Calculating Your Swim Pace Zones

Why swim with zones?

The main benefit of utilizing swim pace zones is to bring training specificity to the water. Zone-based training is widely used in running and cycling, and the benefits they provide apply to swimming as well. Plus, you will be able to analyze your performance over time to determine if you need to make adjustments to your training.

It's not uncommon to encounter coaches and training plans that recommend targeting specific levels of RPE (Rate of Perceived Exertion) in swim workouts. RPE is exactly what it sounds like: you use your feelings to judge how much effort you're exerting.

Swim Threshold Pace

Some very experienced Swim Coaches have come up with what seems to be a pretty reliable way to measure one's Threshold Pace and how to determine Training Zones around that.

Your Threshold Swim Pace can loosely be considered your Lactate Threshold, or the highest workload you can maintain without having an accumulation in blood lactate. There's a general consensus among Coaches and Athletes that a 1000m Time Trial (or 500m for less experienced swimmers) is sufficient for determining your Lactate Threshold.

To know you are measuring this correctly you should go into the TT rested and recovered from previous strenuous exercise. So when you are ready to perform the TT head to the pool, have a decent warm up, psyche yourself up and rip into it.

Once you have timed yourself for the 1000m divide the time by 10 (or 5 if you swam 500m) to determine your T-Pace. This is the pace you swam per 100m for the TT....a very useful number to keep in mind. You should always be aware of your current T-Pace, especially throughout various stages of the season. You can retest every 2-4 weeks if you are really wanting to make sure you are current with your T-Pace, otherwise twice each season should be sufficient (once at the start and another 4-6 weeks prior to your A race).

What is T-Pace?

The goal of these tests are to determine your current threshold pace, which is often referred to as T-Pace in swimming. Think of T-Pace as the swimming equivalent of an LTHR test in running, or an FTP test in cycling, except, instead of being based on heart rate or power, it's based on swim pace.

Once you determine your current T-Pace, you will base all of your zones on it. For example, Zone 1 will be several seconds slower than your T-Pace, Zone 5 will be several seconds faster than it (this is explained in full later in the article).

How to test your T-Pace

Depending on how advanced of a swimmer you are, there are three different tests you can execute. Please note that the distances are interchangeable between meters and yards.

Each of the three following tests have a 10 minute (or longer) warm up, followed by a 2 minute rest. The main sets should be swum as fast as possible while maintaining a consistent pace. If you record the test with a swimming watch, start a new workout at the beginning of the main section, and pause during rests. If you don't have a watch, note the exact times that you start and stop, or, use a stopwatch.

- Strong swimmer's test
- Mid-level swimmer's test
- Entry-level swimmer's test

1000 Meter T-Pace Test

Strong swimmers should take this test. It's the most common T-Pace test, and generally considered the most accurate:

1. Warm up
2. Rest for 2 minutes
3. Swim 1000 meters without resting at a consistent pace
4. Cool down

3 x 300 Meters T-Pace Test

If you're not strong enough of a swimmer to maintain a consistent race pace for 1000 meters, you should execute this 3 x 300 T-Pace Test instead. Keep the pace each set within 15 seconds of each other:

1. Warm up
2. Rest for 2 minutes
3. Swim 300 meters at a consistent pace
4. Rest for 30 seconds
5. Swim a second 300 meters at the same pace
6. Rest for 30 seconds
7. Swim a third and final 300 meters at the same pace
8. Rest and cool down

You calculate your T-Pace by adding together the times from all 3 of the 300 meter efforts (excluding rest periods), and dividing it by 9. For example, if your times were 4:36, 4:41, and 4:47, you would divide 14:04 by 9, resulting in a T-Pace of 1:34.

3 x 100 Meters T-Pace Test

If you're new to swimming (or perhaps a bit rusty), you can determine your T-Pace with this test. Keep the pace each set within 5 seconds of each other:

1. Warm up
2. Rest for 2 minutes
3. Swim 100 meters at a consistent pace
4. Rest for 15 seconds
5. Swim a second 100 meters at the same pace
6. Rest for 15 seconds
7. Swim a third and final 100 meters at the same pace
8. Rest and cool down

Calculate your T-Pace by adding together the time from all 3 of the 100 meter efforts (excluding the rest periods), and divide by 3. For example, if your times were 2:24, 2:27, and 2:31, you would divide 7:22 by 3, resulting in a T-Pace of 2:27.

Determine swim training zone paces 1000 Yards or Meters	Example
(A) After warming up, swim 1,000 meters (or yards) as fast as you while pacing yourself across the entire distance. Record your 1,000-meter (or yard) time.	(A) 1,000 m time = 15:14
(B) Take the 1000 time in minutes and multiply by 60.	(B) 15 x 60 = 900 sec
(C) Add the number of seconds. This is your overall time in seconds	(C) 900 + 14 = 914s (total 1000 time in sec)
(D) Take that number and divide by 10. Now you have the average time on the 100s in seconds.	(D) 914/10 = 91.4s (pace per 100 in sec)
(E) Convert to minutes and seconds. You now have your LT-pace per 100 meters (or yards).	(E) 91.4 seconds à 1:31 pace per 100 = Z4 pace
(F) Adjust your LT-pace per 100 meters (or yards) for each Zone per the Pace Calculator below.	(F) Z1 = Technique only / easy Z2 = 1:41 per 100 Z3 = 1:36 per 100 Z4 = 1:31 per 100 Z5 = 1:26 per 100

Intensity Zone	Swim Pace/100 yard or meter
Z1- Recovery/Warm up	*******************
Z2- Endurance	T-Pace+10 sec
Z3-Tempo	T-Pace+5 sec
Z4-Threshold	T-Pace
Z5- Anaerobic	T-Pace-5 sec
Z5+Max effort	*******************

	RPE Scale (Rate of Perceived Exertion)
1	Very Light Activity (Anything other than complete rest)
2-3	Light Activity (Feels like you can maintain for hours, easy to breath)
4-5	Moderate Activity (Feels like you can exercise for long periods of time, able to talk and hold short conversations)
6-7	Vigorous Activity (on the verge of becoming uncomfortable, short of breath, ca speak a sentence)
8-9	Very Hard Activity (Difficult to maintain exercise intensity, hard to speak more than single word)
10	Max Effort (Feels impossible to continue, completely out of breath, unable talk)