

Marathon Training

Pushing The Limits

The marathon, like the Ironman Triathlon, has long been both a major competitive event for athletes from club to Olympic level and a major challenge for those who simply wish to test their fitness and the results an athlete achieves will be a reflection of two overriding factors. These are the person's average weekly mileage as taken over the last three to four years and their capabilities over 10k with its natural relationship to basic speed.

This means any runner contemplating the marathon should have a clear understanding of what training to run 42.2 km will entail and that their weekly volume of training will have the most significant bearing on their result because their 10k times are unlikely to change much in the short term.

Defining the Marathon Runner.

In general most marathon runners would fall into one of three types. Type A is the person who runs less than 60 miles or 100 kms per week, Type B is someone who runs 70 to 90 mile or 110 to 145 kms per week and Type C is the typical marathon runner who runs 95 to 120 miles or 150 to 200 km (or more) per week. It is the training volume that, provided the training programme is properly constructed, develops stamina- the significance of which was discussed in the Stamina Indicator chapter.

Studies done by Tony Benson have revealed that a Type A athlete normally has a stamina indicator of 4.84 to 4.92 between their 10k time and their marathon time. This means a runner capable of 32 minutes for 10k will run between 2:35 and 2:38 hr. A Type B runner's stamina indicator will normally be between 4.69 and 4.77 so a 10k time of 32 minutes would indicate a marathon time of 2:30 to 2:33 hr while a stamina indicator of 4.54 to 4.62 would be typical of a Type C runner and so this athlete could expect a time marathon between 2:25 to 2:28 hr.

As can be seen from these figures weekly volume can make approximately 10 minutes difference to a marathon result. On the other hand the athlete's 400m capability is also significant because, as Table 22.1 below shows, the athlete with the lowest volumes will need the greatest speed and a slower athlete will have to run more miles or kilometres to achieve the same results over 10k initially and then, ultimately, the marathon.

Table 22.1 uses three types of runners, all of whom have run 32:00 for 10k to illustrate this point. Type A lacks stamina so needs 55 second 400m speed to run 10k in 32 minutes. Type B has the stamina of a good club runner can run a 32 minute 10k time off 59 seconds and Type C, who could well be an elite female marathon runner, can run 32 minutes off a 59 second 400m. If all three athletes were training for the marathon the Type C runner would be capable of a time that is 10 minutes faster than the Type A runner.

Table 22.1

	Type A Less than 60 mile or 100k per week	Type B 70-90 mile or 110 to 140km per week	Type C 95 to 120 mile or 150 to 200k per week
400m	55 secs	59 secs	63 secs
10k	0:32:00	0:32:00	0:32:00
Marathon	2:35:00	2:30:00	2:25:30

Type A would be best identified as a male club runner or triathlete because an adult male middle distance runner would need to be much faster than 55 seconds for 400m and its highly unlikely a female athlete could run 32:00 for 10k off a volume of less than 60 miles or 100 kms per week regardless of how fast she was. Secondly any female running 55 seconds for 400m is more likely to be competing in middle or long distance events at a high level than running marathons!

Type B could be an motivated male fun runner, an average club distance runner or a talented female runner because a 59 second capability for 400m could be considered excellent for a female marathon runner but very ordinary for any type of male runner.

Type C is most probably an elite female runner because its most unlikely any male athlete as slow as 63 seconds over 400m would be running in excess of 100 miles or 160 kms per week but if he were 2:25 to 2:26 hr is what he should expect.

At this point it should be noted that while Tony's studies did not uncover any runner producing a world class marathon result, ie sub 2:10hr, off a training regime of less than 60 miles per week some very fast marathons have been produced by Type B runners. Steve Jones (2:07:13), for example, reputedly only run 80-90 mile (130-140k) but he had also run 3:42 for 1500m which equivalent to a sub 4-minute mile. More importantly the runner who trains 'short and fast' for the marathon rarely runs more than one or two world class, ie, sub 2:10 hour, marathons.

The vast majority of fast marathon times come naturally from the Type C runner. However there are two quite distinct Type C runners. Type C1 is the 10k/marathon type who is also quite fast over shorter distances ie 1500m, 3k and/or 5k. Athletes such as Ingrid Christiansen (30:13/2:21:06), Alberto Salazar (27:25/2:08:51? and whose intensity was more at the Type B level), Carlos Lopes (27:17/2:07:12), Frank Shorter (27:51/2:10:30) and Steve Moneghetti (27:48/2:08:16) all fit this category. Equally, as unlikely as it sounds, so does Bill Rodgers (2:09:15) because his 10k time of 28:06 suggests he could have run a faster marathon than he did.

Type C2 is the 'true' marathon runner. Derek Clayton (2:08:34), Tegla Loupe (2:20:43), Rob De Castella (2:07:50) or Ronaldo da Silva (2:06:05) fit this type of runner. Clayton's best 10k was 'only' 28:45 yet he ran 2:08:34, Loupe has not run faster than 31:00 for 10k but she has broken Christiansen's world record. Da Silva is known to have run sub 28 minute 10k road times but there is record of him running faster than 27:40 so his 10k time is probably similar to Moneghetti's and Shorter's 10 k times but slower than runners like Salazar, Lopes etc.

However it is the comparison between Robert De Castella and Bill Rodgers that most clearly illustrates the difference between Type C1 and C2 runners. Career wise Rodgers and De Castella had identical 10k times yet 'Deeks' ran 2:07:50 while Rodgers never run below 2:09:15.

It is possible to get a further clue to the type of training needed to maximise an athletes potential by comparing the training regimes of the three great Australian marathon runners Derek Clayton, Robert De Castella and Steve Moneghetti because they were of similar basic speed, around 54-56 seconds for 400m, and trained almost identically in terms of annual volume. Derek Clayton differed from the other two in that he ran consistently at what has been described as 'nerve shatteringly fast' speeds. He rarely ran hills and did virtually no interval or repetition running. De Castella and Moneghetti however trained almost identically except for Tuesday. De Castella was more inclined to do a threshold workout involving a longer fast run or long hill repeats while Moneghetti used a shorter fast MVO2 fartlek session. So while

Clayton regularly ran long and fast, De Castella added at one high quality threshold session to his week but none of Moneghetti's fast workouts exceed 20 to 22 minutes.

These are important differences because, despite having inferior times to Moneghetti over every distance from 3k to 21.1k, De Castella was the superior marathon runner in terms of time and results. When one considers that De Castella was able to run 2:07:50 for the marathon off a 10k of 28:04 and a half marathon of around 1:02 hr it suggest that Moneghetti's 10k of 27:48 and a 21.1k time of 1:00:06hr should have formed the basis of a sub 2:06:30 hr marathon, yet his current PR is 2:08:16. Seen in these terms Clayton's strength was even more amazing because he managed to run 2:08:34 hr off a PR of 28:45 for 10k.

It also suggests the athlete gets what he pays for in the sense that Clayton's 400m best was around 56 seconds, Moneghetti's around 55 seconds and De Castella's around 54 secs. Clayton had the best stamina indicator (4.47) between his 10k and marathon times, De Castella the second best (4.56) and Moneghetti (4.61) had the lowest. However it also means a lack of attention to speed will have a direct bearing on ultimate performance - which meant Clayton's career best, sensational as it was in the 1960's, was not as fast as the other two.

Genetics is another factor that probably influenced the performance of these runners. Of the three runners De Castella had the best 3k and 5k times as a junior, being about 30 seconds faster than Moneghetti was by 20 years of age. Clayton started running much later than the other two so his junior times, if any, are not relevant. On the other hand Moneghetti still has faster times at 5000m, 10,000m and 21.1k than De Castella.

Speed was mentioned earlier. It is a critical factor because, as every coach knows, an athlete's 800m speed is related to his capability at 400m. The 800m, in turn, affects the athlete's performance at 1500m, 3k, 5k and 10k which leads onto the half marathon and the marathon. Thus 'speed is useless without endurance & endurance is useless without speed'. From many years of coaching experience and observation Tony suggests an athlete, male or female, targeting the various marathon times listed below would need the capacity to run the times for 400m and 10k very close to the ones listed next to the marathon time. It should also be noted that the times relevant to the C1 type runner are not included because "Run With The Best" does not believe this approach is in the athlete's long term best interests.

Example 1. A 2:45 marathoner

Type A: 400m in 58-59, 10k in 34:00
Unlikely due to lack of volume.
Type B: 64-65/400m, 35:15/10k
Type C2: 70-71/400m, 36:10/10k

Example 1. A 2:30 marathoner

Type A: 400m in 52-53, 10k in 31:00
Unlikely due to lack of volume.
Type B: 58-59/400m, 32:00/10k
Type C2: 64-65/400m, 33:00/10k

Example 1. A 2:24 marathoner

Type A: 400m in 50-51, 10k in 29:45
Unlikely due to lack of volume.
Type B: 56-57/400m, 30:45/10k
Type C2: 61-62/400m, 31:40/10k

Example 2. A 2:18 marathoner

Type A: 400m in 48-49, 10k in 28:30.
Unlikely except by a strong male MD runner.

Type B: 53-54/400m, 29:30/10k

Type C2: 59-60/400m, 30:20/10k

Example 3. A 2:12 marathoner

Type A: 400m in 46-47, 10k in 27:14
Irrelevant. Fun runners don't run these times

Type B: 51-52/400m, 28:10/10k
Unlikely due to insufficient volume

Type C2: 56-57/400m, 29:00/10k

Example 3. A 2:06 marathoner

Type A: 400m in 44-45, 10k in 26:00
Irrelevant. This is a male middle distance runner.

Type B: 48-49/400m, 26:55/10k
Unlikely due to lack of volume

Type C2: 52-53/400m, 27:40/10k
2:06 hr has been surpassed.

Example 4. A 2:03 marathoner

Type A: Not relevant

Type B: 48-49/400m, 26:15/10k
Unlikely due to lack of volume

Type C2: 52-53/400m, 27:03/10k
Definitely possible

How close is the world to a 2:03 hr marathon? Tony Benson does not think so. Up to now only a few runners (Clayton, De Castella and da Silva are three definite examples) aiming for fast marathons have really zeroed in on their event requirements in the way that the track athletes have. Once more 'fast' 10k runners adopt this approach times will drop all the way until the 2 hour barrier- which could be done by a runner with PR's of 50-51 seconds for 400m and 26:23 for 10k- is broken. Equally the women's record can go to 2:18 hr at any time because there are females currently capable of running sub 60 seconds for 400m and sub 30:20 for 10k.

Training for the Marathon.

Before suggesting training regimes for the marathon it is best to find a model that gives the athlete the greatest chance of both running fast and running fast over many years. In this context an aspiring marathon runner seek out a model that guarantees they will not only run fast but that they will run consistently over a 5 to 10 year period in the way the two best Australians of recent time, Robert De Castella and Steve Moneghetti, have done because, if an athlete is to train for the marathon, it is preferable they also have lengthy careers rather than produce one or two significant performances and then disappear from the elite rankings.

Basically the system that produced these results for De Castella and Moneghetti was an unvarying weekly routine that centred on high weekly volumes, a long 17 to 22 mile (27 to 35k) Sunday run, a hard run or race on Saturday- the races might be 8k-16k cross country or 10k to 21.1k road races or 3k to 10k

track races - and a further two days of fast hard running. The rest of the 12 to 14 workouts each week comprise steady runs at aerobic conditioning pace, usually the high end pace around 80%, or aerobic recovery pace if tired.

Is it possible to suggest a superior training model from what has been discussed so far in this chapter? The answer is 'yes' and it is probably the De Castella model because while its possible someone with 54 second speed who followed Clayton's regime could theoretically have run a sub 2:06hr marathon, the same regime resulted in Derek having many serious injuries - any of which could have forced most athletes into premature retirement. On the other hand Moneghetti's programme clearly maximised his 10k and half marathon at the expense of his marathon time.

The model should have one additional component however. With the marathon heading towards 2:04hr anyone contemplating racing it should be paying as much attention to developing their 400m speed as any middle or long distance runner. Interestingly, under Tony Benson's guidance, Moneghetti trained more like an 800m-1500m runner during his early teenage years, which, in combination with a later programme that was more long distance than marathon orientated, probably laid the basis for his superior results at 5k, 10k and 21.1k times.

One workout per week, therefore, should be orientated towards speed just as it has been recommended for all middle and long distance runners and it would be worthwhile for the reader to review pages 46 to 48 of this book. This could be as simple as including 4 to 8 laps (1600m to 3200m) on a track sprinting for 80m on the straight and jogging or floating the 120m around the bend. If this workout was scheduled on Monday evening it would complement a longer threshold type workout on Tuesday such as 50 to 65 minutes at 85-87% or 35 to 50 minutes alternating a fast 3 minute or 1k at 90-95% effort or 5-10k pace with a slower 2 minute float recovery which should be run just slow enough to allow the athlete to repeat the next 3 minute effort at the required pace or effort.

Training Programmes.

Before beginning to detail the training programme "Run With The Best" strongly suggests that every third week should be an "easy" week to allow recovery. How 'easy' the week is will depend on the strength and experience of the athlete- and it should be left to the athlete to decide this. This principle is also more applicable to athletes on the higher level programmes because the lower level programmes have a great deal of recovery in every week.

The recovery week should also contain certain 'tests', ie, a 3k at 95-97% or 10 minutes run at 92-95% and an even paced 400m. In the former the aim is to run 3k as fast as possible but without the final 400m sprint that would be needed in a race or to run further in 10 minutes while keeping heart rate below 95%. The time or distance can then be used to compute aerobic and anaerobic training speeds for the next two weeks. With the 400m trial the athlete aims run each 100m in the same time. The 400m time is an excellent indicator of the condition of the athlete's muscular condition. A slower than normal time is an indicator of muscle fatigue. In addition to the time trials the long run should be done on Saturday so a rest day can be scheduled for Sunday. These recovery weeks are the ideal time for the extra long and/or fast long runs.

A sample recovery week.

Monday: (am) Rest or easy running
(pm) Rest or easy running
Tuesday: (am) Rest or easy running
(pm) Test run

Wednesday: (am) Rest or easy running
 (pm) Rest or easy running
 Thursday: (am) Rest or easy running
 (pm) Test run
 Friday: (am) Rest or easy running
 (pm) Rest or easy running
 Saturday: (am) Long Run (This could also be an ultra long run, ie, 15 to 45 mins longer than normal or a fast 27-37k or 17-22 mile race pace run)
 Sunday: Rest or easy running

Obviously the stronger the runner the more running they will do in the week. However the volume of work should not compromise the twin objectives of ensuring recovery and establishing the athlete's date fitness level.

When it comes to training for the marathon the athlete should plan their programme from the date of the race and work backwards dividing the time they have into four periods. Ideally the athlete will plan a 10 weeks of specific preparation as a lead up to the race. Prior to the 10 weeks of specific preparation period the athlete should plan a 6 to 9 week general preparation period and, if the time is available, this should be preceded by a basic conditioning period. The basic conditioning period can be of any length. The fourth period must be a rest and recovery period after the race that lasts at least 6 weeks and begins with a week of virtually no running and gradually increases in volume and intensity until the athlete is capable of training as normal.

One point that may need to be re-emphasised is that the training programs presented below are based on the principle that the weekly routine is based on two weeks as shown followed by a recovery/time trial week as outlined above.

A sample programme for athletes running about 6 hours (70-90k or 40-55 mile) or less per week

	Basic Conditioning	General Conditioning	Specific Conditioning
Mon:	Rest or run easily	Rest or 30 min easy run	Rest or 30 min easy run
Tue:	Build up to running 60 mins @ 70-80% effort	60 mins including 35 to 50 mins @ 85-87% MHR	60 mins including 35 to 50 mins at marathon race pace (Wk 1) or 25 to 35 mins alternating 3' @ 5-10k pace or 87-92% and 2' fast jog recovery (Wk 2).
Wed:	Rest or run easily	Rest or 30 min easy run	Rest or 30 min easy run
Thur:	Build up to running 60 mins @ 70-80% effort.	60 mins including 25 to 35 mins alternating 3 mins @ 5-10k pace and 3 min brisk jog recovery. If doing this on an undulating or hilly course run 3' @ 92-95% and 2' @ 70-75%.	45 mins including 17 mins alternating 2 mins @ 5k pace or 92% and 1 min fast jog recovery (Wk 1) or 10 x 200m with 200m fast jog recovery (Wk 2). If doing the week 1 workout on an undulating or hilly course run 2' @ 87-92% and 1' @ 80-85%. The week 2

			workout could also be done on a 2-4 degree incline.
Fri:	Rest	Rest or 30 min easy run	Rest or 30 min easy run
Sat:	Long Run. Build up to 90 mins.	Long Run. Build up to 2 hrs. Occasionally run for the estimated race time. See Recovery/TT week notes.	2 hr long run. Start easily but increase the pace until to 75-80%. If feeling strong run the last 5-10k or 3-6 mile @ goal marathon pace.
Note: If racing on Saturday afternoon run 6 x 200m @ 1500m to 3k pace on Thursday evening and rest or run 15 to 45 mins easily on Saturday morning and do the long run on Sunday.			
Sun:	Rest or run easily	Rest or 15-30 mins including 10 x 80m @ 400m pace with an easy jog back recovery	Rest or 15-30 mins including 10 x 80m @ 400m pace with an easy jog back recovery.

A program for athletes running above 8 hours (100-120k or 60-75 mile) per week at least 30 times per year.

	Basic Conditioning	General Conditioning	Specific Conditioning
Mon:	(am) Rest or 30 min easy run (pm) 30-45 including 10 x 80m @ 400m pace with an easy jog back recovery	(am) Rest or 30 min easy run (pm) 30-45 including 10 x 80m @ 400m pace with an easy jog recovery	(am) 30 min easy run (pm) 30-45 including 10 x 80m @ 400m pace with an easy jog recovery
Tue:	(am) Rest or 30 min easy run (pm) 45-60 mins including 35 mins @ 85-87%	(am) 30 min easy run (pm) 60 mins including 50 mins @ 85-87% (Wk 1) or 35 mins alternating 3' @ 5-10k pace or 92-95% with 2' fast float recovery (Wk 2)	(am) 30 min easy run (pm) 75 mins including 65 mins @ marathon pace (Wk 1) or 10 x 1k @ 10k to marathon pace with 500m float recovery (Wk 2). Week 2 could also be done as 10 x 3' @ 87-92% with 2' float recovery
Wed:	(am) Rest (pm) Rest or 30-60 mins easily	(am) Rest (pm) 45-75 min easy run	(am) Rest or 30 min easy run (pm) 45-75 min easy run.
Thur:	(am) Rest or easy run (pm) 60 mins including 35 mins @ 85-87%	(am) 30 min easy run (pm) 60 mins including 5 x 800m @ 5-10k pace with a fast 200m float recovery (Wk 1) or 8 x 400m @ 3-5k pace with fast 200m float recovery (Wk 2). If no track is available run 17 mins alternating 2' @ 3-5k pace or 92-95% and 1' fast jog recovery.	(am) 30 min easy run (pm) 45 mins including 8 x 400m @ 3-5k pace with a fast 200m float recovery (Wk 1) or 10 x 300m on a 2-4 degree incline with a brisk 300m jog back recovery (Wk 2) If no track or hill is available run 17 mins alternating 2' @ 3k pace or 95% with 1' fast jog recovery.

Fri:	Rest	Rest or 30 min easy run	Rest or 30 min easy run
Sat:	(am) Race or a Hilly Cross Country type Workout (pm) Rest	(am) Run 4 mile or 7k over a hilly cross country type course. Surge all the hills at 100% and try to keep the recovery running as fast as possible. (pm) Rest	(am) Run 4 mile or 7k over a hilly cross country type course. Surge all the hills at 100% and try to keep the recovery running as fast as possible. (pm) Rest or 30 min easy run
Note: If racing on Saturday afternoon run 6 x 200m @ 1500m to 3k pace on Thursday evening and rest or run 15 to 45 mins easily on Saturday morning.			
Sun:	Long Run. Build up to 2 hrs.	(am) 2 hr long run. Start easily but increase the pace until to 75-80%. If feeling strong run the last 8-13k or 5-8 mile @ goal Marathon pace.	(am) 2 hr long run. Start easily but increase the pace until to 75-80%. If feeling strong run the last 15-20k or 10-12 mile @ goal Marathon pace.

A program for athletes running above 10 hrs (160km or 100 miles) per week at least 20 times in the year.

	Basic Conditioning	General Conditioning	Specific Conditioning
Mon:	(am) 30 min easy run (pm) 30-45 including 10 x 80m @ 400m pace with an easy jog back recovery	(am) 30 min easy run (pm) 30-45 including 10 x 80m @ 400m pace with an easy jog recovery	(am) 30 min easy run (pm) 30-45 including 10 x 80m @ 400m pace with an easy jog recovery
Tue:	(am) 30 min easy run (pm) 45-60 mins including 35 mins @ 85-87%	(am) 30 min easy run (pm) 60 mins including 50 mins @ 85-87% (Wk 1) or 35 mins alternating 3' @ 5-10k pace or 92-95% with 2' fast float recovery (Wk 2)	(am) 30 min easy run (pm) 75 mins including 65 mins @ marathon pace (Wk 1) or 10 x 1k @ 10k to marathon pace with 500m float recovery (Wk 2). Week 2 could also be done as 10 x 3' @ 87-92% with 2' float recovery
Wed:	(am) Rest or 30 min easy run (pm) 30-60 mins easily	(am) Rest or 30 min easy run (pm) 30-60 min easy run	(am) 30 min easy run (pm) 60 min easy run.
Thur:	(am) 30 min easy run (pm) 60 mins including 35 mins @ 85-87%	(am) 30 min easy run (pm) 60 mins including 5 x 800m @ 5-10k pace with a fast 200m float recovery (Wk 1) or 8 x 400m @ 3-5k pace with fast 200m float recovery (Wk 2). If no track is available run 17 mins alternating 2' @ 3-5k pace or 92-	(am) 30 min easy run (pm) 45 mins including 8 x 400m @ 3-5k pace with a fast 200m float recovery (Wk 1) or 10 x 300m on a 2-4 degree incline with a brisk 300m jog back recovery (Wk 2) If no track or hill is available run 17 mins alternating 2' @ 3k pace

		95% and 1' fast jog recovery.	or 95% with 1' fast jog recovery.
Fri:	Rest	30-45 min easy run	30-60 min easy run
Sat:	(am) Race or a Hilly Cross Country type Workout (pm) Rest	(am) Run 4 mile or 7k over a hilly cross country type course. Surge all the hills at 100% and try to keep the recovery running as fast as possible. (pm) Rest or 30 min easy run	(am) Run 4 mile or 7k over a hilly cross country type course. Surge all the hills at 100% and try to keep the recovery running as fast as possible. (pm) 30 min easy run
Note: If racing on Saturday afternoon run 6 x 200m @ 1500m to 3k pace on Thursday evening and rest or run 15 to 45 mins easily on Saturday morning.			
Sun:	(am) 2 hr long run. Start easily but increase the pace until to 75-80%. If feeling strong run the last 8-13k or 5-8 mile @ goal Marathon pace.	(am) 2 hr long run. Start easily but increase the pace until to 75-80%. If feeling strong run the last 8-13k or 5-8 mile @ goal Marathon pace.	(am) 2 hr long run. Start easily but increase the pace until to 75-80%. If feeling strong run the last 15-20k or 10-12 mile @ goal Marathon pace.

A program for athletes running 160km or 100 miles or more per week who is also a sub 28:00/10k male or a sub 31:30/10k female.

	Basic Conditioning	General Conditioning	Specific Conditioning
Mon:	(am) 30-45 mins easily (pm) 30-45 including 10 x 80-100m @ 400m pace with a 300m jog recovery.	(am) 30-45 mins @ easy to moderate intensity (pm) 30-45 including 10 x 80-100m @ 400m pace with a 300m jog recovery.	(am) 30-45 mins @ easy to moderate intensity (pm) 30-45 including 10 x 80-100m @ 400m pace with a 300m jog recovery.
Tue:	(am) 30-45 mins easily (pm) 75 mins including 65 mins @ 85-87%. Reduce this to 50 or even 35 mins if tired.	(am) 30-45 mins @ easy to moderate intensity (pm) 60 mins including 50 mins @ 85-87% (Wk 1) or 35 mins alternating 3' @ 5-10k pace and 2' fast float recovery (Wk 2).	(am) 45-60 mins including 35 or 50 mins @ 85-87% (pm) 45 mins including 4-6 x 1k up a 2-4 degree incline @ 10k pace or 6-8 x 1k @ marathon pace with a 500m brisk jog recovery. *If tired in the morning, run easily and do 16k or 10 mile @ 85-87% in the evening.
Wed:	(am) 30-45 mins easily. Rest if tired. (pm) 90 mins @ 70-80%. If tired reduce the intensity.	(am) 30-45 mins easily. Rest if tired. (pm) 90 mins @ 70-80%. If tired reduce the intensity.	(am) 30 mins easily. Rest if tired. (pm) 90 mins @ 70-80%. If tired reduce the intensity.
Thur:	(am) 30-45 mins easily (pm) 75 mins including 65 mins @ 85-87%. Reduce this to 50 or	(am) 30-45 mins easily (pm) 45 mins including 5 x 800m @ 5-10k pace with a fast 200m float	(am) 45-60 mins including 35 to 50 mins @ 85-87% (pm) 45 mins including 6 x 400m @ 5-10k pace up a

	even 35 mins if tired.	recovery (Wk 1) or 8 x 400m @ 3-5k pace with fast 200m float recovery (Wk 2). If no track is available run 17 mins alternating 2' @ 3-5k pace and 1' fast jog recovery.	2-4 degree incline or 8 x 400m @ 5k pace with a 200m jog recovery. If no hill or track is available run 17 mins alternating 1' @ 3-5k pace and 1' recovery *If tired in the morning, run easily and do any of the evening workouts keeping the recovery jogs very fast.
Fri:	(am) 30-45 mins easily. Rest if tired. (pm) 30-60 mins @ 65-80%. Reduce intensity if tired	(am) 30-45 mins easily. Rest if tired. (pm) 30-60 mins @ 65-80%. Reduce intensity if tired	(am) 30-45 mins easily. Rest if tired. (pm) 30-60 mins @ 65-80%. Reduce intensity if tired
Sat:	(am) Run 4 mile or 7k over a hilly cross country type course. Surge all the hills at 100% and try to keep the recovery running as fast as possible. (pm) Rest or Run 30-45 mins easily	(am) Run 4 mile or 7k over a hilly cross country type course. Surge all the hills at 100% and try to keep the recovery running as fast as possible. (pm) Rest or Run 30-45 mins easily	(am) Run 4 mile or 7k over a hilly cross country type course. Surge all the hills at 100% and try to keep the recovery running as fast as possible. (pm) 30 min easy run
	Note: If racing on Saturday afternoon run 6 x 200m @ 1500m to 3k pace on Thursday evening and rest or run 15 to 45 mins easily on Saturday morning.		
Sun:	(am) 27-32k or 17-20 mile long run. Start easily but increase the pace to 75-80%. If feeling strong run the last 10-15k or 6-10 mile at goal marathon pace.	(am) 27-35k or 17-22 mile long run. Start easily but increase the pace to 75-80%. If feeling strong run the last 10-15k or 6-10 mile at goal marathon pace.	(am) 27-35k or 17-22 mile long run. Start easily but increase the pace to 75-80%. If feeling strong run the last 20-25k or 12-15 mile at goal marathon pace.

Finally male marathon runners with Olympic aspiration should be aware that the great majority of marathon medalists have been 'novices', ie, they had run less than four marathons. A second interesting point about male marathon runners is that the great majority have run their career best times within the first six races. Both these facts emerged from two studies done by Tony Benson entitled "Top at the Top" written in 1985 and "Time at the Top Revisited", written in 1999 for Australian Runner magazine. The "Time at the Top Revisited" article can be found in the appendix.

TIME AT THE TOP REVISITED

(Written July 1994 for "Australian Runner" and edited March 1999)

The original "Time at the Top" article (see "Australian Runner" Vol 3, No 3, 1985) was written in an attempt to explain the success of novices like Carlos Lopes, John Tracey and Charles Spedding failure of the favourites in the men's 1984 Olympic marathon. What emerged from the study- which examined the careers of the top 25 male marathon runners between 1967 and 1984- was however far more significant and can be summarised as follows:

1. Novices fitted the profile of an Olympic medalist much better than did the experienced athletes.
2. Virtually all marathon runners produce their best performances in their early, ie, first 3-5, races.

The results in Barcelona prompted me to go back to these findings to see if anything had changed over the last two Olympiads.

1967-1984

The following chart was presented in the 1985 "Time At The Top" article.

ATHLETE DETAILS AS AT 31/12/1984

	Known Attempts	Significant Victories	First Significant Victory Race	Present Personal Best (PB) Race	Present Second PB Race	Current Personal Best
Dick Beardsley	9	1	3rd	6th	4th	2:08:53
Waldmar Cierpinski	19	3*	5th	5th	13th	2:09:55
Derek Clayton	10	3*	3rd	5th	3rd	2:08:33
Robert De Castella	10	4*	5th	5th	7th	2:08:18
Jerome Drayton	5	3*	1st	1st	7th	2:10:09
Rod Dixon	4	1*	3rd	3rd	4th	2:08:59
Rodolfo Gomez	15	2	3rd	9th	10th	2:09:25
John Graham	5	1	3rd	4th	5th	2:09:28
Juma Ikangaa	10	1	7th	6th	2nd	2:08:58
Carlos Lopes	4	1*	4th	2nd	4th	2:08:59
Greg Meyer	5	2	2nd	4th	5th	2:09:01
Hugh Jones	7	1*	2nd	2nd	4th	2:09:24
Leonid Moseyev	6	1*	4th	3rd	4th	2:11:57
Gerard Nijboer	6	1*	3th	1st	4th	2:09:01
Joseph Nzau	5	1	2nd	2nd	3rd	2:09:45
Bill Rodgers	41	9*	2nd	16th	2nd	2:09:27
Alberto Salazar	8	4*	1st	2nd	3rd	2:08:51
Toshihiko Seko	11	6*	3rd	8th	9th	2:08:38
Gidimas Shahanga	8	3*	2nd	5th	4th	2:10:19
Frank Shorter	15	5*	3rd	5th	13th	2:10:30
Geoff Smith	3	1*	2nd	1st	2nd	2:09:08
Takeshi Soh	16	0	0	9th	10th	2:08:55
Shigeru Soh	17	0	0	3rd	11th	2:09:06
Charles Spedding	3	2	1st	2nd	3rd	2:08:34
Ian Thompson	7	2*	2nd	2nd	1st	2:09:12
AVERAGES	8.6	2.4	2nd/3rd	4th/5th	5th/6th	

* Means the first victory was in a major championship

The athletes selected for the study competed in more than 200 marathons and each met two of the following three criteria: These were:

1. they had won one of the world's significant marathons (much easier to decide on then!),
2. they were sub 2:09:30 runners
3. they were identified as "favourites" for the 1984 Olympic marathon.

The study showed:

1. 70% of athletes recorded their first significant victory within their first three (3) races and that only one had not done so within his first five (5) races,

2. 83% of athletes had recorded their personal best times (as they currently stood) within their first five races and 70% of athletes recorded their best and second best performances within a three (3) race span.
3. the average number of victories was less than 3 and
4. the majority of athletes destined to be great are likely to:
 - a. win their first major race within their first three(3) starts (unless they were able to get a couple of easy introductory races ie Shorter and Cierpinski at 2:17+),
 - b. record their personal best within the first five (5) races and their second best time within 2-3 subsequent races and
 - c. would compete in 10-12 quality career marathons.

The conclusion presented was that there appears to be a limit to the number of ultra competitive marathons any runner can take and each really tough race seems to break down something in the psyche that is difficult (if not impossible) to rebuild. Therefore when the really hard racing starts five to ten kilometers from the finish the body is either unable to respond or the mind refuses to pass the necessary instructions to the body.

Finally the study made two predictions.

1. Athletes of the future would compete in an increasing number of races and the "lure of the dollar seems certain to mean the example set by Bill Rodgers in the 1970's will be the trend (with) career totals of 30-40 races becoming commonplace.
2. Great marathon runners would continue to win big races and to record fast times after their "peak performance" period provided the races were run fast enough to 'burn off' the normal level of opposition but that they would be in trouble when confronted by a talented, inspired novice (or novices).

The Period from 1985 to 1992

The first thing of interest was what happened to the members of the study group.

1. Competitive Status

- a. No new details have appeared in the case of twelve (12) athletes- Cierpinski, Clayton, Drayton, Gomez, Lopes, Moseyev, Nyjboer, Nzau, Salazer, Shorter or S. Soh. They did not appear in the Top 8 of any major race nor did they rank in the 1985-1993 World Top 50 lists as published by Track & Field News.
- b. Nine (9) athletes reappeared in the world Top 50 lists of 1985-92. They are the remarkable Bill Rodgers (3 times/best of 2:13:17) plus:

Dick Beardsley (1987-2:16:20) Greg Myer (1987- 2:14:31)

Rod Dixon (1986-2:14:58)	Geoff Smith (1986- 2:10:39)
John Graham (1986- 2:12:00)	Takeski Soh (1988- 2:10:40)
Hugh Jones (1988- 2:11:08)	Charles Spedding (1986- 2:10:10 & 1987- 2:10:32)

c. Only four of the twenty five athletes improved on their pre- 1985 times and/or performances.

*Robert De Castella- ran 2:07:51 (a 27.0/PB) in his 13th race. His second best time becomes his 6th race. He also added a second Commonwealth title to his name and achieved two more World Top 10 rankings.

*Juma Ikangaa- ran 2:08:01 (a 57.0/PB) in his 18th race. He also ran his current second and third best times of 2:08:10 and 2:08:39 in his 11th and 13th races respectively as well as achieving four World Top 10 rankings, two of which were firsts.

*Toshihiko Seko ran 2:08:27 (an 11.0 sec PB) in his 12th race. While his second best remained his 8th he did achieve two more World Top 10 rankings.

*Gidimas Shahanga ran a PB of 2:08:32 as well as his second best ever time of 2:09:28 in 1990 as well as gaining a World Top 10 ranking after an apparent 5 year absence from the event.

2. The Number Of Marathons Contested

This has not increased to the extent that might have been anticipated. Only Juma Ikangaa and, to a lesser extent Robert De Castella, have significantly increased their tallies. Ikangaa is now either in his high twenties or low thirties while De Castella is in the low 20's. Bill Rodgers, at 50+, remains way out ahead! Perhaps the increase in the number of big money half marathons explains this.

3. Statistical Analysis in terms of personal bests, major victories and Olympic results.

These remained virtually unchanged. De Castella, Ikangaa and Seko were all able to win one or more featured races and De Castella won a Championship- the African boycotted 1986 Commonwealth Games. However their successes, (plus Shahanga's PB), hardly alter the overall statistics and merely reinforce the greatness of three of the events superstars. More mortal competitors should look at the profiles of the other 22 athletes!

Secondly none of the athletes featured in the original study threatened the medalists at either the 1988 or 1992 Olympic marathons.

The New Elite 1985-1992

Along with **De Castella**, **Ikangaa** and **Seko** an additional thirteen athletes could be seen to represent the superstars of the marathon since 1985 and 1992. They were:

Pg 4

- a. the winners of the periods major medals- **Gelindo Bordin** (1987 IAAF Bronze Medal/1988 Olympic Gold Medal), **Stephen Friegang** (1992 Olympic Bronze Medal), **Young Jo** (1992 Olympic Gold), **Koichi Moroshita** (1992 Olympic Silver), **Admed Salah** (1987 IAAF Silver /1988 Olympic Bronze/1991 IAAF Silver), **Steve Spence** (1991 IAAF Bronze), **Hiromi Tanguichi** (1991 IAAF Gold) and **Douglas Wakiihuri** (1987 IAAF Gold/1988 Olympic Silver) and
- b. **Belaine Densimo**, **Abebe Mekkenon** and **Takeyuki Nakayama** who all had four World Top 10 rankings plus **Ibrahim Hussein** and **Steve Moneghetti** who each ranked in the World Top 10 three times in the years 1985 to 1992.

Their performances are detailed on the following chart.

<u>THE NEW ELITE (1/1/85 TO 31/12/92)</u>						
Athlete	Known Attempts	Significant Victories	First Significant Victory	Present Personal Best Race	Present Second Best Race	Current Personal Best Time
Gelindo Bordin	11	4*	2nd	7th	5th	2:08:19
Belaine Densimo	9	4	3rd	4th	1st	2:06:50
Stephen Friegang	5	-	-	3rd	2nd	2:09:45
Ibrahim Hussein	13	4	3rd	11th	5th	2:08:14
Steve Jones	10	4	1st	3rd	1st	2:07:13
Abebe Mekkenon	15	5	2nd	3rd	1st	2:07:35
Koichi Moroshita	3	2	1st	1st	2nd	2:08:53
Steve Moneghetti	8	1	6th	6th	4th	2:08:13
Takeyuki Nakayama	11	4	1st	2nd	6th	2:08:15
Admed Salah	13	2	3rd	8th	2nd	2:07:07
Steve Spence	6	-	-	3rd	5th	2:12:17
Hiromi Tanguichi	11	5	2nd	6th	7th	2:07:40
Douglas Wakiihuri	9	3*	2nd	5th	6th	2:09:03
Hwang Young Jo	3	1*	3rd	2nd	1st	2:08:47
AVERAGES	9.0	2.7	2nd/3rd	4th/5th	3rd/4th	2:08:24

* Means the first victory was in a major championship

Significant Changes

There were two:

- a. It became very difficult to identify "major races" as most athletes took advantage of the huge number of races to avoid head to head combat. Rarely did a field include even three current elite performers.
- b. The average personal best (PB) time dropped from 2:09:58 to 2:08:24. However its significance assumes realistic proportions when it is remembered that the first study spanned 25 athletes over 17 years and the second covers 14 athletes over 9 years.

On the other hand many things remained the same.

- a. the number of marathons attempted remains about 9,
- b. the number of significant victories still averages just under 3,
- c. the athletes' first significant victory race remains as the second or third race and
- d. the most likely PB race is either the 4th or 5th.

One minor difference to emerge is that the new group of athletes were, on average, more likely to run their second best time in their 3rd or 4th race rather than their 5th or 6th as was the case with the previous group. This group is also younger however so this statistic will probably change as they complete more races.

What About the Olympics?

The pattern blurred in Seoul. The 1988 placegetters Gelindo Bordin, Douglas Wakiihuri and Admed Salah were among the favourites as they had finished 3rd, 1st and 2nd respectively in the 1987 World Championships. Wakiihuri, running his fourth race was still a "novice". Bordin, while competing in his seventh race was emulating Waldmar Cierpinski and Frank Shorter in that he had run two very low key (ie 2:16+) marathons in Italy. Salah, in his ninth race, was a true exception but with medals in 1987, 1988 and 1991, has to be acknowledged as the best championship performer of the period.

Barcelona, however, reverted very much to the pattern of featuring unheralded medalists. Hwang Young-Jo, Koichi Moroshita and Stephen Freigang with less than 12 races between them and, with personal bests of 2:08:47, 2:08:53 and 2:09:45 respectively, were well down the list of favourites.

Summary

It seems pretty clear that there is a limit to the number of ultra competitive marathons an athlete can take. Of the 39 elite athletes studied only Frank Shorter (5), Bill Rodgers (9), Toshihiko Seko (8), Robert De Castella, Abebe Mekkenon and Hiromi Tanguichi have exceeded four major wins.

These findings indicate the need for a total rethink of the marathon for male athletes, coaches, selectors and administrators. At the very top the International Amateur Athletic Federation might be encouraged change their selection criteria. National selectors may need assess athletes on additional results ie World Cross- Country, half marathons, and 10k races, athletes have to strike the right balance between running for their country and for their financial future and coaches

have to plan an athletes competition very carefully because it is clear that after that third or fourth marathon the elite athlete needs a minimum of 12 to 18 months recovery if they are targeting personal bests, Olympic medals or winning further highly competitive races.