

## ***THE WEYMOUTH WAVES TRAINING PROGRAM, FALL 2019***

I have long been fascinated by swimmer development: how does a struggling nine-year old eventually become an elite athlete? What are the steps from novice to national? For nearly my entire coaching career I have worked every day with swimmers over a broad range of ages and abilities, coaching several groups, finishing with the seniors and immediately jumping to the 10 & unders or the 11-12s, etc. So every day I have seen the beginning, the middle, and the end of the process. And I have been fortunate to work for a long time with a number of swimmers who began as struggling novices and reached the international level, so I have seen the steps and developed a 'system' that has helped swimmers reach true excellence. While this has all required an awful lot of hours on deck, and in coffee-shops thinking about how it all works, it has been invaluable for me as a coach, as I have never focused on one level of swimmer and forgotten the rest of the story. I understand what each level and age needs, and how each level and age is important.

I have also long thought that swimming is a technique-limited sport. In other words, most kids are stopped not by their will or by their physiology, but by poor technique: they are too inefficient to swim fast or to maintain speed. Anyone watching a typical practice or swimming meet will see that most kids train and race ugly. Not only is this aesthetically nauseating to watch, but also, if we want our swimmers to be able to reach their true potentials in swimming, we need to tear down this false ceiling by focusing on teaching and learning and practicing good stroke skills every day, from our youngest kids to our oldest.

When this emphasis on inculcating world-class stroke skills is combined with a training program in which swimmers train all four strokes (no hiding or avoiding what they do not do well) and with a focus on distance swimming rather than sprinting, the results are very strong. Here are a few reasons why:

### **1. biological development**

**Basic fitness.** It's no surprise that swimmers routinely win their schools' physical fitness contests, hands down. Through daily practicing, our swimmers are superhumanly fit.

**Kids are aerobic sponges.** Age group swimmers, at early stages of their physical development, have little muscle mass. Because sprinting capacity is generally linked with muscle mass, skinny young swimmers are not really built for sprinting yet. But their aerobic (endurance) capacities seem almost infinitely elastic and are susceptible to huge increases, which distance/endurance training ensures. Put simply, kids are physiologically "built" for distance events, and we are taking advantage of that. The strength, and sprinting ability, will come later. But for now, endurance training will help them more than sprinting, and it will build a firm foundation for their speed.

Further, if we don't give the kids distance training when they are young and developing, when their bodies are most receptive, it is very difficult to make up the deficit later. They will be trying to build a house on sand. Early distance work lays the foundation for future success.

**Flexibility and versatility.** There is no way to tell, based on race results or temporary "favorite" strokes, what an age group swimmer's eventual specialty will be. But an early and steady diet of sprinting limits a swimmer to sprint events later on, even if his body isn't suited to sprinting. Early endurance training gives a swimmer the flexibility to choose any event. It is a truism that you can race down from what you train, but not up: if you train for sprints, you will not be able to swim a good distance race; but if you train distance, you will be able to drop down and sprint fairly well, especially when speed is maintained by regular short sprint sets.

As proof by example, no great distance swimmer has come up through a sprint program. On the other hand, many of the world's great sprinters started their swimming careers as distance swimmers, or at least were trained in distance programs. Distance training early on gave them the endurance to be tough as nails at the end of 100's and 200's, and it gave them the base to allow them to train hard and recover fast when their bodies decided they were sprinters.

**Motor learning theory.** We are aiming for technical precision and efficiency in stroke mechanics. This is easier attained at the (relatively) slower speeds of distance training. Once we have "grooved" long and strong strokes into a swimmer's brain and body, then we are ready to build the tempo and work on speed. But if you routinely subject a young athlete to high-stress race pace work, he will develop short and choppy strokes. He will be fast for a 50 but not for much longer, and those "dead-end strokes" will be set in stone, resistant to change no matter how many hours of "stroke work" he does.

**Distance means repetition but low stress.** Sprint training means intense stresses on the body. When sprinting is combined with early specialization, as it often is, then you have a recipe for "overuse" injuries. Endurance training, especially when combined with individual medley training, is easier on the body in that the stresses are smaller, and the variety of strokes ensures that no single stroke pattern, i.e. muscle pattern, i.e. pattern of stress on the joints, gets overworked.

**Quicker recovery.** Though swimmers may straggle out of an endurance practice feeling half dead, their bodies recover very fast from the aerobic training. By the next day, they are new and improved. With distance training, kids don't get destroyed and broken down as they do from high-stress sprint training. So they are never far from their speed, and we see more continual improvement, in practices and in meets.

## **2. motivation**

**Variety.** You can never ever be bored when training distance, since there is always so much to think about: pacing, skill points, stroke counts, tempos, dolphins off the walls, time goals, breathing patterns, race strategies, racing with your teammates, etc. There is more variety possible with distance training than with sprint training. Distance training, properly executed, uses the brain intensely; and getting the brain fully engaged in what you are doing is the key to keeping swimming, or anything else, interesting.

**Improvement.** When athletes quit swimming, the foremost reason is that they didn't see any improvement. With distance swimming, improvements are easier to make and easier to spot. As noted above, kids are physiologically suited to distance swimming and with a reasonable effort seem to improve from day to day. And longer distances show speed gains more obviously: a half-second improvement in a 50 yard repeat is easy to miss, but a 5 second cut in a 500 is obvious. Swimmers can see that they are getting faster from week to week. These improvements keep kids in swimming longer.

**Success.** When swimmers are successful, they tend to like swimming more, and they get jazzed about working hard and being fast. And like it or not, distance events and standards are soft nowadays: qualifying for and doing well at New England champs, Zones, Junior Nationals, and Senior Nationals is easier in the distances than in the sprints. Success awaits anyone willing to do the work.

**Variety overcomes plateaus.** Every athlete hits a plateau now and then, and these plateaus are hard psychologically. If a swimmer focuses on a specialty stroke, a plateau in that stroke means her entire swimming is stalled. But when swimmers are training in all four strokes, *something* will be clicking right at any given time, no matter how mired in the mud one stroke might be.

**Versatility, II.** By training distance, swimmers can race well in any event from a 50 to the mile. With distance and IM, the advantages are even greater: swimmers are solid in every stroke and every distance, so they can score in just about everything. Versatile swimmers are also more valuable to the team: they score more team points, and help fill in the team's gaps.

### 3. qualities of character

**Work ethic.** Distance training demands consistent hard work. Consistency, persistence, and toughness are great qualities to instill in a person, and they infuse other areas of a swimmer's life. While sprinting often rewards size and strength, which are mostly determined by heredity, distance swimming, on the other hand, rewards not the supremely talented, but the TOUGH. And being tough is within anyone's grasp, even if your parents didn't make you six foot six. Guts prevail.

**Long-term thinking and training.** It takes years to make a distance swimmer: no get rich quick schemes will play out. Distance swimmers tend to be patient and methodical, they are willing to delay gratification, they proceed step by step.

**Self-knowledge.** Distance swimming is as much an intellectual and moral undertaking as it is a physical one. Swimmers are constantly bumping up against self-imposed pseudo-limits and driving past them. They face down their demons every day.

#### **4. pragmatism**

**It works.** Both now and historically, at national championship meets, the strongest teams are distance/aerobic oriented. This is a recipe for national caliber swimming.

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Fall 2019