

# Run Fast by Hal Higdon (1992)

Begin with a good slow aerobic base then move to a fast-anaerobic training to develop speed. 100% VO<sub>2</sub> max = 100% MHR, but 50% VO<sub>2</sub> max = 75% MHR. 100% can only be maintained for a few minutes. The optimal runner has high VO<sub>2</sub> max, high lactate threshold & good running economy. To improve endurance train at +75% MHR; train at race pace every other day; & the hard part of the workout should be 40 minutes. Long run Sun; easy run Mon; speed-work Tues; easy run Wed; threshold Thur; rest Fri; & race pace Sat.

Intervals to be run at 95%; threshold at 80%; easy at 70%. Warm up with a jog, stretch, stride, jog. Try a 200m run at race pace 20 minutes before race. Always cool down after a race. Lower stride (less vertical movement = 10% less force to the ground & 9% less energy. Elite runners run at 95 cycles per minute and their stride length is 165% of their inseam. Running 40 miles/week will improve your speed of when you were running 20 mi/week. Increased distance will decrease flexibility. Flex drills = high knees, drum major, knee pull, butt kicker, high heels, skipping, toe walk, bounding, fast feet & double leg hop.

Run for a year and run 15 mi/week before doing speed work. Speed work raises lactate threshold. Speed work can be repeats, intervals, strides, sprints, fartleks, & hills. Repeats = 3x300m fast with 5-minute recovery between. Intervals = 1 min run @ 90% MHR + 1 min recovery @ 70% (start with 5 sets & increase to 10 during season). Intervals help pace & concentration. Log weekly intervals to see improvement. Strides (slow 100m sprints) are for warm up & recovery. Fartleks are random speed play.

There is nothing like competition to provide a level of motivation not experienced in practice. Tempo runs are at a pace just below lactate threshold (probably 20 min @ 85% MHR) [try 15 sec/mile slower than 10k pace]. 5k races are typically run at 95-100% of MHR; 10k @ 90%; half-marathons @ 85% & marathons @ 80%. Typical training season covers endurance, hills & then speed. We spend 12% extra energy going up a hill, but only save 7% coming down. To maintain constant effort, we need to slow down & shorten stride going up a hill. Use the grass going downhill to cushion the impact (140% of flat vs. 85% uphill). Speed up over the crest of the hill and as it levels off at the bottom. Improve downhill running by leaning forward, relax, raise knees, lengthen stride & land on ball of foot.

Strength training should be 10 reps (small weights) of major muscles (legs, hips, trunk, back, arms & shoulders). Push-ups, sit-ups & pull-ups are really good. 50% of our aerobic fitness is lost after 2-3 weeks off; another 25% 2-3 weeks later; and the final 25% after 3 months off. Take 2 weeks to recover for every week off. Be careful when cross-training; ease back into running. The immediate fitness loss (2-3 weeks) is from loss of blood volume (1 pint). Runners regain plasma volume within a week, but red blood cells take longer. As we age, we need to train smarter and be more in tune with our bodies. Endurance fades fast, but returns fast; strength fades slower, but returns slower.