

# Lore of Running by Tim Noakes (1986)

Running, as with life, comes in direct proportion to the amount of effort I exert. Always set another goal after achieving the last. You have not lived in the world of competitive sports until you have fought a battle that is not against an opponent, but against yourself. Too fast an early pace will cause too rapid a breakdown of the runner's dearest commodity – glycogen stores. Age will generally reduce the maximum heart rate, thus heart output and physical performance. Efficient runners glide along with little vertical movement (use shorter strides). Interval training improves efficiency by 9-16%. 27 mph wind will cause a 3-mph reduction in running speed. Similarly, an 8% gradient would slow a runner by 3-mph. 8% of a runner's energy is used to overcome air resistance (at shorter distances), so drafting 1-m behind another runner can save 80% of that energy (2m = 1.66 sec/lap). It is better to accelerate into the wind and decelerate with a tailwind. VO<sub>2</sub> max can only be maintained for a few minutes. A 5-k race is usually run at 94% VO<sub>2</sub> max. Marathon time (minutes) = 5.48 x 10-k time – 28 or 2.11 x half-marathon time. Carbs cause insulin to rise for 60-90 minutes which inhibits fat metabolism during exercise. Cycling is the best cross-training to running with less risk of injuries. 70% of the chemical energy used during muscular contraction is released as heat. Heat acclimatization is fully developed in 7-10 days and retained for 2 weeks. Drink 500 ml/hr (17 oz) during a race. Wet the skin with water to cool during the heat. Newton's rules: train year-round; start gradually; base training with low-intensity, high volume and later peak training with high-intensity, low volume; alternate hard & easy training days (but don't over-train); train the mind; & rest before a race. Achieve as much as possible with the least amount of training ("overtraining is wasted training" = Grete Waitz). Compare the person I am with the person I need to be to accomplish my goals and visualize myself successfully completing those goals. The more detailed the preplanned goals, the more pain you will endure to achieve your goal. In every race there is a crucial moment when the body wants to quit or slow down. Then it needs imagination and mental tenacity to survive the crisis. Otherwise the penalty is defeat. The best altitude training is to live there 22 hrs/day, but train at sea-level. Run the first half conservatively and faster the second half (mental lift to pass others). There is also a boost to know each mile was run at the predetermined pace. Use positive self-affirmation and micro goals to get through a rough patch. Drive the last 6-miles of a course and know it well. Review checklist (bring TP) the day before the race. Light racing shoes can save 3% of the runner's energy, but at a cost of vital cushioning and support. Eat 2 hours before the race or the insulin will work against you in the race. Drink 200 ml of water 5-minutes before the race. You should feel cold at the starting line (the best marathon temp is 55F, cloudy and no wind). Get into a relaxed pace as quickly as possible and run in a group. Everyone is tired at the end. My goals are worth the effort. Drink tea (diuretic) after the race to start urinating again. See a doctor immediately if you did not urinate with 6-hours (kidney failure). Risk for infection is high while in peak shape and immediately after a marathon. You will have a low resting heart rate when well trained, but it will climb when over trained. The ideal running surface is a level dirt road. Stretching reduces risk of injury and improves performance. Injuries are simply my body telling me something wrong has happened (usually worn out shoes or training wrong). Orthotics can cure running injuries (runner's knee) caused by pronation. People who exercise are 50% lower risk of a heart attack. Do not race within a week after the flu or a month after donating blood.