

## Tool Time

By: Art Aungst

*This excerpt from the new book (published June 2003 by Total Immersion) Long Strokes in a Short Season, a chronicle of how Art turns average swimmers into state champions in a 12-week high school season. This excerpt, drawn from the chapter entitled “Week One: The Journey Begins,” describes how and why Art teaches core-body rotation during the first week each season and how boys and girls learn these skills differently. In a practice sample, he outlines his first steps toward teaching winning turns.*

According to the instincts that govern how virtually all humans swim, the faster the arms crank, the faster the body moves. I tell my swimmers that this is like trying to make a car go fast by getting out and spinning the tires by hand. It will work, but it’s a lot easier to use the gas pedal and let the engine and transmission do the work. We always stress using the core-body as the “engine” in swimming, because it gives kids a gross motor skill that they can focus on when they race so they can “swim in their own lane” and eliminate the distractions caused by a focus on winning, losing, or what the person in the next lane is doing. This works well with the girls, but a lot of guys would consider the tire-spinning thing to be cool, because they have that very special stupidity born of testosterone.

This brings up an interesting point for those of you who coach guys. I have coached both boys and girls’ teams for many years and find that girls, by and large, are much more receptive to anything that is process-oriented. If things are explained well, girls will generally buy into a technique-based approach and practice form religiously. Guys want to put a number up there so they need more of a sell job on technique.

Two adages come to mind: (1) To the man whose only tool is a hammer, every problem is a nail, and (2) Don’t force things; get a bigger hammer. These need to be tempered. Technique practice is like adding to the toolbox the equivalent of a *power tool* like a Sawzall—an *ultimate* guy tool—that will cut through anything easily when pounding gets old.

Our focus now is on how fast we can rotate from one side of the body to the other, or from the upper torso to the lower torso, while keeping the entire movement, especially breathing strokes, smooth. When you increase your rate of rotation, the body will generate acceleration from the core. This means that in order to go faster on the long axis strokes, it is necessary to move from one hip

to the other as quickly and powerfully as possible rather than windmilling the arms, as intuition would dictate. On the short axis strokes it’s a matter of rocking forward at a higher rate. It’s just one more aspect of technique that is counter-intuitive.

Those coaches who are of the “*we’re here to put the big hurt on ‘em, the kids will find their own best way to swim*” persuasion will be waiting a long time for core-body-driven strokes to happen for 99% of the kids, especially the guys. I have found most boys take longer to master body dolphins, because they tend to rely on force — where this technique responds best to subtlety — and they also tend to be less flexible than the girls. To compensate, we use fins with the boys’ team on virtually all short-axis pulsing with the admonition to avoid kicking, and that seems to help them develop the necessary kinesthetic awareness.

The speed generated by some of our less experienced swimmers dolphining off the walls was awesome and definitely worthy of the name. When we worked into full butterfly breakouts I couldn’t believe that all 32 kids got it. Again, if you coach guys, don’t be at all surprised if there several don’t get it on the first or even third or fourth session. But putting fins on them will accelerate the process.

In addition to the obvious benefits to backstrokers and flyers, I think there are benefits to all swimmers at this stage because of the variety of balance challenges a combination of Short Axis (fly and breast) and Long Axis (free and back) will provide. I always tell the kids that there would have been no reason for the swimming rulesmakers to limit distance traveled underwater if there was no advantage to be gained. Thus we experiment with all swimmers (except breaststrokers) in using dolphining off the wall during races. Unless they show that they can’t gain an advantage, it seems to me most swimmers will benefit from additional distance off the walls at a higher velocity with less effort.

“Peer modeling” is the most effective way that I have found to teach these – and virtually all – skilled movements. Have other swimmers put on goggles and watch what is being demonstrated under the water. Quite surprisingly, the best demos for some of the drills are not necessarily by the best swimmers. It is important to look at some of the weaker swimmers during drills with an eye toward using them to demonstrate aspects of a move-

ment. It makes them feel valued and appreciated for providing a real service to the team, and it also inadvertently puts pressure on them to perform, which is good practice for competition. Finally, it allows the coach to discover talents and abilities you may not have seen during whole-stroke swimming.

Another exercise we did this week was to experiment with walking and running in the water. They discovered two things: (1) a huge increase in effort, but not much increase in speed when running and (2) that they could go faster more easily by simply turning sideways in the water so the resistance was halved. They also told me it wouldn't matter if I turned sideways, because I have the same profile front and side. Nevertheless, they had learned the lesson that reducing resistance will always outdo any gains generated by increasing power.

**The speed generated by some of our less experienced swimmers dolphining off the walls was awesome and definitely worthy of the name.**

### Wall Work in Week One

*Because winning the turns is a key aspect to winning the races in a short season, wall skills (turns, pushoffs, breakouts) are the first skills we practice each season. Here are some examples of how we introduced wall skills during our first week of practice. We do the following exercises cross-pool, usually doing 4 to 6 reps of each task in heats of 6 swimmers:*

#### Freestyle Breakouts

- No kick push-off with hands at sides and head lifted and looking forward. When momentum stops, kick easy to other wall.
- Same, but moving head to neutral (look directly down) with no kick from the wall. Focus on keeping balance and break the surface with back of head, shoulder blades, and butt at the same time.
- Same, but with arms tightly streamlined.
- Streamlined push-off on side, with fast narrow kick and roll to stomach. Continue fast kick to the other wall.
- Same, but with one breakout stroke stressing pulling the body *forward* over the hand and keeping the head in line (virtually all swimmers instinctively lift the head

up to some degree as they break out.)

The focus of this set is to improve awareness of maximizing breakout speed and distance by progressively moving from body positions with drag and resistance to fast, efficient streamlines. As Fistgloves inventor Scott Lemley says in his Commandments of Swimming “Find the path of greatest resistance, then find the path of least resistance.” Emphasize that, all things being equal, a longer body will travel through water faster. It's also vital to stress that simply moving the head from looking at the bottom to looking forward *doubles* frontal resistance. As the drills progress, each swimmer will *feel* lower resistance and more speed.

#### Turning skills

The next focus after leaving the walls is on turns. I have found that the best way to teach them is to break them into component skills.

1. Ball float balance— have partners watch for anything not tucked. Pay attention to chin tuck, so the head is inside the body-ball.
2. Prone balance—pay attention to how arms help balance the rest of the body
3. Move from prone balance to tight tuck, then back to prone. This mimics the approach, turn, and breakout, on short-axis turns
4. In shallow end with partner, assume tight tuck and have partner spin by placing an arm under the shins and a hand on the back. This gives the sensation of fast rotation in long-axis turns.
5. Unassisted move from prone balance to front somersault. Work with partner to assure initiation with a chin tuck and no splash .
6. Push off from the wall, on surface, and somersault at the near flags with maximum speed.
7. Swim freestyle. Somersault every 5 strokes (This can be changed to any *odd* number to force the swimmer to initiate the turn with either hand.)

Backstroke turns are simple now. Have the swimmers do Long Axis combo drills-5 strokes free, 5 back, with a somersault as they transition from free to back to free. This naturally teaches the free-back turn. Teach breast and fly with the same progression only moving from a prone float to somersault backwards.

*Read more excerpts from Long Strokes in a Short Season at [www.totalimmersion.net/long-strokes-details.html](http://www.totalimmersion.net/long-strokes-details.html).*