

**TRIBAL** Swim Coaching



# FINE-TUNE YOUR CRAWL **PART 2**

Body position, leg & arm action, breathing and timing – the key areas for a faster swim. Glen Walker is your swim coach at Tribal.



## Body Position



**Glen Walker** was fifth out of the water at Ironman Hawaii'83. He now runs the swim offering from Tribal MSP online and lives in Chobham, Surrey.

In part one we laid the foundations for reduced drag, prescribing a trio of nose-down torpedo drills that would help you become more horizontal in the water. All you needed to do was make one small hole with the top of your head that the rest of your body could slip through.

Now we continue the nose-down theme, but integrate a degree of rotation. The aim is to teach you how to maintain balance while rotating around the axis, which is the most effective way to swim

There are four main reasons why rotating around your axis will benefit your evolving front crawl:

1. By reaching for the 'catch' slightly on your side, you'll engage the latissimus dorsi (lats), the largest muscles in the upper body.
2. Being on your side allows you to employ your hips to generate greater power from the core.
3. 'Mature' athletes will probably find their shoulder mobility isn't what it used to be. The rotation will allow more freedom in the recovery.
4. When you roll from side to side, you spend only a small amount of time 'flat' in the water. The remainder of the time you're blade-like (more streamlined).

When you begin the drills in the Body position drills box you'll feel like you're going to sink. Don't

### Jargon Buster

**Kickboard:** A flotation device that provides stability in the water. Constructed from foam.

**Lumbar spine:** The lowest part of the spine, comprising five vertebrae. This is where most of your weight bearing and movement takes place.

**Fist gloves:** A rubber mitten that compresses your hand into the fist position. They come in small, medium and large. Available from Tribal.

worry; it's natural. You see, lying flat creates a large surface area in contact with the water, so balancing using the air in your lungs is easy. Now, as you rotate to one side, the surface area decreases, giving the feeling that you're starting to head south.

To remedy the situation it's key that you not only keep your head still, but maintain a degree of pressure on the water with your chest, too.

Staying physically and mentally relaxed, and keeping a consistent and compact leg action that rotates with the body, is also vital to maintain buoyancy, as is engaging your abdominals, which will ensure your shoulders and hips rotate equally and simultaneously. For both these points you need a strong core.

One final note: aim for a smooth and continuous rotation from side to side without pauses in any position, because that's how you'll be swimming when you put it all together.

### Body Position Drills

You can do these with or without a snorkel, though we'd recommend the former because it allows you to keep your head facing down while still being able to breathe.

#### Drill one: nose-down torpedo-rotation around the axis

1. Start as you would for a regular nose-down torpedo.
2. Rotate your body (but not your head) slightly to the left or right, then immediately roll back through the centre to the same position on the opposite side.
3. Practise with varying degrees of rotation until you're smooth and rhythmic.

#### Drill two: nose-down torpedo-rotation around the axis and extended arms

1. Follow the previous drill but now with your arms fully extended ahead, with your hands shoulder width apart.
2. Initiate rotation from the hips; as you press your hip down, reach your arm on that side forwards directly in front of your shoulder.

3. Don't let your hands drift towards the centre line (the extended axis in front of your head). Imagine the middle finger on each hand as the tip of an arrow; point it in the direction of travel.
4. Keep your hands at 4-6in below the surface. There should be a slight slope down from your shoulders to your fingertips. Your fingertips should be slightly lower than your knuckles; the knuckles slightly lower than your wrist; the wrist slightly lower than your elbow; the elbow slightly lower than your shoulder.
5. As you rotate, one shoulder and your reaching arm will naturally go deeper. The other shoulder and its slightly retracted arm will become shallower as it goes up with the shoulder.



Drill one: the rotating nose-down torpedo will elicit the feeling of carving through the pool

## Leg Position

If you've mastered last month's vertical kick drills and can easily keep your head above water for 30secs, then progress on to the vertical kick exercises in the Leg action drills box (below). They further illustrate how important a good kick is to the front crawl

That said, while vertical kicking is the most efficient way to practise, it's not always practical when you're in a pool that's shallow from end to end (like at a health club, for example). If you find yourself in this situation, do the lateral kicking drill. We describe it in the box below but here are the finer details...

1. Push off but keep your head perfectly still during the breakout part of the stroke.
2. When you're on your side looking at the bottom of the pool, make sure your palm is facing the bottom, too.
3. Stay connected – close the gap between your head and shoulder/arm. When nose down, your shoulder will be touching your chin and your bicep alongside your face.

4. Kick through the centre line. Just as with vertical kicking, your leg action should be fairly equal in front and behind; in fact, nearly all of the propulsion is generated when your feet go in front of your body.
5. Breathing – roll just enough to get some air. To counter the potential sinking feeling, keep your leading hand below the surface as you roll. Don't let it drift up as you won't be able to maintain the slight press into the water needed to keep your hips up. It's counter-intuitive but it'll help you maintain balance.

By the way, I am often asked whether a kickboard is a useful tool for leg kick practice. I'd say they have their pros – it's easier to breathe – but overall they ingrain bad technique – sinking hips, high shoulders and so on – so we'd prefer you to practise either vertically or on your side. The only kick board that I would recommend is the Finis alignment Kick-board which is easily used with the front-mounted snorkel for perfect streamlining whilst kicking.



Spend time practising this month's drills and you'll be achieving greater distance with every stroke

## Leg Action Drill

The first two drills are progressions from last month and require a pool at least 15cm (6in) deeper than you are tall; the alternative is recommended if you train in a shallow pool.



Drill one: by keeping your hands out of the water, there's even greater focus on a good leg kick

### Drill one: vertical kicking – holding your hands out of the water

1. Float upright in the water, letting your legs hang from your hips, eyes parallel to the surface, with your hands out of the water.
2. Swing through each leg's centre line. Think of your legs as pendulums; the centre line as the line from your hips to your toes when your legs are hanging. Kick evenly in front and behind – about 30cm (12in) either side is ideal.
3. It should be a nice, compact flutter kick where, with a relaxed ankle/foot, you'll be slightly pigeon toed (toes turned in).

### Alternative drill: lateral kicking

1. Push off firmly in a streamlined position (head squeezed between the arms; eyes focused on the bottom; one hand on top of the other – dominant hand on the bottom) to gain momentum.
2. As you feel yourself slowing, initiate the leg action.
3. After six to eight leg kicks, stroke firmly with your dominant hand and rotate your body – but not your head – 90° towards the dominant side.
4. When you need to breathe, roll the whole unit toward the air, grab a breath and resume the nose-down position. Note: kick continuously throughout the movement.



Alternative drill: it's vital that, despite the distraction of lateral movement, you kick continuously

## Arm Action

In part one we focused on feel for the water. This time we'll expand on the feel theme, and also introduce a couple of drills that'll transform feel into power and increased distance per stroke.

In short, holding onto the water and moving the body past your hand is what we're aiming for. But sadly, triathletes commonly undertake what's known as 'spinning the arms' and letting the hands 'slip', which usually is due to a 'weak wrist' and a 'dropped elbow'.

You need a firm wrist to ensure that your fingertips remain pointing to the bottom of the pool throughout the underwater phase, and so maximise feel.

A dropped elbow is when your elbow drops to the same depth as your hand during the underwater phase. The aim is to pull toward the body with your elbow higher than your hand, though to begin with it will feel unnatural. For instance, when you open a door by pulling it towards you or bring a teacup towards your lips, your shoulder will naturally externally rotate and allow the elbow drop. Unfortunately, this is a killer for swimmers and triathletes because this not only engages smaller muscle groups, but loses the surface area of the forearm as a propulsive force, leaving just the palm of the hand to hold on to the water.

The most efficient way of practising high elbows during the underwater phase is to swim with your hands closed into a fist. You see, without the 'open' hand, you'll barely move – unless you keep the elbows up and use your forearm.

To retain the fist position, use Fist gloves available from Tribal. They make it difficult to cheat (because you can't open your hands), plus they have the effect of desensitising your hands. Once you remove the gloves your hands feel as big as dinner plates – the feeling you should aim for all the time. This is in stark contrast to wearing paddles, which, when removed, make your hands feel very light in the water.

Now that you have more feel for the water and understand the importance of high elbows, let's incorporate this into a drill to practise feel and power in the underwater phase (see Arm action drills box).



Drill one (see right): the 'shooter' drill teaches you to keep a high elbow while maintaining a firm wrist

## Arm Action Drill

These drills can be done without a front-mounted snorkel... but they're so much easier if you have one. For all three drills, begin in the same position as the 'nose-down torpedo – arms extended drill'. Your hands should be shoulder width apart with a slight angle down from the shoulders to the fingers. We'd also recommend that you practise on land first, either on a bench or a kitchen table.



Drill two: in the one-arm shooter drill, you'll be able to reach further by rotating your hips.



Drill three: your wrists should begin to flex slightly at the end of the underwater phase

### Drill one: Shooter

1. Lower your fingertips, without flexing your wrist, while keeping your elbows up. As you do this, your upper arm will rotate internally towards your body. It'll feel a bit like shrugging your shoulders. Your hands should get lower in the water and be slightly wider than your shoulders. Your shoulders should remain 'forwards', almost touching your ear lobes.
2. From this position – 'the catch' – apply more force to bring your chest over your hands.
3. As your body passes over your hands, your hands come closer together, fingers pointing downwards to form a diamond shape. Your shoulders now begin to move backwards with your hands and arms as you 'shoot' forwards.
4. To maintain backwards pressure on the water, your wrists will now need to flex throughout the remainder of the underwater phase.
5. Finish in the nose-down torpedo.
6. As you lose speed, bring your hands back to the front by keeping your elbows tucked in and your hands, palms up, close to your tummy and chest.
7. Begin again from 1.

### Key points

- Keep your hands supple.
- If you're 'bouncing', you are almost certainly applying pressure either downwards (at the catch phase) or upwards at the finish.
- Make sure you lead with the top of your head.
- The finish (the last 6in) of each shooter should be soft in preparation for a relaxed recovery (which we'll look at in part 3). Being too aggressive at the end of the stroke can lead to some serious errors, because the hand exits the 'heavy' water and becomes 'out of control' as it's released into the 'thin' air.

### Drill two: one-arm shooter

1. As before but begin with your arms by your side.
2. Extend one arm to the front but reach a little

further by rotating your hips. You're now slightly to one side.

3. Anchor the hand as per the 'shooters' but this time assist by driving the opposite hip down.
4. At the finish you'll have both arms at your side and be on the opposite hip to where you started.
5. Allow yourself to come back to the level position and repeat.

### Drill three: push-catch-rotate

1. Begin as in the one-arm shooter with both arms by your side.
2. Extend one arm ahead of you from the hip to move slightly to the side.
3. The arm that is by your side (the recovering hand) is brought forward under your body (elbow tucked in, palm up, close to the tummy). As it passes under your neck and chin, initiate the catch with your other arm, and drive the recovering hand forward from the hip, taking the body to the opposite side in a lying position.
4. Continue from this position – one arm extended, the other by your side – and recover the opposite arm to initiate the drive. Repeat for the remainder of the length.

### Key points

- Try to eliminate any pauses. They'll usually occur at the end of the stroke so keep this part moving – the arm shouldn't get caught up here but move smoothly back to the front. Also, the arm shouldn't finish with the elbow in a locked-out position; rather, you should finish softly.
- Anchor the hand as per the 'shooters' but this time assist by driving the opposite hip down.
- At the finish you'll have both arms at your side and be on the opposite hip to where you started.
- Allow yourself to come back to the level position and repeat.

## Breathing and Timing

Breathing and timing are linked now, as they inextricably are when you swim. By now you should have mastered the bobbing technique (see part one) and be able to fit in 30 breaths in 60secs without feeling any ill effects. In addition, you should be starting to get the hang of the  $\frac{3}{4}$  catch-up.

To recap, for the least interruption to your stroke, your breath must be timed perfectly to the rhythm of your arms. If the rhythm is interrupted then your body will begin to sink. As a result there's a need to lift the head off the axis to reach for the air, which is usually assisted by the leading arm pressing down on the water to support the head lift.

So what may seem like quite a small thing can create a couple of huge problems:

1. Presenting the side of your face to the water increases profile resistance. In turn, your body will drop, further increasing profile resistance.
2. Pressing down on the water doesn't propel you forwards, so you lose stroke length.

Thankfully, we have the cure for this common problem: timing, rhythm and synchronisation. All three unite in the Timing and breathing drills box. To assist you in gaining better understanding of the two drills cited, these are the finer details:

- Keep each recovery as relaxed as possible by lifting from your elbow and letting your lower arm hang. The back of your hand should face forwards.
- As your fingertips enter the water, make a strong catch with the leading hand, while concurrently sending the recovering arm forwards, directly in front of the shoulder, 4- 6in below the surface, driving from the hip (as in the 'Push – catch – rotate' drill in the Arm action drills box).
- Initiate the recovery of the 'pulling hand', without any pause or hesitation, by lifting your elbow. Your fingertips should be the last part of your arm to leave the water and should be relaxed.
- If you get a 'sinking' feeling, you're probably over rotating and 'stalling' your rhythm. To eliminate this, try to keep the stroke rate to about one second per stroke. Count '1,000', '2,000', '3,000' in time to the simultaneous hand entry, catch and hip drive. This should help your timing.
- As your fingertips enter the water for the third stroke and your leading hand initiates the catch, begin your roll to the air so that you've completed your breath by the time your recovering hand has reached full extension. At this point you should be 'connected', with your arm and your ear very close, if not touching.
- Keep one goggle in the water while breathing.
- Keep your head at right angles to your shoulders- don't look behind you.

## Timing and breathing drills

### Drill one: three strokes, roll

1. Start as you would in the lateral kicking drill, see page 3.
2. Take three strokes of  $\frac{3}{4}$  catch-up.
3. As your fingertips of your recovering hand enter the water for the third stroke and your leading hand initiates the catch, begin your roll to the air so that you've completed breathing out by the time your recovering hand has reached full extension. At this point you should be 'connected' with your arm and your ear very close, if not touching. The other arm should be extended by your side.
4. On completion of the 'seamless' breath, return to the lateral kicking position (you'll be on the opposite side now) and repeat as necessary until the end of the length.

### Drill two: three stroke progression

1. Try taking three further strokes after taking the breath. For instance, six strokes with a breath between strokes three and four.
2. When you're used to this, you can extend by a further three strokes, breathing between strokes three and four, and six and seven.
3. Continue to add three strokes until you can complete the length.
4. Practise single lengths, taking sufficient rest for recovery until you feel relaxed and unhurried.

Note: if you're uncomfortable with breathing to a particular side, then practise in sets of four strokes (four, eight...) so that you can master your comfortable side first. You should, however, begin to work on your 'weaker' breathing side at the earliest opportunity.



Drill one: you should make each recovery as relaxed as possible by lifting from the elbow

## How to practise

Like last month, the drills/practices are stand-alone, meaning you shouldn't try to incorporate them in to your existing training sets. They need to be approached slowly, diligently and thoughtfully.

Again, we recommend you do these drills alone, unless you have a training partner of similar ability who has similar goals. Either way, concentration is key.

You should keep the sessions short – no longer than 40mins – practising little and often, ideally every day or every other day.

Unlike last month, though, where the drills, when done properly, could be knocked off in 10mins, the practices prescribed today will probably fill up most of that session.