

COACHING MIDDLE AND LONG DISTANCE RUNNERS: A COMMENTARY

By Nic Bideau

Nic Bideau has become one of Australia's most successful coaches. His involvement at the elite level in track and field has spanned more than two decades and his collective experiences as a sports journalist, manager, and coach have enabled him to mix with some of the greats in middle and long distance running. These experiences have assisted in shaping his views on coaching endurance athletes and in this paper he outlines some insights into his coaching philosophy. Re-printed with permission from Modern Athlete and Coach.

INTRODUCTION

The training structure I use to coach athletes does not actually involve anything that hasn't been used before. I would describe it as strongly influenced by the type of work used by many Australian, British and New Zealand athletes in the 60's and 70's involving running high volumes of over 160km per week with the primary focus on aerobic conditioning. This type of training yielded huge successes for amongst others, Ron Clarke, Brendan Foster and John Walker, yet for one reason or another has tended to be neglected today.

The one area where I would say we are much more advanced than athletes of that era is with recovery and the control of the workouts. Today athletes employ a host of techniques including ice baths, sports recovery drinks, regular massage and physiotherapy sessions that assist athletes to recover from bouts of hard work and allow them to maintain a more consistent high volume of good quality training for longer periods.

Hard running on the track or fast long distance runs are now more controlled to achieve very specific aims with the use of heart rate monitors and stopwatches to assist us to enforce the principles that Lydiard was teaching runners 40 years ago — to train mostly at levels of intensity that are aerobic and to limit or accurately control the amount of anaerobic activity in training.

The training is only one key element responsible for the success of, among others, our two leading Australian distance runners, Craig Mottram and Benita Johnson. But I would add that just as relevant is (a) the environment they train in, (b) the planning undertaken (including their competition program) and (c) the belief I have in them to run as well as they have. Getting fit in training is certainly

critical but I have certainly seen cases where despite being incredibly fit, a lack of confidence and belief in their ability to compete well has cost an athlete in important races. The right training helps to build these elements but the structure of the training groups they exist in and the very carefully planned racing program they follow certainly enhances this confidence to take the athletes to a very high level. But that's a whole other article. For now, I'll stick to an explanation of the general training structure I advise athletes to carry out.

Key elements

- Regular long runs
- Fast distance runs at around the anaerobic threshold
- Intervals or repetition work
- Speed work
- Recovery runs
- Gym sessions

LONG RUNS

The long runs should be of 90 minutes to 2 hours duration - longer for marathon runners - and at least once per week, and in some periods twice a week. The key Lydiard principle of maintaining continuous pressure on your heart for long steady periods of aerobic activity builds a fantastic aerobic fitness base and it is aerobic fitness that is a key factor in the success of athletes in all events from 800m upwards. I'm often challenged on the importance of these long runs for 800m runners. Some athletes have even suggested to me that they are damaging, but I have no doubt they are relevant. It worked for Peter Snell. He ran 1.44.3 on a grass track off long aerobic runs. In later years much has been made of the Great British 800m and 1500m runner, Seb Coe's speed, but Coe also possessed outstanding aerobic endurance. He demonstrated this when in 1978 the year before he first began setting world records at 800m and 1500m races, when he beat Eamon Coghlan, who was later to win a world 5000m title and Mike McLeod, who later won an Olympic 10,000m medal in a 4 mile road race in Ireland. I'd be surprised if any of our current top 800m runners could get within a minute of Craig Mottram over 4 miles today, and I see our lack of success in this event as relative to a lack of aerobic endurance in the athletes doing these events. Mottram has run 1:46 for 800m in training two weeks after he won his world championships 5000m bronze medal so his regular long runs don't appear to have greatly reduced his ability at 800m.

I prefer these long runs done in a group as that helps runners stay relaxed and enjoy them more. I also like them to run in nice scenic surroundings on soft

surfaces and on hilly courses. Hills help build strength and maintain the pressure on the heart without requiring the athletes to run faster. Hills also require athletes to vary the requirements of the key working muscles whether they are going up or down. I like big challenging hills in the second half of these runs as I believe it helps an athlete develop efficient technique and rhythm running up these hills when they are already feeling fatigue. I tell athletes that the first 75 minutes of these long runs is to get them sufficiently tired so as they are in a position to really affect their fitness in the last 15 to 45 minutes when their glycogen stores are getting seriously depleted.

In any training program, the first time an athlete is able to achieve a milestone builds confidence and I've often seen that when an athlete completes their first 90 min. run of a preparation, or their first 2 hour run. They soon notice a big step up in their aerobic fitness in the following weeks. This increased aerobic fitness needs to be constantly monitored with regular 90 min. runs throughout the year. I don't believe that these long runs necessarily leave residual fatigue in athletes' legs harming athletes going into important races. I see many athletes run very well within a few days of a long run. Mottram ran a 90 min. run seven days before setting his Australian 5000m record of 12.55.76 and Benita Johnson ran a 90 min. run six days before she won the World Cross Country. Any time I look at an athlete's diary and I see regular long runs it usually translates into consistent form. In contrast, when I see big gaps from one long run to the next recorded in an athlete's diary it often corresponds with a gradual decline in form.

FAST DISTANCE RUNS

These runs are usually called a tempo run or an anaerobic threshold pace run. In the 60's and 70's athletes regularly ran at this level unplanned in the 2nd half of training runs just by feel and were generally uncontrolled. These days I plan them as specific sessions and often ask the athletes to use a heart rate monitor to control them. After a warm up athletes will run for 20 minutes and up to 45 minutes and even longer for marathon runners at an intensity monitored pace by heart rate. The aim is to run at a level just below the point where any increase in effort will dramatically increase the anaerobic production of energy. We determine this as a result of physiological testing to determine at what heart rate their blood lactate content has reached around 4mmol of lactic acid. For most athletes this is normally the pace an athlete could run at for a half marathon or between 85 and 90% of the pace they can currently maintain for a 5000m track race.

These runs are one of the best indicators of performance level for events in which aerobic endurance is a factor. I could probably find several athletes in Australia who would be able to run shoulder to shoulder with Mottram during an interval track workout such as 10 x 400m with 2 minutes recovery. An ignorant bystander could be no better equipped with knowledge if asked which of such a group of athletes would win a 3000m race. But line the same athletes up for a 20

minute run and ask them to run at a pace equivalent to 85% of their 5000m race pace and Mottram would finish 400m ahead of most Australian athletes and it would be clear who has the superior fitness for a 3000m race. These fast continuous distances runs were 'bread and butter' training for much of the year for athletes such as Ron Clarke and John Walker, although they just did them by feel or intuition.

While I prefer athletes beginning this sort of training to control the work by heart rate, experienced athletes such as Mottram or Johnson have done so much of this type of work they are now very much in touch with how it should feel, and are able to do it just on feel without the aid of technical equipment such as heart rate monitors.

INTERVAL OR REPETITION TRAINING

I prefer high volumes of work when using intervals of 6-10k or running at various speeds relevant to the athlete's current fitness level for 1500m, 3000m, 5000m or 10,000m with recovery bouts as required to maintain that pace. In the first stages of a training program these are initially focused on 10,000m race pace or even slower. Closer to the main target race faster speeds are introduced at the specific pace of the event the athlete is training for. I believe that too often athletes try to run too fast in track sessions relevant to their current fitness and are too anxious to focus on their cruising speeds for 1500m or 3000m races, whereas I prefer to set the bulk of these sessions at 5000m or 10,000m cruising speeds over longer distance repetitions interspersed with shorter faster work. For example, when training for an event such as the World Cross Country in March, Benita Johnson may begin the preparation in November with 8-10x 1km on a dirt path in around 3:20 with one minute rest. This develops into 3:10 and the next step is to speed up 2 of the reps, the 5th and 7th in 3:00. This may progress to 4 x 2km reps on the track with a lap jog recovery doing the 1st and 3rd rep alternating laps in 70s (current 3k race pace) and 75s (half marathon race pace), the 2nd and 4th rep all even paced at 75s per lap (10k race pace).

There are a myriad of workouts that can be designed with this philosophy. The main aim is to always be doing enough high volume to continue building aerobic endurance while introducing some faster running that relates to shorter distance race paces and still avoid flooding the athlete's muscles with lactate during the workout. So varied are the possible combinations that rarely do the athletes repeat the same workout. I see a couple of distinct advantages in this — they don't go home to check their diary and compare workouts from week to week or year to year — too often athletes try to compare workouts from one period to another, which I regard as impossible to do for any real gain. You can never go to the track with all other elements of your life exactly duplicated from one day to the next so you will always fail to read into the effects of other situations whether they be weather, poor sleep the night before, harder training the week before, personal problems or whatever - and being different, the workouts always

provide an interesting challenge to the athletes who don't know exactly how they will feel not having done that exact workout before.

Benita did a workout of 13 x 400m at 5k race pace (72s) with one lap float (marathon race pace relevant to current fitness (82s)) recovery between laps while winning the national 10,000m title in 31:49 shortly before she won the World Cross Country in 2004. This year in her preparation for the Commonwealth Games she ran 3000m in 9:10 beginning with laps at 10,000m race pace for the 1st km, 5000m race pace for the 2nd km and 3000m race pace for the 3rd km, jogged a lap then did 4x200m at 1500m race pace with 200m jog recovery before repeating the effort with the 2nd 3000m in 9:05. For other complex reasons relative to another dimension of coaching that I won't go into here, Benita was not able to produce that fitness during the Commonwealth Games 10,000m yet it was exactly that fitness that she was able to call on that enabled her to place 4th in both World Cross Country races just a week after the Melbourne Games this year.

Closer to the big race, these type of workouts often mimic planned strategies due to be employed in the race whilst surrounding it with volume to ensure aerobic fitness is still maintained. Before the Melbourne 5000m Mottram ran a series of 3 x 1600m. The first one was done in 4:20 (basically what we felt was around 10,000m race pace for him or more specifically the slowest we could imagine the Commonwealth 5000m race being run at inside the last 2km). The 2nd rep was to practice the tactic, which we hoped could take him clear of the Kenyans in the Melbourne 5000m. His training partner England's 5000m runner at the Games, Mo Farah ran the 1st lap in 65 secs and Mottram went to the lead running the 2nd lap faster, the 3rd lap faster again and once more increasing the pace on the last lap. He ran those laps in 59, 58 and 57 for a final 1600m time of 3.59. He then eased back to 4:20 again for the 3rd rep and finished the workout by cruising 4 x 200m at 1500m race tempo with an easy 200m jog recovery. We felt he was ready for Ben Limo and he was. But, unfortunately for us, Augustine Choge had something else.

These sessions are usually only carried out once per week. If a second session of repetition running is used it is usually hill repetitions. Athletes usually begin with 6-8 repetitions of running up hill for three minutes at around 10,000m race pace or effort. Then shorten the distance to something that can be reached in one minute running at around 3000m race pace effort. Sometimes they alternate three minute efforts with one minute faster efforts in a series of 8 repetitions. I prefer the hills to be not so steep that the athlete can't run up them smoothly for three minutes at 10,000m race pace. The recovery taken is as long as it takes to jog back down the hill easily and feel ready to go for the next repetition. I believe these workouts are fantastic for developing power and speed as well as running efficiency.

SPEED WORK

Speed work should always be low in volume and at speeds relevant to up to 95% maximum speed (never 100%) to 3000m race pace in relation to current fitness and over short distances never more than 400m and rarely more than 150m with long periods for recovery between repetitions. All athletes I coach (even marathon runners) do 4-5 strides over 80-120m at least 3km race pace with easy jog or walk recovery after each repetition at least once a week. Mottram, being a 1500m runner as well as a 5000m runner goes to the track once a week to run even faster. Most of his training is focused on endurance but I recognize the need to maintain his ability to run fast. I regard this as specific speed work, which should not be a huge load of anaerobic work. A favored workout would be 4 x 120m after an easy Monday evening run when he often feels good having run once for 90 minutes the day before and having done an easy 60 minutes that morning. Each repetition would involve gradually building to 95% of top speed coming off the bend and running smooth and relaxed down the straight with a minimum very easy 280m jog between repetitions. In my view, optimal speed work should (a) never involve more than 3 or 4 reps of a maximum of 15 seconds, (b) include long periods of rest in between, and (c) not be done when the athlete is very tired.

RECOVERY RUNS

These runs should generally run at a very comfortable pace — comfort is more relevant than speed here. They can be extremely slow or occasionally at a moderate pace but importantly, it is very comfortable and relaxed for the athlete. I prefer, in general, that these are around one hour in length on easy days with a second run each day of 30-35min., except on days when the main run is 90 minutes or more where just one run is completed. Marathon runners often do two runs of less than an hour but at least 40 minutes on easy recovery days due to the greater demand for recovery from longer workouts.

We're often asked how it is effective for Mottram to do his recovery runs with Benita Johnson despite him being about two minutes faster than her for 5000m. They feel that if he races 5000m at close to 2:30 min. per kilometer and Benita closer to 3 minutes per kilometer, why should her recovery runs be run at a similarly slower pace? But it doesn't actually work like that. Running at 4 minutes per kilometer is just as comfortable for Benita as it is for Craig. The key is that the pace is comfortable, and the pace is simply decided on how the athletes feel. There is often a need to tell athletes to try to run slowly on these runs, as it's very difficult to run too slowly and quite easy to run too fast at a speed that doesn't really challenge aerobic fitness and certainly doesn't allow athletes to recover maximally between workouts. The key is to remember that these runs are for recovery and that there are another 2 or 3 days in the week where the focus is on building fitness.

GYM SESSIONS

The key aim for our gym sessions is to build a very strong core for the athletes. The workouts are focused very much around strength in all muscles from the legs to the neck. Female athletes usually make huge gains with this type of training because they are not as naturally strong in this area as male athletes. Often male athletes are naturally strong, and survive many years without working much on this area. So often though, injuries can be traced to poor running form, which can be related to weaknesses in the abdominal or lower back region.

I'm not going to list the type of exercises we use here as there are so many ways to improve strength in this area that virtually none of our athletes follow the same core strength routine. They all spend 30-45 minutes three to four times a week working on this aspect of their fitness. Workouts are usually done after a second recovery run of the day or in the afternoon after completing a long run in the morning.

CONCLUSION

In summarizing, the key elements outlined above form the basis of my coaching program. Each element is important and contributes in different ways to achieving the ultimate goal of running faster.