

## Teaching Hand Pitch with Scull Drills by Coach Cokie Lepinski, Swimnut Masters April 19, 2012

I'm a coach and a swimmer. As I swim my workouts, I'm constantly reflecting on how something feels, and how to best relay that feeling to my swimmers. Recently, my thoughts have been focused on hand pitch. The pitch of our hands is essential to all four strokes, and even starts and turns, but conveying the hows and whys to our swimmers can be challenging.

For developing knowledge and understanding of the importance of the hands, I have always loved sculling as a method to teach feel for the water. Because swimmers respond differently to verbal or visual clues, it may take different words, visuals, or demonstrations to reach them. You can say something to 10 swimmers and not all will get the concept, or they might understand it but have problems applying it.

When it comes to hand pitch, swimmers should feel "pressure," "tension," or a "grip" on the water, through the catch and pull of their strokes. I'm not keen on the word "tension" because many swimmers then hold their hands very tightly and before you know it, fatigue builds up in their forearms and marches up to their deltoids and shoulders. "Grip" can have the same connotation, but I have had better luck with this term. My go-to term, though, seems to be "pressure." If they can maintain pressure with the water on the palm side of the hand (and forearm), they will be much more efficient, and are on their way to good stroke mechanics.

A great way to feel that pressure is through sculling. There are lots of great sculling drills out there. The four you'll find in this article are my favorites. With any drill, I always try to explain the "why", or the purpose behind the drill. I never want them doing mindless swimming, let alone mindless drilling. I ask them to slow down, especially when learning drills, and not race each other to the other end of the pool. I want them thinking about what that drill will do for their stroke.

Simple in design, it surprised me how long it took many of the swimmers to truly master each of these scull drills. For that reason, I recommend that you keep a close eye on the swimmers and help correct them if you see that they are doing something incorrect or struggling to get through the lap.

If you use these drills on a regular basis, you'll have two big gains: Your swimmers will develop a better feel for the water, with an understanding of how changing the pitch of the hand, even slightly, transmits into a more efficient and powerful catch. And, your swimmers will experience an increase in hand and forearm strength. Just try a couple of 25s of sculling yourself, and you'll see just how much your forearms are burning!

The drills are described below and there are short video clips of them on YouTube under swimfastnut. Once you've tried these out on your swimmers, it can be very helpful to introduce them in sets where they focus on their hands. For example, in a freestyle set, you can instruct them to get the fingertips to vertical early in the catch and maintain the feeling of water pressure on the palms and forearms all the way to the hip. In a breaststroke set, remind them that at the end of their completed stroke (while in streamline) the thumbs should be pointed down to begin the next outstroke. On backstroke, a tip might be for them to slice the water with the side of their hand (pinkie entry) and then keep that hand shallow with fingertips facing the sides of the pool, feeling tension on the palm all the way to the hip. On fly, you can have them concentrate on flaring out their pull-through, exiting with palms to the sky. Whatever your "tip," having the purpose of these drills flow into your next set may give your swimmers that "ah-ha" moment.

One important instruction on all four of these drills: swimmers should relax every part of their bodies that they can, except for the hands and forearms. You will need to regularly remind them to relax their head, neck, shoulders, back and legs, and to put all their concentration in their hands and forearms.

In these drills, it is best not to kick at all, otherwise there is a tendency to kick through the lap more than scull through the lap. For three of the four drills, a snorkel will make things a lot easier. Also, a pull buoy or light buoyant fins (like AquaSphere) work well.

### **Scull 1: Wide Y Sculling**

In addition to providing a feel for the water, this drill helps develop the muscles used in the outstroke of breaststroke and butterfly. It also promotes thumbs down position for the beginning of the outstroke on those short axis strokes. Fins are okay for this drill but only for balance. Go face down in the water and scull with your hands out in front of you. You scull to a "wide Y" which is where you would "turn the corner" (to the insweep) if we were following through on the stroke. Here we just want you to scull in and out from your hands (starting in a superman pose), out to the wide Y and immediately back to center. There should be no bend in the elbow. All of the power comes from your hands and your forearms. If you kick, use only the slightest flutter kick to keep you level and on top of the water. Your head and eyes are pointed down. Breathe when you can and then immediately return to the face down position. Or, wear a snorkel to emphasize the head down position so you can concentrate on the outstroke/insweep.

#### **Key points to success:**

1. Keep those arms straight throughout the drill, elbows locked.
2. When sweeping out, start with thumbs down, pinkies up all the way to the widest part of the Y.
3. When sweeping in, thumbs are up, pinkies are down.
4. Think of your hands, wrist and forearms as one unit.

### **Scull 2: Windshield Wipers—Head Down**

This drill helps you get around from the outstroke to the insweep in breaststroke and the insweep of the butterfly pull. Think of this drill as your arms acting like windshield wipers. Lie face down in the water wearing a pull buoy between your legs. A snorkel helps. Eyes are pointed down at the bottom of the pool and your arms (from shoulders to elbows) are out front by your head. Your fingers are pointed toward the bottom of the pool. You will scull in and out using your hands and forearms and keeping the rest of your arm motionless. Your elbows should be fairly still as you scull. Drive yourself forward using your forearms and hands, always keeping the fingers pointing down.

#### **Key points to success:**

1. From the elbows down, keep those arms straight throughout the drill.
2. Fingertips are always pointed down to the pool bottom.
3. Think of your hands, wrist and forearms as one unit.
4. When sweeping in, thumbs are pointed to the pool wall ahead of you.
5. When sweeping out, thumbs are pointed to the pool wall behind you (toward your feet).
6. Keep those elbows high, and always keep the fingers pointing down.

### **Scull 3: Hip Scull—Face Down**

This drill helps you develop a feel for the water and is especially helpful for backstroke, simulating the end of the push through on back and free. A modification of this drill also makes this a good fit for butterfly. This is done face down in the water, wearing a pull buoy and snorkel. Keep your hands down by your hips and scull the water with just your hands. Your hands don't travel far from your hips, just a couple of inches, and the sculling pattern sweeps from just under your hips to just outside your hips—tiny sculls.

### Key points to success:

1. Keep those arms straight throughout the drill, elbows locked.
2. Start the scull with your hands resting on your thighs.
3. When you initiate the scull, rotate your hands to press the water slightly out and back, keeping close to your thighs and hips. The sweep is roughly 12 inches.
4. Think of your hands, wrist and forearms as one unit.
5. When sweeping out away from your hips, your palms face the sky.
6. When sweeping in, rotate your hands toward each other, thumbs down.

To modify this scull to benefit butterfly, the starting position is to bring your hands a bit further under your body, closer to your belly button and about 8-10 inches deep under your body. Flare out to the side with your scull, not back to or behind our hips. This should mimic the tail end of the fly pull through where you flare out, not back. When you flare out (sweep out and up), get those palms turned to the sky. To complete the arm motion, simply bring them back under your body as quickly and efficiently as possible. This is the one exception to sculling drills where you really don't scull your hands both directions (outsweep and insweep). In fact, work to minimize resistance when bringing your hands back under your body.

### Key points to success:

1. Keep those arms straight throughout the outsweep and keep those palms facing the sky.
2. Think of your hands, wrist and forearms as one unit.
3. When sweeping out away from your hips, your palms face the sky.
4. When sweeping in, minimize resistance and slice through the water returning your hands to the starting position under your body.
5. When you are feeling really good, add in a dolphin kick or dolphin undulation, refining the timing to match that outsweep flare.

### Scull 4: Feet First Scull

There are two purposes to this drill. First, it will help you develop your forearms, which is crucial—especially as you fatigue toward the end of a race. Second, this drill teaches you to feel the pressure from the water. It can help all four strokes. For breaststroke, this will help as you begin your outsweep, turn the "corner" and then accelerate through the insweep. It helps your catch in freestyle and your pull in backstroke, and the front end of fly where you begin the insweep.

On this drill you are on your back, hands by your side and feet first down the length of the pool. Relax every part of your body that you can—loosen your knees and even allow a slight bend in them. Keep your shoulders loose and neck aligned with your spine. Be conscious of keeping your neck relaxed.

Once you are set in that position, begun sculling with your hands in small circular motions. The key is to engage only your arms, because most of the work comes from the forearms, with some deltoid engagement. Keep your hands close to your hips, scull in that circular motion 6-10 inches out from your hips and only perhaps 4-6 inches deep with the scull. (Circular motion – right hand is clockwise, left hand is counterclockwise). Your hands stay parallel to your hips. On the outsweep, your thumbs point down and your palms face to the sides of the pool. Once completed with the outsweep, rotate your thumbs up and palms in and finish this way at your hips before starting your next outsweep.