

Supplement to The Chesapeake Paddler

Who Needs a Paddle Anyway ?

Sequel to *The Butterfly Roll On Learning to Hand Roll*

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So, you've read the Butterfly Roll article in the June newsletter, spent a small bundle to foam out your boat, practiced the Butterfly in the pool until mindless mastery, and now you're itching to nail a hand roll. Skip on down to the "Skills" section. For those readers just joining us, please first read through the [Butterfly Roll article](#) (even if you can nail it in your sleep) as it includes important information on the topics of boat fit and design (as it pertains to layback rolling). The Butterfly Roll article also details the dangers of rear deck hazards, which could lead to ensnarement, and what you should do to minimize the risk.

Skills—Before continuing on, you should be able to perform Butterfly Rolls (Step 3 in the Butterfly Roll article) fairly consistently with a minimum of paddle sink. How much sink is allowable depends on the buoyancy of the paddle, but should be less than 2' for the typical composite paddle to less than 1' for a wooden paddle. The Butterfly Roll teaches and reinforces the following skills necessary for sweep hand roll success:

- Proper **Reach** to the surface and perpendicular to the boat with the power hand (Step 3 version of the Butterfly Roll in which you have to reach to the paddle which is on the surface),
- Strong **Catch** with the power hand to initiate the roll,
- Powerful **Hip Snap** to drive the boat's rotation,
- Well timed **Free Arm Throw** to shift the roll into overdrive and rotate the boat past the critical 90° mark (it will eventually act as a counterbalance) The throw will also initiate the transfer of the torso low onto the rear deck (closest to the boat's axis of rotation),
- **Forward Drive** with the top leg to finish the roll off as the power from the hip snap begins to wane, and
- **Patience** to allow the roll to come around and finish as low to the rear deck as possible before trying to breathe (exhaling slowly after the Catch until the end of the roll will allow the upper body to conform to the rear deck a bit easier).

Step 1 – Land Drill—Before hitting the water, let's loosen up and remember what hand rolling, when done properly, should feel like. From a standing position, bend forward at the waist and just hang for a moment. Now, pivoting at the waist with your feet firmly planted, rotate your torso to the side so your arm swings across in front of you. Think about dipping the shoulder you're turning towards and raising the shoulder of the crossing arm. Rock this motion from side to side a few times until your hands and feet are just about lined up. Notice your palms turn forward and you are able to look almost directly back behind you. This should be a nice easy relaxing stretch. Now, as you rock, continue the motion of the crossing arm up, in front of your face, and over, allowing yourself to lean back comfortably as you do so. End the motion looking up at the sky, arms comfortably outstretched, palms up, forming a cross. A fully relaxed open symmetrical cross. Remember how slow, easy, and relaxing this movement feels as we now translate it to the water.

Step 2 – Almost a Hand Roll—If you were able to complete Butterfly Roll Step 3 without much paddle sink or incident, then you're ready to lose the paddle and go through one last intermediary step before hand rolling. Borrow a pair of webbed hand paddling gloves (look to the white water paddlers for loaners) or find an old ping pong paddle you can drown. If neither is available, then find or cut a similar sized piece of flat wood, plywood, etc. which you can comfortably hold between your thumb, middle finger, and small finger in the palm of your hand. Even a CD will work, though it may be just a bit too small for learning with.

Tuck a paddle or half paddle (if you are able to roll with a canoe paddle) away on deck somewhere easily accessible in case you run into problems or just get tired. This will minimize the time spent coming out of the boat, dumping or pumping out, re-entering, and restarting. Cross your offside arm to the opposite side coaming or gunwale as you would for the Butterfly Roll wind-up. Hold the micro-bladed or webbed hand on your strong rolling side, against the opposite side gunwale, rotated palm down and canted forward.

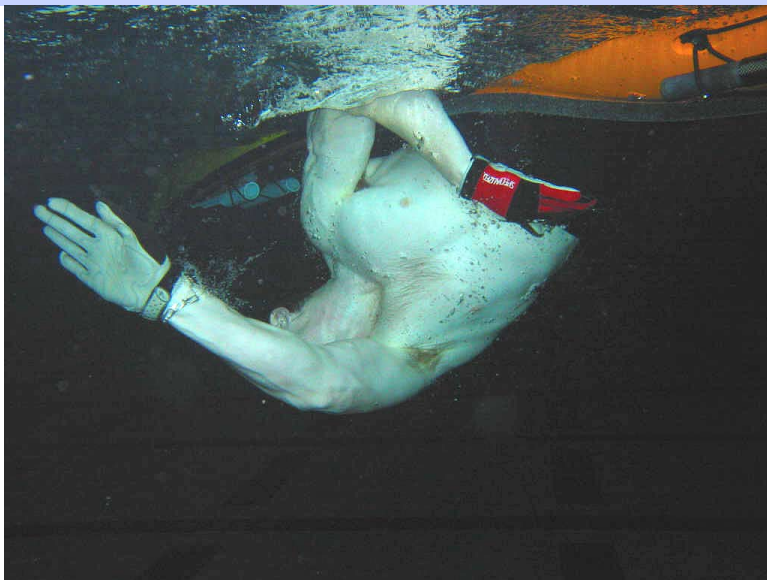


1: Wind-Up

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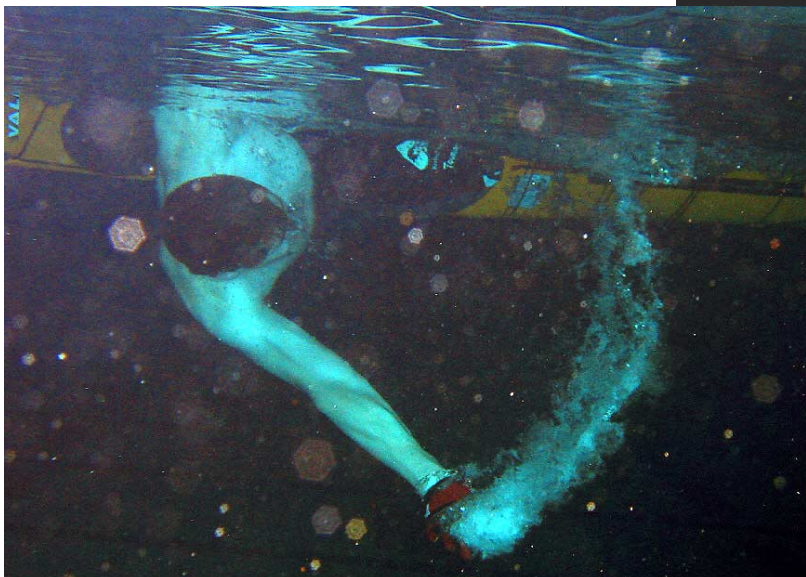
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Tuck forward and roll to your webbed or micro-bladed hand side. Notice how this position tucks the shoulders and head inwards and down? - Just like a coiling a spring. Continue your capsize rotation around with a strong reach for the surface with your webbed or micro-bladed hand.



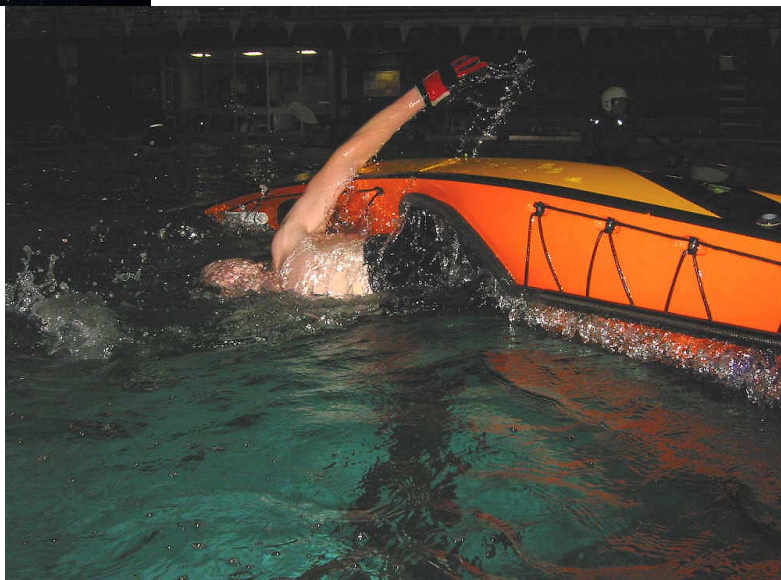
2: Reach

Accelerate your reach (coiling still further) as you near the surface and **explode** your catch to initiate your roll. Your upper body, the tightly coiled spring, releases.



3: Catch and Initiate Throw

As a consequence of this unwinding motion, the free arm elbow will be pushed to the surface, naturally evolving into the free arm throw.



4: Catch (end) and Throw

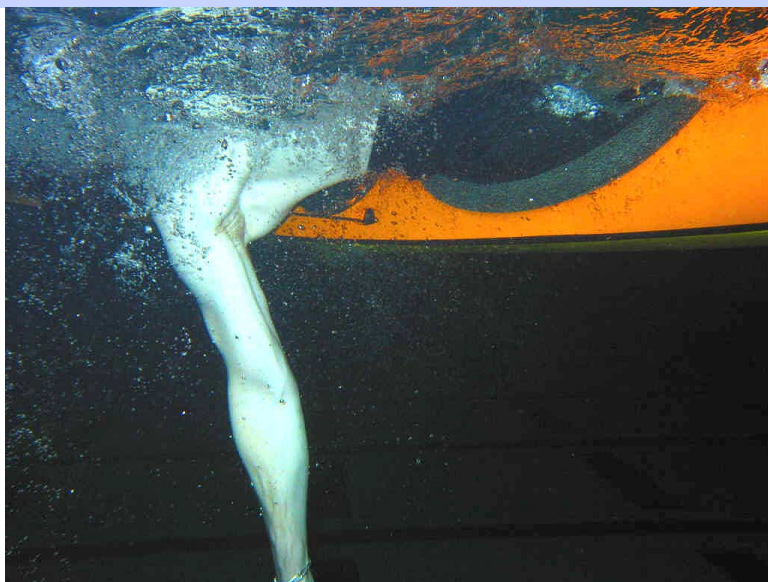
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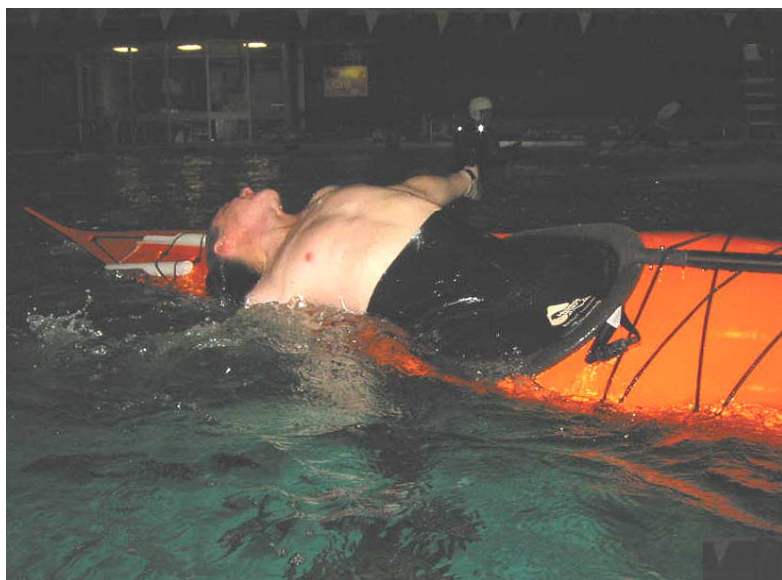
Though your webbed or micro-bladed hand and arm will initiate the boat's rotation, the strength of your hip snap will keep the rotation going, so give it all you've got! Remember, your hip snap consists of an upward drive of the on-side (hanging) knee and hip and a forward drive with the top leg.

Though the timing of the free arm throw is key to sweep hand rolling success or failure (especially in large sea kayaks), there are several variables which will alter the optimum free arm throw timing. Arguably, the most important is boat fit (the looser the fit, the earlier I tend to throw the free arm). Boat design also plays a factor. If your kayak is generally difficult to roll through the 90° mark (but the fit is good and your hip snap strong), try holding the throw in reserve (slowing the timing) until the catch arm and boat are around 45° to the surface.

Your free arm throw timing will be anywhere from just past being simultaneous with the catch to as much as 50° of boat rotation. Keeping the free arm tucked in as close to the boat's rotational axis as possible until it extends across low to the other side will keep the rotational speed up. Keeping your throw arm palm down will help prevent hyper-extending the elbow. (Use Photo 4: Catch (end) and Throw, for reference).



5: Hip snap (power phase)



6: Drive through

Finish in the layback position using both arms to balance as necessary.

Diagnostic Check—How did you do in Step 2's "Almost a Hand Roll"? If you came right around without much fan fare, then please proceed to Step 3 as you're set to join the ranks of hand rollers. If things didn't go so well; let's try to figure out why and see what we can do to correct them.

Did your webbed or micro-bladed hand reach the surface? You'd know if you felt a splash (or "ker-Plunk"). If not, then lean into it more! Imagine sitting in your kayak on a soft sandy beach and reaching across to drive your fingertips deep into the sand, palm turned forward. Break through the surface and explode your catch, hip snap, and free arm throw. (Review Photo 2: Reach)

With the ebbing of the catch, your arm throw will lead the transition of your upper torso smoothly onto the rear deck. Again, try to get as close to the boat's rotational axis as you can. As the boat rotates through 90° or so, the power of your hip snap may shift from the upward drive of the hanging knee to the forward drive with your top leg. I believe this allows the abdominal and oblique muscles on the hanging side to "absorb" or "suck up" the boat on that side, which, in turn, keeps the boat's rotation going until fully upright. Exhaling through this phase also helps.



7: Layback end

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Is your catch explosive enough to initiate your boat's roll? Remember that just as with the paddle sweep roll, the key to a powerful catch is to have the blade (now your micro-bladed hand) at the surface (and flat to the surface), and to have your paddle shaft (now your arm) at a right angle (perpendicular) to your boat. Just the stretch to reach the surface is enough to release a lot of stored energy during the catch. It shouldn't take brute strength.

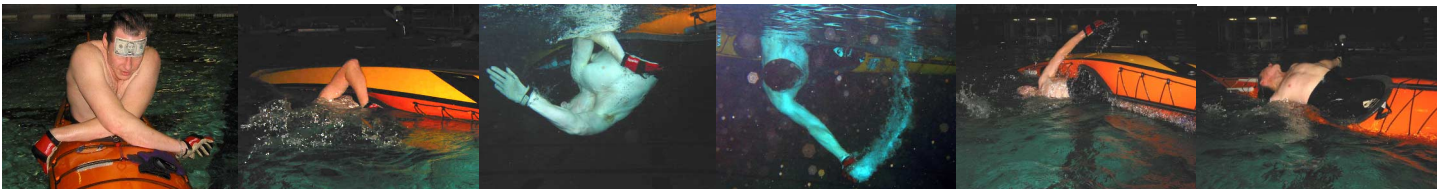
Is your hip snap strong enough? Your hip snap should be rotating your boat to the 80°~90° range, even without an arm throw. You can test this by holding your free arm in your lap throughout a roll attempt. If your hip snap still doesn't seem explosive or strong enough, even though you have good upwards drive with the hanging knee and good forward drive with the top leg, then try the following. Visualize rotating your boat around your catch side arm back underneath you, using everything on your hanging side (hip, knee, thigh, abs, obliques - even your glutes) to power your boat around. (Review Photo 5: *Hip snap (power phase)*) Also, check for a secure boat fit. Make sure you're not falling far enough to the hanging side as to stall out the roll.



8: Catch

Are you getting your upper torso over the rear deck by the 90° mark? (Review Photo 6: *Drive through*) Again, concentrate on rotating the kayak around your catch arm back underneath you (as opposed to 'getting yourself on top of the rear deck'). This takes a solid catch and hip snap. Make a point of shifting as much of your mass (free arm, torso, and head) as close to the boat's rotational axis as possible as it can be used to carry the rotational momentum ("thrown") to the other side. Have someone check that you aren't throwing your free arm out away from the kayak on the roll-up side. If so, lead with your free arm elbow against what will be the top gunwale (Review Photo 4: *Catch (end) and throw*) and throw your free arm low across the deck and top gunwale to the other side, karate chop style (be careful not to hyper-extend, though). You'll know if you're throwing the free arm across this low as you'll be making contact with the gunwale. Make it lead your body and head over the rear deck's centerline. As your head reaches near the boat's centerline, you can even "throw" your head across by facing the side you're rolling to, forcefully leading with the chin. (Review Photo 5: *Drive through*)

Lastly, are you accomplishing all of the above (good reach, explosive catch, strong hip snap, well timed and executed free arm throw, and body shift to rear deck), but stalling out after reaching 100°~120° and capsizing back into your roll side? If so, then work on driving through (straightening) with that top leg while driving upwards with all that you can brace with on the hanging side. As you are shifting into layback position on the rear deck, imagine you're trying to "scoop" your upper body and head onto the upper deck by sole means of pushing forward with your top leg while cranking away upwards on your hanging side (knee). You can also try throwing the free arm a bit earlier (or later) to see if a timing adjustment helps.



Step 3 – The Hand Roll—So you've completed Step 2 without incident. Now it's time to lose the hand rolling aid and nail the real thing. Visualize Photos 2 through 7 as you read through this. Set up as you did in Step 2 with your catch hand rotated palm down and forward just like Photo 2. Tuck forward and roll toward the side the catch hand is set up on. Reach for the surface as you continue your capsize's rolling momentum. Even more than you have done up to this point, accelerate your reach as you near the surface and explode your catch, following almost simultaneously with your equally explosive hip snap. Leading with your free side elbow against the hull, throw your free arm low and flat across the fore deck (palm down) to pitch the boat past the 90° mark. Imagine scooping your torso onto the rear deck via your hip snap and free arm throw. Remember, your hip snap should be an upward explosion of a brace with your hanging side hip and knee. Demand that every available fiber of your being get across the centerline of the rear deck to help counterbalance. Visualize plastering your head and torso to the rear deck. And keep driving hard (straight ahead) with that top leg - right through to the end of the roll. Ending with both arms down, as in Photo 7, will help you stabilize and end the rolling inertia. Now you can sit forward, drain your sinuses, and breathe. You did it!

Step 4 – Slow it Down—Okay, you're a hand roller now. Why bother adding yet another step. Well, let me begin with the fact that I am adding this important updated section half a decade after writing (and photographing) the original article. All that I talk about here and below, I have done—but at a price. Though extreme and stunt hand rolling has not directly injured either shoulder, it has provided

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more than its fair share of wear and tear. So Step 4 is to save you a lot of unnecessary shoulder (and elbow) strain and to keep you hand rolling well into your 50s. What is Step 4?

SLOWIT.....DOWN!!!

Before tearing yourself to shreds with your newly acquired skill, take what you have and slow the process down. This will refine your core muscle power as well as your timing through all phases of the hand roll. It will also turn the sweep portion of your hand roll into a more active and effective portion of your roll. See what I mean by viewing one of Alison Sigethy's rolling demos on YouTube (<http://www.youtube.com/watch?v=yN4QrNVbny8>). Truth be told, your current hand roll (like my 6 year old hand roll you see in the pictures) at this stage better resembles a paddle-less version of a C-to-C (moving the hand into catch position without affecting the rotation of the boat) than a true sweep hand roll, in which the movement of the hand (and body) to the catch position will start the rotation of the boat. You'll know you're doing it right when the whole roll goes slow and buttery smooth, with no ker-Plunk of a catch, no elbow hyper extension of the balance arm, no after feeling of 'having thrown' the roll, and most importantly, no tightness or pain in the elbows or shoulders the next day.

Further Challenges—So, with that said, what's next? As with any newly learned rolling skill, do not let your hand roll stagnate. First, challenge yourself with learning to hand roll on your off side, a skill which will greatly improve your offside paddle rolling as well. This, too, can be done slowly, being careful with those shoulders and elbows.

Not enough? You say you're young and fit, have done it all up to this point, but you're still hungry for more? Okay, but understand the following challenges can be quite stressful on the shoulders, elbows and just about everything else. If you're still game, then try hand rolling without the use of the free arm by holding the coaming or gunwale throughout the roll. You can even use the free arm to hold a weight in your lap on the sprayskirt. If those get to be passé, try clenching your power hand, or further, holding a weight in your power hand as you hand roll. Masochistic combinations of these can also prove quite the challenge, such as hand rolling off side while holding a large rock in your power hand and another rock in your lap with your free hand. Use your imagination. Follow through with determination. Be sure to balance both with keeping your joints healthy enough to continue. And just remember that playing = improving!

In Conclusion—I hope that after taking this information to your local rolling hole and putting it into effect a 'few' times, that you are now among the ranks of sea kayakers who don't need no stinkin' paddle for anything more than deck decoration. If you are, take pride in it. It was worked hard for and well deserved.

If you're still not quite there, then by all means do **not** give up. Hand rolling is an incredibly complex series of physical movements all time relevant to one another, with almost no margin for error. Keep working with the skills you've learned so far, and come to understand and internalize the instruction given here through copious practice. Think of rolling practice as in-water yoga and take the time to experiment and play. It may well be a matter of over-thinking it. It certainly proved so for me. Drop the pressure, demands, and expectations. Provided the instruction has been internalized, sometimes relaxing, de-focusing, and simply going for it may prove just the ticket to hand rolling success.

For an animated .gif file of the hand roll sequence, please click [here](#). You may need to save this file and open it with your web browser as some computers are set to open .gif files with a photo viewer that will not show the animation.