahassee, Fla.): [www.SwimmingTechnology.com](http://www.SwimmingTechnology.com).*

## SUMMARY

An emphasis on butterfly undulation is consistent with conventional wisdom. However, when a swimmer attempts to undulate, he/she inevitably has excess vertical motion that distorts the body position and renders the arm motion far less effective.

In contrast, a swimmer can learn to kick with minimal undulation so that the body stays relatively level. A swimmer with a level body position has a more stable base of support for arm propulsion to swim faster with less energy.



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# TEACHING DOLPHIN KICK

STORY BY **BRIDGER BELL** • DEMONSTRATED BY **GABRIEL BELLOTT-McGRATH**

DOLPHIN KICK APPEARS IN ALL FOUR STROKES—including starts and turns—and may be the fastest way to move across the pool. Despite the fact that the movement is unnatural for many swimmers, few coaches offer intentional programs for teaching it. Some coaches say you either have it or you don't; others think that their swimmers will master dolphin kicking just by doing it a lot. But just like any movement in competitive swimming, the technique of the dolphin kick can be taught. The following program can help swimmers of any aptitude learn to execute effectively the fastest movement in competitive swimming: the dolphin kick.



POOR STREAMLINE



GOOD STREAMLINE



## THE ROLE OF THE STREAMLINE

An effective dolphin kick requires a great streamline to cut a straight path through the water. A loose streamline, in addition to causing drag, results in less force from the kick. Some coaches mistakenly teach swimmers to start the dolphin kick by pumping the arms, but this causes hinging or meandering rather than propulsive whipping-back. The streamline holds the tension in front that carries the force back through the body.

The dolphin kick should begin below the chest and shoulder blades: everything from the chest up should be motionless and tight. If you watch underwater video of Natalie Coughlin or Michael Phelps, you will see little to no movement in the arms, head and shoulders, but you'll see tremendous amplitude with the kick.

Coaches should hold streamlines to the highest standard: fingers must be aligned; elbows nearly touching; ears covered with no open space between the head, neck and shoulders. The spine should be straight.

Swimmers can practice on deck, pressing their entire bodies against a wall, crunching the lower abdominals to rotate the pelvis forward, thereby eliminating the arch in the small of the back. Learning to rotate the pelvis this way will directly translate into an effective dolphin kick. (See photos at left of poor streamline and good streamline.)



## ENGAGING THE LOWER ABDOMINALS TO EFFECT PELVIC ROTATION

By doing two exercises against the wall on deck, swimmers can learn to engage the lower abdominals, generating an effective dolphin kick even when those muscles are initially underdeveloped or when the movement at first feels awkward. These exercises introduce key movements and help develop necessary strength and flexibility. Done alternately facing the wall and facing away from the wall, these are dubbed “Banana Peels” by my swimmers. Banana Peels should always be done slowly, with obsessive focus on form. (See **step-by-step photos below of the Wall-Facing Banana Peel and the Outward-Facing Banana Peel.**)

### Wall-Facing Banana Peel

- Hold chest, face and streamlined arms stationary against the wall during the entire exercise: they cut the straight path through the water.

- Place feet out away from the wall and release the hips, exaggerating the arch in the small of the back. The farther the feet are from the wall (with the pelvis directly above the feet), the more challenging this exercise will be.

- Slowly press the body onto the wall, in order going down, progressing from the chest to the knees. The body may drop lower on the wall as it peels on, but that’s OK. When pressing the abdomen onto the wall, keep the hips and pelvis as far away from the wall as possible until after the belly button is pressed onto the wall; then keep the knees off the wall until the thighs are pressed on.

- Once the entire body from the fingers down to the knees is pressed against the wall, reverse the process and peel off slowly from the knees going up to the chest, returning to the original position. The peel-off should be an exact reversal of the motions you went through pressing onto the wall.

- Repeat. Keep the chest, face and arms on the wall throughout.

### Outward-Facing Banana Peel

- Press the arms, back of the head and shoulder blades stationary against the wall during the entire exercise: they cut the straight path through the water. The closer the feet are to the wall, the more challenging

this exercise will be. Beginners will place their feet farther away from the wall, making it easier to reverse the curvature of the lower spine and easier to peel onto the wall in order.

- Begin with the abdomen, pelvis and legs away from the wall, with the pelvis directly above the feet.

- Peel (or press) onto the wall, in order, progressing down to the glutes. For this press onto the wall, the challenge will be to place each vertebra on the wall in order going down, keeping the tailbone off the wall as the last vertebra is pressed on; then keep the glutes off the wall while the tailbone is pressed on (this requires extreme crunching of the lower abdominals to effect pelvic rotation).



WALL-FACING BANANA PEEL

OUTWARD-FACING BANANA PEEL

- Once the entire back is pressed flush against the wall down to the glutes, begin slowly peeling off in exactly the reverse motions, in order going up from the glutes up to the shoulder blades. Progress by peeling off one vertebra at a time, from the tailbone up to the shoulder blades.

- Repeat. Keep shoulder blades, head and arms on the wall throughout.

Next, we’ll carry the motions of the Banana Peels into the water with a kickboard. (See **kickboard photo, next page.**) The board should glide smoothly across the pool, an inch below the surface of the water, with no waves, no splash. The arms and head remain completely still with the

chin in the water. Behind the stillness of the kickboard, everything below the chest will generate a large, powerful, continuous kick.

Counterintuitively, the greater the amplitude of the dolphin kick, the less movement there will be in the head and arms. With greater amplitude, more of the force is directed backward rather than up-and-down, helping drive the upper body forward without bobbing. The kick directs force backward through pelvic rotation, powered by the crunching of the abdominals, back, hips and glutes, with the legs following through. The hips should release, popping up each kick. There is no such thing as kicking too deep as long as the tempo is high and the power is even on the up-kick and down-kick.

The old “head, fanny, feet” is not quite right: if the feet catch much air, then they’re not holding the water. Even if the feet rise above the surface level of the pool, they should be carrying water up with them. Ankle flexibility, which can be augmented through stretching, helps the feet to hold the water better.

### THE TRANSITION INTO THE UP-KICK

Many swimmers underemphasize and fail to transition quickly into the up-kick, lazily letting the legs float up. Instead, the kick, powered by the body, should generate an unstoppable, sinusoidal whipping back-and-forth.

– continued on 24



As a swimmer, I learned a fantastic way to train the up-kick from Coach Randy Reese, whose practices often featured head-up swimming and head-up kicking in all strokes. For head-up dolphin kick, the arms and head must be still, arms actively stretching ahead, with the hips popping up (releasing) each kick. The threat of sinking forces the swimmer into high-tempo, quick transitions and a strong up-kick. The larger the amplitude, the better—as long as a high tempo is maintained.

#### THE DOWN-KICK: FOLLOWING THROUGH

The worst way to learn dolphin kick is by kicking on your back at the surface. There's no possibility for follow-through at the surface: the feet stop in line with the body. If they did follow through, the feet would come out of the water (credit Coach Doak Finch for this explanation).

A large-amplitude kick provides more surface area perpendicular to the direction of motion, applying more backward force and, thus, more forward propulsion. When doing this drill, get times and count kicks: a faster time with fewer kicks is better. The ideal is huge amplitude with furiously fast tempo.

#### TEMPO, DISTANCE AND VOLUME

Swimmers can train both for larger amplitude and faster tempo by counting kicks per lap and timing kick cycles. Some coaches used to (and may still) tell their swimmers not to kick “too big,” claiming it breaks the streamline, but this was due to their swimmers making the mistake of pumping the arms to initiate the kick. If the swimmer holds a line with the streamline and kicks only from below the chest, there is no such thing as “too big” a kick.

Don't do long, continuous dolphin kick sets: they foster a lazy kick and engender bad form. Race to a specified distance off

treme USRPT adherents), I say that many swimmers, when learning, need an isolated introduction—outside of full-speed race-rehearsal—to the most effective ways of moving their bodies. Even if the energy systems employed—and sometimes even the muscle groups and neural pathways—differ at different paces, the intellectual understanding of the movement does not differ; the movement of the body from the external observer's perspective does not differ; and many of the swimmer's perceptions of how the movement feels do not differ radically or incomparably just because the pace has changed.

Furthermore, many of the muscles employed in an effective dolphin kick are underdeveloped in many swimmers, and much of the flexibility required isn't there yet. Training the kick in isolation, coming to an intellectual understanding of the movements and learning to change the positioning of the body in the right order are effective means of teaching the dolphin kick.

As swimmers progress, more race-rehearsal and less drill is appropriate, but there is always room for improved technique, reinforcing the basics and experimenting with new refinements that programs of exclusive race-rehearsal may not provide. ♦

#### 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.



However, kicking on your back deep underwater is a fantastic way to practice follow-through in the down-kick (which actually goes upward if you're on your back). Being a few feet under the surface allows the swimmer to follow through with the feet, kicking them up far beyond the midline of the body.

Dolphin kick on your side in the middle of the lane is a great way to practice large amplitude in both directions. The feet should reach for both lane lines: out front and behind. Swimmers can slap the tops and bottoms of their forearms to feel the water better and ensure the extended arm is not waving back and forth but, instead, cutting a straight path across the pool.

the wall or blocks, or do 25-yard or 25-meter sprints. Once a swimmer begins to master the dolphin kick, longer denominations such as 50s, 75s and 100s can be mixed in. Hold swimmers accountable for technique when swimming or kicking on intervals.

When a swimmer is in the early learning stages of the dolphin kick, a faster time on one particular repeat of a set isn't necessarily better unless it features the proper technique. Good technique might be slower when it's new to a swimmer, but it will grow to be faster than the swimmer's old technique as it becomes stronger and more natural.

Finally, to those who object categorically to isolated kicking and stroke drills (ex-

**Bridger Bell** (pictured below) is the head swimming coach at St. Paul's and SPSG College Prep in Maryland as well as an assistant coach at Johns Hopkins University. In addition to coaching high school and college, Bell, a USMS national champion and All-American, has coached summer league, collegiate club, USA Swimming and Masters. **Gabriel Bellott-McGrath** swims for Kenyon College.





# BREATHING DURING BACKSTROKE

DEMONSTRATED BY MICHAEL TAYLOR • PHOTO BY MELISSA LUNDIE

Relaxed breathing is an important part of backstroke. Many swimmers don't know how to get into a breathing rhythm. The easiest method is to inhale through the mouth and exhale through your nose in time with one arm cycle. The swimmer in this photo is inhaling during the arm recovery of his right arm and he will be exhaling during the underwater power phase of the same right arm.

Note: Many athletes grunt while exhaling to release stress while emphasizing strength. This vocal behavior is similar to pro tennis players who grunt with each power swing of the racket.



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# 2014

## Top 12 World Masters Swimmers of the Year

BY JEFF COMMINGS, ANNIE GREVERS,  
JASON MARSTELLER AND EMILY SAMPL

### OUR EXPERT PANEL

Five Masters swimming experts from around the globe served as *Swimming World Magazine's* selection panel:

- ▶ **Jeff Commings, USA**  
SwimmingWorld.TV writer/producer;  
multiple Masters world record holder
- ▶ **Verity Dobbie, GBR**  
Great Britain Masters Committee chair
- ▶ **Rowdy Gaines, USA**  
Three-time Olympic gold medalist;  
multiple Masters world record holder
- ▶ **Skip Thompson, USA**  
Former USMS Coach of the Year
- ▶ **Phillip Whitten, USA**  
Former executive director of the College Swimming  
Coaches Association of America; former editor-in-  
chief of *Swimming World Magazine*

*Swimming World Magazine* enters its 11th year of recognizing the Top 12 World Masters Swimmers of the Year. Following are the 2014 winners and runners-up (swimmers listed alphabetically):

**Top 12: Women**—**Noriko Inada, USA/JPN** (35-39); **Sanderina Kruger, RSA** (65-69); **Mieko Nagaoka, JPN** (100-104); **Ellen Reynolds, USA** (50-54); **Laura Val, USA** (60-64); **Judy Wilson, GBR** (70-74).

**Men**—**Rick Colella, USA** (60-64); **Nicolas Granger, FRA** (45-49); **Jack Groselle, USA** (60-64); **David Guthrie, USA** (50-54); **David Radcliff, USA** (80-84); **Darian Townsend, USA** (25-29).

**Runners-Up: Women**—**Petra Chocova, CZE** (25-29); **Barbara Dunbar, USA** (65-69); **Olga Kokorina, RUS** (90-94); **Yuria Oga, JPN** (25-29); **Yoshiko Osaki, JPN** (75-79); **Nora Ronai, BRA** (90-94).

**Men**—**Eetu Karvonen, FIN** (25-29); **Hubie Kerns, USA** (65-69); **Willard Lamb, USA** (90-94); **Jean Leemput, FRA** (100-104); **David Quiggin, USA** (70-74); **Jaring Timmerman, CAN** (105-109).

The World Masters Swimmers of the Year balloting process is based on the Nov. 1, 2014 release of the FINA Masters world records set during the competition season of Nov. 1, 2013 through Oct. 31, 2014. Global standards were set in 160 events, down from 179 the year before.

For voting purposes, only the swimmer ending the competition season with the world record was credited with breaking the record. Also, the final ballot only listed those swimmers who broke multiple world records (long course or short course), which totaled 14 women and 19 men.



## RICK COLELLA, USA (60-64)

After not competing in the long course 200 breast and 400 IM for an entire year, Rick Colella of the United States made up for lost time in 2014, setting men's 60-64 Masters world records in both events (2:40.46, 5:08.20). He also added a global standard in the 200 IM (2:21.99).

"I am surprised and honored to be named one of *Swimming World's* Masters Swimmers of the Year," he said. "I consider this to be the highest honor for Masters swimming and am humbled to be one of the 2014 nominees."

Colella says that breaking records really isn't among his main goals as a Masters swimmer: "Although it's always satisfying to break records, my main goal in Masters swimming is to have fun and stay healthy, while doing the best I can. I also like being part of a team."

"It was especially fun last year to help Lake Washington Masters win our local PNA Championships and Puget Sound Masters win the regional team title at USMS Spring Nationals. If I can set records in the process, that's great."

Colella credits the fun training environment at Lake Washington and the support of his family for his success in the pool, and he hopes to build on his accomplishments in 2015.

"I've been lucky to have the opportunity to continue to swim for many years, and I have the support of my wife, Terry, and the rest of my family," he said. "I've been very fortunate to have a great coach, Becca Watson, who's created an awesome and fun program (for our team)."

"We have a great group of swimmers and a really fun time both in and out of the pool. She's worked with me to improve my stroke mechanics and racing ability, and it's made a huge difference." —E.S.



## NICOLAS GRANGER, FRANCE (45-49)

One of the highlights of Nicolas Granger's year in Masters swimming was a double-world-record day at the FINA World Masters Championships in Montreal, setting long course standards in the 200 free (1:57.75) and 400 IM (4:43.83).

"I was clearly expecting to win both races, but not really to swim that fast," Granger told *Swimming World*. "It is such a strange feeling. I broke these records in a pool that doesn't exist anymore since it was a temporary pool built for the championships."

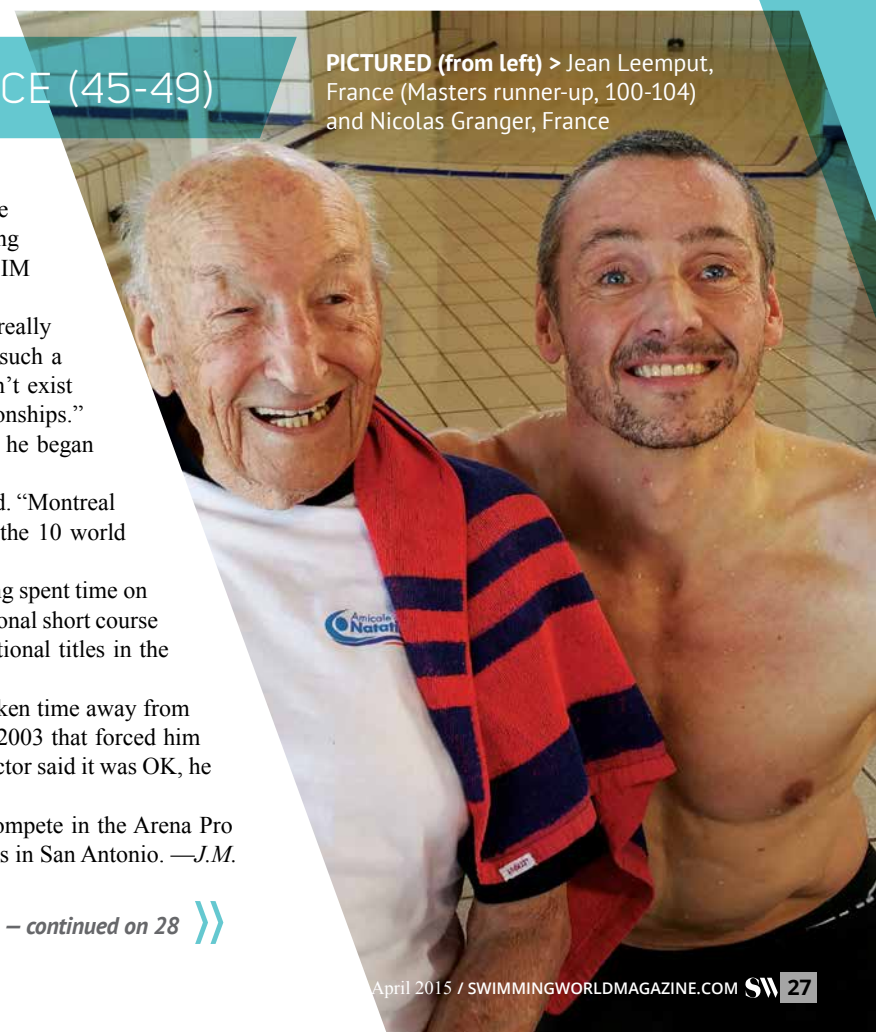
Montreal certainly was a special meet for Granger, as he began competing in Masters in the same city in 1994.

"I dearly wanted to be back 20 years later," Granger said. "Montreal will always have a special place in my heart because of the 10 world titles I've won there."

Granger has always been a competitive swimmer, having spent time on France's national team between 1983-88. He broke the national short course record in the 200 IM in 1985 with a 2:07.75 and won national titles in the IMs in 1984 and 1985.

Having swum since the age of 6, Granger rarely has taken time away from the sport—only to fight two bouts of cancer in 1991 and 2003 that forced him away from training during treatment. But as soon as his doctor said it was OK, he was back in the water.

Granger is heading to the United States this year to compete in the Arena Pro Swim Series in Mesa, Ariz., as well as the USMS Nationals in San Antonio. —J.M.



PICTURED (from left) > Jean Leemput, France (Masters runner-up, 100-104) and Nicolas Granger, France

— continued on 28 >>



[PHOTO BY LAURA GROSELLE]

## JACK GROSELLE, USA (60-64)

Jack Groselle has been quietly toiling in the shadows as a Masters swimmer, claiming numerous world records over a 20-year career in the pool.

But Groselle was in the spotlight often in 2014, when he broke seven Masters world records in six events in long course and short course swimming for the men's 60-64 age group. There was no denying that it was a banner year for the 60-year-old, and he's been rewarded by being recognized as one of *Swimming World's* World Masters Swimmers of the Year. It's his first such recognition after being named a runner-up in 2009.

"It's still sinking in," he said. "I'm very humbled by the whole thing, especially when thinking about all the people who have been mentioned before."

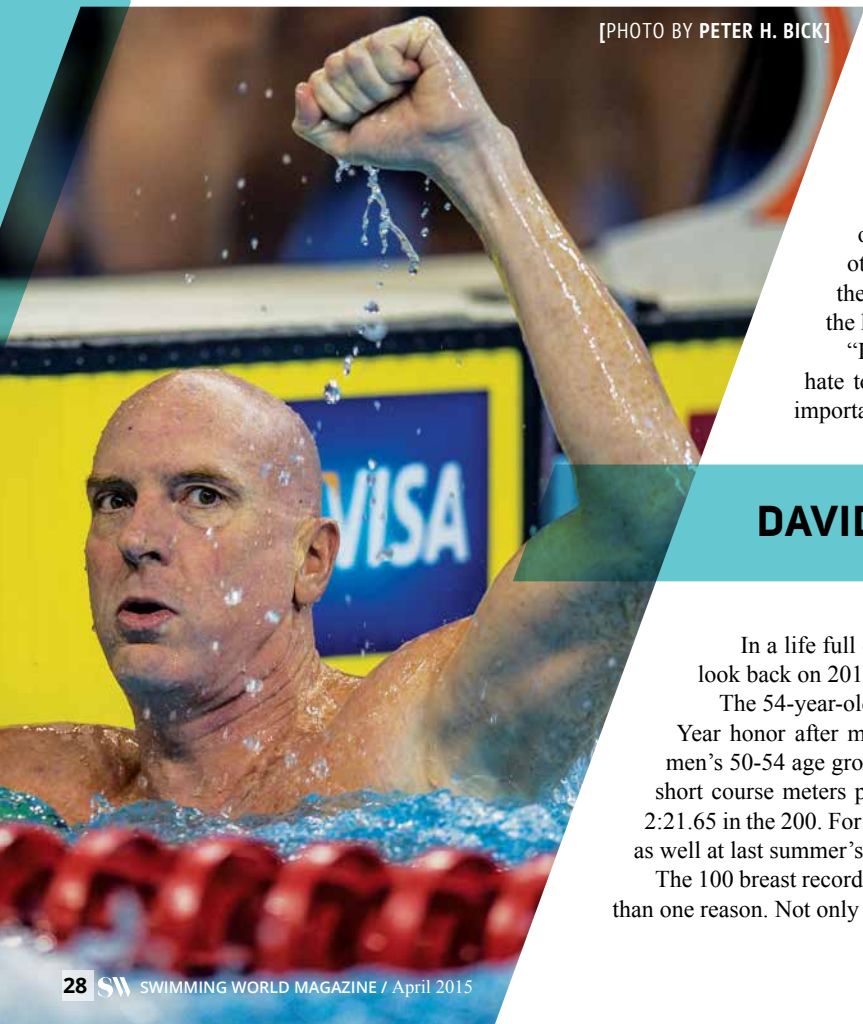
The long course 100 free has been Groselle's main event for many years, and it brought a special sense of pride to him when he posted a 57.79 in June, breaking Rich Abrahams' nine-year-old mark.

Though the world record is a major accomplishment, it doesn't match Groselle's unique distinction of being the only man to hold a U.S. Masters Swimming national record in the same event across five age groups. Beginning with his 53.78 in the 40-44 age group from 1998, Groselle also holds national records in the 45-49 (53.90), 50-54 (54.93) and 55-59 (56.08) age groups. Added to that is the world record Groselle still owns in the 55-59 age group.

Additionally, Groselle set a long course standard in the 200 free with a 2:09.24 after first setting it with a 2:10.00. He was a bit more prolific in the short course pool with four records: 100 free (55.87), 200 free (2:05.07), 400 free (4:35.15) and 200 IM (2:24.75).

Groselle is primed for another great year, looking for the opportunity to lower his own world records and break a few others in 2015. He trains mostly with high school athletes at the Solon Stars Swim Club in Ohio, and said the desire to beat the kids is the fuel that keeps him working hard each year.

"I'm thankful for having these workout partners," he said. "I hate to lose, and having them to compete with in practice is so important." —J.C.



[PHOTO BY PETER H. BICK]

## DAVID GUTHRIE, USA (50-54)

In a life full of amazing years in Masters swimming, David Guthrie will look back on 2014 as one of his most memorable.

The 54-year-old earned his second straight Masters World Swimmer of the Year honor after making mincemeat of the breaststroke world records in the men's 50-54 age group. In December 2013, he reset all three of his marks in the short course meters pool with times of 29.84 in the 50, 1:04.54 in the 100 and 2:21.65 in the 200. For good measure, he lowered the long course 100 breast record as well at last summer's nationals with a 1:06.98.

The 100 breast record will stand out as one of his all-time favorite swims for more than one reason. Not only did he accomplish it while dealing with shoulder issues, but



it also was his first Masters world record as a married man. He exchanged vows with Maria Stewart in May, and his new wife was at nationals when he broke his 100 breast record in August.

"That (record) was the first one we got to share," he said. "I've never been emotional after any of (my previous records), but after this one, I climbed out of the pool, and she was there. It was a great feeling."

Guthrie said his wife knew next to nothing about competitive swimming before they married, but has become a major fan.

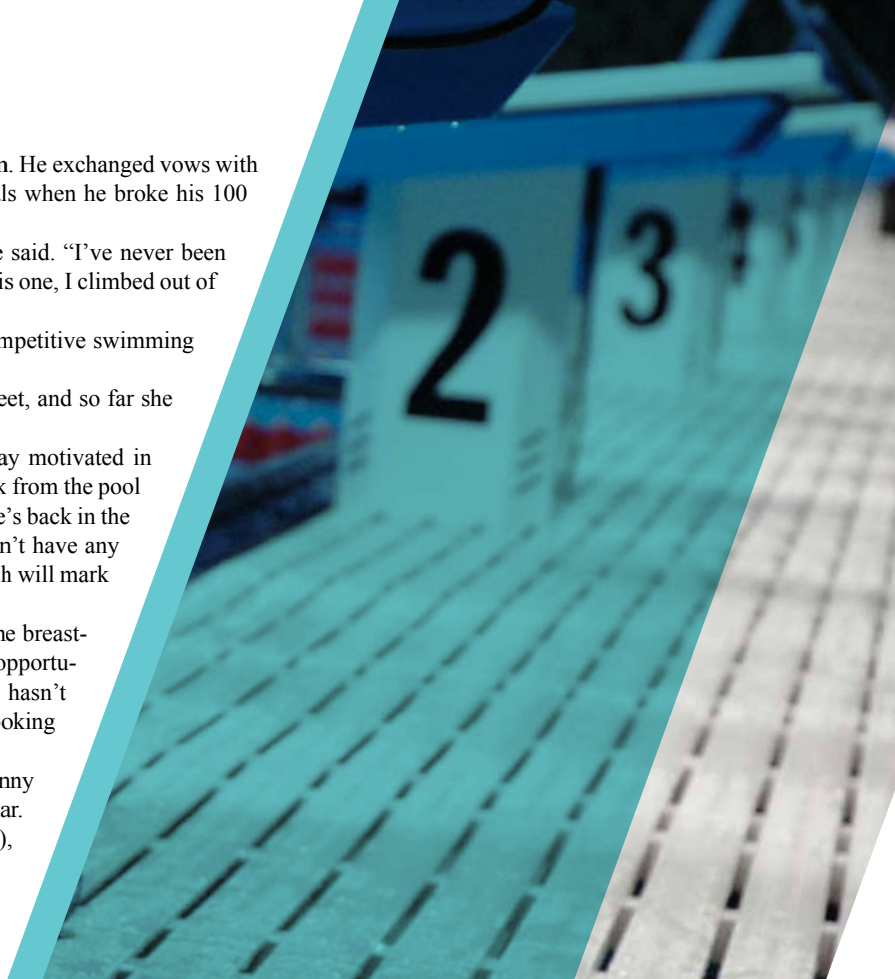
"She has vowed that she would go to every swim meet, and so far she has," he said.

Despite the records, Guthrie said he struggled to stay motivated in 2014. The shoulder injury forced him to take a brief break from the pool last fall, and that turned out to be the perfect medicine. He's back in the pool and training breaststroke full-time, though he doesn't have any expectations for this month's short course nationals, which will mark his final meet in the 50-54 age group.

Guthrie turns 55 on July 7, and will likely eradicate the breaststroke world records in the 55-59 age group at his first opportunity. Strangely, one of the most prolific record breakers hasn't studied the records in the next age group very much, looking within to find the motivation to get faster.

"I don't know what my goals are, and that's a funny thing," Guthrie said. "I have to redefine myself this year. I was happy to get under 1:07 (at long course nationals), but I know that was nowhere near my potential." —J.C.

— continued on 30 >>



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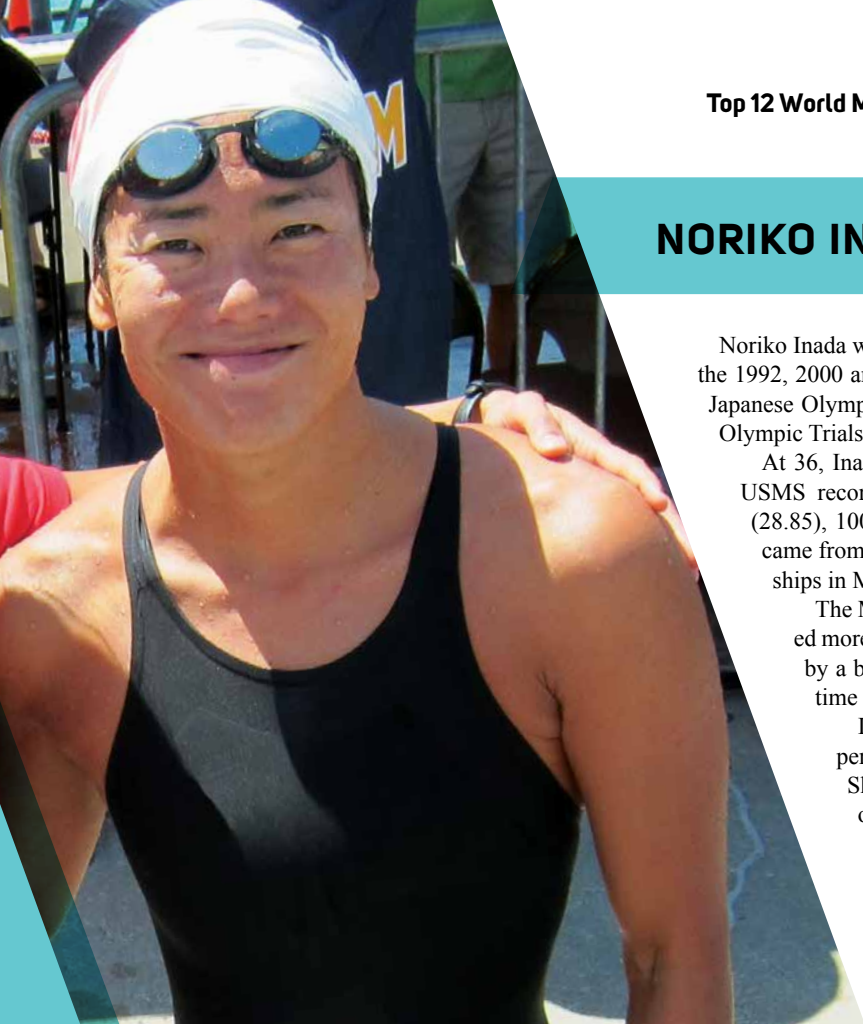
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## NORIKO INADA, USA/JPN (35-39)

Noriko Inada was born in Japan and has competed for her home country in the 1992, 2000 and 2004 Olympic Games. She narrowly missed making the Japanese Olympic team in 2012, but she is back training for Japan's 2016 Olympic Trials.

At 36, Inada is showing few signs of slowing. Last year, she set six USMS records and three long course world records in the 50 back (28.85), 100 back (1:02.69) and 50 fly (27.46). All three world marks came from her performances last August at World Masters Championships in Montreal.

The Masters world records were an achievement, but Inada wanted more: "I tried to swim close to my lifetime best, and I missed that by a bit." Inada ranks 33rd overall in the world with her 50 back time and 69th with her 100 back time from 2014.

Inada has spent the past five years training five to six times per week with the Phoenix Swim Club Masters in Arizona. She typically logs between 3,000 and 4,500 yards per workout and is still refining her technique, always searching for easy speed. How does someone who's been in the sport at an elite level for so many years stay motivated? "I love my Masters teammates," Inada answered. "They push me and cheer for me."

The highlight of Inada's 2014 was Worlds in Montreal. Yes, it was fun to grab some world records, but it was the company that made this meet sparkle. "I had a very good time with my funny teammates, and a lot of my Japanese friends also came," she said.

Twenty-three years after qualifying for her first Olympic Games at the age of 13, Inada has her sights set on Rio. Inada continues to awe and inspire swimmers around the globe as she pushes the limits on fast swimming's expiration date. —A.G.

[PHOTO BY THEUNIS KRUGER]



## SANDERINA KRUGER, RSA (65-69)

South African Sanderina Kruger had quite the year in the women's 65-69 age division, setting long course Masters world records in the 50, 100 and 200 freestyle. She also won gold in these events at the 2014 FINA World Masters Championships in Montreal.

Kruger began swimming at the age of 11 with former Australian coach Bob Campbell. After swimming at South Africa senior nationals by the age of 13, she was diagnosed with a heart murmur that led to her quitting the sport.

Two decades later in the mid-'90s, Kruger decided to get back in the water as a Masters swimmer. Within four years of returning to the pool, she won two silver and two bronze medals at the 2000 FINA Masters World Championships.

Kruger has definitely enjoyed her time in Masters swimming. "Fun, fitness and friendship," Kruger told *Swimming World* when asked what Masters means to her. "Nothing beats the feeling after a hard workout in the pool. Masters swimming breaks down barriers, and one gets to know people from all walks of life."

Kruger isn't resting on her laurels as a World Masters Swimmer of the Year either.



She hopes to continue to strive and thrive as her swimming career continues.

"I want to continue with swimming as long as possible, as the sport helps you to stay fit and healthy," Kruger said. "It also helps you to enjoy life to the fullest."

—J.M.

## MIEKO NAGAOKA, JPN (100-104)

Mieko Nagaoka, at more than 100 years old, is *Swimming World's* most senior World Masters Swimmer of the Year in 2014.

Known as Super Grandma for her relentless effort and consistency within Japanese Masters swimming ranks, Nagaoka is a living legend who believes in the motto, "Age is just a number."

On Sept. 14, Nagaoka smashed her own world record in the 100 meter backstroke with a 3:39.81 to cut more than six seconds from her previous mark in the 100-104 age division.

She also currently holds 11 world records in the 95-99 age division, having recently moved up into the 100-104 division.

Nagaoka boasts that her secret to staying fit is by trying to do an everyday routine such as cleaning up her rooms and eating well three times a day. Her swimming practice is also consistent, as she trains three to four times a week with each practice, including a 1500-meter swim—pretty impressive for being a centenarian!

Nagaoka was born in 1914 in the western part of Japan in the Yamaguchi prefecture. She married in 1938. Her swimming career is relatively short compared to her age, as she started swimming at 80.

She first entered the pool to rehab her knees. It took her nearly a year to learn how to swim 25 meters backstroke. But her resilience and effort continued until she established her first Japanese Masters record four years later at 84.

Nagaoka began to receive individual coaching when she turned 90. Then, at the age of 95, she claimed her first world record in the 200 meter back with a 6:24.

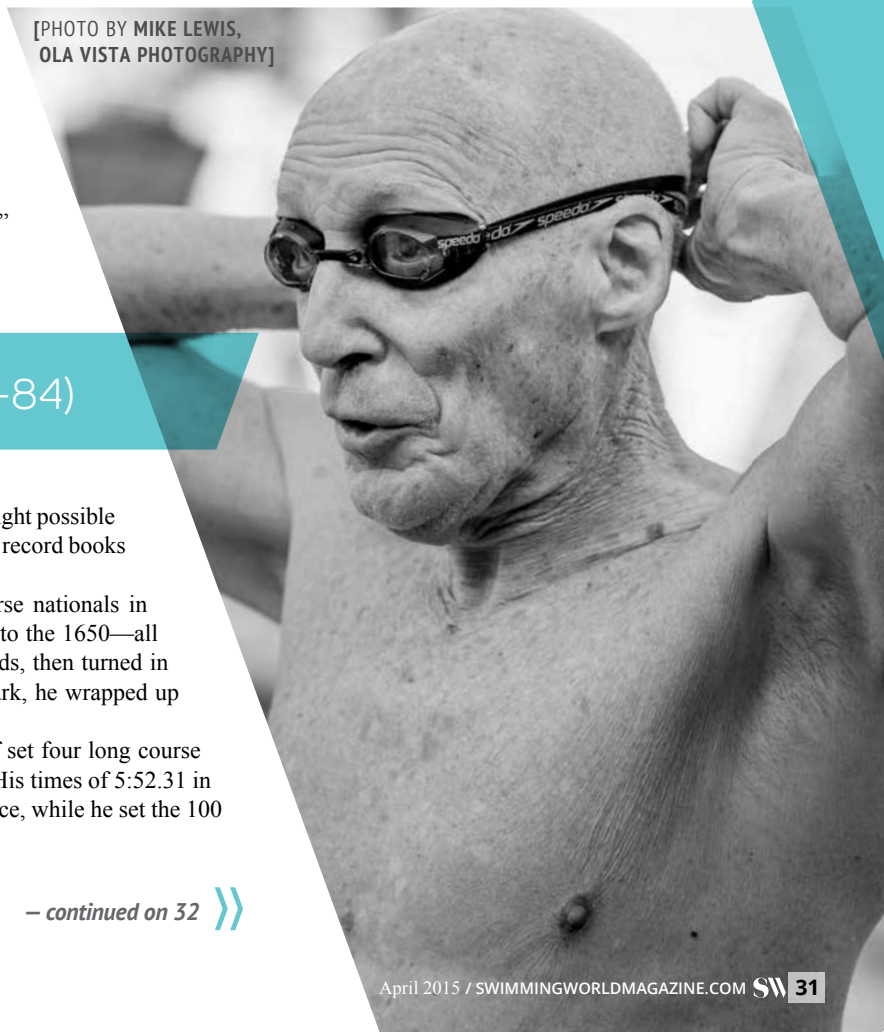
"As long as I am active, I will continue to swim!"

—J.M. (with special thanks to Hideki Mochizuki)



[PHOTO PROVIDED BY  
SWIMMING MAGAZINE TOKYO]

[PHOTO BY MIKE LEWIS,  
OLA VISTA PHOTOGRAPHY]



## DAVID RADCLIFF, USA (80-84)

David Radcliff pushed the boundaries of what was thought possible in Masters swimming in 2014, having a bit of fun with the record books in the freestyle events for the 80-84 age group.

He started at the U.S. Masters Swimming short course nationals in May, where he broke four national records from the 200 to the 1650—all in one event! He opened with a 2:30.66 split for 200 yards, then turned in 6:27.81 at the 500. After a 13:10.14 at the 1000-yard mark, he wrapped up the race in 21:54.87.

Over the course of three days in late August, Radcliff set four long course freestyle Masters world records from the 100 to the 800. His times of 5:52.31 in the 400 and 11:49.29 in the 800 were again done in one race, while he set the 100 and 200 marks individually in 1:11.82 and 2:40.22.

— continued on 32 >>

**To fly we have to have resistance.** -Maya Lin

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**Top 12 World Masters Swimmers of the Year** — continued from 31 >>

About a month later, the Oregon resident traveled north to Washington and added four short course meters freestyle world records to his collection. Following the same game plan as before, Radcliff earned two WRs in one race—11:43.02 for 800 meters and 21:59.53 in the 1500 to break Bumpy Jones' previous mark by more than two minutes!

After already claiming the 400 free world record in March (5:39.27), Radcliff set his sights on the 100 and 200. He claimed the 100 in 1:11.26, then dipped well under 2:40 with a 2:38.35 in the 200 to complete an impressive year in the pool.

Breaking multiple records in a single race was always Radcliff's plan, though he had some trepidation about pushing a fast pace to get the records in the shorter distances.

"At short course nationals, I wasn't sure about (my ability to get) the 200 record. I went a little bit harder going out, and I paid the price at the end. At the long course meet, being in my home pool, I wanted to do something a little bit special."

Radcliff didn't need to stop and check his splits on the scoreboard in any of his races. He said he had certain signals in place to know if he was on record-breaking pace.

"I had a counter moving the lap counter in different ways if I broke the records," he said. "At short course nationals, Tim Waud would jump up and down and give me a happy face if I was doing well. He was doing a lot of happy dancing."

What's next for Radcliff? He doesn't own any of the 50 freestyle world or national records in the new age group, but he said he doesn't plan to unleash his inner sprinter in the near future. Open water swimming is the big adventure for 2015, including a relay swim across the Catalina Channel. —J.C.

## ELLEN REYNOLDS, USA (50-54)

Ellen Reynolds had hopped into the Boise (Idaho) YMCA pool after a 25-year hiatus from the sport. She was 40 and quickly established a goal to set a world record by the time she turned 50.

In 2014, she celebrated her 50th birthday with four women's 50-54 long course Masters world records—100-200 back (1:09.28, 2:26.64) and 200-400 IM (2:31.81, 5:20.68)—and five short course meters world standards—100 free (1:01.41), 100-200 back (1:05.89, 2:22.37) and 200-400 IM (2:28.64, 5:10.96). Reynolds and her mother, Mary Ann, who is her coach, knew it would take a decade to get the conditioning necessary to start etching herself into Masters history.

Eighty-year-old Mary Ann just completed her Level 3 ASCA Coach certification. She and her daughter take no days off. This is especially impressive when you take into account Ellen's day (sometimes night) job as a pediatric surgeon.

"I don't get the best recovery after I swim because they keep the operating rooms warm," Reynolds said. "But swimming has saved my life." She said she is much better at her job as a surgeon now and "probably wouldn't still be working without swimming." The water is her oasis. She swims for two hours each day, usually in the morning, unless she's worked a night shift.

This year, Reynolds is gunning for the 45-49 age group world mark in the 200 back (LC, 2:26.06), which belongs to Karlyn Pipes-Neilson. No, the record will not count since Reynolds has aged up, but she's only 6-tenths off the record, and she just



wants to prove to herself that age is only a number.

Before Reynolds turned 40, she thought her swimming career had ended in high school. But at 50, she's in the heart of a long and lustrous Masters career. —A.G.

## DARIAN TOWNSEND, USA (25-29)

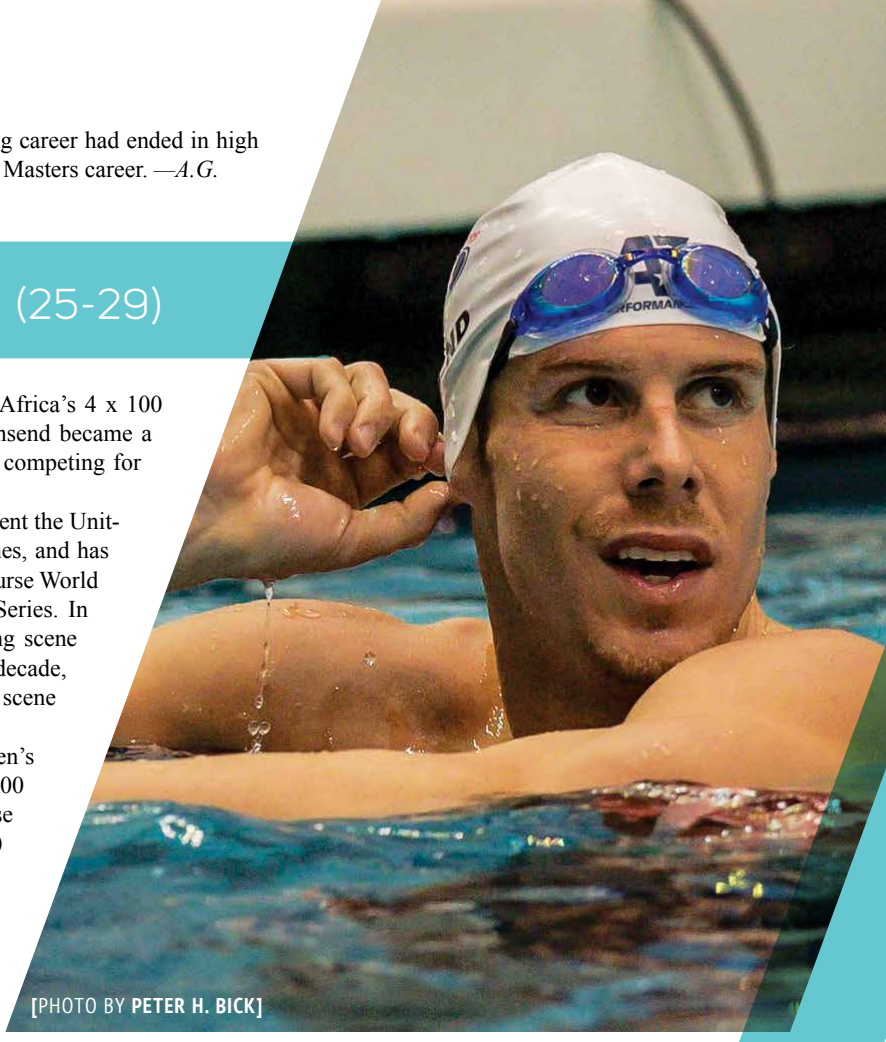
After winning Olympic gold as a member of South Africa's 4 x 100 freestyle relay team at the 2004 Olympics, Darian Townsend became a U.S. citizen last summer and has already found success competing for his new home country.

The University of Arizona graduate qualified to represent the United States in the 100 free at the 2015 Pan American Games, and has already competed for the U.S. at the 2014 FINA Short Course World Championships and 2015 BHP Billiton Aquatic Super Series. In addition to making waves on the international swimming scene during a decorated career that's now spanned more than a decade, Townsend also made a splash on the Masters swimming scene last summer.

Townsend set seven Masters world records in the men's 25-29 age group in 2014: long course 50 back (25.98), 100 back (55.93) and 100 fly (53.65) as well as the short course 100 free (48.29), 50 fly (23.53), 100 fly (52.45) and 100 IM (53.47). Now that he's turned 30, he'll have a whole new set of records to chase in the coming year. *(For more on Townsend, check out the feature on pages 12-15.)* —E.S.

— continued on 34 >>

[PHOTO BY PETER H. BICK]



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## LAURA VAL, USA (60-64)



[PHOTO BY PETER H. BICK]

Laura Val owns every Masters world record—long course and short course—in the women's 60-64 age group aside from the breaststroke events. That's *twenty-seven* world records!

This year, she lowered the SCM 100 free standard to 1:03.84 and made her ninth consecutive appearance as a World Masters Swimmer of the Year.

She has trained with the Tamalpais Aquatic Masters in San Rafael, Calif. since 1993. Val swam 32 events (LC, SCM and SCY) and was No. 1 in the nation in 31 of them. The odd event out was a 50 breast, and she never claimed to be a breaststroke.

Val could have had a glowing college career, but she started school at Foothill College (Calif.) pre-Title IX. She swam AAU in college with legendary Coach Nort Thornton. Times were different. "I swam in the morning before class, then we'd come back at noon to do an hour of kicking and finish off the day with two hours of swimming." She is describing a three-a-day, which was routine, and 20,000 yards were often crammed in.

Miraculously, Val never burned out. "I quit right before Olympic Trials in 1972 because I felt I was too old to keep swimming at 22," Val said. Her highest placing was fifth place at nationals, and she had ranked among the top 10 in the world. But the records did not start falling for Val until she came back to swimming as a Master in her mid-30s. Now the record books are blanketed with Val's name. She rises at 5 a.m., swims from 6 to 7:30, then works as a RN until 5:30 p.m. Val's never done any cross-training. She loves to train for fitness and race for fastness.

"I like to win," Val said. "If I get a record, that's icing on the cake." She's got a well-frosted cake before her. —A.G.

After a difficult past few years in which her husband, Andy, was diagnosed with and passed away from multiple system atrophy, Great Britain's Judy Wilson returned



## JUDY WILSON, GBR (70-74)

to swimming as a form of healing.

"After he died in 2013, my family encouraged me to start swimming again," she said. "I just love to swim, and it has helped me get my life back after these difficult few years. My 'swimming family' has been great, and I am lucky to be part of it.

"I am most grateful to them. As you can imagine, it was really hard to get back to fitness, so every swim last year was a challenge, and I enjoyed every one."

Wilson rebounded from her time away from the pool with a couple of Masters world records last year in the long course 50 and 100 fly (36.36, 1:24.25) in the women's 70-74 age group.

This year, Wilson hopes to improve upon her times at the English and French national championships, and is looking forward to the European Championships at London's Olympic pool. —E.S. ❖



# What Is A “Master”?

*Masters swimmers come in all shapes and sizes. Some are ultra-competitive, as is the case with our World Masters Swimmers of the Year (see pages 24-32). Some are in it just to stay fit and possibly live longer. Many don't start swimming for exercise until late into their adult years, while others began when they were toddlers.*

*Visit any Masters swim meet, and you will hear a hundred different stories about the meaning of Masters swimming from the 100 people you meet. And among those 100 people, you'll discover nearly 100 types of Masters swimmers.*

*Here are three such people:*

BY JEFF COMMINGS

## THE PRODIGAL SON/DAUGHTER

Bill Durham and Kristin Gary grew up as competitive swimmers, and said goodbye to the sport at different ages and for different reasons. Durham never connected with the sport as a young child growing up in Omaha, and quit before he was a teenager.

“I went to the Junior Olympics, and at one point, I was ranked in the nation in my age group,” Durham says. “But I never really liked it, so when I was old enough, I quit.”

Gary always loved the sport, but when she finished her eligibility at Duke University, she felt she needed to define herself as more than an athlete. That led her to a few years traveling Europe to study art history. She would swim a few laps when the mood struck her while living in Italy, but when she began pursuing a Masters degree in art history in Amsterdam, swimming rarely entered her mindset.

“It was a hard transition,” Gary says, “but I felt the need...to do things that I felt passionate about that had nothing to do with swimming.”

These days, it would be difficult to get Durham and Gary out of the pool. Durham reconnected with the sport in 2008—while training for triathlons—and along the way, he found himself enjoying his time in the

pool training with Dallas Aquatic Masters.

“I started to appreciate it,” says the 38-year-old. “It’s the camaraderie that has helped. I have developed a great relationship with guys on the team, and I know I am swimming a lot harder than if I were swimming by myself.”

The workouts helped Durham perform well in five Ironman triathlons, and though the financial planner has taken a hiatus, he says the goal of racing in the Ironman World Championship is “on my bucket list.”

Though Gary didn’t leave the sport on bad terms, Masters swimming has rejuvenated the 47-year-old. She moved to New York City in 1993 and became an art dealer,



While training for triathlons in 2008, Bill Durham found himself enjoying his time in the pool training with Dallas Aquatic Masters. “I started to appreciate it. It’s the camaraderie that has helped. I have developed a great relationship with guys on the team, and I know I am swimming a lot harder than if I were swimming by myself.”

— Bill Durham

but she wasn’t fully aware of Masters swimming at the time. When a friend suggested attending a swim practice at a local YMCA in 1999, Gary had a bit of hesitation.

— continued on 36

# What Is A “Master”?

— continued from 35

“I didn’t want to be on a team again,” she says. “But I went, and a switch flipped. It was so much fun!”

Six years dining out regularly in New York City was another impetus to get back into exercise, she says.

“When you live in a city like New York and you are constantly going out to dinner, something’s got to give,” she says. “The other things going on in the gym weren’t interesting to me. I realized that I missed the way you feel in the water.”

Gary has certainly found her feel for the water while representing the Red Tide Swim Team, winning multiple YMCA Masters national titles and world championship titles. “Since I started swimming (Masters), being involved in the sport has brought me some of the happiest times in the sport,” she says. “It’s brought such positive energy.”

Since 2007, Gary has been sharing that energy through the Trident Swim Foundation, which runs a swim team for inner-city children and offers afterschool academic tutoring. The program has grown so much that a second site opened, with a third in the works for Los Angeles.

one of the best triathletes in the world began to take its toll on Achelis, and she went under the knife to have surgeries on her collarbones, knees and elbows. She got a complete knee replacement 10 years ago, which meant the beginning of the end of cycling and running for exercise. The pool was the only place willing to accept Achelis’ broken bones.

“(Masters swimming is) a good physical and mental activity...and it’s the ultimate fitness because it works every muscle in the body.”

— Tracy Achelis

ing in the water, and it’s the ultimate fitness because it works every muscle in the body.”

## THE TRIATHLETE

Triathletes are a growing part of the U.S. Masters Swimming community. Chances are that the vast majority of teams have athletes of every age in some stage of preparation for either their first or 50th triathlon.



“Racing was my life,” she says. “After the (knee replacement surgery), it was real challenging going through rehab because I didn’t have the endorphins that my body feeds on (while racing).”

Though she’s no longer competing in triathlons, Achelis always wakes up before dawn to swim with the Walnut Creek Masters team in northern California. She’s been a

Past Ironman world champions proudly call themselves Masters swimmers. And empty nesters who have the freedom to pursue their dreams are joining clubs to improve their swimming talents.

Durham said his morning workout sessions in Dallas are filled with triathletes. He boasts that he’s become too fast for the majority of them, which he says will be a good thing if he makes the return to racing.

Like Durham, most triathletes do not compete in Masters meets, as the race distances are too short for them. But open water competitions give them the opportunity to test out their swimming skills outside of the triathlon arena.

“I did a 10K relay very recently,” Durham said. “I’ve been thinking about getting into more open water swims.”

Achelis swam on her own in her triathlon racing heyday, and says she wishes she had joined a team to help her improve her stroke. As a self-taught swimmer, she says she would have found more motivation in a team atmosphere.

“When I get (to morning practice at Walnut Creek Masters), it’s dark, and it makes me smile to see everyone excited to get in and work hard—no matter what their ability,” she says.

And, like Achelis, some are finding Masters swimming the best option as they migrate away from triathlons.

“It’s a lifelong sport,” she says. ❖

When a friend suggested returning to swimming by attending a Masters practice at a local YMCA in 1999, Kristin Gary had a bit of hesitation. “But I went, and a switch flipped. It was so much fun!... I realized that I missed the way you feel in the water.”

— Kristin Gary



## THE HOBBOLED ATHLETE

Tracy Achelis was not athletic as a child. She never considered sports until she watched the Ironman World Championship on television as a 30-year-old.

“Right then, I said I’m going to do that race sometime,” she says. Thirty-one years later, she’s competed in 26 Ironman triathlons, including 10 appearances at the World Championship.

The rigorous training that goes into being

member for 10 years and says she can’t think of a better team for her.

“The training is great,” she says. “They give as much focus on a newbie swimmer as they do a fast swimmer.”

Plus, she finds the benefits of staying fit and keeping her body active through swimming as she continues to adjust to a life away from triathlons.

“It’s a good physical and mental activity for me,” she says. “My joints are very forgiv-



**1 SLED PUSH**

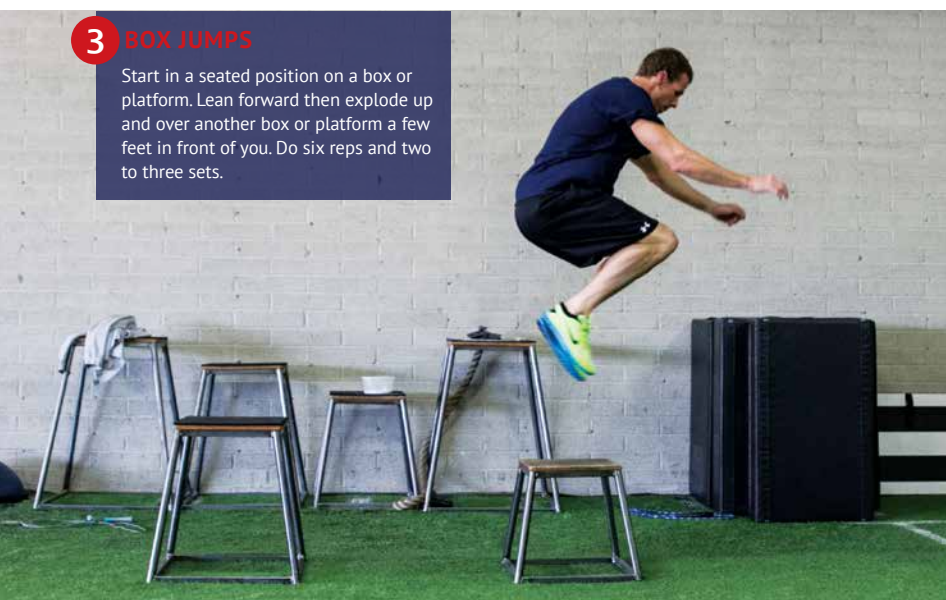
Using a sled or even a barbell plate, start in a position that resembles your start on the blocks. Explode forward, pushing the sled or weight two to three steps. Stop and repeat. Perform six to eight reps, two to three sets.

**2 ALTERNATING MEDICINE BALL THROW-DOWN**

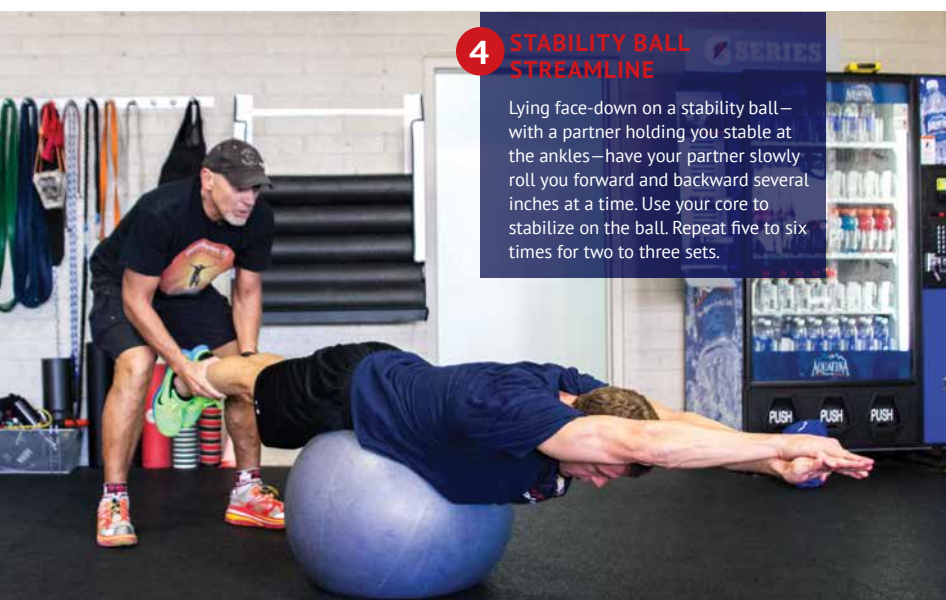
While standing on a two-to-three-foot platform and using a six-to-10-pound medicine ball, throw the ball downward with one arm with the technique of a freestyle stroke. Catch the ball on the way up with the other arm and repeat the throw with that arm. Make sure you rotate your shoulders through your core each throw. Perform eight to 10 reps each arm for two to three sets.

**3 BOX JUMPS**

Start in a seated position on a box or platform. Lean forward then explode up and over another box or platform a few feet in front of you. Do six reps and two to three sets.

**4 STABILITY BALL STREAMLINE**

Lying face-down on a stability ball—with a partner holding you stable at the ankles—have your partner slowly roll you forward and backward several inches at a time. Use your core to stabilize on the ball. Repeat five to six times for two to three sets.



## DARIAN TOWNSEND: SPRINT FREESTYLE SET

BY J.R. ROSANIA

PHOTOS BY EMMI BRYTOWSKI

DEMONSTRATED BY DARIAN TOWNSEND

When it comes to the 50 and 100 freestyle, starts, turns, walls and power all play an important roll in a swimmer's performance. In this month's article, Olympic gold medalist Darian Townsend demonstrates exercises for starts, pushing off walls, streamlining and stroke power.

Sprint freestyle training is unique to all other swim training, as it calls for maximum power and speed. As a swimmer progresses through his/her seasonal training, power and speed exercises—along with specific movements for the makeup of a sprint race—need to be enhanced.

Follow Darian through these exercises to help create more power and speed in your own sprints. Together—along with several other important aspects of sprint training—you and Darian can achieve stronger and faster sprinting. Do these exercises for several weeks, and taper off eight to 12 days prior to a big event. ❖

**MEET THE TRAINER**

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

**MEET THE ATHLETE**

*Darian Townsend, 30, won an Olympic gold medal in the 400 meter freestyle relay while competing for South Africa at Athens in 2004. Last summer, he became a U.S. citizen, and he hopes to qualify for the 2016 USA Olympic team. Collegiately, he swam for Florida (2005 and 2006) and Arizona (2007 and 2008).*

**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.

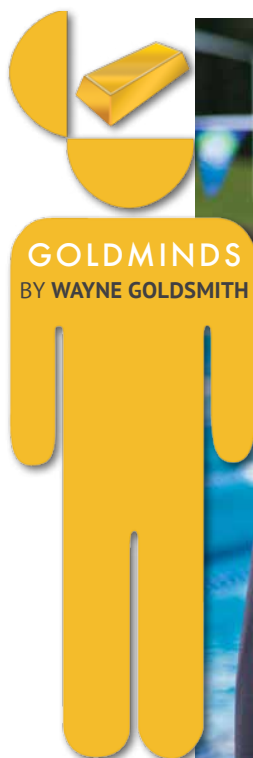


# SWIMMING'S MOST IMPORTANT LESSONS

(PART I: #s 1-15)

After working with swimmers, coaches, swimming clubs, swimming parents, sports scientists and swimming organizations all over the world, I am often asked, "What are the most important things you've learned about swimming?"

Here's a summary of the most important lessons I've learned in the business of helping swimmers and coaches realize their potential—a personal journey 25 years in the making!





*Editor's Note: This is the first of a two-part series.*

**1. IT'S ALL ABOUT COMMITMENT.** In the end, it all comes down to this: *commitment*. Trust me. I've looked for short cuts. I've read all the books and articles. I've been to more swimming conferences than most people have had sodas, and I can tell you with an open heart and a clear mind that in the end, it just comes down to how much you want it and what you're prepared to do to get it.

**2. THERE ARE NO LITTLE THINGS.** Serious swimming events are often decided by less than a tenth of a second. With so little separating swimmers, there are no little things. *Everything* matters. Every turn, every start, every kick set, every finish, every drill—everything you do in training matters.

**3. SWIMMING PARENTS.** There are difficult parents in *every* program in the world...the key is how you communicate with them. I've met some real nightmare parents who have been involved in swimming. Most of them don't realize how their interfering and over-parenting is doing to their children until it's too late—and many of them never realize the damage they cause. As a coach, keep communication clear, consistent, direct, open and honest. Act with integrity—i.e., say what you'll do, then do what you say. After that, it's up to them.

**4. SOME SWIMMING PARENTS WILL NEVER BE HAPPY NO MATTER WHAT YOU DO.** It is important that all coaches accept this: some parents—no matter what you do or how many compromises you make—will *never* be happy. Have a clear vision and philosophy, and deliver it consistently to the best of your ability. The swimmers and families you retain will be those who support you and embrace your philosophies; the ones who leave can please themselves.

**5. EARLY SUCCESS/EARLY FAILURE...UNLESS.** One of the most consistent challenges I see all over the world is the early-developing superstar swimmer: the 8-year-old who is swimming low-30s for 50 free, the 10-year-old who's just broken the state 50 fly record, etc. In the vast majority of cases, these swimmers do not make it as senior athletes. Most of them are out of the sport by their mid-teens. The early developers generally struggle unless they've got a smart, experienced coach, who instead of overly praising the child's natural talent, spends time helping the child to build values, virtues and character traits to underpin their swimming success.

**6. CONFIDENCE IS THE KEY...AND IT ALL STARTS WITH INDEPENDENCE.** Parents and coaches must progressively encourage young swimmers to become independent. It starts with simple things such as asking 5-year-olds to pack their own goggles, cap and towel in a swim bag, with teaching 7-year-olds to make their own breakfast, with teaching 10-year-olds to make their own beds, pack their own lunches and pack and unpack their own swimming bags. Taking responsibility for *doing* things builds confidence.

**7. WORKOUTS DON'T REALLY MATTER.** Believe it or not, we all spend far too much time and effort worrying about what's in a workout rather than on how the swimmers actually complete it. Give a genuinely committed, dedicated and motivated swimmer a really dumb set—150 x 50 on :50 or something equally silly—and watch them turn it into something amazing. *It's not what you do—it's how you do it.*

**PICTURED>** 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 15 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](http://www.wgaquatics.com) and [www.wgcoaching.com](http://www.wgcoaching.com).

**8. THERE ARE NO SHORT CUTS.** Stop looking for them. Stop wasting time and energy looking for the miracle supplement or the piece of training equipment that is guaranteed to take seconds off your PR time. Just work hard consistently, and the results will come.

**9. SLEEP, REST, RECOVERY AND STAYING HEALTHY ARE AS IMPORTANT AS YOUR TRAINING.** There are a lot of theories about training...a lot of ideas about fitness...a lot of research about swimming technique. But the *only* thing that is PROVEN to work is consistent, hard training. And this means that sleep, rest, recovery and staying healthy are essential parts of your training and competition program.

**10. LOVE AND ACCEPT YOURSELF AS A HUMAN BEING FOR WHO YOU ARE—NOT FOR WHAT YOU DO.** Do a PR—love and accept yourself. Don't do a PR—love and accept yourself. Winning or losing shouldn't make any difference in how you feel about yourself as a person. Enough said.

**11. NEVER GIVE UP.** Just don't. Never, ever.

**12. IT'S ALL ABOUT RELATIONSHIPS.** *Swimmers don't care how much you know—they want to know how much you care.* This doesn't mean buying all the backstrokers on your team a new iPad. Real caring is giving everyone around you the best you've got to give every day—giving all of yourself...without compromise...completely selflessly...to the success of others. If everyone on the team thinks and acts like this, you're unstoppable.

**13. DON'T WORSHIP PHYSICAL TALENT.** If there's one constant in swimming around the world, it is coaches, parents and swimmers making the mistake of “worshipping” physically gifted and talented swimmers. Talented swimmers are a dime a dozen—they're everywhere, and most of them never make it to the top. In fact, after 25 years seeing some of the most amazingly, naturally physically gifted and talented swimmers around the world, if I were putting together a talent identification program, I'd look for (in order): *commitment, courage, confidence, tenacity, humility, integrity...and then physical talent.*

**14. DON'T COUNT THE LAPS—MAKE EVERY LAP COUNT.** I've seen a lot of swimming programs. My last estimate is that I've visited more than 800 swimming programs around the world from learn-to-swim centers to national training centers, institutes of sport, NCAA college programs. You name it—I've seen it! And I also see a lot of wasted training time. It's not the *laps you do* that really matter—it's *how you do those laps*. Don't get hung up on training volume, counting kilometers or measuring miles—make every lap and everything you do count for something.

**15. DON'T TRASH-TALK OTHER PROGRAMS, OTHER SWIMMERS OR OTHER COACHES.** The sport is tough enough. It is sickening to see that around the world, the sport of swimming is determined to destroy itself by people denigrating other programs, other clubs, other swimmers and other coaches. In some cases, neighboring, rival swimming clubs become mortal enemies to the point of hatred. What's worse is that these “wars on water”—usually started by disgruntled swimming parents—spread to the swimmers, and the negativity also poisons their attitudes. To quote Thumper from the Disney movie classic, *Bambi*: “If you can't say somethin' nice, don't say nuthin' at all.”

*Next month: “Swimming's Most Important Lessons,” #s 16-30. ♦*

*Wayne Goldsmith would like to extend special thanks to Bill Sweetenham, Don Talbot, Terry and Carol Gathercole, Joe King, Genadi Touretski, Ian Pope, Forbes and Ursula Carlie, David Pyne, Ralph Richards, Bruce Mason, Louise Burke, Clark Perry, Dennis Pursley, Jonty Skinner, Jon Urbanek, Dave Marsh, Brent Rutemiller and Helen Morris. “Your willingness to share your knowledge, encouragement and support has made my journey all that it is.”*

# MOMS AT MEETS

## JOANIE BEISEL

SWIMMING WORLD PRESENTS  
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SHOWCASES MOMS AND DADS  
OF SWIMMERS FROM AROUND  
THE COUNTRY.

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BY ANNIE GREVERS

PICTURED &gt; Elizabeth and Joanie Beisel



**E**lizabeth Beisel has been on the U.S. national team since she was 13. She was the youngest member of the 2008 Olympic team at 15, and she became a silver and bronze medalist at the 2012 Olympics.

Behind this successful young lady is a well-balanced mother. Joanie Beisel swam for the University of Rhode Island in college and has been a swimming official since Elizabeth was 6. She's learned swim-parent etiquette and how to lend a healthy level of support to her daughter. After spending 16 years on deck as an official and swim parent, Joanie has a lot of wisdom to impart.

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What's been the biggest lesson as a swim parent to one of the USA's most successful swimmers?

"To never get caught up in what others are doing. Each athlete is different, and to stay successful for a long time simply could be the result of your child staying consistent in their training."

Any major "do's" and "don'ts" to being a swim parent?

"I believe a major 'do' for swim parents is to always try to stay humble when it comes to the success and achievements of your children, and try to thank all who were instrumental to their success when you get the chance to do so.

"At the same time, I believe a major 'don't' for swim parents at a competition is to overly celebrate success at the venue. I think it's important to remember and be sensitive that your reason for celebration is someone else's reason for disappointment."

What's been your favorite swim moment with Elizabeth?

"After prelims of the first day of 2008 Olympic Trials in Omaha, I knew Elizabeth was probably very nervous, so I never called her. While I was walking back to the venue for finals, I got this text message from her out of the blue, and she asked me, 'Mom, if I make the Olympic team tonight, can I get that Olympic ring tattoo that everyone gets?'

"And what was I supposed to say? 'No?' 'Yes, of course you can get that tattoo!' After the 400 IM race was over that night and I finally got to see her and give her a hug, what does she say to me? 'When do I get my tattoo?'" ❖

"Moms at Meets" and "Dads on Deck" is a quarterly feature sponsored by TRISWIM about swim parents for swim parents. Check out the website at: [www.sbrsportsinc.com](http://www.sbrsportsinc.com)



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answers with Joanie Beisel.





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[PHOTO BY UNIVERSITY OF CHICAGO ATHLETICS]



### Coach Jason Weber

Head Coach, Women's and Men's Swimming  
University of Chicago  
Chicago, Illinois

- *Brown University, B.S., psychology, 2002; M.S., sports management, University of San Francisco, 2004*
- *2000 U.S. Olympic Trials qualifier in the 200 back*
- *Assistant age group coach, Conejo-Simi Aquatics (Thousand Oaks, Calif.), October 2002 to August 2003*
- *Assistant coach, University of Chicago, 2004-06*
- *Promoted to head coach, University of Chicago, June 2006*

*During Coach Weber's tenure as head coach at the University of Chicago, his teams have comprised dual meet marks of 41-16 (women) and 37-18 (men). Weber's squads have been nationally ranked in NCAA Division III each of the past eight seasons, producing 52 All-Americans and 121 All-University Athletic Association performances. In 2014, Weber and his staff were recognized as the UAA Men's Coaching Staff of the Year. The Maroons notched a school-record 53 All-American awards at the D-III NCAAAs and concluded a season in which the men and women combined to break 32 of 46 team records.*

# JASON WEBER

BY MICHAEL J. STOTT

**Jason Weber continues to draw top scholars and swimmers to the University of Chicago, demonstrating once again the successful synergy found in aquatics and academics.**

**Q. SWIMMING WORLD:** As a swimmer from Southern California, were there any difficulties adapting to swimming in Providence and coaching in Chicago?

**A. COACH JASON WEBER:** Not really. I'm pretty laid back and don't get bothered by many things, including weather. While I don't miss swimming and competing outside during cold, rainy weather, I'm not sure I would trade swimming indoors for the California weather. I swam at Brown, a similar academic institution as Chicago. Now I am coaching the same type of swimmers and student-athletes.

**SW:** As a freshman, you suffered a collapsed lung in January and were still able to go best times in early March. How did you manage that?

**JW:** I was out of the water for three weeks, but I had a few months of training behind me and was able to get back into form during the two weeks before our conference championships. I probably could have gone even faster than I did if I hadn't been so hesitant about pushing myself and re-collapsing my lung, which the doctors told me had a 50 percent chance of happening under extreme strain and pressure.

**SW:** What about Brown helped you coaching at the University of Chicago?

**JW:** I viewed myself as a leader on that team. At Chicago, I preach that upperclassmen are going to be viewed as mentors by the freshmen, and they should be supportive teammates and lead by example in and outside of the pool. Through that mindset, we've been able to create a supportive team culture and atmosphere instrumental to our growth and success.

**SW:** How did Matt Kredich help you as a swimmer and coach?

**JW:** Matt is an excellent coach and even better communicator. He had confidence in his program and was able to sell it to recruits and student-athletes. While some of us

didn't need to be sold on his training and team concept, others needed a little more encouragement and guidance. Matt knew exactly how to talk to people and reach them whether they were male or female, talented or not.

You knew he cared about you as a person, not just an athlete. He wanted to know who you were, what you were about and what was going on in your life. He wanted to be there for you for any issues that arose with school, family or social life. Many swimmers looked to him as a father figure and went to him with any questions or concerns they had. It also gave us another reason to train hard and compete hard. If you weren't doing it for yourself, then you were doing it for the team. And if you weren't doing it for team, you were doing it for Matt. I know I never wanted to let Matt or my team down, so that extra motivation really helped push me during practice and competitions. That is exactly what I want for my program: for everyone to feel accountable to and supportive of each other.

**SW:** What are the difficulties of coaching successfully at a prestigious academic university such as UC?

**JW:** Coaching at Chicago has been a wonderful opportunity. The university and athletic department have been extremely supportive. From a coaching standpoint, the only difficulty I have is keeping track of everyone's schedule! With classes and so many other academic opportunities available at Chicago, we tend to have conflicts with practices. I often end up scheduling make-up workouts.

**SW:** Does the 50-meter Myers-McLoraine Pool help in recruiting?

**JW:** Yes! Having one of the best pools in (NCAA) D-III and the state of Illinois is a huge benefit.

**SW:** How have your training methods evolved at Chicago?



JW: We are always looking for new ways to become more efficient and challenge our athletes. Through high school and the first three years of my college career, my training was high-yardage, aerobic-based. During my club years, we utilized Jon Urbanchek's color system. I took it to Chicago and tried to structure our dryland, weights

and swim training around what I had done and was familiar with at Brown under Matt. I realized pretty quickly that based on the academic schedule and the level of athletes we had, that approach was not the best fit for our team.

Ultimately, we've morphed into more of a lower-yardage, higher-intensity training

program. In addition, our training is really a combination of many programs and training styles. I'm constantly educating myself about coaching and training, and have adopted parts of what I did in high school under Gardner Howland, Mike Sharadin and

— continued on 44

## HOW THEY TRAIN:



**PROGRESSION OF TIMES**

SCY	High School	2013-14 (UChicago Junior)
50 Free	24.5	23.98
100 Free	53.5	52.67
100 Breast	1:07.3	1:05.23
200 Breast	2:28.4	2:20.96
200 IM	2:09.8	2:05.76



## JENNY HILL

STORY BY MICHAEL J. STOTT  
PHOTOS BY UNIVERSITY OF CHICAGO ATHLETICS

For Jenny Hill—high school valedictorian, talented violinist and member of the University of Chicago orchestra—the academics and swimming just keep getting better.

Now a biological sciences major, she earned four NCAA D-III All-America distinctions last year in the 400 yard freestyle relay (8th, 3:27.67), 200 freestyle relay (10th, 1:35.44), 400 medley relay (11th, 3:49.53) and 200 medley relay (12th, 1:45.19). She also was a CSCAA First Team Scholar All-American.

The senior captain also owns University of Chicago records in the 100 breast (1:05.23) and 200 IM (2:05.76), and ranks among the school's all-time top 10 in the 50 and 100 free (2nd, 23.98 and 52.67), 200 breast (2nd, 2:20.96), 100 fly (7th, 58.27) and 400 IM (9th, 4:39.34).

"Jenny is one of those athletes who coaches just love," says Jason Weber. "She always has a positive attitude, a smile on her face and is constantly looking for ways to improve herself, her teammates and peers. She is dedicated, a hard worker, leads by example inside and outside the pool, relishes new challenges and sees how far she can push herself.

"(When she first came) to Chicago, I was thinking she was going to focus on the IMs and the 200 breast. But based on her body type, technique and the fact that she loved and really responded well to our sprint training, we focused her more in the 50-100 free and 100 breaststroke," Weber says. Hill also dropped significant time in her 200 events, qualifying for the 200 IM after just missing her freshman and sophomore years.

"Last season was her breakout year, and her huge improvements were a huge factor in four of our five women's relays scoring at NAAs," he says. Weber attributes Hill's consistent dual meet performances and her ability to perform well on the national stage to her positive attitude and work ethic.

### SAMPLE TRAINING

In training, Hill loves sprinting and is particularly fond of the power rack and all-out 25s with no breath—something Weber says she does regularly during her off-season training. Following is an Auburn sprint set that his swimmers enjoy doing. Weber recycles it throughout the year, doing variations depending upon training cycle.

*8x through (4 rounds free, 4 rounds stroke):*

- 1 x 50 @ 1:00 (fast 20 from a dive)
- 1 x 50 @ 1:00 (fast through the turn)
- 1 x 50 @ 1:10 (easy)
- 1 x 50 @ 1:30 (100 pace from a push; rounds 4 and 8 all-out from a dive)

*Hill holds 24.5s on the free and 31-low on the breast ♦*

Paul Davidson, and at college under Matt Kredich and Peter Brown. I've even incorporated a few things Gregg Troy does as well as (Ernie) Maglischo and (Dr. Brent) Rushall.

**SW: UC finished 10th for both men and women at D-III 2014 NAAs. How so?**

**JW:** We've developed some great swimmers and divers and have had several really talented classes, the last two of which have aided us in qualifying multiple relays

for NAAs. Before last season, we never had more than three relays (two male, one female) qualify for a single NAAs. Last year, we had all 10—five each side—not only qualify, but score. Now, our talent level is much higher. We've gone from having one or two swimmers scoring in individual events to close to 20.

**SW: Diving seems critical to your success...**

**JW:** Yes. After I took over as head coach,

I switched one full-time swimming coach assistant position to a full-time diving position.

We now have one of the top diving programs in D-III, with multiple NCAA qualifiers and All-Americans. Last season at NAAs, our male divers scored on both boards.

**SW: What constitutes a weekly swim practice schedule?**

**JW:** Eight to nine practices a week, with doubles Monday and either Thursday or Friday, depending on the group. Kicking is a huge part of our program. We do weights and dryland two to three times a week, again depending on the group. For dryland, we do a lot of full-body motion and exercise that helps athletes carry strength into the water.

**SW: What is UC's connection to Ted Mullin and the "Hour of Power?"**

**JW:** Ted Mullin was a former swimmer at Carlton who passed away from sarcoma, a rare form of cancer in adolescents. He was treated at the University of Chicago, and the Ted Mullin Fund for Pediatric Sarcoma Research is based at the University of Chicago Medicine Comer Children's Hospital. The "Hour of Power" is a fantastic event in which all swimming programs can participate to raise awareness and funds for pediatric sarcoma research. Teams at all levels participate.

For details, go to the following link:  
[https://apps.carleton.edu/athletics/varsity\\_sports/mens\\_swimming\\_and\\_diving/hour\\_of\\_power\\_relay/](https://apps.carleton.edu/athletics/varsity_sports/mens_swimming_and_diving/hour_of_power_relay/)

**SW: With D-I football and basketball and the five power conferences being given the key to the vault, what are the long-term prospects for college swimming?**

**JW:** This is something that college coaches of all sports at all levels are thinking about. I don't think anyone really knows what the collegiate landscape will look like in a few years.

As a D-III coach, I am concerned about what may become of our NCAA championship meets as our funding comes directly from the D-I basketball TV contracts and revenue. If that money is reallocated, then there will be some major changes taking place. ♦

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

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## UP &amp; COMERS

## AGE GROUP SWIMMER OF THE MONTH

BY JASON MARSTELLER

## GABRIELLE KOPENSKI



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[PHOTO BY MELISSA LUNDIE]

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

*"I take great pride in my stroke technique and my distance per stroke. I'm also extremely passionate about swimming, and I really enjoy training."*

## WHAT IS YOUR FAVORITE THING ABOUT THE CULTURE OF SWIMMING?

*"Being with teammates—both younger and older swimmers—and all of the friendships I have built through swimming."*

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

*"I am really looking forward to competing at nationals this summer in my home state of Texas...and after that, moving toward Olympic Trials."*

**G**abrielle Kopenski, 14, of Texas Ford Aquatics definitely fits the billing as an "Up & Comer." Kopenski demolished the U.S. junior national record in the 1650 yard freestyle at December's Short Course Winter Junior Nationals.

Her 15:56.39 blasted the previous meet mark of 16:02.79, set by Salmon Bay's Amber McDermott in 2008. Kopenski also moved closer to Becca Mann's 13-14 national age group mark of 15:54.46.

"The best thing about Gabby is she earned every successful swim," says her coach, Dan McDonough. "She maintains high standards in practice, and has fun doing it."

"The most impressive swim was her junior national record in the 1650. She was sick most of the meet and frustrated because she wanted to race. In typical Gabby fashion, she went out within three seconds of her best 500 and beat her best 1000 time by more than 14 seconds!"

McDonough believes that Kopenski has barely scratched the surface of what she can become in the sport: "She is nowhere near her potential. She seems to be most relaxed in the longer events. If you could put all the freestyle events into a 3,500-yard free or a 3,050-meter free, her splits at the 50, 100, 200, 400/500 and 800/1000 would probably be personal best times."

"During distance-per-stroke (DPS) test sets, Gabby is the only swimmer that I've seen throughout the past 20 years who improved DPS as speed increased." ♦

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

*"Not sure about the toughest workout, but the longest were 20 x 400 and three broken 1500s."*

## WHAT ARE YOUR FAVORITE HOBBIES?

*"I like jogging and taking part in area fun runs. I also like to cook, bake and hang out with friends."*

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

*"A past Olympian and coach I look up to is Brendan Hansen. When I was 11, he was the speaker at our banquet. This past winter at junior nationals, I had a poor prelim swim in the 500 free. In the evening, I swam better, and afterward, he stood next to me and said he had seen me race over the past few months and that he liked how I came back after such a discouraging morning swim. His words were kind, and he made a big impression on me."*



# MASTERS: THE WAY WE WERE

BY ANNIE GREVERS

*After swimming Masters for years, would you have changed the way you trained in high school or college (i.e., less or more yards, more drilling, kicking, etc.)?*



## LAURA VAL

Pediatric Surgeon, World Masters Swimmer of the Year

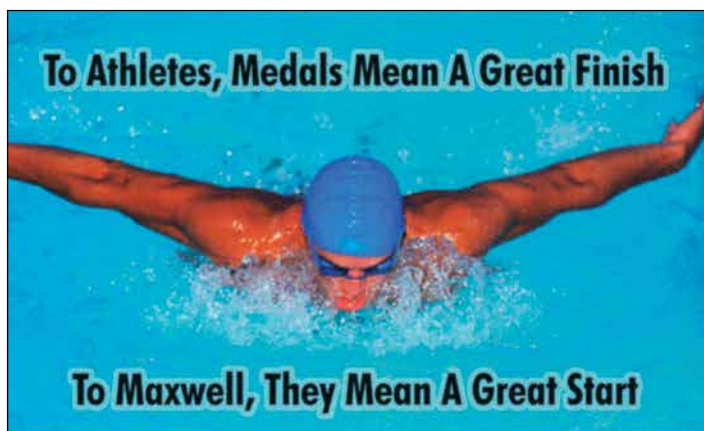
"Would I change the way I trained? I loved it. I always felt challenged, and although I never did drills or stroke work or dryland, I must have OK technique because I've never been injured—I'm knocking on wood right now. In retrospect, it probably wasn't the best training for a sprinter, but it was what it was. I marvel at how fast the young swimmers are today. Clearly, the techniques, training and physiology of the sport have changed dramatically. But there is no going back, and I work with what I have and with what I learned."



## BARRY ROTH

Associate Professor of Practice, University of Arizona  
Director of Teach Arizona

"I absolutely would change a lot of what I did, but it was what we knew at the time. If I could do it over, I would focus so much more on the fine details of stroke, starts and turns. I watch our local genius, Rick DeMont, and I see that he does train the swimmers hard, but when the focus is speed, they are all-in. When they go fast, they go FAST! That's one of the main things I would do differently—but in those days, it was all about volume. I was one of the best conditioned sprinters around, just not the fastest."

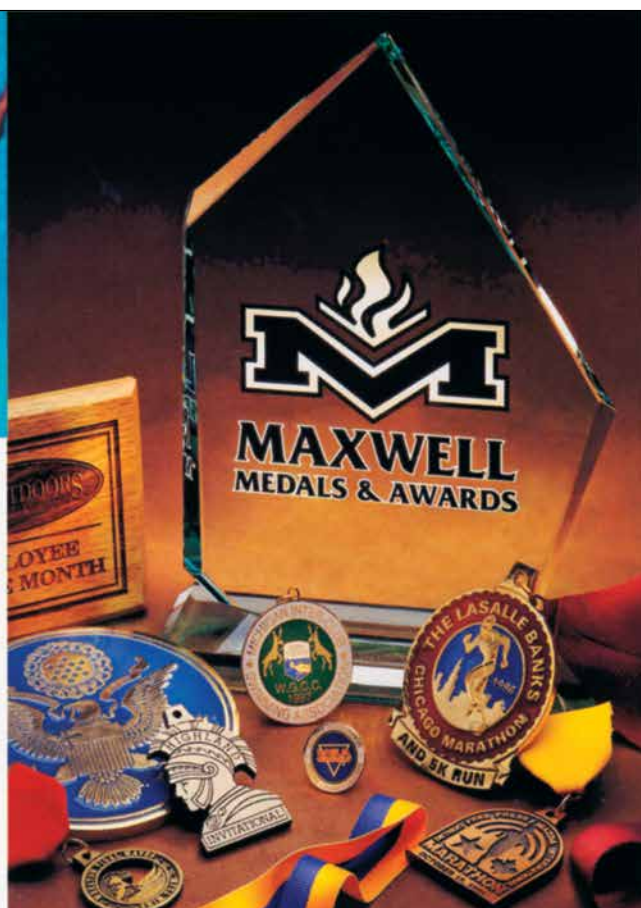


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## ROWDY GAINES

TV Commentator, 3-time Olympic Gold Medalist

"I look at it two ways: for my 50 and 100, I would probably do things differently. My Masters career has taught me quality is better than quantity. Although for my 200 free, my background when I was younger was certainly a better route. I think I did more drills in my younger days than in my Masters days, so that doesn't change as much."



## SCOTT SHAKE

Senior Associate Athletics Director for Development, University of Arizona

"I swam in high school from 1973-76 when it was all about volume. Everyone seemed to think the more yards you swam, the more you would improve. If I changed anything, I would have swum more at and below race pace. I would have also swum more high-quality, true speed sets. Growing up, I worked on my own on my starting technique, but that was significantly lacking in training then, and I think it is significantly lacking to this day. The other thing I would have done was invent the underwater dolphin kick that dominates fly, back and free swimming today. David Berkoff—who's that? Just kidding."



## CLAIRE FERRO

Elementary School Teacher

"I wish I would have focused more on my technique. There are things today that I constantly try to fix. I know that if I would have focused on stroke technique more as a younger swimmer, the little errors in my stroke wouldn't occur so often. I know that even Olympians make changes to their strokes from time to time because technique is so important!" ❖

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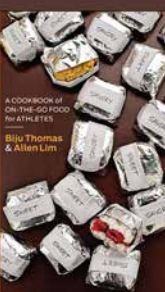
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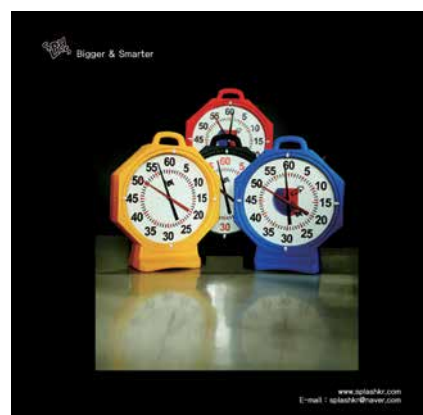
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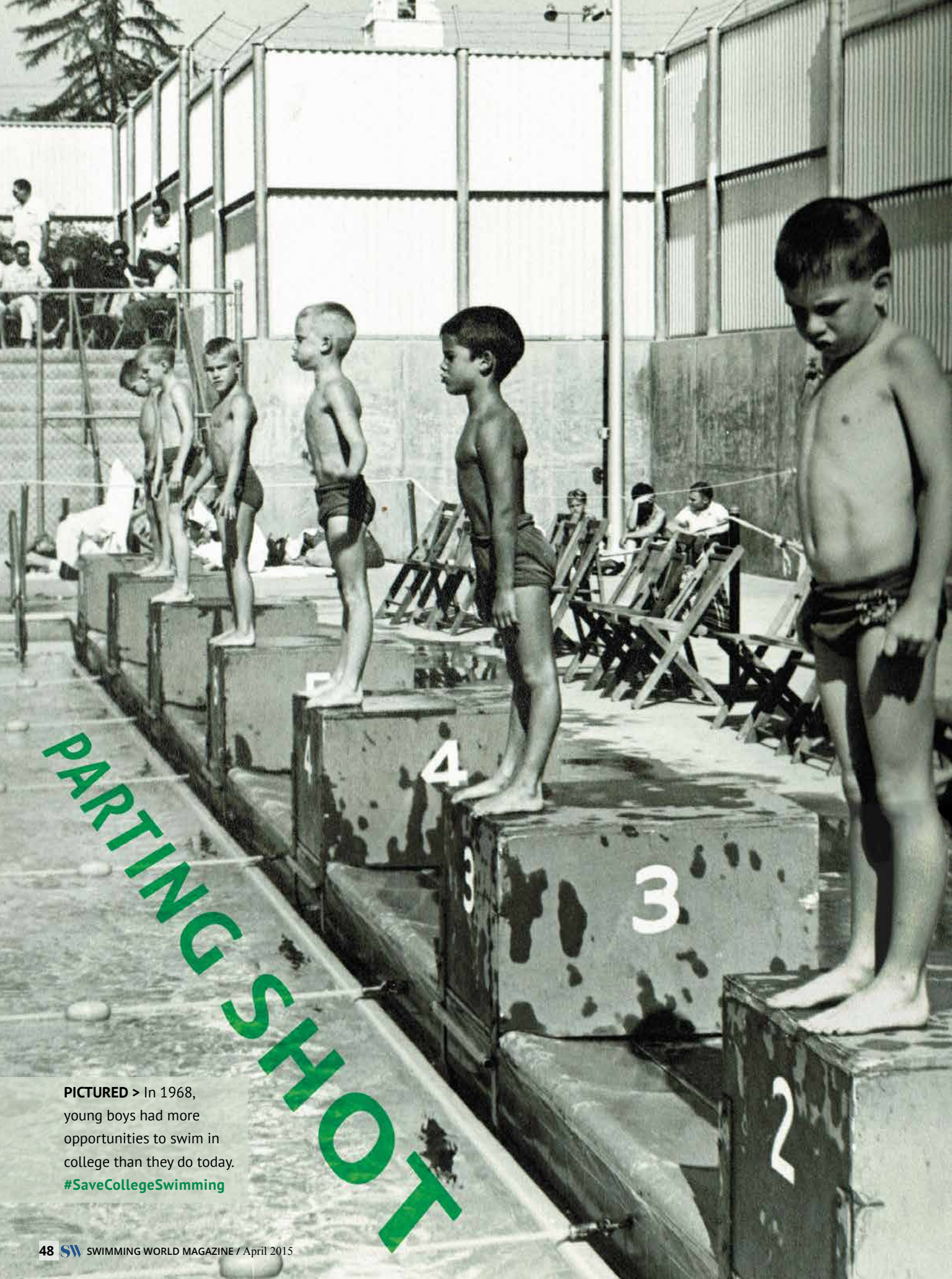
If you fail to prepare, you're  
prepared to fail. - Mark Spitz



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