



The Return of the USMS High Performance Camp

by Glenn Gruber, Ventura County Masters



The wait was six years. The place was no longer the Olympic Training Center in Colorado Springs, but the brand-new Greensboro Aquatic Center in Greensboro, N.C. The USMS High Performance Camp returned with 15 swimmers from around the country and five top-tier USMS coaches.

The USMS High Performance Camp is an intense five-day training camp for Masters swimmers who are committed to improving their skills and speed. USMS standout coaches included Kerry O'Brien of Walnut Creek Masters, Stu Kahn of Davis Aquatic Masters, Craig Keller of Asphalt Green United Aquatic Masters, Frank Marcinowski of Curl Burke Masters, and Nadine Day of the Danville Y Silver Dolphins. Also on staff was Dr. Genadijus Sokolovas, formerly USA Swimming's director of physiology and sports science.

The first evening was spent touring the beautiful new Greensboro Aquatic Center, which will be the site of the 2012 USMS Spring Nationals. An excellent meal at the Atlantic Coast Conference Hall of Champions next door to the pool followed. In attendance were members of the USA Synchro National Team and Olympian Katie Hoff. After dinner the group gathered at the hotel where camp director Hill Carrow facilitated introductions.

Day One

On Sunday morning by 6:15 a.m. everyone was eating a hearty breakfast at the Doubletree Hotel, headquarters for the camp. Soon swimmers gathered their gear, boarded the vans and left the parking lot for the brief ride to the aquatic center. From that moment on and during the next four

packed days, the coaches and other specialists provided demonstrations, lectures, and discussions showcasing the latest scientific thinking in the sport of swimming.

The first pool practice covered about 3500 yards and included basic body posture, alignment, balance, general conditioning and flexibility. The first classroom session included a one-hour freestyle stroke seminar and a one-hour backstroke seminar. In the freestyle seminar, Coach Kahn made a very convincing case for not only the concept of EVF (early vertical forearm), but of LVF (late vertical forearm) and what he calls ELVP (even later vertical palm). He showed that the angle of the upper arm and forearm and the position of the palm at the point near the swimmers' hips is similar to the position at the catch. Swimmers who do this include Cullen Jones, Grant Hackett and Karlyn Pipes-Neilsen.

During that first full morning, in addition to the stroke seminar, trainer Elizabeth Hibbard, a doctoral student in Human Movement at the University of North Carolina, spent one-on-one time with each swimmer to assess flexibility. Each swimmer received a written report of the results, along with recommendations for improvement.

Superman vs. Streamline

Coaches frequently remind their swimmers about the importance of streamline in the start, push-off and breakout. While most swimmers know this, one can frequently see push-offs in the classic "superman" position, with head raised and arms apart. In his biomechanics discussion, Coach Marcinowski clearly demonstrated that a swimmer using a tight streamline, with head down and ears squeezed between arms, can cover more than two yards farther.

Following the stroke seminars, the group broke for lunch back at the hotel. During the ride to the hotel and all through lunch, swimmers excitedly discussed what they had learned in the first morning. The afternoon sessions included breaststroke and butterfly stroke seminars, more flexibility assessments and a two-hour pool session, with filming and drill progressions.

Back at the Doubletree hotel for dinner, Olympian Sue Walsh joined the group. She shared the triumphs and disappointments of her development as an age grouper to an Olympian, including making the 1980 Olympic team and, due to the boycott of the Games that year, not getting a chance to swim in Moscow.

The final activity of the first full day was a review of the video footage from the afternoon swim sessions, and swimmers were able to see, in detail, their technique shortcomings.

Day Two

Dr. G and the Swim Power Test

On day two, Dr. G began the lactate and heart rate profile. Swimmers completed a set of 4 x 200 descend on five minutes. After each swim the heart rate was recorded and blood was taken from each swimmer's earlobe. Dr. G. then calculated lactate threshold heart rate and lactate clearance

rate for each swimmer. This information helps plan for recovery and warm-down during multi-day, multi-event meets.

Dr. G. also administered his swim power test with each swimmer. The swimmer wears a waist belt attached by a string to a device that measures and records velocity 60 times per second. He measured two different strokes for each swimmer including kick, pull and full swim. The results of these tests show where during the stroke cycle swimmers are getting the most velocity, and where their velocity falls off.

While viewing the videos taken during the swim power test, a graph superimposed on the screen shows the swimmer's velocity during the entire stroke cycle. By following the ups and downs of the graph, the value of the early vertical forearm discussed earlier is clearly seen.

By far, the most dramatic results occur when measuring the velocity during breaststroke. Since breaststroke creates the most drag, reducing that drag becomes paramount when trying to increase speed. The swim power test is arguably the most clear and illustrative evidence on how to improve stroke efficiency.

Race Analysis

Following a race, most swimmers want to know their splits. Although this is valuable information in determining how the race was swum, there are several other parameters that now can be quantified to assist the coach and swimmer in fully analyzing the race. Coach O'Brien led a discussion on race analysis and strategy that included such measurements as distance per stroke, stroke rate, cycle count, distance per cycle and turn times. Swimmers had the opportunity to work with stroke rate and time by using a tempo trainer, a metronome that slips under the cap and acts as an audible pacing device while swimming.

Day Three

Day three included more swim workouts and classroom sessions. The morning swim included a session with Dr. G., this time focusing on each swimmer's strength in the water. Measurements were taken while kicking, pulling and swimming. These numbers were compared with strength measurements collected the previous day on the swim bench. Each swimmer received a written report of the results.

Coaches then filmed each swimmer's dive start, turns in all four strokes and IM transitions, all of which were reviewed on the final day of camp. In the evening, the coaches held a discussion panel that included information on training and race preparation, shaving and tapering and open water swimming.

Nutrition

New for many attendees was the classroom discussion on nutrition, led by registered dietitian and nutritionist Jennifer Brunelli, seven-time swimming All-American at South Carolina and the wife of sprinter Nicholas Brunelli. She stressed the importance of whole foods over packaged

food for daily nutrition and gave recommendations for pre-packaging whole food energy sources for use at all-day meets, such as cut-up fruit and chicken, rather than just relying on the standard energy bars or gels.

Pre-workout nutrition was also discussed as a way to improve recovery time after a grueling early morning swim practice. Grapes or crackers during the night can help maintain proper blood sugar in the morning. The importance of breakfast before a workout, and how it helps with recovery, was stressed. Kelly Parker-Palace, Masters national champion and camp participant shares, “My ‘aha’ moment was in nutrition class when I realized we need to eat before morning practice and during practice to have the best performance.”

Day Four

The final afternoon consisted of six feedback stations where each swimmer spent 20 minutes reviewing information gathered previously during the four-day camp. The stations included the video review of each swimmer’s IM, video review of starts and turns, flexibility and range of motion data, nutrition analysis, sports psychology, and training recommendations and race strategy.

The Final Analysis

All 15 campers and four coaches spent the last evening at a local pub discussing the events of the previous four days. The swimmers were all eager to get started with improved workouts and swim techniques as soon as they got home.

Participants described the coaching staff at the camp as “phenomenal,” all in agreement that they were knowledgeable and motivational. Campers also appreciated the attentiveness of camp director Hill Carrow and his staff, who provided great meals, much needed snacks and hydration, and reliable transportation.

“My expectations of the camp were definitely surpassed in many ways,” says Megan Lassen of Wisconsin Masters. Melinda Wolff of the Colonials 1776 characterized the camp as “a life changing experience.”

The camp provided more than technique and new racing strategies. The new friendships forged and contacts made reminded participants that Masters swimming is not just about swimming fast. Sharing four fully packed days with Masters swimmers from around the country was one of the special highlights of an incredibly rich swimming experience.