

Train smarter with CSS training

The CSS swim test gives us a practical starting point for your training paces. This guide explains what it measures, how the session works and how to get a useful result.

What is CSS

CSS stands for **Critical Swim Speed**. A timed 400 m and 200 m swim are used to estimate your threshold pace, expressed in minutes and seconds per 100 m. It is a guide to sustained swimming effort, rather than your short sprint speed. [1, 2]

Why we use it

Knowing your CSS helps us give endurance and threshold sessions a clearer pace target. It also provides a repeatable benchmark and an opportunity to practise holding your pace when the effort gets harder. [1]

At Moore Performance, we use that number alongside how you feel, how consistently you complete your sets and how well you maintain your stroke. The useful result is a pace we can work with in training.

Train smarter means matching your effort to the purpose of the session. Your CSS is a reference point; every swim does not need to be at CSS pace.

What happens in the test

The core test is a **400 m freestyle time trial**, a full recovery, then a **200 m freestyle time trial** in the same session. Record each time separately. A warm-up and cool-down complete the session. [1]

Both timed swims are your best effort over the full distance. Be deliberate with the opening lengths, settle into a strong rhythm and finish with the effort you have left. The 400 m needs patience early; the 200 m allows a faster pace.

Come ready to swim well

Our recommendation: choose a day when you feel well and reasonably fresh, use a lane where you can swim without interruptions, and arrange reliable timing. If continuous 400 m swimming is still a challenge, speak with your coach so we can choose a suitable starting session.

Get ready for your CSS test

An example MP test session

Follow your scheduled session if it differs. This example totals **1,400 m**; the recovery period includes the easy 100 m below and additional rest as needed.

1 Warm up

300 m easy freestyle, then 4 × 50 m building smoothly from easy to strong. Take 15–20 seconds between the 50s. Finish ready, rather than tired.

2 Swim 400 m

Push off the wall and swim your best evenly paced 400 m freestyle. Record the total time; 100 m splits are useful if someone can time them.

3 Recover fully

Swim 100 m very easily, then rest. Allow around 5–10 minutes overall and begin the next effort when you feel recovered.

4 Swim 200 m

Push off the wall and swim your best 200 m freestyle. Record the total time separately from the 400 m.

5 Cool down

200 m relaxed swimming. Let your breathing settle and finish comfortably.

Small details that make the result useful

Keep the test consistent. Swim both efforts in the same pool, using the same stroke and push starts. Leave fins, paddles and the pull buoy out of the timed efforts. Record the pool length so future tests can be compared fairly.

Count and time carefully. Check the watch pool-length setting and record the actual effort times, excluding rest. A coach or friend timing you is helpful. If you lose count, get held up or have a timing problem, tell us.

Send the context too. Share both times, pool length and a short note about how the swims felt. Mention whether you started too fast or struggled to hold your stroke. Those details help us interpret the number.

What happens after the test

We calculate your CSS from the difference between the two times. For example, **8:00 for 400 m** and **3:45 for 200 m** give a CSS of approximately **2:08 per 100 m**. This is an illustrative example, not a target. [2]

We then use your result to guide training and check how the pace holds up across your sets. Pool CSS alone does not determine your open-water race pace. We also consider your race distance, conditions and training evidence before setting that target.

Your next step: complete the test, send your times and feedback, and we will turn the result into useful targets for your swimming.

Build your swim week

How CSS fits into your swim week

To improve your swimming, we recommend combining focused CSS work with coached technique, easy aerobic swimming and practice for your race environment. CSS gives us a pace reference within that mix. [1]

A coached squad or swim instructor can give you feedback on your stroke and pacing. Options we recommend considering include Lisa Marangon and Magic Masters. Choose a session suited to your ability and fit its actual content into your weekly plan.

A practical weekly mix

These examples are a starting point, not a requirement to swim more. Your coach will adjust the mix to your experience, recovery and what your squad session involves. Additional swims can be short and easy.

Swims per week	Example mix
3	One coached squad session, one CSS session and one longer easy aerobic swim.
4	The three-session mix, plus a short, easy technique session.
5	The four-session mix, plus another easy aerobic swim, or an open-water skills session when appropriate.

Count the squad session as training

If your squad includes substantial threshold work, it may fill your CSS slot that week. Make the other session easier rather than automatically adding another hard swim. A longer swim should also stay easy enough to support the rest of your week.

Keep technique in the mix

Use drills chosen for your needs, then carry the same focus into full-stroke swimming. Aim to improve the stroke you actually use, including when you get tired. A drill block can sit within a warm-up or easy swim; it does not always need a separate session.

Practise for your race

For triathlon or open-water events, begin skills practice early enough to build confidence. As the race approaches, replace an appropriate pool session with supported open-water practice. Include sighting, swimming straight, starts, turns, drafting and wetsuit familiarity where relevant. Choose suitable conditions and swim with a buddy or organised group.

The MP approach: use CSS to guide pace, coaching to improve technique, aerobic swimming to build endurance and open-water practice to prepare for race conditions.

Further reading

[1] [TrainingPeaks — How to Use Critical Swim Speed Training](#)

[2] [TrainingPeaks — Threshold Tests for Swim Bike and Run](#)