

TRAINING NOTES

At training days you will hear terms like VO2 max, threshold runs, aerobic threshold, OBLA (onset of lactic acid) cardio vascular system and so on. What follows are some explanations.

Your VO2 max is the shorthand term used for Maximal Oxygen Uptake or Maximum aerobic power. As such VO2 max is the standard measure of aerobic fitness and 'represents the maximum amount of oxygen that can be removed from circulating blood and used by the working tissues during a specified period'. For a fuller explanation you should refer to the book Training Distance Runners by Martin and Coe.

VO2 max is determined by heart rate, stroke volume and the rate of extraction of O2 from the blood. It is quantified in millilitres of oxygen consumed per min adjusted for body size.

A test to establish an athletes VO2 max with precision requires an exercise laboratory test. To gauge training effect on fitness levels and feed out genetic influences requires regular testing.

A non laboratory test to establish maximum heart rate can be used with a heart monitor. A flat out run is made for three minutes. This is repeated three times with full recovery. An average of the maximum heart rate is taken for the three runs.

The greatest fitness gains will come from working at 80% plus of VO2 max. This would apply to a fully trained senior athlete.

In determining your effort on distance runs and to obtain training benefit you should be working at or near your aerobic threshold. This will be in the region of 65% - 70% VO2 max.

To determine what this would translate into in terms of heart rate (bpm) take maximum heart rate (to be determined) say this 200bpm (likely to be greater) then multiply age in years by 0.8 (women 0.7) $17 \times 0.8 = 13.6$. Deduct 13.6 from 200bpm = 186.4 bpm. Take 70% of 186.4 to provide a heart rate that should provide a modest increase in VO2 max. What this means is that distance runs should be at or better than 130 bpm. You can see that establishing your maximum heart rate is important.

To obtain full benefit from your training the question of whether you are working at a level to improve your VO2 max is critical. Anything less will be just a recovery run. You should have at least two threshold runs and one threshold plus session per week.

Your first task is to establish maximum heart rate; work out your VO2 max, and then your ventilatory threshold, and then on a distance run what your average bpm is. Good luck.

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