Coach Hans

The Importance of Speed
And How do you Get it!

The most important thing in swimming success is speed. As obvious as that sounds, it is not quite as simple as one would think. Being fast is important for all swimming distances. Your absolute speed (for a 25m distance) will limit not only your speed in that 25 and even a 50, but all distances that follow!
I once coached a swimmer who was determined to qualify for Easterns in the 1500 free. His brother and all his friends were qualified and going and he desperately wanted to do the same! The time standard was 17:52! That is roughly over 1:11 per 100. His problem was that his best time for 100 was 1:09! I told him that in order to make the time he wanted he would need to get his 100 time down to at least 1:03 and possibly faster to have a good chance. The good news is, that is exactly what he did and consequently, he swam a 17:51 for the 1500 and made it to Easterns that summer.

Many people believe that you can train for speed. That is only partially true. Speed is actually a learned skill - like shooting a basketball or hitting a golf ball. You can practice speed and train to be able to maintain your speed for longer
You teach speed, you do not train for it. Speed is taught and learned. It is not just trying harder or increasing your stroke rate. That might work in the short term but is not really sustainable.
Stroke rate vs Distance per stroke - While both are important in getting and maintaining speed a skilled swimmer will find a balance between the two.

> Example: A swimmer will attempt to swim a 50 metre free using different stroke rates Given that he starts his strokes at the 10 metre mark after a kick-out / breakout that takes exactly 4 seconds each time, he has to swim 40 m. He will use three different stroke rates 60, 50 and 40. We will also get his stroke counts and time the 50. The chart will show you how each stroke rate correlates with different stroke counts.

Repeat #	Stroke Rate	Stroke Count	Time
1	40	24	:26
2	44	24 / 26 / 28 /30	23.67 / 24.97 / 26.28 / 27.59
3	48	24 / 26 / 28 / 30 / 32	23.0 / 24.25 / 25.5 / 26.75 / 28

> As you can see by the chart the final time will vary based on the stroke counts used. If one were to maintain the same stroke count it is obvious that the swimmer would go faster however most swimmers find it hard to maintain a high stroke rate for very long and it often causes them to increase their stroke counts beyond the point of where they can maintain the same speed.

There are a number of factors in developing speed

Technique - by far the most important - Here are some of the factors that contribute to fast swimming!

Vessel shaping - other wise known as body position. It is the single most important factor in technique. The less resistance you create the faster you will be able to swim. The faster you go the more resistance you create. That means the faster you go the more important it is.

Timing - Poor timing leads to more resistance and a waste of energy

Economy of movement - eg NO SPLASHING - splashing indicates wasted energy!

Propulsive forces - basically what you do with your arms and legs that help you move forward in the water!

Distance per stroke

Feel for the water - Sensitivity to the pressure of the water on the hands and limbs. This can be learned but some people just have it.

Limb length - longer arms help to make longer strokes

Strength

Once you start going really fast it is important to be strong to maintain length of pull without faltering.

Power of kick -How fast you can kick while you are swimming is universally important.

Stroke Rate

Speed of arms and legs. It stands to reason that if you can move your arms faster, you will swim faster. That only holds true if you do not allow yourself to slip while increasing your stroke rate. In other words, your distance per stroke must remain relatively unchanged. If you increase your stroke rate by 10%, your stroke count may not increase by more than 10% or the change in stroke rate will be negated! This is usually where your feel for the water becomes a factor.

Timing / coordination

Timing and positioning are almost everything in swimming. A well timed stroke is like a well oiled engine, the smoother the better. Usually if it looks like there is a lot of effort involved, it could mean that the stroke timing is off.

Set to Default- This is an important concept. When under stress (like in a race) we revert to the most learned response, in other words, that which we have practiced the most! We all have a default speed. We have set it ourselves through constant repetition. In order to re-set, we need to start practicing at a new speed until the body gets used to it and re-sets itself to that speed.

Training Speed

The ability to train speed is Secondary to the skill which was acquired in the first place. To be successful you must follow a certain routine or progression.

Use perfect technique when training speed. Use of poor technique merely reinforces poor technique.

Most of the time you want to start with shorter distances at faster speeds rather than the other way around!

Train through physical stress and break-down. This will allow you to maintain your speed when it really counts.The further you can go and the more repeats you can do, the better.

Make sure you don't take repeats off or save up. Your body will get used to this and you will do it in a race. (you know all about those slow third 50s!)

Above All, remember a quote from Matt Mann, the founder of Camp Chikopi as well as coach of the University of Michigan and the 1952 United States men's Olympic swimming team, " If you want to swim fast, you are going to have to swim fast!"