



PNS

Athlete Newsletter



TM

Issue **13** February 2012

Editor: Steve Sholdra

VIDEO OF THE ISSUE

Watch **Milorad Cavic**, Serbia's world-famous butterflyer, in this special slow-motion video detailing a proper butterfly pull. Shot with professional underwater cameras, this video is great for swimmers of all ages! This video is shot from many different angles, and shows proper hand placement, proper kick, and more.

The video can be found [here](#).

QUOTE OF THE ISSUE

"King County Aquatic Center was my favorite pool when I was growing up."

-Aaron Piersol,
Olympic Gold-Medalist, World Record Holder

Weyerhaeuser King County Aquatic Center *By The Numbers*

- **1,586,747** gallons to fill all three pools (Competition pool, Dive Tank pool, Recreation pool)
- **971,607** gallons of water in the 50 meter competition pool
- **555,370** gallons in the dive tank
- **671,490** swimming lessons taught
- **1383** events
- **10.3 million** visitors
- Spectator seating for **2,500** makes the Aquatic Center our country's second largest indoor complex.
- WKCAC is one of only half a dozen facilities in the U.S. capable of hosting the country's largest national and international events.
- More than **500,000** people visit WKCAC annually.
- WKCAC is home to the largest OMEGA scoreboard system in North America. Completed in 2009, the superstructure houses two **25ft by 13ft** enhanced LED boards including full-color video display.
- The regional economic impact of out-of-town guests attending events exceeds **\$4.4 million** annually.
- WKCAC was the first facility in the country to offer Wi-Fi service at a national swimming event (2006).

Data compiled October 2011. Thanks to Mike Dunwiddie.

PNS Senior Swimming



Ruggles Review



By **Brian Ruggles**, PNS Athlete
"Avoid The Fall After Breathing"

The video can be found [here](#).

The shortest way to get from point A to point B is a straight line, so if you move up and down too much, you aren't going to travel in a straight line, and you may end up swimming 26 yards instead of 25 yards. Many swimmers who try to use the galloping freestyle stroke have trouble avoiding this 'fall' each time they breathe. Learning to resist this fall is beneficial for not only those who use the galloping stroke, but also for those who use a more balanced freestyle. Each time your hand extends out to glide, make sure you stretch directly forward as far out as you can in order to send your energy forward instead of down.

When fully extended, your arm should be parallel to the pool's surface. Upon starting the breath, many swimmers try to angle their hand upwards so that they 'push down' on the water to lift themselves up so they can breathe more easily. This is bad! If your hand and arm aren't perfectly horizontal as they extend forward and during the glide, you are going to create a wall with your hand and slow yourself down by pushing extra water. For an example of what you should do, watch Jason Lezak at the beginning or end of the video. His arm and hand are perfectly flat during the whole glide, so all of the energy he gains from his galloping stroke is sent directly forward allowing him to go farther on each pull. Therefore, if you want to use a galloping freestyle stroke you must learn to 'dive' horizontally forward on each stroke instead of up and down.

PNS 2012 Olympic Trial Qualifiers

This list will be updated again in a future issue with new qualifiers.

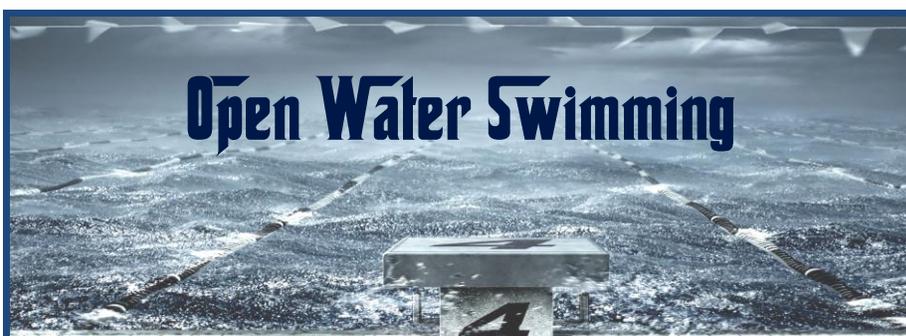
Women

Jenni Domanowski (MMSC)
Katie Kinnear (IST)
Amelia Messegee(KING)
Alana Pazevic (KING)
Andie Taylor (KING)
Annemarie Thayer (CSC)
Heidi Vanderwel (KING)
Hannah Weiss (KING)
Kim Williams (BC)

Men

No men have qualified at this time...maybe YOU will be the one!

Thanks to Lyle Campbell.



Open Water Swimming

Getting Started In Open Water Swimming

"Many people are excited to get involved in Open Water swimming, either for a new twist on training or to take advantage of the expanding competitive opportunities. There are some potential risks and hazards, but with thoughtful planning in advance, Open Water swimming can open up whole new worlds for both athletes and coaches.

Let's look at some of the things you, as a coach, must do in order to plan Open Water training or an Open Water event. First, identify the factors that you will be dealing with to eliminate unforeseen risks.

The known factors are age, experience, physical ability and athlete to supervisor ratio.

Plan an experience that is appropriate for your athletes and staff!"

To read the full article on the USA Swimming Website, please click [here](#).

PNS AG Swimming



Why Do We Do This Drill?

Butterfly “Perp Drill”

By **Glenn Mills** (of *GoSwim*)

Article and video reprinted with express permission of **GoSwim** and **Barbara Hummel**.

If you've ever seen any TV police drama, there will be a scene where the suspect is placed against the wall, hands high, and pressed forward so the police can search him. This position just happens to be a great example of the press on butterfly.

Watch the video describing and demonstrating this drill [here](#).

Why Do It:

Learning to connect, or stretch, through the chest and lats allows you to use your body more on butterfly.

How to Do It:

1. Place your hands high against the wall, spread a bit wider than the shoulders.
2. Lean your butt out so that you create an arch through your spine, but focus on the stretch that's created from the hands, through the lats and chest. This is the feeling you're seeking on the initiation of each stroke of butterfly.
3. Swim butterfly, focusing your attention on this connection on the front of the stroke.

How to Do It Really Well (the Fine Points):

Learning specific feelings on land is sometimes easier because of the force of immovable objects, like the wall. Using the pressure, or thickness of the water to gain that same feeling begins to teach you how to work with the water, and the natural pressure points that can be built up in the body.

Now give it a try, and avoid being required to assume this position in real life.

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Practice Set

of the Issue

“Swimming Golf”

Determine a reasonable distance, number of repeats, and an interval - for example, 9 x 50 yards on 50 seconds. Swim one 50, counting your strokes for the whole 50. Pay attention to your time for the 50. Add the two numbers together for your par score - for example, 40 seconds plus 30 strokes = a par of 70.

Perform the set of 9 x 50, starting a new 50 every 50 seconds.

Count your stroke cycles for each 50, adding that number to your time. Compare this number to your par. Keep track of the difference. For example, on your first 50 you take 27 strokes and have a time of 39 seconds for a score of 66. Compared to a par of 70, you are four under!

Total your score for the front nine!

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Feature Story

The History of Swimming

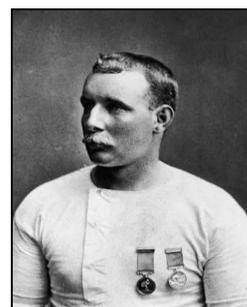
Reprinted with permission of *iSport*.

The article (on *iSport.com*) can be found [here](#). © *iSport* 2011.

Although humans have been swimming for thousands of years, swimming only became a competitive sport in the early 1800s. Today, swimming is the third most-watched sport in the Olympic Games.

Crossing the English Channel

In 1875, **Matthew Webb** ignited public interest in swimming when he became the first person to swim across the English Channel. Swimming only breaststroke, it took him more than 21 hours to complete this feat. Thirty-one years would pass before another person would successfully swim across the Channel.



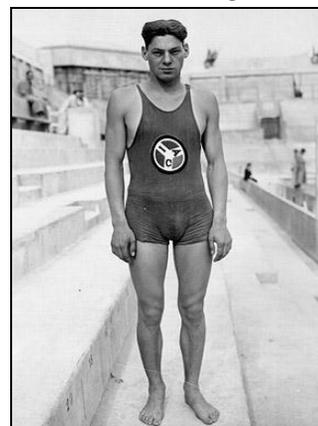
Matthew Webb

The Debut of Modern Olympic Swimming

In the first modern Olympic Games in 1896, men competed in four swimming events, all contested in the choppy open water of the Mediterranean Sea. Four years later at the 1900 Summer Games in Paris, all the swimming events (which included an obstacle course) were contested in the Seine River.

Freestyle Evolves

In the early years of recreational and competitive swimming, breaststroke was the only stroke swum. In 1902, Australian Richard Cavill was the first to swim with an up-and-down kick and alternating over-arm recoveries. This stroke, dubbed the “Australian crawl,” was the beginning of modern freestyle. **Johnny Weissmuller** (who went on to greater fame playing Tarzan in the movie of the same name) became the first man to break the one-minute barrier in the 100 Freestyle in 1912.



Johnny Weissmuller

Women Make Splash Entering Swimming Record Books

For a variety of reasons, women had not been allowed to compete in Olympic swimming (or most other Olympic sports, for that matter) prior to 1912. But that year, women made their Olympic swimming debut, racing in the 100 meter Freestyle and the 4 x 100 meter Freestyle Relay.



Gertrude Ederle

In 1926, **Gertrude Ederle**, at age 19, became the first woman to swim the English Channel. She beat the contemporary men’s record by two hours, and secured her place in history as the first woman in a major sport to best a men’s record.

The next year the Channel Swimming Association was founded. The organization would not only establish rules for “crossing the English channel,” but have tremendous influence over the growth and development of open water swimming as a sport.

Feature Story *(Continued)*

The History of Swimming

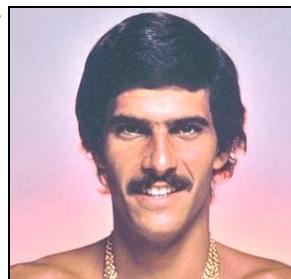
Reprinted with permission of *iSport*. The article (on *iSport.com*) can be found [here](#). © *iSport* 2011.

Butterfly Emerges as a New Stroke

As the sport of swimming grew, many swimmers and coaches began experimenting with new technique, particularly in an attempt to make breaststroke faster. In the 1930s Americans David Armbruster and Jack Sieg came up with the double over-the-water arm recovery and the dolphin kick, respectively, which combined to form butterfly. It was allowed as an alternative form of breaststroke until the 1950s, when it was declared a separate stroke. Also in the 1950s, flip turns, or tumbleturns, were first used in Olympic competition.

At the 1972 Olympics in Munich, **Mark Spitz** won a record seven gold medals in one Games, while sporting his famous “drag-reducing” mustache. (Later in life he would admit that the mustache provided no hydrodynamic advantage, and that he had made the claim in an attempt to psych out his Russian competitors.)

The following Olympiad, in 1976, swimmers were finally allowed to wear goggles.



Mark Spitz

Open Water Swimming Goes Very, Very Cold

Lynne Cox, inspired by Gertrude Ederle and gifted with a unique physiology, swam across the Bering Strait in 1987 without a wetsuit. Her swim was also a feat of international political persuasion, as it took place at a time when Cold War tensions between the United States and the USSR were running high. Later, she would be the first person, man or woman, to swim just over a mile in the icy waters of Antarctica.

Backstroke Goes Underwater, Forcing a Rule Change

In 1988, American David Berkoff and other backstroke swimmers demonstrated that they could go much faster by doing underwater butterfly kicks on their back than by swimming on the surface. As a result, Japanese swimmer David Suzuki and Berkoff, the Olympic gold and silver medalists in the 100 Backstroke, went more than thirty-three meters under water at the Summer Games that year. FINA quickly amended the swimming rules to state that backstrokers must surface at or before the ten meter mark. (FINA later revised the rule to fifteen meters.)

The Most Decorated Swimmers of All-time

Also at the 1988 Games in Seoul, Korea, Kristin Otto of East Germany set the current record for the most gold medals won by a woman in a single Olympic Games, with six. In 2004 Michael Phelps tied Mark Spitz’ record of seven Olympic gold medals in one Games, and eventually beat it in 2008, when he won eight gold. One of those medals came thanks to an astonishing swim by his teammate Jason Lezak, who caught and ultimately out-touched a French swimmer in the 4 x 100 Freestyle Relay.

Just Add Open Water to the Olympics

In the early 21st Century, swimming seems headed back to its open water roots. South Africa’s Midmar Mile race attracted over 17,000 entrants in 2004, setting a participation record for open water events. Accomplished pool swimmers began training for and competing in open water events. In 2008, the International Olympic Committee acknowledged the rising popularity of open water swimming and added for the first time a 10km open water marathon to the list of events contested at the Summer Games.



Fran Crippen, Open Water
US National Champion

Officials

USA Swimming

Officiating Situation Resolutions

The following situations have been reviewed by the USA Swimming Officials and Rules Committee.

PART ONE of a series

Backstroke Situations

Question:

There are yellow buoys on each lane line to mark the 15-meter distance but some buoys shift and slide haphazardly up and down the lane lines. The swimmer's head in Lane #6 breaks the water surface at the edge of the buoy in her lane but the marker in Lane #7 is passed. Is this a DQ?

Recommended Resolution:

No -- placement of distinctive colored floats or markers on every lane line must be uniformly set at the 15-meter distance. However, floats "float" and the swimmer should be given the benefit of the doubt by judging the 15 meter mark by the "most generous" of all the appropriate floats in the pool.

Applicable Rules:

103.13.1, 102.13.2

Question:

In a backstroke event, a swimmer stands up in the middle of the course. He does not walk or spring off from the pool bottom, but rests and then resumes swimming. Is there a disqualification?

Recommended Resolution:

Yes. Once the swimmer stands, he is no longer on his back. The rulebook states "The swimmer shall push off on his back and continue swimming on the back throughout the race." Moreover, a swimmer is not permitted to stand on the bottom during any stroke other than freestyle.

Applicable Rules:

101.4.2, 102.10.5

Question:

In a backstroke start, a swimmer keeps his toes under the water until the gun sounds and then slides them up and takes off from the gutter. Should any action be taken?

Recommended Resolution:

USA Swimming Rules and Regulations states, "Standing in or on the gutter or bending the toes over the lip of the gutter before or after the start is prohibited." Since the infraction took place after the start, the stroke and turn judge should make the disqualification call.

Applicable Rules:

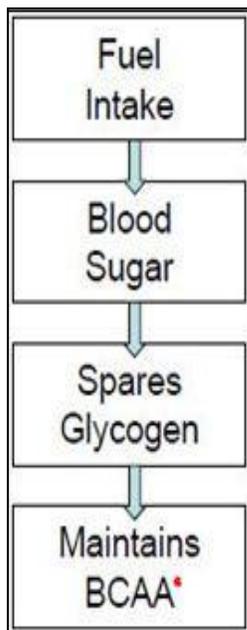
101.4.1

Nutrition Part 1

Nutrition Strategies for Racing

Excerpted with permission of **USA Swimming & Jim Rusnak** (*Splash Magazine* Editor-In-Chief).
The full article can be found [here](#).

The Mechanism Behind Fueling During Training and Racing



Editor's Note: *BCAA stands for "branched-chain amino acid", which is one of the nine essential amino acids for humans. BCAAs account for 35% of the essential amino acids in muscle proteins. A recent study suggests that maintaining a consistent BCAA level may be associated with improvement in blood sugar regulation.]

Thanks to **Cedars-Sinai Medical Institute**.

Pre-Race

Breakfast, Snacks and Drinks

To hydrate and bring blood sugar levels back up after 8hr fast and MAINTAIN until race.

Snacking and Sipping Strategy:

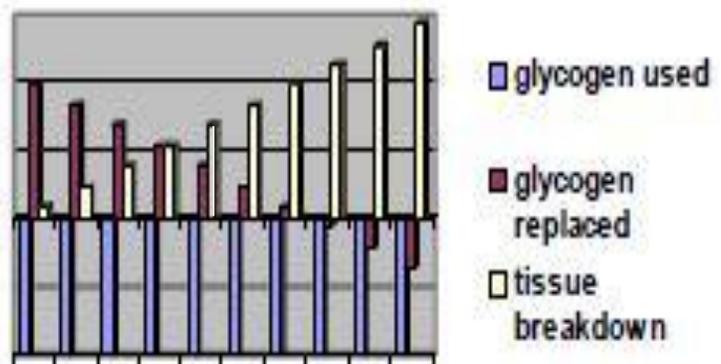
1. Eat a high-carb breakfast 90-120 min before race start time.
2. Snack on starchy, low fiber foods (ex. saltines) start.
3. Sip 2-4 oz of water or carb-electrolyte liquid every 10-20 min.

Recovery

How well a swimmer recovers from a workout or race can affect the quality of their next performance.

- Use insulin response to replenish glycogen.
- Create anabolic environment to limit tissue damage.
- 1st priority carbohydrate; 2nd priority protein.
- Solid post-workout/race snack within 20-30 minutes.
- Another snack or main meal one hour later (2 feeds/2hrs).

Long-term failure to replace glycogen leads to tissue breakdown.



Nutrition Part 2

Nutrition Strategies for Racing

Continued...

The Caffeine Factor

For Spare Glycogen:

Caffeine must be ingested 3-4 hours prior to start AND must be a deficit in energy stores (i.e. glycogen stores are not topped off).

For Stimulant Effect:

During exercise effect. Depends on point-in-time tolerance and response. Soda is safest source of caffeine.



Editor's Note: According to research from Carnegie Mellon University, caffeine is rapidly absorbed through the stomach lining, reaching the bloodstream within 30-45 minutes. It becomes equally distributed throughout the water of the body, later being metabolized in the liver. The half-life of caffeine is 3.5-4 hours.

Caffeine targets the cerebral cortex and the brain stem in the central nervous systems. Doses of 100-200 mg result in increased alertness and wakefulness, faster and clearer flow of thought, increased focus, and better general body coordination.

Thanks to Carnegie Mellon University Mass Spectrometry Laboratory.

USA Swimming Recovery Foods Comparison Chart

	Food Item	Amount	Carbohydrate (g)	Protein (g)	Ratio CHO:Prot	Fat (g)	Calories (Kcal)	Vit A (ugRE)	Vit C (mg)	Vit E (mg aTE)	Sodium (mg)	Potassium (mg)			
Solid Foods	Bagel w/ Peanut butter	1w / 2 tbsp	49	16	3.1	17	399	0	0	3	558	345			
	Yogurt w/ Grapenuts	8oz w / 1/2 cup	58	13	4.5	4	309	0	2	0	242	556			
	PBJ (w hite bread)	1 sandwich	44	12	3.7	18	375	0	1.5	3	415	287			
	PBJ (w heat bread)	1 sandwich	46	13	3.5	18	384	0	1.5	3.5	451	370			
	PowerBar (basic)	1 bar (65 g)	45	10	4.5	2	230	0	60	9	90	150			
	PowerBar Bites	1 bag (50 g)	32	8	4.0	5	200	0	54	9	190	160			
	Clif Bar (non-iced)	1 bar (68 g)	48	8	6.0	3.5	230	333	60	10	110	210			
Liquid Nutrition	Milk (2%)	8oz	12	8	1.5	5	122	0	2.4	0.2	122	376	Milk-based	lactose	casein
	Milk w/ Chocolate Syrup	8oz w / 2 tbsp	24	9	2.7	5	172	0	2.4	0.2	170	407	Milk-based	lactose, sucrose	casein
	Carnation Instant Breakfast	1 can (10 fl oz)	37	12	3.1	2.5	220	450	30	2.5	230	610	Milk-based	lactose, sucrose	milk
	Boost	1 can (8 fl oz)	41	10	4.1	4	240	250	60	10	130	400	Lactose-free	sucrose,fructose	milk
	Ensure	1 can (8 fl oz)	40	9	4.4	6	250	250	30	2.5	200	370	Lactose-free	sucrose,fructose	soy,whey,milk
	SlimFast	1 can (11 fl oz)	40	10	4.0	3	220	350	60	10	220	600	Milk-based	sucrose,fructose	milk
	Gatorade Nutrition Shake	1 can (11 fl oz)	54	20	2.7	8	370	?	?	?	280	560	?	??	??

The Last Page

Injury Prevention

Breaststroke: Cause of Back Pain, or Cure?

Lower back pain is becoming a common injury for swimmers of all levels. Breaststroke is often blamed for the back pain, because it is widely believed that the arch during the breathing portion of the stroke is unnatural.

Many coaches believe that often, swimmers do not have properly developed back muscles to allow them to swim breaststroke continuously for extended periods of time.

However, recent scientific studies have shown that breaststroke may actually help a swimmer's back problems, not hinder them. When swum with a wide pull, breaststroke can act much like a Pilates or Kinesis exercise, strengthening back muscles while swimming. This wide pull can counteract the lower back arch, by using the force of the large upper back muscles to bring the head and chest forward and upward to breathe.

According to LiveStrong.com, "The water serves as a cushion on the weak muscles and supports the body so that additional stress is not put on the back while performing the strengthening exercises.

There is one key factor in these studies that should be emphasized: that the pull is performed wide, NOT narrow. Narrow breaststroke pulls have been shown to weaken and damage lower back muscles, while not noticeably strengthening upper back muscles, or leading to a faster stroke.

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PNS Athlete Representatives

Here is a list of the current PNS Athlete Representatives, with their terms and committee appointments:

Athlete Representatives:

Lead: Steve Sholdra
Officials Committee
Term ends Sept. 2013

Kira Godfred
Technical Planning Committee
Term ends Sept. 2013

Ben Scott
Meet Operations Committee
Term ends Sept. 2012

"THE RIVALRY" Video: The Details

Last issue, the Video of the Issue was "[The Rivalry](#)", between David Cromwell and Brendan Hansen. The PNS Athlete Newsletter received many comments on this hilarious showdown.

Recently, details of the video were explained by Ron Zolno. Below is a short explanation from Mr. Zolno:

"I remember this swim very well. This was at the Encore meet a few years ago -- I was the Meet Ref. (So the [tech] suits were legal.) It was a charity event that including dozens of National Team Members, and we swam in a 25-meter pool. We alternated fun events like this with more serious swims, including two world records for Hayley McGregory."

"I pulled out my meet info, and the meet was held on March 9, 2008. Swimmers included: Neil Walker, Garrett Weber-Gale, Matt Grevers, Cullen Jones, Ian Crocker, Brendan Hansen, Eric Shanteau, David Cromwell, Adam Ritter, Simon Burnett, Nick Brunelli, Adam Weir, Karen Lynn Joyce, Dana Kirk, Mary Descenza, Tara Kirk, Kirsty Coventry, and Hayley McGregory."

Thanks to Ron Zolno.

Contact Editor Steve Sholdra at athleterep1@pns.org

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