

Lactate Threshold Test

Instructions

(20-Minute Time Trial Protocol)

Equipment Needed

A GPS watch & heart rate strap - we recommend the Polar H10 chest strap - watch optical sensors are not accurate enough- particularly in running

Overview

This test measures your lactate threshold and should be done solo, not during a race or with training partners. Running alone ensures you can perform at your perceived maximal effort without external influence.

For accurate results:

- Choose an outdoor, flat, and runnable surface (trails are not recommended).
- Avoid treadmills, as they may limit your effort level.

Recommended Surface Hierarchy:

1. Track
2. Flat, open road
3. Treadmill (only if necessary)
4. Trails (as a last resort)

Preparation Guidelines

1. **Rest:** Perform the test the day after a full rest or recovery day.
2. **Weather:** Avoid extreme heat or cold, as they can affect your heart rate and performance.
3. **Caffeine:** Avoid consuming caffeine within 3 hours of the test to prevent artificially elevated heart rate readings.
4. **Hydration & Nutrition:** Ensure you're well-hydrated and fuelled, as this will be a challenging effort.

Step-by-Step Instructions

Step 1: Warm-Up

- Start with an easy 10-minute jog.
- Add some 1 min efforts at what you feel your 20 mins pace will be. Be conservative here
- Easy jog for 5mins

Step 2: 20-Minute Time Trial

- After warming up, begin your 20-minute time trial.
- Run at your maximal sustainable effort—think 5K race pace—while keeping the intensity as consistent as possible.

Key Tips:

- Avoid starting too fast or slowing down midway through.
- Aim for linear heart rate data that peaks near the end of the run.
- The second half of the test should match or exceed the intensity of the first half

Step 3: Stop & Cool Down

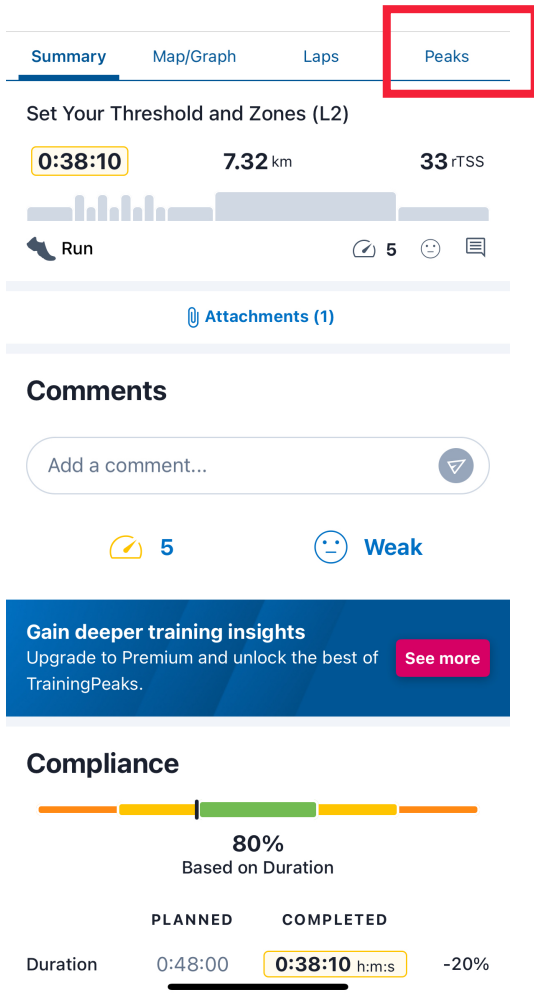
- At the 20-minute mark, stop your GPS timer to mark the test's endpoint.
- Follow up with a recovery-paced cool-down jog or walk. Avoid stopping completely to prevent dizziness or nausea. A proper cool-down helps lower your heart rate gradually.

By following these steps, you'll gather valuable data to assess your lactate threshold and optimise your training zones.

If you are you are not sure on your 20min pace and heart rate figure. You can find this figure from your test, simply open the workout in the Training Peaks Mobile App, select peaks, then look for the Peak 20min pace and heart rate.

Find your lap pace and heart rate here.

Enter this figure into your Training Peaks account on the mobile app. As per below



Summary | Map/Graph | Laps | **Peaks**

Set Your Threshold and Zones (L2)

0:38:10 | 7.32 km | 33 rTSS

Run | 5 | Weak

Attachments (1)

Comments

Add a comment...

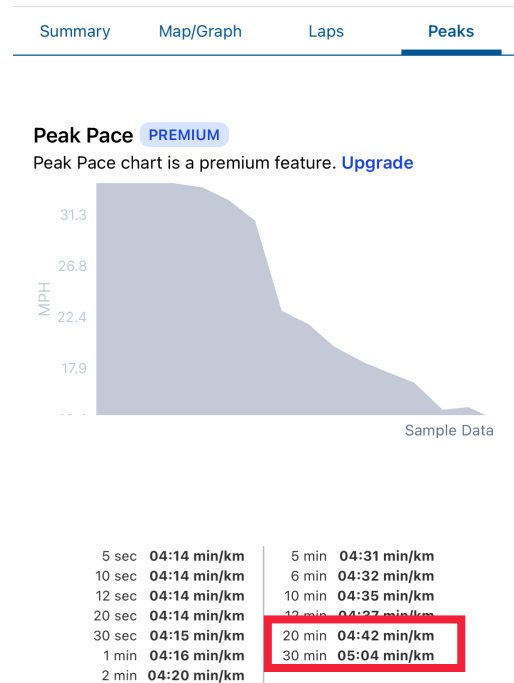
5 | Weak

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Compliance

80%
Based on Duration

	PLANNED	COMPLETED	
Duration	0:48:00	0:38:10 h:m:s	-20%



Summary | Map/Graph | Laps | **Peaks**


Peak Pace PREMIUM
Peak Pace chart is a premium feature. [Upgrade](#)

MPH

Sample Data

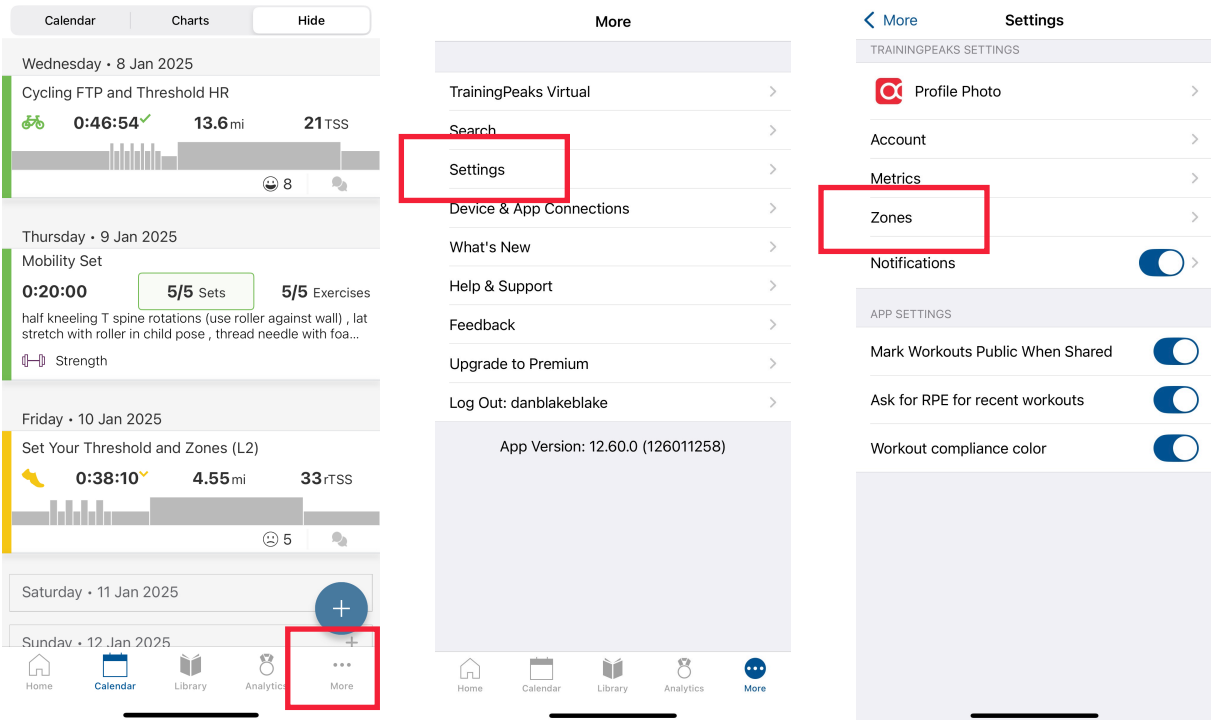
5 sec	04:14 min/km	5 min	04:31 min/km
10 sec	04:14 min/km	6 min	04:32 min/km
12 sec	04:14 min/km	10 min	04:35 min/km
20 sec	04:14 min/km	12 min	04:37 min/km
30 sec	04:15 min/km	20 min	04:42 min/km
1 min	04:16 min/km	30 min	05:04 min/km
2 min	04:20 min/km		

Pace By Zones PREMIUM
Pace By Zones chart is a premium feature. [Upgrade](#)

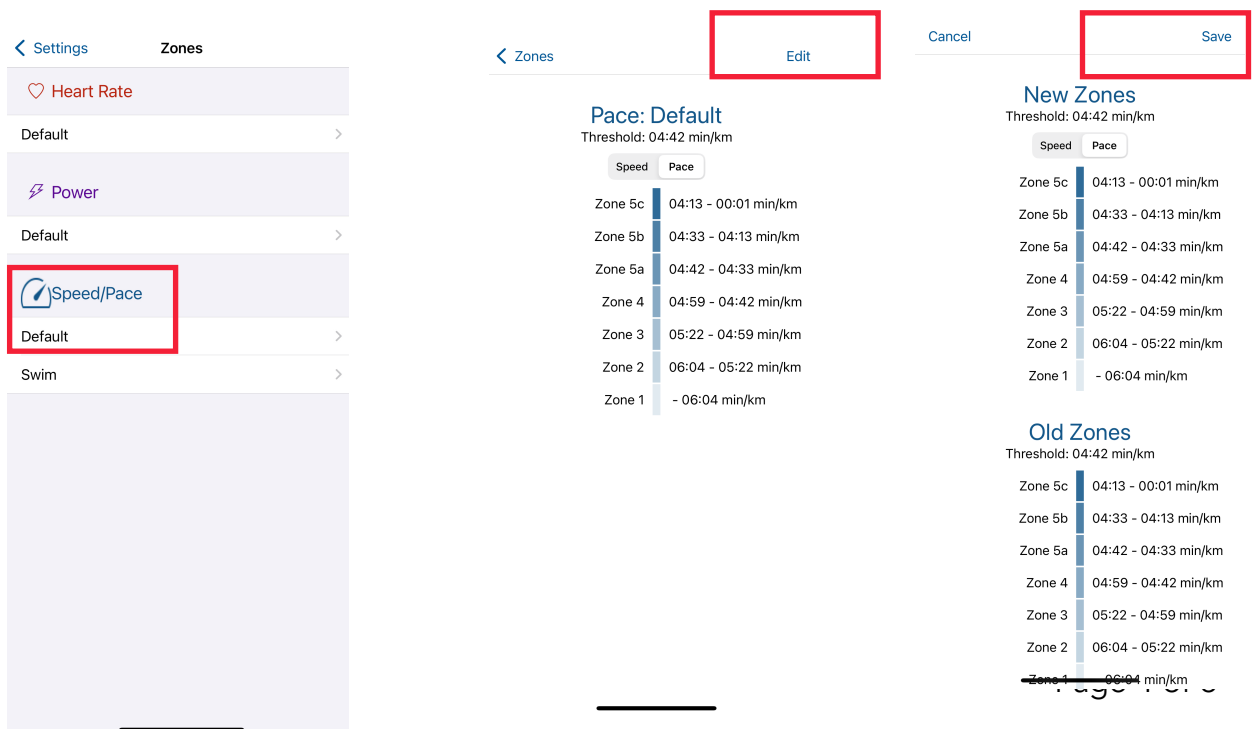


Update your zones here..

1. From the Calendar, Select 'More', then Select 'Settings', Then 'Zones'



2. Select 'Speed/Pace - Default', then 'Edit', then Update the Threshold and Calculate 'New Zones' Finally 'Save'

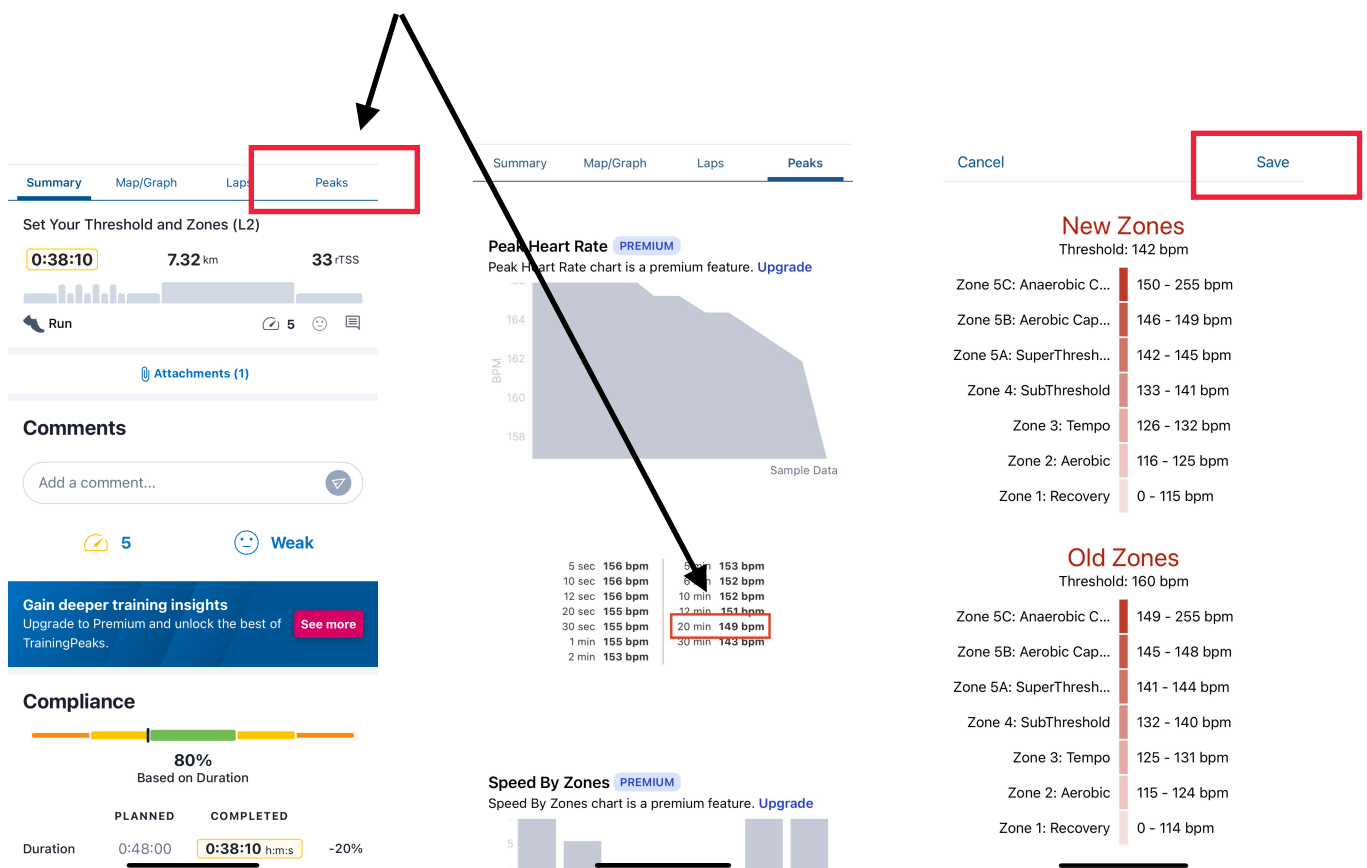


Run Threshold Heart Rate (THR): Subtract 6 beats from your 20min average heart rate to estimate your THR. This value is approximate, with a margin of ± 2 beats.

Enter this figure into your Training Peaks mobile app account. As per below. If you are not sure on your 20min HR figure. You can find this figure from your test, simply open the workout in Training Peaks, select 'Peaks', then scroll down the heart icon on the left and look for the Peak 20min HR

Find your lap heart rate here.

Following the same process as the power. Go back to your zones. Update your Run Heart Rate to the Peak 20min Heart Rate - 6 beats.



The screenshot shows the Training Peaks mobile app interface. The 'Peaks' tab is highlighted with a red box. Below it, a 'Peak Heart Rate' chart is displayed, showing heart rate (BPM) over time. A red box highlights the '20 min' data point, which shows a heart rate of 149 bpm. A black arrow points from the 'Peaks' tab to this data point. To the right, the 'New Zones' configuration screen is shown, with a red box highlighting the 'Save' button. The 'New Zones' section lists various heart rate zones, including Zone 5C (Anaerobic C...), Zone 5B (Aerobic Cap...), Zone 5A (SuperThresh...), Zone 4 (SubThreshold), Zone 3 (Tempo), Zone 2 (Aerobic), and Zone 1 (Recovery). The 'Old Zones' section is also visible, showing a threshold of 160 bpm and similar zone ranges.

Coaches Note: because heart rate monitors – specifically optical, wrist based heart rate monitors – can sometimes give odd readings for a variety of reasons (namely: fit), I will look closely at the graph to see if there are any outlier readings that simply don't make any sense. For example, if the clients heart rate suddenly dropped from 160 bpm to 70 bpm, with no change in pace (the client didn't stop running), then I will remove that portion of the data from the average.