

# Time efficient running - should you run less to run faster

Ever since the marathon boom of the early 1980s, high-mileage training has been the accepted paradigm among middle and long distance coaches. But according to Bruce Tulloh, cutting back the miles and concentrating on quality is not only more time-efficient, it can also produce superior results for all but very elite runners.

In every walk of life there are trends, and in spite of our claims to open-minded scientific principles, this applies to training theories as much as to clothes or automobiles. Let's take mileage, for a start. Back in the 1950s, interval training was perceived to be the only way to success. Then along came Percy Cerutti, coaching Herb Elliott. Herb won the Olympic 1,500m title in a world record time at the age of 21, leading most of the way.

This was evidence enough for many people to switch away from boring interval training on the track and go running up sandhills instead. Almost simultaneously came the Lydiard system, based on running 100 miles a week, which was the basis of the gold medals and world records of Peter Snell and Murray Halberg, and this became the key to success.

The American physiologist David Costill established the fact that at up to about 80km a week there is a straight-line relationship between mileage per week and improvement in VO2max, which added scientific credibility to practical experience. From the start of the marathon boom in the 1980s, high mileage has been the theme of all middle and long distance coaching. Exceptions have been rare, partly because coaches have not dared to go against the trend, and partly because, for professional marathon runners with all day to train, mileage is the answer.

However, what applies to full-time marathon runners does not necessarily apply to those of us with less time to train. What Costill did not do (because there are too many variables involved) was to compare the results of, say, 50km per week of intensive training against 80km of steady running.

Tim Noakes, whose book *The Lore of Running* remains the bible of most distance coaches, sets out several basic principles, one of which is always do the minimum amount of training, which is not as paradoxical as it may appear. What he means is: do the minimum amount you need to achieve your goal. If you don't reach your goal, you can always do more. Let's take a couple of examples. Steve Jones broke the world marathon record in a time of 2:08.05, and later ran a 2:07.13 marathon, on about 80 miles a week. No European runner has improved much on this time, even though some have gone to 150 miles a week or more.

Looking at the 5,000m and 10,000m distances, when I broke the European record for three miles, my average mileage for the previous ten weeks was 28 miles a week, including warm-ups and races. The training was hard, but it didn't take much time, with sessions such as 15 x 400m with a 50-second recovery, or 2 x 2,000m fast. An actual week of training during that summer is shown below:

Mon: warm-up, 2,800m time trial, on grass;  
Tues: 6 x 880yd on track, averaging 2mins 10secs;  
Wed: 8 x 700m on grass;  
Thurs: warm-up, fast strides, 2 x 440yd in 56 and 58 seconds;  
Fri: rest  
Sat: warm-up, 2-mile race.

(Total miles for the week = 30)



In the following three weeks I ran fewer miles but had 10 races (mostly club races) where I led all the way. If I could run 13min 12sec for three miles on 28 miles a week, while working full-time, then this kind of training is going to be perfectly adequate for an athlete trying to break 30 minutes for 10k – and more than adequate for someone trying to break 40 minutes! You may argue that natural ability has a lot to do with these performances, but all anyone can do is fulfil their genetic potential. In my case, even though I doubled my mileage in later years, I merely equalled that time, never improved on it.

In 2004, a study was published which showed that a three-days-per-week training program produced significant gain in aerobic power. The runners were put onto a training regime that consisted of just three carefully structured running workouts per week, and as a result showed a marked (4.8%) improvement in their VO2max. In a follow-up trial, 25 runners were put on to a three-days-per-week marathon training schedule. After 16 weeks, 21 of the runners started the race; all finished, 15 with personal bests, and four of the remaining six ran faster than in their previous marathon.

A trial like this is not, strictly speaking, scientific evidence, because the numbers were small and there was no control group. Several of them were first-timers, and we have no information about whether the participants were aiming for sub-three hours, sub-four hours or sub-five hours. Almost any group of runners will show improvement if they are part of a closely monitored program, particularly those at the slower end. The fact that they showed an average of 8% reduction in body fat suggests that they were not very fit to start with. What was significant, though, was that the low mileage did not prevent them from running a full marathon. Based on their own ability, they were given schedules with one endurance session, one tempo session and one speed session per week. They were also encouraged to do two days a week of cross training, such as cycling or strength training.

The point about **training** is that it **is specific to the event**. If you want to run a 31-minute 10k (i.e. at five-minute mile pace) then you have got to become really efficient at running at that pace. You can work on your oxygen uptake and lactate tolerance by running at a faster pace, and you can work on your endurance, heat tolerance and mental strength by running longer distances, but **speed endurance is what counts**.

If there is a single session that I would nominate as the key to success at 5k and 10k, it is 'long rep' training – sessions like 3 reps of 1 mile or 5 reps of 1,200m for the 5k runner, and 5-6 reps of 1 mile or 4-5 reps of 2,000m for the 10k runner.

### 10k program

When you are preparing a training schedule, the objectives should always go at the top of the page. For a 10k runner these should be:

- Increase aerobic fitness;
- Increase speed endurance;
- Maintain or increase endurance;
- Avoid injury.

(Approx.) Conversions:  
1 mile = 1.609 metres  
1 km. = .621 mile  
e.g. (10K = 6.21 miles)

A time-efficient program would look like this:

Week 1 (no race)

- Tues: 10 mins warm-up, 10 x 45 secs uphill fast, 10 mins warm-down;
- Thurs: 6-mile run, including 3 x 8 mins fast, 2 mins jog (10k pace);
- Sat: 10 mins warm-up, 2 x 15 mins threshold pace (2 mins recovery);
- Sun: 8-10 mile run, starting slow, finishing faster.
- Total mileage: 24-26

*Threshold pace* = a hard pace, with unvarying effort, but one can be sustained for 15-20 mins.

Breathing Patterns: 2-2 is a popular

Week 2 (racing week)

- Tues: 1-mile jog, 2-3 mins stretching, 12 x 400m at 5k pace (60 secs recovery), 800m warm-down;
- Thurs: 5-mile run, including 8 x 2 mins fast, 1 min slow;
- Sat: 15 mins warm-up, 8 x 150m fast stride, 5 mins jog;
- Sun: warm-up, race 5-10 miles, warm-down.
- Total mileage: 21-26

This program would run for 8-10 weeks, with the idea of making each two-week block harder than the one before. In the racing week the focus is on performing well in the important races.

**Marathon program:** For a marathon runner, the priorities would be:

- Increase endurance;
- Improve aerobic fitness;
- Avoid injury.



A time-efficient two-week program would look like this:

- Week 1 (no race)
- Tues: warm-up, 8 x 800m on track (90 secs recovery jog) at 5k pace;
- Thurs: 10 mins warm-up, 2 x 20 mins at threshold pace;
- Sat: 10 mins warm-up, 6 x 1 mile off road, (3 mins recovery) at 10k pace;
- Sun: long run, 18 miles; 6 miles easy, 6 miles at marathon pace, 6 miles a bit faster.
- Total mileage: 41 approx.

**Week 2 (racing week)**

- Tues: warm-up, 5 sets of [600m at 5k pace/200m jog/400m at 5k pace];
- Thurs: 8-10 miles run, with 6 x 5 mins fast interspersed with 2 mins slow;
- Sat: 5 miles fartlek, off road;
- Sun: warm-up, 10-mile or half-marathon race, warm-down.
- Total mileage: 38 approx.



This program would start ten weeks before the race, giving four turns of the two-week cycle, followed by a two-week taper. The long 'progressive' runs would be 15, 18, 18 and 20 miles in those four cycles.

**The advantages of low-mileage training:**

Low-mileage training saves time – all the training is purposeful and there's also less likelihood of injury through over-use. However, there are drawbacks including:

- Decreased general endurance, leading to;
- Increased 'vulnerability' – i.e. a more rapid loss of fitness when training is missed;
- An increased chance of injury due to running hard on stiff muscles.

In defence of the low-mileage program, it's no problem to have an easy day if you are still tired or stiff from the previous session. All training programs have to be related to the athlete's physical status.

The additional easy runs, which many athletes incorporate for therapeutic reasons, could equally be replaced by a walk, a swim or a massage. The running surface is also of crucial importance, because doing every session on the road will increase the chances of injury. Only two road sessions should be performed each non-race week, and using a treadmill in the winter or a synthetic track surface will help decrease impact stress.

Below are a few additional **NWA** ideas:

- It is suggested that you review the articles in your own time on the NWA web site: [www.nwaswimaths.com](http://www.nwaswimaths.com)

- **PROGRAMS**

- **Athletics Programs:**

Every athlete is an experiment of ONE ... each is different and should select and pursue programs that contribute to their personal goals. A few simple examples ...

- 4 x 1Km
- 400 Metres Control Test
- Dynamic Warm-Up
- Measuring Your Progression
- Training Diaries

**What does not kill you  
makes you stronger**

**General Programs:**

- Are We Really Challenging Our Athletes?

There are many, many more to chose and review. Books to read: e.g.

**The Perfect Mile**



**The Greatest**



**If you've got the time .. I've got the resources**  
Books  
DVD's  
Your controlling factor is your commitment

## Building Your Capacity: An Introduction

Presented are three (3) simple endurance enhancing runs / activities that can be selected from and completed in your own time, in addition to weekly group training.

**DO NOT** run alone; be sure your parents know all details of your movements.

Keep a record of your times over courses that you can repeat; your records (pb's) are your measure of your progress.

Try to complete two (2) extra runs each week .. these runs will build your capacity to:  
- perform better at cross country throughout the winter;  
- build your strength and capacity to better perform as a track athlete in the spring / summer.

If you have any doubts or questions, remember I am only a phone call or email away.

Building your own endurance base will enable us to train in a more precise manner at our (group) sessions; you do not need me to be present for all runs, especially LSD runs.

**Key:** **LSD** = Long Slow Distance (comfortable runs, "conversational" pace; perhaps with a limited number of surges);  
**Fartlek** = continuous runs of variable pace: e.g. jog - surge (fast striding) - jog recovery, etc. w/b = walk-back;  
**Stretches** = separate sheet ....  
(don't stretch cold muscles; find and apply the 2-3 stretches that best suit your needs)

**All runs** should be preceded by a warm-up and followed by a warm down.

**Warm-Up:** Short Jog + 2-3 stretches + Drills + 2-3 accelerations (50-70m), w/b.

**Warm Down:** Short Jog + 2-3 drills + 2-3 stretches + walk

**1. LSD: 20 / 25 / 30 / 45 / 60 Mins.**

Over a period of 3-4 weeks, try to increase the length / duration of your LSD runs. It will not be long before you can run 60 minutes continuous.

**2. Fartlek Runs: 30 / 40 / 50 Mins.**

e.g. Surges: 2.1 10 / 15 / 10 / 15 / 10  
2.2 5 / 10 / 15 / 20 / 15 / 10 / 5  
2.3 20 / 15 / 10 / 15 / 20

Write the surges you intend on the back of your hand; as you grow in confidence you will select and apply surges according to your needs / the course you are running;  
e.g. you may sight and run fast up a hill, to a telephone pole or tree, etc.

**3. LFR's: Longer, Fast Repeats** .. select a course on which your runs can be repeated.

Warm-Up .. complete 2-4 x the course **FAST**, timing each repeat and recovery.

Aim to improve your repeat times and/or reduce your recovery times.

**Course distance:** you select, but can be in the range 600 - 1000m

**Think ahead .. Plan your time !!**

### Weekly Plan

(e.g. **Run** .. Rest .. **Run** .. **Run** .. Rest .. **Run** .. Rest, *or*, **Run** .. **Run** .. Rest .. **Run** .. Rest .. **Run** .. Rest)

Your Recovery Sessions (Rest Days) are your most important training sessions;

**You grow stronger when you are resting.**

Rest Days may be complete rests **or** an alternative activity (recreational or sporting).

Discuss your intentions (your weekly / monthly program).

Your aim must be to establish a lifestyle routine that contributes everyday to success.

***It is not just about working harder .. it's about working smarter.***

There is time for almost everything **if** you plan your time.

(I suggest you keep a simple training diary to help plan your runs and record your efforts;

Group sessions will focus upon speed, hills, time trials, and intervals.)

### Read

*What is "the stitch"?*  
Stretches  
(informal practice?)

### Drinks?

- Frequency
- Types
- During runs

**A  
Modified  
Program  
will be  
presented  
to  
younger  
and/or  
less  
experienced  
runners**

**Note!!** While some other sports/activities can complement or assist your performance, they should **not** often be viewed as a substitute for runs.

**No opportunity is ever wasted ... others take up what you let pass**

# Hills

There are 3 major benefits of sprinting hills for a distance runner.

1. Mental toughness.
2. Stronger push off
3. More flexible hips



Including hill sprints in your program will give you all three of these. And, here's how they will help you to run faster.

**Quality** is more important than Quantity; it's not so much *what you do*, but *how you do it?*

First, **mental toughness**. There is probably nothing a distance runner dreads more than a hilly course. Seeing that hill looming ahead of you in a race can make your heart sink because you know that your heart rate is going to shoot up and your pace is going to suffer as soon as you start up the hill. But, hey, if you've sprinted up hills, you will know that you can conquer one at a lesser pace. This mental shift alone will improve your performance and make hill sprinting worthwhile.

But, that's not all. Another key factor in your distance times is your **stride length**. The farther each stride goes, the less strides you have to take in your run and the faster you will finish. So, what does hill sprinting have to do with this?

**First**, hill sprinting forces you to lift your knees high which increases the flexibility of your hips. More flexible hips equal longer stride lengths

Other resistance / power development activities are available on request; nwa@iinet.net.au

**Second**, hill sprinting strengthens your ankles enabling you to push off the ground with more force on each stride. This propels you forward farther on each stride. Again, longer stride length.

## Sample Sessions for Developing Runners (Quality is more important than Quantity)

Gen. Conditioning: 1-2 sessions/week; Pre-Comp: 1 / week

Session assume a thorough warm up and warm down .. at least 15 minutes of drills, jog, accelerations; remember the different focus of a w/u and w/d ... (Hint: what do you do after a w/u? What do you do after a w/d?)

### Session 1 (General Conditioning Phase)

2 x 4 x 150m; 70-80%; w/b; 5-8 mins.  
3-5% gradient  
3-5%; w/b; 5-6 mins. between sets

i.e. select a 3-5% up-slope; firm surface;  
3% = 3m rise in 100m  
4 runs: walk-back recovery (w/b) .. repeat,  
i.e. a second set of 4 runs;  
5-8 mins between sets

### Session 2 (General Conditioning Phase)

2 x 4 x 250m; 70-80%; walk-jog back:  
6-10 mins; 3-5 % gradient

**Session 3**  
(General Conditioning Phase)  
150m (80-85%), then uphill for 100m (fast)  
walk-jog back .. repeat x 5  
(pulse after recovery should be 120 bpm .. recovery accordingly)

### Session 4 (General Conditioning Phase)

Short Hills .. faster  
2-3 x 5 x 40-60m; 90%; 5-8%;  
w/b; 6-8 mins. between sets

### Sessions 5 (Pre-Competition Phase)

2 x 3 x 120m; build speed to 90%  
walk-jog back; 3-5%  
6-8 mins. between sets

### Session 6 (Pre-Competition Phase) Short-Fast Hills

Plan your sessions to meet what you require and aim to achieve; **Pre-Comp phase** .. near or complete recoveries; A quality session once a week or fortnight.

Vary your session within the general guidelines; e.g. a very good session is to find a slope where you can run fast, upslope for 100-150m, then jog or run easily along a relatively flat surface (80-100m), and then run upslope again (100-150).

Make it challenging .. accept the challenge; plan your session; run your runs and recoveries .. make adjustments to reflect your needs and experience.

### Quality Runs.

Every athlete is an experiment of one .. choose or modify the above

Wouldn't it be great to be young again, but know what years have taught