

# About The Run-Walk Routine

This article addresses the efficacy of using the run-walk routine to improve one's racing performance.

This article does not address the practice of run-walking in general; only as it pertains to actual racing performance. Run-walking can be a good option for general health maintenance, and it can be used as a form of interval training to improve racing performance.

First, consider a self-evident fact. Elite and professional runners do not use the run-walk routine to gain an edge when racing. Obviously, if it would help them win prize money, they'd use the technique. This article explains why.

Quote from the **Galloway NYC Running Club**: “Compared to earlier versions of the run-walk-run ratio, you will note that there are no longer any walk breaks longer than 30 seconds. This is because it was discovered with longer walk breaks of 45 sec. or 1 minute, the majority of the benefit was derived during the first 30 seconds of the walk break, and that as runs became longer, it was harder and harder to re-start the legs for the run portion with the longer walk breaks. Remember, these ratios are for long run training, **NOT for races.**” [Note: the underlined and bold text is the running club's, not mine.] See: <http://www.gallowaynyc.org/walk-breaks--the-long-run.html> Note, this is also a hyperlink, just click it.

Note: The Galloway NYC Running Club's 30sec walking break, when training and not racing, is consistent with Prof. Billet's famous, groundbreaking research. See [https://www.ridersite.org/Coach/Articles\\_pdf/Billat-Intervals-Mackenzie.pdf](https://www.ridersite.org/Coach/Articles_pdf/Billat-Intervals-Mackenzie.pdf) This is a hyperlink, just click it.

Now, for an analysis to examine what happens when a racer uses steady running versus a 4:00/1:00 min run-walking ratio in a race.

As a reference, consider a steady running finish time of 9:00 min/mile for a total time of 56:00 min [more precisely 55:53].

If the runner is doing run-walking, he/she must be able to average better than 9:00min/mi during the run phase to make up for the distance lost during the walking phase. To do this, we need to establish a maximum pace our runner can reasonably run during the running phase.

The best way to establish the maximum running speed for any distance is to use the runner's measured  $vVO_{2max}$ . [If you are not familiar with the term “ $vVO_{2max}$ ”, see the appendix below.] Another important factor is time-to-fatigue,  $TvVO_{2max}$ . This time ranges from about 4 mins, for novice runners to about 8 minutes for elite runners. The curve is sinusoidal, peaking at about 6 mins. Essentially,  $vVO_{2max}$  is the fastest pace one can run in 6:00mins.

It's well established that virtually all experienced runners run 10K races at close to 92% of their  $vVO_{2max}$ . Thus, our 100% running reference is  $9:00 \times 0.92 \simeq 8:30$ min/mi. However, in practice, most runners can only do about 4 or 5  $vVO_{2max}$  intervals with 1:00min breaks. So, we'll use  $9:00 \times 0.95 \simeq 8:33$ min/mi; even though it will require the runner to do the equivalent of about 10+ intervals.

And, we'll assume a walking speed of 13:00min/mile. Note: In practice, race-walkers tend to do the walking pace somewhat slower than they are capable of.

Now consider the 4:00/1:00min ratio.  $(4 \times 8:33 + 1 \times 13) / 5 = 9:26$ min/mi. The finish time will be 60:12. Again, had our runner simply run at 9:00min/mi, the time would be 56:00mins.

A note about training for road racing: Research shows that virtually all elite-level racers, running 10K up to marathons, speed up during the last 5% of the race. It's therefore obvious that they were not physically depleted and thus would not have been able to speed up.

Most non-elite runners training for 50mile and 100K races do not train-up to the race distance. They typically train for something like 26 to 30miles. Then, when they run the race, they slow down considerably assuming they are just going to run all day.

Central-Governor, this is the term Dr. Tim Noakes [Considered to be the godfather of modern running science] coined the term to describe the primal part of our brain that is responsible for maintaining our homeostasis when we run. A simple example: We cannot hold our breath and commit suicide. Nor can we run a marathon at our 10K pace. Our proprioception controls our sense of fatigue; is not [I repeat NOT] due to your cardiovascular limit and lactic acid, etc. **A major factor in performance training is essentially that of teaching our central-governor that it is safe for us to run a particular distance, e.g a 10K or marathon.** Your central-governor's job is to protect you, and it is stubborn and very difficult to convince it that running a long time near your  $vVO_{2max}$  pace is safe to do.

Bottom line: When training for road racing you need to improve both:

- Your running-economy [ $vVO_{2max}$ ], so you can simply run or speed-walk easier, and
- Train your central-governor for the race distance, so you can maintain an even race pace for the total distance, plus have a little reserve for the final sprint.

Recall in the first paragraph: "...a form of interval training to improve racing performance.". and the hyperlink to " Prof. Billet's research". Run-walking can effectively be used as a substitute for doing intervals at the track. If training for races longer than 5K, simply do 5 to 10 x 2:00/00:30 minute ratio intervals. [Note, I believe 4:00/00:30 is also a good choice] The 30sec recovery is short to maintain a high lactate level, like that needed for long races. If training for 5Ks and less, increase the recovery to 1:00 to 2:00mins for 200m to 1600m races.

Conclusion:

- Run-walking will not improve one's race time.
- Run-walking can be a good substitute for track interval training, providing the run segment is at one's  $vVO_{2max}$  pace AND the recovery time is 30secs. Do 5 to 10 cycles. Be careful as too many can lead to an injury.
- Run-walking is a good way to do long walks as it gives the walker an occasional break.
- Run-walking is very helpful for non-elite ultra-marathoners. Studies have shown that 5 minutes every hour is effective.

#### **Appendix, $vVO_{2max}$ :**

The  $VO_{2max}$  part of this factor is a measure of the **maximum** amount of oxygen your body can utilize during exercise. It's measured as Milliliters-of-oxygen / kg-of-body-weight / minute. [ml/kg/min]. Typical values for runners range from 65 ml/kg/min to about 85 ml/kg/min. It was initially thought [about 50 yrs ago] that this value could predict a runner's ability. However, it turned out to be rather inconsequential. So, based on good research a new, more accurate measurement was devised,  $vVO_{2max}$ . Note the small "v", it is the velocity [meters/sec] at  $VO_{2max}$ .

$vVO_{2max}$  can be measured on a treadmill. However, since the wind-resistant factor does not exist when running on treadmills, a more useful measurement can be made by running precisely 6:00 mins on the track. This value is more pertinent for training and racing. E.g, running at a 9:00 min/mi pace creates a 6.7 miles/hr wind factor.

This article can be freely disseminated. Questions and disagreements are welcome.