

## Training Intensity Zones

The workout instructions will prescribe specific intensity levels for each set, e.g. Zone 2, Zone 3, etc. (see the left column in the table below). In running and cycling, we can correlate these zones with heart rate; but it is difficult to monitor heart rate in the water. Thus, we will instead correlate the intensity zones with swimming pace—specifically, your pace per 100 (yards or meters).

To find your pace for each intensity zone, first determine your “T-pace,” or your lactate threshold (LT)<sup>1</sup> pace. The easiest way to do this is to swim a 1,000-yd time trial (TT) at a race-level effort. This means you should go into the TT well rested and ready to give it your maximum effort. Record your time and then divide that time by 10 to find your pace per 100 yards. This generally corresponds to your T-pace. Record this number in the table where it says “T-pace.” From there, calculate your pace in the other cells of the column.

Intensity Zone	Swim Pace (time per 100)
<b>ZONE 1</b> Recovery *pace for warm up, cool down, recovery	Very easy effort
<b>ZONE 2</b> Extensive Endurance *aerobic base pace	T-pace + 10 sec
<b>ZONE 3</b> Intensive Endurance / Tempo *aerobic tempo pace	T-Pace + 5 sec
<b>ZONE 4</b> Sub-Threshold / Muscular Endurance *sub-LT threshold pace	T-Pace
<b>ZONE 5A</b> Super-Threshold / Lactate Threshold Endurance *super-LT threshold	T-Pace
<b>ZONE 5B</b> Anaerobic Endurance	T-Pace – 5 sec
<b>ZONE 5C</b> Anaerobic Capacity / Power	All out effort

**For example**, let’s say Jack swims a 1,000-yd TT in 15 minutes. This translates into a pace per 100 yards of 1:30. This would be the pace he would swim for sets targeting Zones 4-5a. For sets targeting Zone 3, his pace would be 1:35 per 100. His pace would be 1:40 for Zone 2, and 1:25 for Zone 5b.

Note that Zone 1 doesn’t have a specific pace. Zone 1 is an easy effort and should be used for warming up, cooling down, and for recovery sets in between harder sets. Zone 5c also doesn’t have a specific pace. Zone 5c corresponds to all out sprinting efforts of short distances where pace is irrelevant.

Keep in mind that for the calculations of your swimming pace zones to be accurate, the results of the 1,000-yd TT need to represent a race-level effort. In my experience coaching swimmers of different levels, I have found that a 500-yd TT often works better for those swimmers who are unaccustomed to ‘racing’ longer distances. In such cases, you can find your pace per 100 based on the 500 TT results.

Instead of a time trial, another (and often more accurate) way to determine your pace zones is to use a graded swim test. This protocol is more involved and requires that you have someone poolside who can record the data and time your sendoffs.<sup>2</sup>

<sup>1</sup> For more on LT and intensity zones, see “Explanation of Heart Rate Training” at [www.i-multisport.com/pdf/explanation\\_of\\_field\\_tests.pdf](http://www.i-multisport.com/pdf/explanation_of_field_tests.pdf).

<sup>2</sup> For more on this protocol, see “Swim Graded Exercise Test in Pool” at [www.i-multisport.com/pdf/field\\_test\\_protocol\\_graded\\_swim.pdf](http://www.i-multisport.com/pdf/field_test_protocol_graded_swim.pdf).