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#### **FEATURES**

Introducing a Symmetry Score in Freestyle Swimming Using a MEMS Based Sensor
By Andy Stamm PhD & Igor Shlyonsky

If you want to be an Olympian or World Champion then Train like One! By Dawn Weatherwax, RD, LD, ATC, CSCS

What's Up Doc? Part 2

By Cay Andres

The American Swimming Magazine invites articles in the following areas of interest to the membership of ASCA: Coaching & Performance, Teaching, and the Science of Swimming.



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#### DEAR COACHES,

We stand 600 days away from the start of the 2024 Paris Olympic Games, and our sport is brimming with talent, potential, and world-class people; coaches and athletes preparing with precise detail for the ultimate competition, and fulfilling lifelong dreams. As coaches we are the tour guides of imagination, and we're tasked with the great responsibility to develop healthy pathways towards success, both in swimming, and most significantly, in life.

Coaches make an immediate, and indelible mark on the lives of our swimmers. The American Swimming Coaches Association has embarked on an expeditious evolution in our approach to serving professionals, in a myriad of ways, to not only empower our members with education and certification, but to inspire them with programming, protect them with representation, value their feedback, and celebrate all their successes.

The consistent collaboration, communication, and willingness to share our ideas is what creates a successful coaching community. Our hope is that offering a variety of member-led initiatives will continue to equip coaches to develop, and hone their skills along the journey of a lifelong career. Whether you decide to play a role in our Ambassador or Mentor programs, or apply to be an ASCA fellow, or serve on one of our many committees; you're directly impacting our sport.

Imagine a future in swimming where every coach is aware of their unique ability to positively affect growth for our profession. That is principally our goal at ASCA. Valuing our community, and creating authentic connections with our membership will not only benefit the association, but will exponentially grow opportunities for professional development.

This is an extraordinary time in the history of our sport, and our profession. There is perhaps no better time to get involved than right now. Our organization is poised to help our members reach their fullest potential, and in doing so, take the sport of swimming to new levels of success. We look forward to discovering what role you'll play.

Sincerely,

Michael M. Murray

President, ASCA Board of Directors

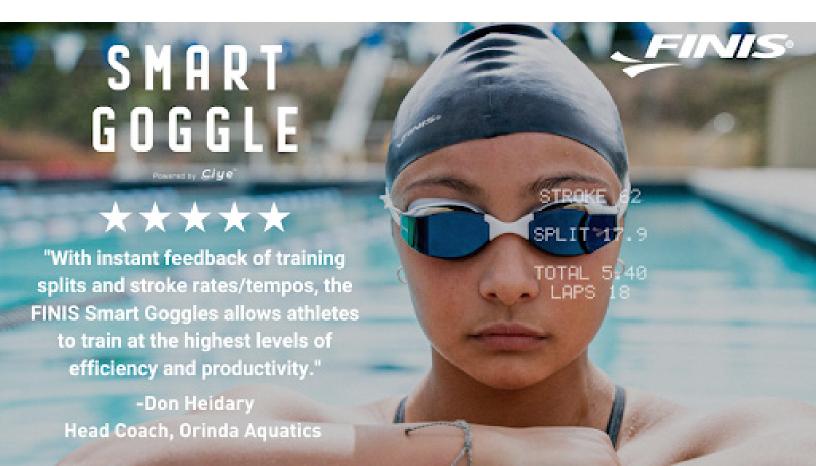
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# INTRODUCING A SYMMETRY SCORE IN FREESTYLE SWIMMING USING A MEMS BASED SENSOR Part 3

#### Andy Stamm PhD<sup>1, 2,3</sup>, Igor Shlyonsky<sup>3</sup>

- 1 Faculty of Technology and Bionics, Rhine-Waal University of Applied Sciences, 47533 Cleve, Germany
- 2 Griffith School of Engineering, Griffith University, 4111 Nathan, QLD, Australia
- 3 MySwimEdge Inc., USA

n the last two parts of our article we have explained what MySwimEdge is capable of measuring and how it is presenting this results to the user. Here is one example of one individual swimmer who was using MySwimEdge to work on her technique.

M. is an amateur triathlete, but she was World champion in combat fight. She had her left shoulder injured and this was making her swimming painful and less efficient. The first test was conducted in January of 2021 with the comparison test conducted in June 2021.

Figure 8 presents a swimming lap each of M. before she was using MySwimEdge (left) and after her focused training (right). The first test identified the problem of very inefficient left arm strokes caused by the injured shoulder. Her coach decided to use torso rotation to compensate for the shoulder injury. This was addressed in further trainings and led to the right graph in Figure 8.



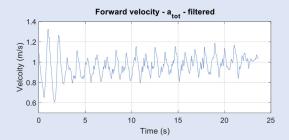


Figure 8: Lap velocity (left: January 2021, right: June 2021

cont, next page

The focussed training on that particular problem helped her to increase her 200m lap time from 3m 30s to 3m 15s with the shoulder not being painful anymore. Figure 9 furthermore shows that her strokes became shorter with the minimum being increased too. Additionally the velocity profile (red lines; right graph of Figure 9) show much more consistency and less variance in her strokes.

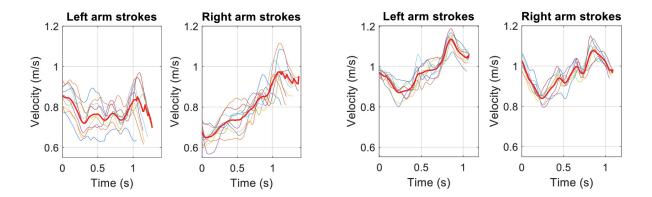


Figure 9: Intra stroke velocity changes during a stroke, left vs. right arm (left: January 2021, right: June 2021)

The presented tool can provide athletes and coaches with valuable information within minutes after the test. This has not been able to be achieved in recent years except when complex equipment has been used. This device now brings this level of analysis to every athlete and coach and provides them with a great insight into their applied technique. Changes to the technique can also be measured nearly immediately and used to further improve the swimming even in the same training session.

#### Andy Stamm PhD, Igor Shlyonsky BIOS

#### **Igor Shlyonsky**

(M.Sc. in Computer Science, MBA) is a CEO of MySwimEdge, Inc. Before starting MySwimEdge, Inc. Igor worked as a top manager in large companies, he also worked in management consulting with McKinsey & Company, and in venture capital with 3i plc.

Igor Shlyonsky received his M.Sc.in Computer Science from the Moscow Institute of Cybernetics and his MBA from Cornell University (Ithaca, NY). Before starting MySwimEdge, Inc. Igor worked as top manager in electricity, energy efficiency, metals, export support, chemicals in Russia, Ukraine and Israel. He also worked as a management consultant with McKinsey and Company in Russia and USA, and in a venture capital firm 3i plc in the UK. He developed a passion for swimming analysis after he wanted to analyze his own technique and couldn't find an appropriate gadget.

#### Andy Stamm

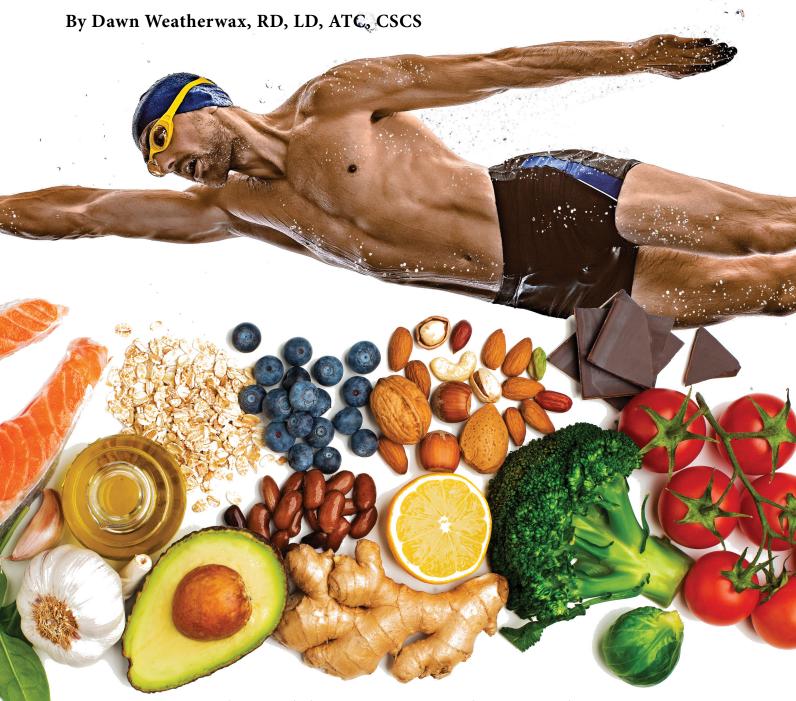
Andy Stamm received his Diploma Engineering degree in Electrical Engineering from the University of Applied Sciences, Bonn-Rhine-Sieg, Sankt-Augustin, Germany in 2008, and his Ph.D. degree in Electrical Engineering from Griffith University, Brisbane, Australia, in 2013, respectively.

He is currently an Professor with the Faculty of Technology and Bionics, University of Applied Sciences Rhine-Waal, Cleve, Germany, where he is also the Dean of Studies. He has coauthored one patent application, more than 15 publications, and graduated more than 45 students. His research interests include inertial measurement units (IMU's) and embedded systems design and development, data analysis and feature extraction, environmental sustainability in electronics manufacturing, renewable energy systems, and sports engineering. Prof. Stamm is also an Adjunct Professor at Griffith University in Brisbane Australia."



# If you want to be an Olympian or World Champion then Train like One!

Strong Immune System = Fewer Days Out of the Water



Top swimmers who medal at major events have one thing in common... they experience less frequent and shorter duration respiratory and gut infections then the remaining competition. Ill health accounts for 1/3 of all lost training days or performance alterations (1).

Sleep, hydration and nutrition quality and amount are the top influencers.

Athletes need a minimum of 9-11 hours of sleep on a regular basis to maximize recovery and repair (2,3,4). Lack of continuous sleep weakens the immune system and opens up the opportunity to get sick or injured. It is important that swimmers understand that if "lack of time management" is the cause, then they need to reevaluate their goals.

Shortage of hydration intake not only impairs performance but impacts the integrity of the mucosal lining in the gut (5). A weak gut leads to an increased opportunity to get sick. The goal is to drink a minimum of half your weight in fluid ounces a day plus 4-20oz per hour per activity (how much you sweat impacts the amount needed).

Daily nutrition has the most impact on all aspects of training; especially immunity. However 75% of athletes chronically under eat or have too much added sugar or saturated fat (6). Under eating otherwise known as "low energy availability" is a significant factor.

#### The Average Male Swimmer needs 2500-5000 of high quality calories/day

The body needs to be nourished properly to recover, repair, grow and to do back to back trainings optimally. Carbohydrates, protein and healthy fats are involved in a variety of immune processes, whereas micronutrients (Vit C, Vit D, Zinc and probiotics) are important for decreasing the impact of the illness (7). If you are serious about swimming; even at a young age, eating enough, of high quality foods, at the right times, is imperative for optimal growth and performance.

An easy way to know if you are getting enough high quality carbohydrates is by total grams of daily fiber and added sugar intake. You want to aim for a minimum of 20g of fiber a day and less than 25g of added sugar a day.

Next is getting enough protein. (1.2–1.7 g/kg/BM/day). Your muscles act like a sponge; they can only absorb so much protein at one time, so spread it out (7).

Lastly you want to make sure you are eating a minimum of 30% of your diet from healthy fats. Salmon, oysters, walnuts, chia, flax, non GMO canola oil, non GMO firmed tofu, navy beans, Brussels sprouts and avocado are some ideal options (8).

When it comes to micronutrients you want to make sure you are consuming at least 100-200mg of Vitamin C a day. Vitamin C impacts inflammation, kills bacteria and fights infections (9,10). Guavas, kiwi, bell peppers, strawberries, oranges, papayas, broccoli, tomatoes, snow peas and kale are a few top choices (8).

Vitamin D directly impacts immune cell functions. Reaching 20 micrograms or 600 international units (IU) daily is the goal (11). Salmon, eggs, pork chops, cremini

#### The Average Female Swimmer needs 2200-3500 of high quality calories/day

mushrooms (exposed to Ultra Violet light), non GMO firm tofu, and fortified yogurt, milk, milk substitutes, orange juice and breakfast cereals are leading picks (8).

Zinc is an essential mineral for wound healing and immune system function. The target is 11mg of zinc a day and more if you are vegan (10,12).

Beef, chicken, pork, seafood, yogurt, lentils, lima beans, non GMO tofu, oatmeal, hemp, shitake mushrooms, green peas, spinach and asparagus are excellent selections (8).

Pre and Probiotics impact the health of our gut microbome. A healthy gut impacts how well we fight illness (13). Currently there are no dietary recommendations but try to aim for 1 daily serving of a pre or probiotic food. Yogurt, kefir, kimchi, slightly green bananas, plantains, sauerkraut, garlic, and rice, potatoes and pasta that have been cooked and reheated or eaten cold are options (14,15).

It is evident how sleep, hydration and daily nutrient intakes impact performance. Staying healthy is a must if you want to be the best. Start planning out next week's food plan to ensure your success. Please enjoy the sample menu to get you started.

If you are vegan or restrict dairy; I highly recommend a sports nutrition consult to ensure meeting all your nutrient needs for short and long term health & performance goals. calories/day

### 3000 Calorie Training Menu



#### **Pre-Swim Practice** 4:30am-5:15am

Pita Bread

Natural Nut, Peanut, Seed or Chickpea Butter 2T

Banana sliced

Grapefruit, Guava or Papaya

16oz Water

#### **Training**

1/2

#### 5:30am-6:45am

10-20oz Water an hour with one NUUN tablet (optional tablet) per 20oz

#### Breakfast

#### 6:00am-7:30am

Egg Sandwich

Dave's Killer English Muffin

Whole Eggs, cooked with 1 chopped bell pepper and 3

½ cup spinach or 3-Veggies Made Great® (freezer section & GF) Mushroom & Cheese Frittata Slice Canadian Bacon or Morning Star Patty (vegan)

Kiwi

16oz Water

#### Lunch

#### 11:00am-12:45pm

30 Wasa with Rosemary or Mary's Gone Crackers™ (GF)

2oz Lean Turkey 1oz Lean Ham 107 Provolone

Cheddar Cheese or Vegan cheese 1oz

**Sliced Cucumbers** ¼ cup

1½ cup Grapes 2 cups **Snow Peas** Hummus 1/3 cup

Water with cucumbers

#### Afternoon Snack 2:00pm-3:30pm

Garden of Life High Performance bar

Trailmix

1/8 cup raw Almonds 1/8 cup Pepita seeds 1/8 cup Golden Raisins 1T cacao nibs 1T dried cranberries

16oz Water

#### 3:30pm-5:30pm

6:00pm-7:00pm

10-20oz Water an hour with one NUUN tablet (optional tablet) per 20oz

Post recovery within 30-45 min: 10-20oz Chocolate Milk/Soy Milk or Clif Builder Bar

If can have dinner within that time then no need for this snack

#### **Evening Meal**

3-6oz Salmon

1-2 cups Asparagus

Olive Oil or Non GMO canola oil 1T

1 cup Red Potatoes with garlic

Land o Lakes Butter with olive oil 1 tsp

16oz Water

#### **Evening Snack**

#### 8:00pm-10:00pm

Plain Greek Yogurt

2 cups Raspberries

2 tsp Cinnamon



- 1. Hellard, P., M. Avalos, F. Guimaraes, J.F. Toussaint, and D.B. Pyne (2015). Training-related risk of common illnesses in elite swimmers over a 4-yr period. Med. Sci. Sports Exerc. 47:698-707.
- 2. O'Donnell S, Beaven CM, Driller MW. From pillow to podium: a review on understanding sleep for elite athletes. Nat Sci Sleep. 2018;10:243-253.
- **3.** Vitale KC, Owens R, Hopkins SR, Malhotra A. Sleep Hygiene for Optimizing Recovery in Athletes: Review and Recommendations. Int J Sports Med. 2019;40(8):535-543.
- **4.** Smith RP, Easson C, Lyle SM, Kapoor R, Donnelly CP, Davidson EJ, Parikh E, Lopez JV, Tartar JL. Gut microbiome diversity is associated with sleep physiology in humans. PLoS One. 2019 Oct 7;14(10):e0222394.



#### Dawn Weatherwax, RD, LD, ATC, CSCS

is a registered/licensed dietitian with a specialty in sports nutrition and founder of Sports Nutrition 2Go and Dawn Weatherwax Sports Nutrition Academy. She has been working with swimmers for over 25 years and has launched an online nutrition program for swimmers. In addition, she is an athletic trainer with a certification in strength and conditioning from The National Strength and Conditioning Association.



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**Athletes' Stories** 

SUCCESS

**Grant H** -Gained over 55lb of lean weight, Top 10 in the country. Added nutrition age 14yr.

Mariah D.-Gained 25lb of lean, got leaner, Top 10 in the country. Added nutrition age 13yr.

**Emma D**-Got leaner. Won State! **HS**-13yr. Tired & barely improving to Rocking it at every meet, growing:



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# What's OC . Part 2

By Cay Andres

Mark Spitz inquired to Doc how changing his decision to attend Jon Urbanchek's Long Beach State can be done. Doc's daughter describes his emotion when he shared the news of this possibility with his family, as "ecstatic". It is evident how this transition spiced up what would later be an Indiana University and University of Michigan swimming rivalry, to last decades. It has been said that the 1972 NCAA Championship Team of Indiana University male swimmers, could compete against any team on planet and win.

The excellent coaching Sherm Chavoor provided for Mark Spitzat Arden Hills was enhanced beautifully by Doc Counsilman's touch at Indiana. Counsilman not only provided technical expertise but a psychological framework for Spitz to achieve major success. Spitz's unprecedented accomplishments at the 1972 Olympic Games stood untouched until 2004 by Michael Phelps in the Beijing Games.

Photo permission from Jill Morris Counsilman.

Special thanks to Jill Morris Counsilman for her kind feedback in the story of her legendary father.

Doc and his wife Marge together made an amazing team. Their marriage survived sixty years. Marge assisted in writing his numerous articles, speeches and books. She also mastered her signature dish for the team, Lasagna. The Counsilman household had an open-door policy for all the swimmers to have a home away from home. Marge served as team Mom. A beautiful part of Docs work at the pool was that he always had his own children comfortable in and around the pool.

When Doc realized that one of his freshmen, Gary Hall, had never been to the opera, he personally drove him 3 and a half hours, to the opera (HMS Pinafore) in Chicago (record time). Mostly talking about science and swimming the entire drive, a wonderful way to get to know one another. Upon arrival, Doc parked illegally and thus received a parking ticket. Doc was pleased as now he had free passage to park anywhere for the remainder of the day. The rest of the day included museums and dinner, parking illegally each time, utilizing the initial parking ticket that remained under the windshield.

Doc is remembered by his family and swimmers for his great sense of humor. He had an ability to bring fun for all to both the home and pool environments. This is a sign of a great leader. One of Doc's greatest gifts he gave his swimmers was laughter. The training environment at Indiana was rigorous to say the least. A program does not see such success without the hard work. To provide an environment of family and fun can catapult any team. It was Doc's nature to provide this. In today's swimming world, this family connection is more difficult because of the importance of the safety criteria necessary in today's sport of swimming. I personally feel with certainty that the warmth of the family environment Doc was able to create with his wife Marge is paramount to the success and strength for this group of collegiate swimmers. They provided the "home away from home" to empower these gifted young athletes to excel to very high levels. The aspect of bringing humor and caring together for these hard-working individuals made the ride much more palatable for victories.

It was in 1975 when Doc was diagnosed with Parkinson's disease. But this did not slow him down, he did not let Parkinson's get the best of him. Instead, he pursued a challenge of completing the swim across the English Channel. The disease was the impetus for his pursuit. The training it took for Doc to accomplish this endeavor provided him with the means to combat and extend a healthier lifestyle that would otherwise be a debilitating experience. It was also a way of teaching his swimmers perseverance in challenging times. His most proud accomplishment was attained in 1979, when he completed this challenge of Swimming across the English Channel. He was 58 years young, a record-breaking swim, the oldest to ever accomplish this at the time.

Retirement from coaching did not come until 1990. He finished the rewrite of the New Science of Swimming at this time. Probably the greatest book written to date for the Sport of Swimming, was Doc Cousilman's The Science of Swimming. Coaches of all sports have read it for the knowledge within its pages. I have heard it referred to as the Bible of Swimming. Other great books written by Doc were, The Complete Book of Swimming, Competitive Swimming, Doc Counsilman on Swimming, and Competitive Swimming Manual for Coaches and Swimmers. His passing was in 2004. Parkinson's finally got the best of this iconic figure, but his legacy lives on.









#### Cay Andres

Cay graduated with a BA in Psychology with an emphasis in Sport Psychology from the University of Hawaii. She has been teaching swimming for 45 years and has been coaching swimming for 40 years. Her email is everybodyswims2121@gmail.com.

A big Mahalo to Gary Hall, Sr. for his stories and memories of his time at Indiana with the late great hero in Doc Counsilman.

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