

Threshold Training for Development at all Distances

Tualatin Hills Barracudas 1/20/17

What is “Threshold Swimming?”

- The idea has been around for a long time—originally developed as “Critical Swimming Speed” or CSS
- It’s the pace you can hold for a 1500m/1650y race or time trial
- Analogous to Functional Threshold Power (those of you that are cyclists) or your 10k running pace (runners)
- It’s a number you can use to structure all of the training you do

But I'm a Pool Swimmer—I don't ever race that far!

- Excellent point. There are many benefits to using threshold pace in your training:
 - Allows coach to organize by similar ability
 - After a little acclimation, everyone knows how hard “TP – 4 seconds/100” or TP + 6 seconds/100” is.
 - Testing and tracking your threshold pace improvement lets you know you're getting fitter
 - Allows for very targeting training sessions that will improve everyone—even the sprinters!

How can that be?

- Well, it's due to how endurance athletes get faster
- If you only train fast and short, you are unlikely to improve much, or at all
- Arthur Lydiard, in running, discovered that high volume at moderate intensities leads to increased speed in athletes from 800m to the marathon
- Same pattern exists in swimming and in cycling
- If you want to go fast, you ALSO (not instead of!) need to train moderate intensities at longer intervals

This doesn't mean you can neglect speed

- It just means you need to support the speed work with longer, aerobic, diesel engine sets.
- Threshold pace is a great way to delineate the speed of those sets
- You can also use threshold pace to delineate fast sets
- Ideal swim week for Masters swimmers
 - 1x endurance swim with intervals *faster* than threshold pace
 - 1x threshold pace set with most intervals at threshold pace (this is what most Masters practices consist of presently)
 - 1x diesel engine (Swim Smooth “Red Mist”) style sets of 300s to 1000s swum at TP + 3”/100 to TP + 6/100

What About Other Strokes?

- Good point
- I am traditionally a mostly freestyle coach, but I grew up in US swimming, and can still do a passable breaststroke
- These principles will apply nicely to the other strokes, although distances will certainly have to be scaled down for the short axis strokes
- Elevator pitch: spend some part of your week slightly below threshold pace, some part at threshold pace, and some part above threshold pace. Add technique work to every session.

Sample Sessions

Threshold Session #1 “Goldilocks”

- 300 easy
- 6x50 drill down, swim back
- 200 pull
- 4x50 descend 1-4 on :40/:45/:50/:55/:60
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- 4x100 hold threshold pace with :10 rest
- 200 hold threshold pace with :15 rest
- 4x100 hold threshold pace with :10 rest
- 300 hold threshold pace with :20
- 4x100 hold threshold pace with :10 rest
- 400 hold threshold pace
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- 200 CD

Threshold Session #2 “Blast It”

- 300 easy
- 200 as drill down, swim back
- 6x50 build each 50 on :40/:45/:50/:55/:60
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- Twice through following set with only :30 rest between sets
- 4x100 at threshold pace and :10 rest
- 2x200 at threshold pace and :15 rest
- 4x50 faster than threshold on a send-off that only gets you 3-5” rest
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- 200 CD

Speed Workout #1

- 200 easy
- 200 as 25 kick on side, 25 swim
- 4x50 build
- 200 pull
- 2x100 breathe 3/5/7/3 by 25
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- 6x50 as 15 SPRINT, 35 cruise, :15 rest
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- 6-10 broken 200s on a 4-5 minute send-off (yes, you read that right), each 200 as:
 - 100 faster than threshold pace, :10 rest
 - 50 pick it up, :10 rest
 - 50 sprint

Speed Workout #2

- 200 easy
- 200 as 25 drill/25 swim/25 kick on back/25 swim
- 200 pull
- 4x50 on :40/:45/:50/:55/:60 as:
 - #1 25 fast/25 easy
 - #2 25 easy/25 fast
 - #3 fast
 - #4 easy
- 4x75 build on :60/:65/:70/:75/80
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- 4x100 @ TP -2" on a send-off that gets you 4-6" rest
- 4x100 @ TP -3" on a send-off that gets you 8-10" rest
- 4x100 @ TP -4" on a send-off that gets you 12-14" rest
- 4x100 @ TP -5" on a send-off that gets you 16-18" rest
- 4x100 @ TP -6" on a send-off that gets you 20-22" rest
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- 200 CD

Diesel Swim (“Red Mist”) #1

- Simple but INCREDIBLY effective. Swim this once a week and you will get faster, I promise you.
- 20” rest between everything today, sets and intervals. NO ADDITIONAL REST.
- 4x400 @ TP + 6”/100 with :20 rest
- 3x400 @ TP 5”/100 with :20 rest
- 2x400 @ TP + 4”/100 with :20 rest
- 400 @ TP + 3”/100 with :20 rest
- This looks easy. It isn’t. Not up to this distance yet? Try 10x300 or 10x200 instead!

Diesel Swim #2

- 16/12/8x50 on :45/:50/:55/:60, something that gets you about 5 seconds rest at MODERATE pace
- 8/6/4x100 on 1:28/1:38/1:48/1:58
- 4/3/2x200 on 2:52/3:12/3:32/3:52
- 2x400 or 2x300 on 5:36/6:24 (400s) or 5:12/5:42
- 800 or 600 on 10:56/12:16 or 10:10/11:12
- 16/12/8x50 on :40/:45/:50/:55