BMC NEWS

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Top: Manchester, July 02. MICHAEL EAST
Bottom Left: Manchester, July 02. PAULA RADCLIFFE
Bottom Right: Manchester, July 02. KELLY HOLMES
By Mark Shearman

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Manchester, July 02. l to r; HAYLEY TULLETT, KELLY HOLMES and HELEN PATTINSON. photo by Mark Shearman.

GRAND PRIX PRIZES

A new prize structure is to be introduced for the 2002 Nike Grand Prix Series, which will increase the amount that athletes can win in the 800m and 1500m races if they run particular target times. The new structure aims to encourage athletes to go for fast times to help attract additional interest from good quality and overseas athletes.

THE GRAND PRIX PRIZES WILL BE AS FOLLOWS

	First	Second	Third	Fourth
'Normal Time'	£75.00	£50.00	£30.00	£20.00
Elite Time	£150.00	£100.00	£60.00	£40.00
European Championships Qualifying Time	£300.00	£200.00	£120.00	£80.00
BMC Record	£750.00	N/A	N/A	N/A

The above amounts are 'total winnings' so for instance a male 800m runner who wins in 1:49.1 would take home £75, if he ran 1:49.0 (the elite standard) he would take home £150.
A 'Normal Time' is a slower time than the elite standard.
The BMC Record will be the time as at the day of the race and is the best time by anyone in a BMC race.

ADDITIONAL PRIZES

In addition to these prizes £400 will be paid for a performance by a non-winning athlete who runs a BMC Members record. This is the best performance by a paid up BMC member in a BMC race. This could be achieved by a second or third placed athlete who runs a members record in a race won by a non-member.
A £100 prize will be paid for a BMC Junior members record. This is the best performance by a paid up Junior BMC member in a BMC race.
Non-members who have not been especially invited as guests will have their joining subscription deducted from any winnings.
If an athlete has more than one performance in the same event on the same night then their best performance only counts for the prize money.

THE TIMES ARE:-

	M 800m	W 800m	M 1500m	W 1500m
Elite Time	1:49.0	2:05.0	3:43.0	4:20.0
European Championships Qualifying Time	1:46.5	2:00.5	3:36.5	4:06.0
BMC Record*	1:45.2	2:00.7	3:37.5	4:06.39
BMC Members Record*	1:46.7	2:01.93	3:37.5	4:06.39
BMC Members Record*	1:47.69	2:05.96	3:42.2	4:20.0

*Records as at 17.4.02

Chairmans' Notes

It is very pleasing to report the many areas of progress that we have seen for the UK Middle Distance events during the 2002 summer season.

Some of the more notable include the highest standard in depth rankings over 800m that we have ever seen for UK U20 Women, 3 UK women under 2 minutes in the Commonwealth Games 800m Final, Michael East winning the Commonwealth games and the gradual progress that we are seeing in the senior men's 800m rankings.

The 2 races which saw the greatest progress by our men, Watford GP 800m, and our women, Commonwealth Games 800m Final, had one thing in common. UK athletes were competing against international opposition. Unfortunately this is now a rare occurrence and although we are striving to offer this standard in our GP series it is difficult to achieve. The major reasons are financial but also the major influx of European athletes that we had hoped for did not materialize and we will be discussing how to progress this situation with UKA during the coming months.

Dr. Norman Poole, Chairman

We have already requested, from UKA, 4-5 Saturdays for the 2003 GP Series since this is not only a strong demand of our UK members but also has an influence on the availability of overseas athletes.

To further progress the Men's 1500m events we will also adopt a more effective means of pacing for the 2003 season. This will be further outlined prior to the start of the next summer season.

I also hope that the introduction of a BMC Men's and Women's 4k X-C Champs at the Mike Sully Meeting in Bristol on 24th November proves useful. This distance is probably more meaningful to the 800m/1500m events and offers a useful guide to the progress of winter training. I hope that the event is popular and I look forward to seeing you there.

Cross Country

The BMC will promote cross-country for the first time when they sponsor the new look Mike Sully and Gemma Butler races in Bristol on Sunday November 24th at 1pm.

The traditional Bristol meeting, which has been run for some 40 years, was for a long time the premier c-c event in the country before Xmas. But, since the meeting was excluded from the Reebok Challenge Series four years ago it has lost its status.

Attempts to revive it by staging it in conjunction with the Gwent and Avalon leagues have not met with success and the Bristol club faced with either abandoning the event or giving it a new face.

Our South West representative, Mike Down, who has long held the view that middle distance runners' needs and interests are largely overlooked by the winter programme, suggested to the Bristol club that they restructure the meeting as a "short-course" festival. This was agreed and the BMC has stepped in to back this years meeting.

The two senior races will now be transformed into 4k events with both having the status of BMS Championships. Mike points out that the women's event remains the same distance with the men's being reduced from 8k. He, as the co-ordinator for the BMC, points out that with no significant 4k's before Xmas this event, if the distance is ever added to European Cross-country Championships, is ideally placed to act as a trial.

The races will be held at a new venue, the Bristol downs, which is within 2 miles of the city centre, in a fast 1k course, and the hope is that the long list of distinguished past winners can be added to.

The prizes for the senior races will be the same as for the BMC GP, including veterans, with the U20 and U17:-also running 4k, two U15:3k and U13 2k.

"I am hoping we can also restore the reputation of the Young Athletes races, which used to be mini-nationals in the old days", added Mike. He goes on to say that he sees it as the natural winter sequel to our successful Millfield meeting. This is obviously a new venture for the BMC, and its future will depend on the success of the first event, so members are urged to put the date in their diaries. Mike is hoping to canvass all our middle-distance runners to support the event and ensure success. He can be contacted at 0117-9733407.

Optimum Speed Distribution in 800m and Training Implications

by

Kevin Prendergast, Australia

There is an ideal pace distribution for the 800m that should result in an athlete's fastest possible time. According to the author's researches, that pace should be one of deceleration through successive 200m segments. This article suggests training requirements to develop the relevant energy systems.

INTRODUCTION

The 800m is a fascinating event, in the author's opinion the most fascinating of all. It is unique among the track events in that it uses all three energy systems intensely, and this also makes it complex and challenging to do properly. The three energy systems have different characteristics, particularly regarding pace and capacity, and making optimum use of each of them imposes a pace pattern on the performance.

There really is not much variation on this pattern in top performances, though competition-type races can necessitate variations and athletes must be able to cope with these. Even so, such performances, while they can be racing successes, will not be the fastest the athlete is capable of.

It will be argued, and rightly, that the ability to race is more important than the ability to run fast, but it is impossible to get away from the need to be able to produce fast times. For the best, fast times will produce records, and for the battler they will produce qualifying times for entry into major races and competitions.

USE OF THE ENERGY SYSTEMS IN THE 800M

At the beginning of the race only the creatine phosphate (sometimes known as anaerobic alactic) system is used, because it the only one readily available. The lactic system takes longer to power-up, and the aerobic system longer still. Furthermore the creatine phosphate (CP) system is the acceleration system, which the sprinter uses to the utmost to propel himself to maximum speed. The 800m runner also needs it to accelerate from standstill to his maximum speed for the race.

For the 100m runner this system is on the wane after 6-8 seconds. But by more judicious use of it the 8OOm runner is able to extend the use to 2-3 times this duration. The amount and the duration of the acceleration for the 800m runner will be discussed later in this paper. It is the most powerful system available to the athlete and can make a great contribution to a total 800m performance.

The lactic system is the next to power up and by about the time the runner has finished with his CP system it is available to its maximum extent. It is not as powerful as the CP system, and therefore will not deliver as much speed, but has greater capacity, i.e., it can contribute more energy to the total performance.
As will be discussed in the next section, it has a declining output. It lasts longer than the CP system, but eventually it too is completely expended.

The aerobic system is the slowest to power up; it is the weakest, but it has the highest capacity. That capacity is barely tapped in an 800m, but the system plays the vital role of propping up a fading lactic system. The better the aerobic system the faster the pace it can sustain, and so the more support it can provide to the lactic system. The more the race progresses, the greater the proportion of the total power that comes from the aerobic system. A weak aerobic system will cost a runner dearly in the final stages of the race.

OPERATION OF THE LACTIC ENERGY SYSTEM

All energy systems are important in 800m running, but the lactic system provides the key to success. It is the link between the powerful CP system and the enduring aerobic system. A defining characteristic of the lactic system is that its output decreases with use. The longer an effort powered by the lactic system continues, the less the output from the system. It chokes itself off, because the by-product of the operation of the system, lactic acid, inhibits the operation. Eventually the muscles becomes so saturated with lactic acid that the system is no longer operable.

Furthermore not only does the duration of effort bring about a build-up of lactic acid, so does the intensity of its use. The faster the pace powered by the lactic system the faster the build-up of acid, and the sooner the operation of the system is at an end. It is a matter of fine judgement to pour out the lactic energy at such a rate that it lasts long enough.

We have to distinguish between the maximum available speed under the operation of the lactic system and the speed the system is actually producing. The maximum available speed falls as the build-up of lactic acid chokes off the power producing ability of the system.

The author has done some mathematical modelling of the lactic system that shows a critical point is reached when the maximum available speed falls to the speed actually being run. At this point the running speed falls sharply, in what a mathematician would call an exponential decline.

The equation describing this is reproduced below for those interested.

$$v = v_a + (v_t - v_a)e^{-kt}$$

where v is the actual speed at time t after max available speed falls to running speed;
v_a is the speed sustainable by the aerobic system;
V_t is the speed (terminal speed) when max available speed equals actual speed;
k is a constant.

The above equation describes what every enthusiastic middle distance and 400m runner knows only too well-when the bear jumps on your back, no amount of effort or courage will stop your speed from collapsing dramatically.

From the above we know that this point of terminal speed must not be reached before the end of the race. However not to be near this point by the end means that the lactic system has been under-utilised and the performance cannot have been optimum. The aim then is to reach terminal speed at the 800m mark.
Basically there are two possibilities for achieving the above. The first is for the entire sector of the run powered by the lactic system, i.e., after the CP system has finished, to be at constant pace, and for this pace to be the terminal speed. The maximum available lactic speed declines linearly throughout the run until at the 800m mark it reaches the constant running speed.

The second possibility is for a gradual decline in running speed until at the end it meets the maximum available speed. (The third possibility of an acceleration during the lactic phase is discounted as being impractical as it involves accelerating, decelerating, accelerating.)

Some further mathematical analysis by the author shows that for all runs powered by the lactic system, the optimum strategy is for a deceleration during the lactic phase, rather than constant pace. This is pronounced for the 400m and 800m, but for longer events the theoretical advantage becomes insignificant, and practicabilities tend to swamp any possible advantage.

The above two pieces of mathematical analysis of the operation of the lactic system are in a work yet to be published by the author.

SOME HISTORICAL CONFIRMATION OF OPTIMUM STRATEGY

There is some, though not conclusive, historical evidence that deceleration is the best strategy for fastest time. It is in the form of 22 great performances between 1:41.73 and 1:43.50 and they were chosen for no other reason than that they were available to the author. There have been 51 performances in total in this range, so 22 represents a reasonable sample, and it is reasonable to regard them as representative of the total, particularly as the story they tell is very consistent.

The first lap and second lap speeds as a percentage of the 800m average speed were determined for each of the 22 performances, and they are shown in Figure 1. It will be seen that for 21 of the 22 performances the first lap was faster than the second. The only exception was Steve Cram's win at the Commonwealth Games in 1986. It was a remarkable performance by an athlete who was more a 1500m and mile exponent, and he ran the race that way. Significantly he had two faster performances, both recorded in the graph, and in both his first lap was faster.

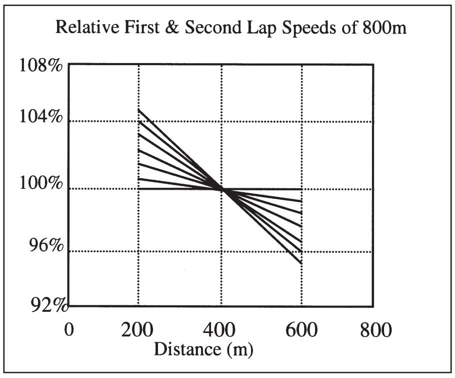


Figure 1: relative first lap and second lap speeds of 22 outstanding performances.

The average of the first 400m speeds is 101.7%. If Cram's unusual run is omitted the average rises to 101.8%. There is a heavy cluster of performances about this percentage. For a 1:43 performance this means a first lap of 50.6 and a second lap of 52.4, a differential of 1.8 sec. It would seem that if there is an ideal to aim for, it is this 101.8%/98.2% split with respect to the average speed of the goal performance.

The above does not confirm that the lactic phase is one of deceleration, because all of the difference above in the speeds of the two laps could be in the CP phase. However 200m splits from four of the best of the above does provide some confirmation. It is far from conclusive but does point in the right direction. The splits are reproduced in Figure 2.

More than the above would be necessary to be able to say something definitive from an historical point of view. However it does suggest that if there was an ideal to which the athletes were running, it was one of a big fall-off in speed from the first 200 to the second, a holding operation from the second to the third, and then the inevitable fall from the third to the fourth.

The overall trend is certainly one of deceleration from the first 200m and this is consistent with the first lap/second lap deceleration of the much larger sample. Deceleration throughout the last 600m seems a reasonable ideal on which to base a strategy.

USING THE CP ENERGY SYSTEM

Now that we know that the optimum strategy for the lactic phase is gradual deceleration throughout, we can determine how to use the CP system to lead into it. The gradual deceleration throughout the lactic phase indicates that the CP system is not required during this phase and it can be expended as much as possible during the first part of the race. How much is as much as possible? Obviously it cannot be anything like a maximum 200m effort.

There are three considerations. The first is that we want the CP effort to last as long as possible, so as to put a lesser requirement on the lactic system. There is evidence that the system can last for much of the first 200m if used judiciously. That means gentler acceleration than in a sprint, holding speed for longer.

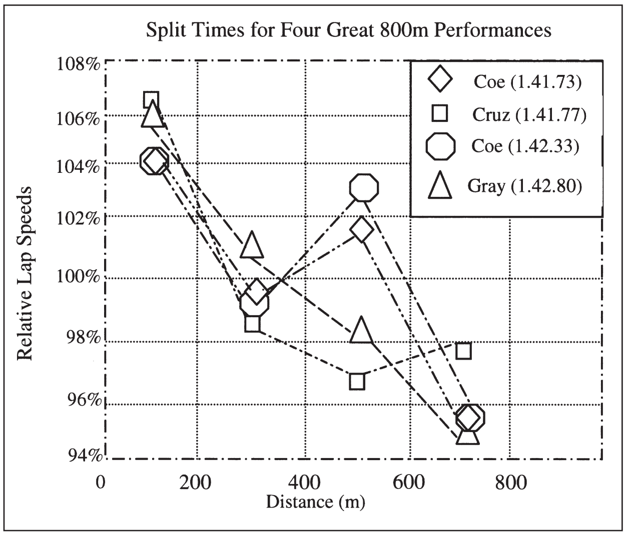


Figure 2: 200m splits as percentage of average pace for four great performances.

The second is that we want good speed, because this is where the cheap gains in overall time are going to come. This is a contra-dictory demand to the first, because it calls for high acceler-ation, so some trade-off is necessary.

The third is that when the CP phase is coming to an end and the lactic system is the predominant provider of power we do not want too high a speed, because the lactic system will not be able to sustain it without a rapid build-up of acid.

All of this means that we need an acceleration that is well within the runners' capability. Then he must remain effortlessly near the speed attained for longer than a sprinter remains near his top speed. Perhaps something like 100m is desirable. This is possible if the acceleration has not been severe.

Then, as the 200m mark is approaching and the CP system is well on the wane, it is necessary to ease off, so that the runner is left with a speed that the lactic system can handle.

The logic of all of the above and the experience of international elite 800m runners would suggest that a first 200m time of 88-90% of best possible 200m is the aim. This means that an 8OOm runner capable of 21.6 sec would run the first 200m in 24-24.5 sec. The slower time is probably closer to optimum but circumstances often necessitate the faster effort.

PACE DISTRIBUTION

As we saw above, the optimum strategy during the lactic phase, which basically is from 200m to 800m, is one of gradual deceleration. A reasonable first pass at a model is one based on a fall in speed of 2% per 200m. This would have the 200m sectors at 88%, 86%, 84% and 82% of best 200m speed.

With respect to the average speed based on 800m goal time, the model would be 103%, 101%, 99% and 97%. The 2% per 200m deceleration fits well with twin requirements of beginning with speed that the lactic system can manage and delivering a good yet credible time for the last 600m.

However this is quite conser-vative with respect to CP perfor-mance of elite runners. They tend to go quicker in the first 200m than indicated by the above model. Then they quickly come off that speed and the second 200m is about 5% slower, so they do not get hung up on a pace that the lactic system cannot sustain.

Holding to the gradual deceleration strategy, the deceleration from the second to third 200 and from the third to fourth 200 would be about 1/4% per 200m. A better model in terms of average speed for the goal time is:

first 200	104.50%
second 200	99.25%
third 200	98.50%
fourth 200	97.75%

and in terms of best 200 speed:

first 200	89.00%
second 200	84.50%
third 200	83.75%
fourth 200	83.00%

This model produces the first lap/second lap differential that is the average of the 22 performances above.

A brief mention is necessary about the apparent accuracy of the above percentages. For instance 83.75 seems exceptional accuracy, almost 1 in 10,000-more than is possible for a runner to judge. However 83% is not particularly accurate-it has a possible error of 1.25 sec in an 800m run. 0.25 is not meant to signify accuracy to the second decimal place, but rather the accuracy entailed in going to the nearest 1/4 of a percent. Going down to 0.25% reduces the possible error to 0.3 sec in 8OOm, or about 0.1 sec in a 200m sector.
To put the above in context, let us consider a runner aiming to run 1:46. The 200m splits according to the model would be: 25.3 sec; 26.7 sec; 26.9 sec; 27.1 sec.

Before we go on to consider training implications of this pace distribution, it is instructive to look at the best and the worst of pace distribution. This occurred in the one race the final of the 1988 Olympic 800m. It is shown in Figure 3.

Kiprotich was presumptuous in going out that fast and trying to hang on to the speed. His best going into the Games was more than a second outside the winning time, and he had no significant background in 400m running. It was inevitable that he would accumulate too much lactic acid early and go into dramatic speed collapse well before the finish, and he did.

The winner, Paul Ereng, was a different story. Like Kiprotich he was a Kenyan but he had gone to a U.S. college as a 400m runner, so he had a good CP system. Nevertheless, he was foolhardy in the Kenyan trials and went out far too fast. He went through 400m in 49 sec and 600 in 1:14 before the inevitable happened. His last 200m took 31 seconds as he was passed by one, then another runner. He just hung on for third and a chance to run at the Olympics. However, he learned his lesson and his run in the final at Seoul was a model of sensible distribution of energy.

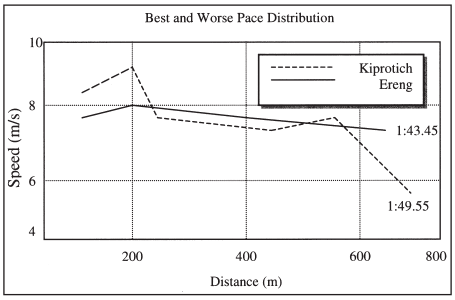


Figure 3: The best and worst of 800m pace distribution.

TRAINING IMPLICATIONS

THE CP SYSTEM

The model arrived at above has the first 200m at 104.5% of average speed for goal time. Given that life is not perfect and he might have to run faster for position, the runner must be able to run the first 200m at 105%, and this must be comfortable. Indeed we saw above that Cruz and Gray went at 106%, but perhaps this is not something to be copied by lesser mortals until 105% is mastered.

105% can only be comfortable if it has insignificant lactic content, so it must be a CP effort. The system must last for most of the 200m, and it must deliver a speed that is 105% of goal average pace. That requires some training.

If we look at 1:46.0 as the goal time (providing it is not a presumptuous goal), the average 200m speed is 26.5 sec. This requires the athlete to be able to run the first 200m comfortably in 25.2 sec. The comfort margin will be provided by the athlete being capable of 22.5-22.7 sec for 200m. This is in conformity with the speed implied in the model in terms of 200m capability (89% for first 200).

Such running is quality speed-it is about 92% of a 200m performance of comparable standard to 1:46. An 8OOm runner will need to train for it. It is the same at every other level of performance-the first 200m requires the athlete to be well equipped for speed relative to that level.

The first requirement is to improve maximum speed. We want to increase the stores of creatine phosphate in the muscles and we do this by stressing the system that uses them. This stress is provided by full speed sprint work, like flying 60m repetitions.

When the stores are increased, i.e., when the speed is good, we do something about lengthening it. This is another way of saying that we cannot have speed endurance unless we have speed. The lengthening is accomplished by moving the distance out to 100 then 150m. All the while the emphasis is on the efforts being smooth and relaxed.

When long speed has been well developed it is time to move on to 200m repetitions. These should be slightly faster than the 105% of goal average pace, say about 110%, so that 105% will come easily. The repetitions should be relaxed, not flat-out, and the athlete should be still full of running at the end of each. They should become second nature, so that the right speed for the first 200m of the race comes quite naturally. After the preparation outlined here this will be quite possible.

THE AEROBIC SYSTEM

The aerobic system does not work by itself in a properly run 800m, and it is not the predominant energy system. Nonetheless it is vital, and it must be a good system. The difference ($v-v_a$), where v is actual current running speed and v_a is the maximum speed the aerobic system alone can sustain, is very important. It determines the amount of lactic acid produced. Obviously for a given speed v, the higher v_a the less acid produced and the longer the lactic system lasts. The 800m runner needs a high value of v_a and cannot ignore this aspect of preparation.

The way to increase v_a is to do long continuous runs at very slightly above maximum steady-state pace. Maximum steady-state pace is about marathon pace, so a little faster is not very fast and can be continued for some time-an hour would be reasonable. Having the pace just above maximum steady-state pace stresses the body a little but manageably, and causes it to adapt so that it can handle the pace in steady state mode. Thus v_a has been lifted.

A fundamental factor driving the aerobic system can also be improved, and from that will come an increased v_a. That factor is the amount of oxygen the lungs can take in, and it is known as the maximum oxygen uptake. Obviously the more this is, the greater the rate at which glycogen can be consumed and the greater the power from the aerobic system. A maximum effort of 6-10 minutes achieves the maximum oxygen uptake. A typical session would be 2-3x3km with jog recoveries of similar duration. The speed is above maximum steady-state pace, but not appreciably, so the accumulation of lactic acid is not great and jogs of this duration will be sufficient to allow repeats of the same quality. Progress is by continual small increases in the speed of the runs.

THE LACTIC SYSTEM

The performance we want from the lactic system is to sustain the effort for 75-90 seconds (depending on standard), allowing only a modest drop-off in speed. The speed we want from the system, according to the model, is 99.25%, 98.5% and 97.75% of goal average pace for the second, third and fourth 200m sectors. Put less accurately but more realistically, we want 600m at about the same average as the goal for 800m, sliding from a few tenths of a second above the pace for the first 200m to a few tenths below for the last 200m. This requires a well developed lactic system.

As with any of the energy systems, there are two aspects-power and capacity. The first determines how fast and the second how much, or how long. The faster the speed available from the lactic system the higher the running speed can be without the athlete reaching speed collapse before the finish.

So we are interested in developing a powerful lactic system. This is achieved by doing very fast 300m repetitions with as much recovery as possible. The first part of each repetition exercises the CP rather than the lactic system, but there is no way of avoiding this.

Capacity of the lactic system is even more important than its power, because the system must last to the finish. One way this can be developed is by extension of the above 300m session. 5x300 becomes 4x400, then 3x500 and finally 2x600. From a good speed base the athlete gradually drops his speed and extends the distance.

As with the 300s, there is a problem in that the effort is aided by the CP system in the early part of the repetition. There is no way the CP component can be taken out. To compensate for this the repetitions should be faster than the lactic system would deliver. So the 600s should be above goal average pace.
For instance for a 1:46 runner, for whom goal pace would be 1:19.5, a challenging but reasonable target would be two 600s averaging under 1:19.0.

There is a way of removing the assistance provided by the CP system, and thus making the lactic system work harder. This is by means of sets of 3x300 with very short recoveries within the set. If the recoveries are less than three minutes the CP stores in the muscles are not completely replenished. The second and third 300 are run with only partial replenishment of CP, and there is more demand on the lactic system. The idea is to run the first 300m at the pace of the first 300m of an 800m, and the second and third at the sliding pace of the last 600m. Recoveries could start at 2 minutes, and progression would be by shortening recoveries.

CONCLUSION

By looking at the 800m event from a theoretical and historical perspective, we are able to see the requirements on the three energy systems and consequently the optimum pace structure of the event. This leads us to decide the essential training elements for the event.

Manchester, July 02. KELLY HOLMES. photo by Mark Shearman.

An altitude adventure in Ethopia

by

Matt Smith

“Haile! Haile! Haile!’ chanted the children of Addis Ababa as I took my daily runs at high altitude around the hills and trails of the Ethiopian capital city. Day upon day of my three week December stay I was left in no doubt that my trip was an inspiring opportunity to live and train in the land of Haile Gebrselassie, the double Olympic 10,000m champion and hometown hero to the people of Addis.

It is no secret that the world’s best endurance athletes are all either born or trained at high altitude venues. Britain’s Paula Radcliffe is well known to have perfected her World Cross Country winning preparations at altitude in Albuquerque, New Mexico, in addition to using Font Romeu as her French altitude base over several summers. But particularly fascinating to athletics fans and competitors alike has been the dominant influence exerted by African athletes on the distance running world. Ethiopia especially has produced many Olympic Champions including Haile, Miruts Yifter and Abebe Bikila.

My invitation to stay with current Addis Ababa resident and British former Olympic marathoner Richard Nerurkar gave me a wonderful cultural opportunity to meet, train with and learn from Haile in his ideal and inspiring high-altitude home training environment, where the sun shines in December and all that seemed to be absent was oxygen. I might have left it a little late to be altitude born, but this trip was my chance to be altitude trained.

Situated at close to 8,OOOft, Addis Ababa is higher than many of the pistes used for downhill ski racing in Europe. The city lies in a bowl surrounded by mountains and so most runs rise from this elevation. Many beautiful trails are found at 10,000ft, which is not significantly below the height of base camp on Mount Everest, and therefore perhaps not the easiest location for me to seek to match strides in training with “Superman’.

“Superman’ is the label bestowed upon Haile by Brendan Foster, following Haile’s victory in the Great Ethiopian lOk Run in November. The overwhelming recent success of the race, for which Richard was the Local Event Manager, made this a perfect time for me to visit Addis Ababa.

Inspired by Haile, who is a charming, friendly and enthusiastic symbol of success and stardom, an estimated half a million people lined the streets of Addis to watch their champion overcome 10,000 competitors and storm to victory along his self-titled street, Haile Gebrselassie Avenue.

One week on from the race and this good feeling was transmitted to even a white western runner like me, encapsulated in almost endless shouts of support offered throughout every training run I embarked on in Addis, and, as anyone who has run at 8,OOOft will testify, encouragement provides much welcome inspiration during any run at this elevation.

“Ambassa!’ shouted some small chlldren, using the Amharic word for `Lion’, as I ran past them on just my second day at altitude. I certainly didn’t feel like much of a lion as I began to ascend the sixth and longest hill of my ten mile run, but I managed to respond with an almost convincing spurt of speed. The hill spiralled up from the outskirts of Addis, across the prevalent bright red sandstone rock, heading towards a far off clump of resilient Eucalyptus trees that marked the top of the climb. Quads burning, breathing heavily and pace slowing, I silently implored my red blood cells to hurry up and multiply as part of the acclimatisation process.

`Faranj! Faranj!’ - meaning `foreigner’ in Amharic - is a call I’d hear at least thirty times each day from locals who were excited and surprised to see a white runner. Minority status is guaranteed to generate a degree of interest unlikely to be experienced (or condoned) in non-African countries.

Indeed it’s not unusual for youngsters, thrilled to see a westerner out training, to enthusiastically join in with the run for maybe a few hundred metres, even when this necessitates them completely changing the direction in which they were heading. The children easily forgo any activity they were engaged in, for time exerts little pressure on an Ethiopian’s largely empty daily schedule. Many people appear to be just hanging around and watching the world pass by.

`Hey, you! Hey, Haile! You!’ squealed a group of small boys as one of their pals joined my run one other afternoon. Perhaps three or four years old, he sprinted desperately to keep up for thirty metres or so, which was as far and as fast as he could run with me. His jacket was flailing in the wind and his arms were pumping fiercely, barely able to keep up with his little legs: A wonderful experience to share... providing the budding Olympians don’t keep up for too long and put a dent in one’s confidence!

By the middle of my stay, and thankfully much more acclimatised, I stood early one morning looking across a field of sun-scorched grass. My watch said the time was just before half past six and snaking smoothly in my direction was a long train of over a dozen Ethiopian distance runners. Leading the line of illustrious athletes was my running partner for the morning, the leader of the Ethiopian training group and a man keenly preparing for his April debut in London’s marathon; one Haile

Manchester 31.7.02. SAM HAUGHIAN (499) leads from JOHN MAYOCK and CRAIG MOTTRAM (Australia) in the 5km. photo by Mark Shearman.

Gebrselassie.

Among those joining us for the run were Tesfaye Tola, who narrowly defeated Jon Brown to earn the Olympic Marathon bronze medal in Sydney, and Tesfaye Jifar, who ran 2hrs 7mins to win last November’s New York City Marathon. The other dozen or so guys in the group were slightly lesser standard athletes who could merely muster maybe 27.30 for 1O,OOOm!

Twelve miles, several hills and a little less than seventy minutes later, the run was happily completed. I’d probably added a few more red blood cells to my expanding collection, and the quality of my training companions had undoubtedly increased my levels of inspiration.

Similarly motivated and doubtless drawn to the sport of distance running by the impressive exploits of their trailblazing and all-conquering countryman, elsewhere the same morning the 5km/l0km group were also training together. This group included Olympic 5OOOm champ Million Wolde, World 1O,OOOm silver medallist Assefa Mezegebu and rising young star Kenenisa Bekele, who went on to win the 6reat North Croas Country in Newcastle before the end of 2001.

The training schedule of the top Ethiopian runners is tightly controlled by coaches from the National Federation and it is required that all members of the National Team are based in Addis. The training structure for the marathon squad calls for hard workouts thrice weekly. Haile runs thirteen times each week and, unlike in fabled Kenyan squad systems, the Ethiopians see no need to run three times in a day. Hard sessions typically comprise a 20-30km tempo run or long track or hill repeats. These efforts are very hard and, not least because the hills and high altitude provide a degree of stress at any pace, easy runs are often run quite slowly.

“Today we are walking,’ Haile advised before we did one easy afternoon run. He was not wrong for we proceeded to jog for 32mins and covered barely four miles. Yet, even at this slow pace, and with other Olympic medallists in the group, still no one deposed Haile from his position of pacemaker. I think Haile could alternate ten minute and five minute miles and, such is his status, Haile’s training partners would not fail to follow his lead.

By the end of this jog our eight strong group had approximately doubled in size with the acquisition of various passers-by, drawn from their daily business by this latter day Pied Piper of Addis. One latecomer was a young guy dressed in jeans and a denim jacket and, although breathing very heavily by the end of the run, he succeeded through determination and motivation to keep pace with Haile, the national talisman. But this is not to sugqest training for the Ethiopian squad is anything other than serious business. Instead, the relaxed pace of their easy runs indicates they have enough confidence in their fitness to allow their bodies full recovery whenever they feel it is necessary.

Runs in Addis typically finish with some relaxed stretching and lots of laughing end joking. A common topic of conversation among the group concerned the London marathon, not least following the recent confirmation that Ethiopian World and Olympic Champion Gezahenge Abera had just been added to a field that already includes Gebrselassie, Jifar and Tola. Expect to see these guys at the front of the field, sprinting to earn the victory and the title of unofficial Ethiopian marathon champion.

Working at altitude I soon learned the pace and distance of runs are much less significant indicators of effort than they are at sea level. At high elevation, hills and altitude are the stressful stimulators that trigger improvements in fitness. But as days passed and I became more acclimatised, I was able to ascend hills far more easily and I was much more able to enjoy the feeling of freedom and escapism afforded by running along ridges at the top of the world, beneath bright blue sky on scorched grass trails.

Yet it’s wise to keep a couple of faster gears in reserve, as Richard discovered one morning run when he disturbed a bull on its way to market and caused the animal to make a half-hearted attempt to `butt’ him. Fortunately, Richard managed a swift sidestep and so evaded the bull’s best efforts. This incident highlights one of the charms of my trip; the differences between life in England and Ethiopia.

Bulls, donkeys, goats, rams and oxen are all regulars on the Ethiopian streets, mixed among hundreds of people from schoolchildren to strollers and beggars in what is a truly vibrant outdoor society. Chaotic traffic comprising noxious burnt orange school buses, blue and white Lada taxis and Toyota minibuses all weave fearlessly down and, occasionally, across main streets. VW Beetles and rotary dial telephones are envy-inspiring possessions in Addis despite the fact these items are so outdated that they are considered kitsch in England. However, almost unbelievably, during my first ten days in town I was shocked to spot almost a dozen old-style Manchester United jerseys.

Football, somewhat surprisingly given the athletic success of Haile, Derartu Tulu and others, is said to be the national sport in Ethiopia. During one run across a plateau at close to 9000ft, in an area all but devoid of homes and people, I ran past what must be one of the remote soccer games in the world. There two infant brothers were fiercely contesting possession of a `ball’ made up of rags and clothes bound together, from which one or two old socks seemed to be escaping, while their smaller sister guarded a goal which had piles of stones instead of goalposts.

But perhaps the most striking and impressive aspect to life in Addis is its incredible mountain top views. Running one Sunday from the old Ethiopian capital of Intoto, halfway through a l5 mile trail route at an elevation of 10,000ft and above, I rounded a copse of trees to be faced with the stunning expanse of the great African Rift Valley. Perhaps 2000ft below the ridge on which I ran, the green and gold fields of the Rift Valley rolled out for an imperceptibly huge distance, blending somewhat seamlessly into the skyline hundreds of miles ahead. It was a privilege to witness such a great wonder of the world and the spectacular scenery comfortably compensated me for the considerable effort required to run at 10,000ft.

“13 months of sunshine’ is the slogan of the Ethiopian Tourist Board and never did the shivering streets of London feel so far away. To see such beautiful surroundings in a month when the climatic difference between England and Ethiopia is most marked made many days truly memorable. The British winter demands waterproofs, tights and extra tracksuits and this contrasts sharply with shorts and sunshine in Addis.

Training in Ethiopia may be slightly uncharted territory for many runners but I have learnt that Addis Ababa can be an incredibly fulfilling and exciting place to live and train. The altitude is too high for mosquitoes to survive, so there is no malaria in Addis. The favourable exchange rate and low cost of living in Ethiopia mean this type of training trip is an opportunity available to all or, at least, all who like the idea of freedom and escapism, of running in sunshine on hills and trails against a backdrop of spectacular scenery, mixed with a little sweat and a lot of encouragement.

Believe me, it’s a lot more fun to go running and hear people shout ‘Haile! Haile!’ rather than, as is the case in London, yell ‘Run Forrest, Run!’.

Manchester, 7.02 JO PAVEY, photo by Mark Shearman

LETTER TO THE EDITOR

Dear Frank,

Reading your letter in AW of 19th June (“Endurance Solutions”) about who uses Coe’s training system nowadays, some years ago I attended a training day where you were guest coach. I asked about your 5-pace system and you were kind enough to write to me explaining it.

I now coach a 14-year old girl who when she joined our club had a 1500 best of 5.25 and hadn’t done 800.She was able to train twice a week. Last season I started her off with 1500 pace sessions on Mondays and 800 pace on Wednesdays. By the end of the season, still only l3, she was English Schools’ 1500 bronze medallist with 4.38.47 and her 800 time was 2.15.3.

This season I expanded the training to bring in 3k and 400 pace sessions, spread over a fortnight. She is now English Schools’ 1500 Champion with 4.30.43 (8th on UK all-time under-15 list) and finished 2nd in AAA’s Junior 800 with 2.11.29 (fastest in UK this year).

So, returning to the question of who uses Coe’s system now? Answer: thanks to you, I do!

Yours sincerely,

Nick Nicholson
Endurance Coach
Dorchester AC

End of “Periodization” In The Training of High Performance Sport

by
Yuri Verhoshansky, Russia

A well-known Russian sport scientist questions the validity of Matveyev’s theory of periodization. He provides detailed criticism on why the concept is out of date and unacceptable for contemporary training concepts.

1. MANEYEV’S CONCEPT OF “PERIODIZATION” FACES CRITICISM

The methodical principles of contemporary training systems are in large part based on the work of Russian coaches of the early 1950’s, when the former Soviet Union prepared for its first participation in the Olympic Games (Helsinki, 1952). The preparation was based on the information collected by L.P. Matveyev at the Moscow Institute of Physical Culture. It was published as a theoretical concept known as “periodization” in 1965.

Matveyev’s concept attracted attention outside the Soviet Union, because training theories had at this point not yet involved scientists, and the successes of Soviet coaches and athletes on the world stage were exceptional.
The periodization concept eventually became a synonym for “planning of training.” Many specialists even today use this concept in progressive presentations of the organization of training. However, the majority have found in practice that the theory of periodization is not acceptable and it has been criticized at home, as well as internationally.

Many experts today consider that the antiquated theory of periodization does not meet the requirements of contemporary sport and can have a negative influence on performance development.

It also appears that periodization does not present a model training system for elite athletes within the demands of modern competition calendars and other international development tendencies. Only some aspects of periodization theory can now be applied to the training phases of young athletes.

It is now evident that a formal, mechanical division of a training year into periods and mesocycles is not practical. Further, the principles of periodization are not really reliable because they are based on relatively thin research and from experiences assembled in the early days of the Soviet training system in the 1950’s.

Many publications draw attention to the fact that the methodical recommendations of periodization theory are not sufficiently concrete and fail to meet the demands of contemporary high-performance sports. This applies in particular to sport games, endurance sports, speed events in track and field, and so on. Periodization also fails to provide acceptable methodical recommendations for the improvement of specific conditioning and final competition preparation.

Endurance sports experts are most critical about Matveyev’s periodization theory. A very dynamic organization of training loads has been gradually eliminated in these sports. Coaches still following the outdated elements of periodization find it extremely difficult to keep their athletes in top form throughout the competitive season.

Attention should also be paid to the fact that the successes of African athletes (particularly Kenyans) can be explained not only because they live at altitude, but also because they have rejected the theory of periodization in the planning of training.

British coach, Frank Horwill, in an article titled “Periodization-Plausible or Piffle?” claims that the theory of periodization is unsuitable for modern running training. He also states that neither the former Soviet, nor the West European runners (male), have broken world records in middle distance running or won Olympic gold medals over the last 30 years. At the same time, British athletes, who have not followed the Russian concept of periodization, have achieved such performances. Nevertheless, British athletes began to follow Matveyev’s theory since the 1980’s and their performances have since shown a backward trend.

Zanon of ltaly, a well known expert of the Soviet Union’s training doctrine from 1960 to 1980, has now rejected Matveyev’s periodization principles, because “when a training concept is not based on biological fact-as it happened in the Soviet theory-but on theoretical suppositions without a correlation to realistic conditions, it can be expected that the corresponding training programs will lead to a loss of sporting talent.”

I don’t agree with all of Zanon’s s arguments. He has several inaccuracies in the history of periodization, as well as theoretical and practical interpretations of periodization. He also confuses Matveyev’s concept of periodization with the Soviet training system, of which only some coaches have followed the concept.

Peter Tschiene of Germany, in an analysis of several training concepts (1985), comes to the conclusion that Matveyev’s periodization theory has remained unchanged since its publication in 1965, although enormous changes have meanwhile taken place in sport.

It is therefore hard to understand how Matveyev overlooked the increasing difficulties occurring in the use of his training structures in such activities as, for example, all sport games. Tschiene (1990, 1991) recommended that the periodization theory of a yearly training cycle must be reformed and changed to a modem concept based on substantiated principles that take into consideration the role of competition and individualization.

Matveyev’s textbook on periodization was never translated into the Italian language. Nevertheless, it was severely criticized in a paper distributed to sporting organizations, sport medics and provincial sporting authorities by the Italian Olympic Committee (CONI) in 1978. The aim of this critical analysis was to provide coaches revised information on training concepts. Particular attention was drawn to the lack of reliability and effectiveness of Matveyev’s theory in the training of swimmers, weight lifters and track & field athletes (running).

The information stressed that Matveyev’s findings dated back to the time between 1950 and 1960. Obviously training methods have enormously changed since then, reflected in numerous new records. Several new dominating training concepts, based on sport science studies have emerged and modified old approaches to high-performance training (Bellotti, et al. 1978).

The rejection of the periodization concept was even more categorical in Russia, where the former Vice President of the State Committee of Sport, Kolessov, declared that participants in high-performance sports “should not continue to follow the outdated system of Prof. Matveyev (Sovietsky Sport 1991).

2. REASONS FOR THE BREAKUP OF THE PERIODIZATION CONCEPT IN TRAINING

It hardly makes much sense today to analyse the theoretical weaknesses and clearly senseless methodology of the periodization concept. We will therefore follow only the major scientific factors involved to avoid a repetition of similar attempts in the future.

Disregarding New Biological Understandings
It is a grave mistake to overlook biological knowledge and achievements of sport sciences. In these days it is not necessary to convince anybody about the value of “biological components” in the theory of training (Verhoshansky 1993,1996,1998). However Matveyev maintains that the biological laws do not determine the macrostructure of training and the

development of form is rather guided by other laws. He desperately attempts to overlook the process of performance development from the position of adaptation and refuses to acknowledge the priority of "biological components" in the theory of training.

Matveyev agrees in reference to the theory of adaptation that "adaptive processes play a certain role in the reconstruction of the organism through sporting activities," but claims that adaptation is only one aspect in the improvement of performance.

> "The priority of the interpretation of the processes involved in the perfection of sporting performances and related phenomena should not be regarded as the theory of adaptation but the theory of development." (Matveyev 1991).

This picture shows a lack of scientific seriousness and the impossibility of developing periodization further on scientific principles.

"Missing legalities" in Training Concepts

The methodological and scientific untenabilities of periodization become obvious in the terminological chaos of scientific principles, directions, and the like. This chaos occurred from a strange and uncompromising search for legitimacy in the concept of Matveyev's theory of periodization.

Matveyev claims that periodization principles "express the biological legalities of adaptation in training" (Matveyev/Meerson 1984). This was a strange declaration because it is known that training processes are based on subjective concepts of their contents, structure and temporal sequence. There are no "legalities." At best we can only talk about methodical rules in training, which are formulated according to empirical data.

The logically speculative presentation of training and competition without objective evaluation led the concept of periodization to an "unseparable correlation between the general and specific preparation of an athlete" (Matveyev 1991). To this were added other similar "legalities," such as the "cyclic character of training, a wave-like formation of training," etc. At this time it was already known that progress in international high-performance sport was tied to more far-reaching and complex factors than periodization theory allowed (Jakovlev 1976, 1993; Kassil, et al. 1978; Sergeyev 1980; Verhoshansky 1988; Viru 1994; Booth 1988).

It is understandable that such a confusion of "legalities" also was responsible for producing confusing "principles." An analysis of 17 textbooks conducted by the Institute of Physical Culture in the former Soviet Union showed that the authors failed in most cases to see differences between the principles of training systems, general pedagogical aspects and specific principles in training (Galkin 1988).

A lack of scientific foundation was responsible for a multitude of contradictions in the theory of periodization. This makes it unusable as an instrument for the organization of training and actually prevents further developments (Ballotti, et al. 1978; Horwill 1992; Zanon 1997).

Watford 14.8.02. CHARLOTTE MOORE leads 1500m. 'A' race. photo by Mark Shearman.

Disregarding the Biological Adaptation Process

Matveyev's speculative conception was based on a phasic development of top form. A dynamic development of sporting form was introduced by Letunov (1950 and Prokop (1959). They were the first sports medicine specialists who formulated ideas that the improvement of the training state of an athlete is based on the biological laws responsible for the development of adaptation processes in training. They arranged these processes into three phases:

1. Improvement of the training state;
2. Sporting form;
3. Drop in the training state (according to Letunov)

Or

1. Adaptation;
2. The highest practical performance capacity;
3. Re-adaptation (according to Prokop).

However, it appears that Matveyev failed to understand the biological ideas of Letunov and Prokop. This appears to be the reason for his primitive "pedagogical" interpretation of the nature of training. Matveyev merely changed the nature of training phases and maintained that his phasic development of form is the natural assumption for the periodization of training. It is easy to recognize that this concept of training, from the viewpoint of the "dynamics of the sporting form," gives only a superficial picture and is today regarded as naive.

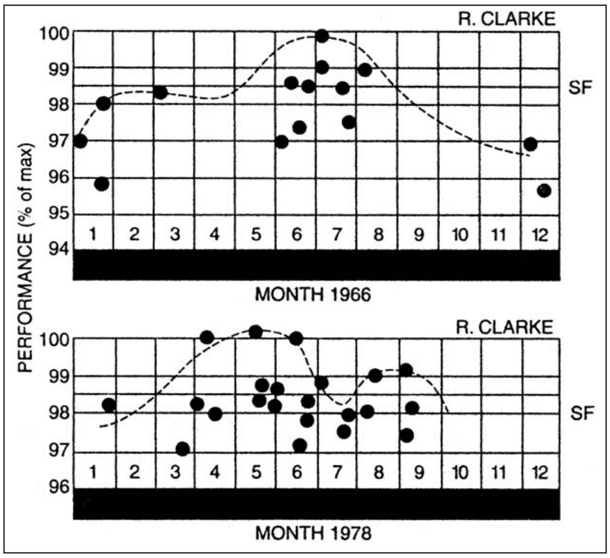


Figure 1: Examples of "exact analytical calculations" of the "dynamics of sporting form" (SF) according to the method of Matveyev (1991).

Matveyev persistently ignores numerous studies on adaptation processes on demanding muscular work in training (Jakolev 1976; Sergeyev 1980; Verhoshansky 1988; Verhoshansky/Viru 1990; Viru 1994; Neumann 1994). He simply overlooks research results available on the subject of laws covering long-term performance development and the morphofunctional specialization of the organism. Although Matveyev made use of the contributions by Letunov and Prokop, he based these on a scholastic level, without perspective (Tschiene 1991; Selujanov 1995; Zanon 1997).

Lack of Scientific Method

Matveyev's methods in The Concept of Periodization, as well as in The Foundation of Training in Sport, are rather primitive. They cover the so-called pedagogical observations and antiquated analytical-synthetical principles. But in an attempt to counteract the lack of scientific principles in these methods, Matveyev presented in 1991 a careful analysis to support his concepts. The analysis showed a lower limit of 1.5 to 2% in the range of top performances. Deviations from personal best performances were calculated to be 3 to 5%, in cyclic speed-strength events. Athletes were regarded to be out of form under these limits.

The calculations followed a simple graph of performances (fixed by points) which was based on a percent time system. The absolute personal best performances were set as 100%. By the way, from this developed his concept of a "wave-like format" of sporting form. Somehow Matveyev failed to take notice that a large part of top-form performances were below his critical range (see Fig. 1).

The Principle of Periodization Does Not Correspond to the Reality of Training and Competition

The first obvious criticism by specialists and practitioners concerns the essence of periodization in the formal and mechanical formation of training processes into subjectively formed parts/cycles, phases, periods, etc.). This according to Matveyev is the essence of periodization.

His argument is very simple in that the development of performance can't be acquired and maintained outside these nor can optimal training processes be constructed for development of form. Any other approach would contradict the objectivity of the construction of training. (Matveyev 1971).

The mechanical formation of training processes and their later reunification to some adaptive entirety has, first of all, nothing in common with a realistic organization of training in most sports. Secondly, this formation neglects objective adaptation processes. It simply does not even replace training control through different trial and error methods because periodization offers no objective confirmation for the choice of an optimal variation.

A formal observation of the so-called "laws of the development of sporting form" was responsible for an incorrect introduction of preparation and competition periods. This linear logic of first training and then competition simply failed to relate to objective realities and gave coaches and sport scientists poor information for a long time.

The preparation period served for "the construction of sporting form" through exhaustive preparation work, while the competition period was expected to "stabilize" and "maintain" form by using corresponding mesocycles for the realization of form without any further development. Such a primitive understanding of the periodization of training absolutely fails to correspond to reality.

In several cyclic events and, above all, in sport games (basketball, soccer, etc.), the achieved training state must not only be maintained but also further developed. Following the theory of adaptation, the main task during the competition period is to improve long-term adaptation of the organism in order to bring it to a new stable level of specific functional capacity.

It should be noted that in contemporary sport the competition period, with an increased number of important (international) competitions, has been considerably extended. In cycling, for example, the competition period has been extended almost to nine months. This means that the preparation period is not sufficiently long for a "fundamental preparation " and the development of sporting form must take place mainly within the long competition period. A formal demarcation of preparation and competition periods is therefore unacceptable.

Arbitrary Division of Training Processes

The poorest part in the concept of periodization appears to be the construction of training. According to Matveyev, periodization is based on a simple sequence of single training units in the training processes. The basic structural unit is the microcycle. Different microcycles in turn make a larger unit in the training process in mesocycles and finally the mesocycles are combined into a macrocycle.

Matveyev (1971 and 1977) recommends in the realisation of such a linear principle the use of different direction mesocycles, such as basic familiarisation, preparation, control, competition, maintenance, restoration etc. Each mesocycle is made up of three to six microcycles. It is unknown how this is substantiated and how the speculative recommendations in periodization can be applied to practical training.

Adaptation Principles Are Ignored

Another considerable fault in the concept of periodization is the intensity and volume of the training loads. This was the reason (overlooking the naive ideas of a wave-like total volume of load) for a massive increase of load, volumes to increase the training effect during the years when the principle of periodization was followed (Tschiene 1990 and 1991).

The most important peculiarity of adaptation, conversion of qualitative characteristics from external developments into internal characteristics of the organism was not taken into consideration in the theory of periodization (Jakovlev 1976; Verhoshansky 1988; Verhoshansky/Viru 1990; Viru 1994). The ignorance, or misunderstanding, of the specific character of adaptive changes in the organism was responsible for Matveyev's (1991) explanation in claiming the so-called "transfer" of performance capacities. This phenomenon exists, but not in high-performance sport.

For example, it is today not acceptable to state that "there are several cyclic locomotor exercises that clearly differ in their form (running, swimming, cross country skiing, cycling, etc.), but are still close as far as their endurance and other physical qualities are concerned" (Matveyev 1971).

This concept of Matveyev's is unacceptable because the specific nature of adaptational reactions of the organism depend on the type of training involved. This fact has been known for some time and is accepted as a very important criterion in the choice and organization of training loads. Load volumes have presently reached reasonable limits and the possibilities of developing new specific conditioning exercises has diminished. The so-called "transfers" and the importance of large volumes of conditioning exercises in the preparation period belong to the 1950's.

Ignorance of the numerous statements available on the physiological mechanisms of specific training influences is yet another fault in the concept of periodization. This is unfortunately responsible for an enormous time and energy expenditure in a less effective training volume.

3. IN SUMMARY

Four cardinal errors have robbed the concept of periodization of training of its theoretical and practical validity:

A poor understanding of sporting activities, technology of the preparation of elite athletes and the professional know-how of coaches.

A primitive evaluation of the methodological concept-only theoretical and without an objective foundation. In other words, purely speculative principles and a lack of objectively confirmed practical recommendations.

Ignorance of biological knowledge.

Limited acceptance of allied sciences and experimental results on training principles.

Abe Lemons on Coaching Track

Long-time college basketball coach Abe Lemons died recently at age 79.

Known for his witty one-liners, today's obituary in the LA Times had this:

> *"Track and field is the easiest sport to coach. All you have to do is tell them to keep to the left and hurry back soon."*

He also said he didn't believe in team rules, because as soon as you draw up a list of team rules some kid will go out and steal an airplane and then say that it wasn't covered in the rules.

Likewise, he said that he didn't believe in having team curfews because it's always your star player who gets caught.

Kurt Bray

Due to a proof reading error there was a duplication of material on page 10 of the previous issue. They are the comments after the 1952 Games and the Press comments after Bannister's race.
My apologies.

The Editor.

A Coach's Vision of Olympic Glory

by
Derek Parker

"WHERE there is no vision the people perish."

This Book of Proverbs quotation might seem irrelevant to British distance-running, but, as many observers criticise our nation's performance decline from 800 metres to the marathon, the maxim provides food for thought.
According to the dictionary, vision is "the act of seeing - a pleasing imaginative plan for, or in anticipation of, future events."

With a few honourable exceptions, there is a distinct lack of vision among many British athletes and coaches today.

Twenty years ago, when British distance-runners ruled the world, aspiring young sportsmen and women fearlessly proclaimed their ultimate ambition was to represent our country at the Olympic Games and win gold medals.

How often do we hear similar affirmations nowadays? Sadly, very seldom. We Brits are too busy eulogising African athletes and allowing ourselves to be brainwashed into believing genetic factors give runners from Ethiopia, Kenya and Morocco an inherent advantage over our own men and women.

But that's so often been the story in Britain. When we fail to achieve, we kid ourselves it's because fate dealt us an unfair hand and athletes from other countries received all the good luck from the moment they were conceived. We rationalise our failures and pretend we're not to blame.

During the early 20th century, we were told Scandinavian distance-runners were successful because they trained in the natural environment of vast conifer forests, which provided wonderful fresh-air workout opportunities unavailable in urban Britain.

After the Second World War, pundits claimed the successes of Eastern European athletes were the fruits of a regimented life-style which encouraged full-time training to promote national prestige while British runners had to work for a living and could only run at night on muddy cinder tracks.

Manchester 7.02. ANTHONY WHITEMAN. photo by Mark Shearman.

Later, the achievements of antipodeans like Herb Elliott and Peter Snell were attributed to a sunshine southern hemisphere climate, sand hills, mountain trails and golden beaches.

Now we're being indoctrinated into believing that being born in Africa gives athletes inherent powers of invincibility. So how does this pseudo-scientific theory square with the fact that, two decades ago, British runners like Coe, Cram, McKean, Moorcroft and Ovett regularly out-performed African rivals?

Sometimes the excuses as to why British athletes couldn't compete fairly with overseas rivals verged on the farcical.

Take sprinting, for example. It was said British competitors had little chance of beating American and Afro-Caribbean opponents because our athletes' centres of gravity were unfavourably located, they had shorter Achilles tendons and their lower leg bones were not long enough in relation to their femurs to generate sufficient power in explosive events.

We would probably still believe these absurdities if Alan Wells had not won the 100 metres gold medal at the 1980 Olympic Games in Moscow by demonstrating positivity, courage, determination, an unquenchable belief in his own ability and vision.

The victory trail he blazed was the inspiration for British sprinters whose legacy we still enjoy today. Similarly, Coe, Cram, McKean, Moorcroft, Ovett and others embodied the vision that is so such a prerequisite of success.

They realised the most powerful stimulus to memorable deeds comes from deep within the human psyche. It is that internal motivation, the desire to excel, which impels ambitious men and women to strive eternally in adversity and never submit meekly to life's vicissitudes.

Successful people are the products of their own thoughts, minds and imaginations. In a vast ocean of impulses, desires and emotions, they build their own physical, psychological and spiritual harbours against the tides of negativism and pessimism - enabling them to dig deep into their inner resources and get the best out of themselves in sport and life.

To deny the importance of our own role in our destinies is to be a disciple of nihilism, defeatism and despair. It is to erroneously affirm that external, rather than internal influences within ourselves, mould our lives. It takes away our responsibilities and obligations to ourselves and our sport - and makes us passive victims of circumstances beyond our control, always ready to blame someone or something else for our failures.

Negativism, despondency and despair is not the way of the champion - "one who competes on the campus, or field, where sporting contests take place."

The true champion is the person who competes to the best of their ability, irrespective of the final outcome. He or she constantly strives for perfection and, in the words of the philosopher, Nietzsche, rises above themselves and "casts not out the hero in their souls."

To paraphrase the American poet, Longfellow, champions are those who, "in the world's broad fields of battle, in the bivouac of life, are not like dumb, driven cattle, but are heroes in the strife."

These poetical sentiments are inspirational reminders that we alone control our own destinies and are the masters of our fates, the captains of our souls.

That was the message mirrored in the self-belief, which guided Britain's greatest athletes down through the ages to their greatest triumphs and the fulfilment of their carefully nurtured dreams and ambitions.

They had the vision to make great things happen. In doing so, they lived up the noble ideals enshrined in Longfellow's wonderful poem, "A Psalm of Life":

It is a motivational masterpiece, which should be read by Britain's athletes and coaches every day. Then perhaps we may once again thrill to the spectacle of British athletes ascending the victor's podium at major championships like the Olympic Games.

Lives of heroes remind us
We can make our lives sublime
And, departing leave behind us
Footprints on the sands of time;
Footprints, that perhaps another,
Sailing o'er life's solemn main,
A forlom and shipwrecked brother,
Seeing, shall take heart again.
Let us then, be up and doing,
With a heart for any fate:
Still achieving, still pursuing,
Learn to labour and to wait.

Derek Parker is a Master of Arts graduate of the University of Glasgow and a Bachelor of Divinity graduate of the University of London. A UK Athletics Level 4 Coach, he has advised more than 100 Scottish champions and internationalists in sprint, middle distance, hurdles and relay events.

About the Specificity of Endurance Training

by
Ants Nurmekivi, Estonia

Training in distance running events is usually based on the development of an aerobic base before more intensive training means are employed according to the predominant energy production demands of a particular distance. In the following text the author looks at specificity in the development of these performance-deciding capacities in three groups of distance running events.

INTRODUCTION

All endurance training systems are in principle based on a balance of aerobic and anaerobic training means. It is the specific length of a middle and long distance event that determines the predominance of one or another energy production process. Consequently, the dominating and therefore specific energy production mode in the 800m race, for example, is anaerobic-glycolytic, and in the marathon aerobic. Critical in distances between 3000m and l0,000m is a high level of mixed aerobic-anaerobic energy production.

However, energy production and consumption in the actual racing distance does not completely determine the employment of certain training means and their percentage distribution in a year's training. Whatever training means are used, it is generally accepted that it is first necessary to establish a firm aerobic base for more intensive training means in the mixed anaerobic-glycolytic energy production range. Aerobic training means therefore take up, the largest share of a year's total training volume of athletes competing in endurance events.

Training at the anaerobic threshold level and below it produces a complex effect in:

- Improved capillarization and with it blood supply,
- Increased number and volume of mitochondria,
- Raised activity of oxidative enzymes,
- Faster elimination of work-created lactate,
- Increase oxidation of free fatty acids to reduce glycogen consumption,
- Raised concentration of myoglobin,
- Improved contractibility of the heart muscle,

The running speed of the world's leading male long distance runners at the anaerobic threshold level (blood lactate does not exceed 4 mmol/1) is between 2:30 to 3:10 min a kilometre. It has been reported that the usual pace in endurance training runs of world 800m record holder Sebastian Coe was 3:20 min a kilometre, showing an extremely high quality of aerobic performance among this elite. At the same time it should not be forgotten that the running speed at anaerobic threshold level must correspond to the athlete's adaptation potential. According to several studies, the level of anaerobic threshold can even drop when the running pace is too fast and the volume of running is at the same time relatively small.

MARATHON SPECIFICITY

The specific marathon running speed is at a blood lactate level of close to 3 mmol/l and therefore closely linked to anaerobic threshold pace and its normal deviations. The most adequate reflection of success in marathon training is improved specific speed, achieved above all from slow, medium and race pace training runs. Most important are 2 to 2? hr road runs in which the pace is gradually increased. Runs at faster than the specific speed create extreme fatigue to aerobic mechanisms. A marathoner is naturally involved in some anaerobic training, yet the aim here is not adaptation of muscles to anaerobic metabolism but the improvement of recovery mechanisms.

Next to the improvement of the vegetative sphere, it is important to pay attention to the development of local muscular endurance, keeping in mind that the muscular system is characterized by a larger adaptive inertia than the vegetative system. This can lead to a conflict between the functional potential of the vegetative and muscular systems. It is therefore useful to increase intensity only gradually in the development of the muscles directly responsible to carry the workload.

Marathon specificity is determined above all by the strength of slow-twitch muscle fibres and aerobic muscular endurance. Konrad and Selujanov discovered a close correlation between the aerobic and anaerobic threshold levels and the strength capacities of slow-twitch muscle fibres. This indicates that strength training of marathoners should be based on typical running-type exercises dominated by actual running under heavier than normal conditions.

Under no circumstance should the development of creatine phosphate be forgotten. This is necessary to secure energy transfer from mitochondria to the muscular contraction mechanisms. As this mechanism is used both under aerobic, as well as anaerobic loads, it is not possible to effectively develop aerobic and anaerobic work capacities without it.

There is no doubt that a good running technique plays an important role. It can be identified in a fast rhythm, coordinated movements and maintenance of relaxation even at a fast pace. The aim is economy and a reduction of O_2 consumption at standard running speeds, achieved via the exploitation of reactive external forces, better use of the elastic energy of the muscles, etc. Naturally, a marathoner needs to run a lot, but the running volume and intensity are limited by possible risk of injury to the support and movement apparatus-a factor that again stresses the need for an efficient running technique.

Most essential in an optimal technique is the placement of the foot to reduce landing shock and velocity losses. This is followed by a reduced driving action and the maintenance of a high stride frequency.

Research indicates that an increased stride frequency and reduced driving effort are closely related to maximal O_2 consumption and therefore responsible for an improved maximal aerobic work capacity. Further, studies by Sinkonen have indicated that a fast running rhythm has a favourable influence on the maximal speed of long distance runners. This could be explained by the fact that at the end of a long training session (lasting over 1?

Eton 3.7.02. NORMAN POOLE presents SONIA O'SULLIVAN with a cheque for £750.00 for breaking the BMC 1500m record with a time of 4 min. 05.94 secs. at the BMC Solihull meeting on 22.6.02. photo by Mark Shearman.

hours), when the glycogen reserves in the slow-twitch muscles are exhausted, fast-twitch fibres are recruited. This leads to the conclusion that a large volume of endurance training does not endanger speed qualities, provided an effective technique and a fast running rhythm are maintained.

SPECIFICITY IN LONG DISTANCES (3000 TO 10,000M)

The predominant aerobic-anaerobic energy consumption regimen in long distance running is characterized by the level of critical speed (the speed at which maximal O_2 consumption occurs) and the capacity to maintain this level or a level close to it. These indicators allow us to evaluate the specific work capacity of long distance runners.

The base of endurance in long distance running is potentially high anaerobic threshold. This high threshold is closely associated with maximal O_2 consumption, as can be seen in the fact that world-class long distance runners have an anaerobic threshold level of 85 to 90% VO_2max. Consequently, as an athlete's performance level improves, the mixed aerobic-anaerobic training range is reduced and the choice of an optimal training pace becomes difficult.

According to MacDougall and Sale, a 100% load based on maximal O_2 consumption provides the most effective stimulus to bring about structural and chemical changes in the muscles. Anything above this load could be highly wasteful.

It is therefore important to pay attention to the fact that the performance of long training segments (up to six minutes) basically takes place in using extensive methods and avoiding high heart rate (not over 180/min) and lactate accumulation (not over 6 to 8 mmol/1) values.

The world's leading long distance runners are capable of running 1000m segments in 2:35 to 2:40 min under these conditions.
The high-quality work at critical speed level, where the demand on anaerobic processes is moderate, helps to avoid forcing and stabilizes work capacity. A frequent mistake in long distance running training is the exaggeration of workouts with glycolytic tendency. These workouts are naturally needed but only for the development of speed endurance and the capacity for a fast finish. Maulbecker differentiates three specific endurance development means for long distance runners, aimed at improving race factors:

Interval runs - shorter than race distance segments, but executed faster than the planned racing speed with short recoveries.
Tempo run - the volume corresponds exactly to the race distance and is performed faster than the planned racing speed with short recoveries.
Tempo runs - longer than the race distance segments, but executed slightly slower than the planned racing speed.

SPECIFICITY OF MIDDLE DISTANCES

Performances in middle distance running are directly influenced by anaerobic-glycolytic energy production. The faster the 8OOm or 1500m performance in competition, the larger is the predominance of anaerobic energy processes in the race. However, an attempt to train continuously at the specific racing speed would rather rapidly lead to fatigue and over-training. On the other hand, the anaerobic threshold speed, even if it reaches a high quality, also remains in middle distance events far removed from the specific race speed.
The solution here is the use of so-called "rhythmic runs" and extensive interval training during the basic preparation phases. This helps to reduce unnecessary stresses on the organism and allows the runner to employ a pace that is closer to racing speed.

Studies have shown that improved performances of elite middle distance runners are often directly based on an improved maximal O_2 consumption and running economy. For example, Steve Scott of USA bettered his VO_2 max in a single season by 8% and at the same time lifted his running economy by 5%. As a result, his mile time improved from 3:52.70 to 3:49.68. Scott's VO_2 max was reported to be 80.1 ml/min/kg, indicating the value of a high aerobic work capacity also in middle distance running.

Extensive interval running, using the Gerschler method, also permits the creation of a base for the most specific training means that follow-intensive interval and repetition runs. These are preceded by longer segments, for example 600m at a pace about 15 sec slower than the personal best, as the training state of the athlete improves.

Proceeding from specificity, attention should be paid, besides aerobic muscular endurance, also to the development of anaerobic muscular endurance. This is developed mainly by using horizontal (bounding, uphill jumping) and vertical (over obstacles, hurdles etc) jumps. The physiological planning of training should also include specific workouts to develop toleration to a high O_2 debt.

Such training sessions must correspond to the adaptation capacity of the organism and must allow for sufficient recovery. A workout to complete exhaustion might need 96 hours, or even more, for a full recovery, while general glycolytic-tendency workouts require about 48 hours for recovery.

Despite the fact that different racing distances depend on different energy consumption regimens, there is some truth in Arthur Lydiard's claim that "the performance level in endurance events is determined by aerobic and not by anaerobic work capacity." Consequently, race performances are determined in an annual, as well as multi-year training cycles, by the level of the endurance and speed-strength base prior to the start of specific training (T. Vnorimaa, L. Seppanen, 1986).

WHAT'S IN IT?

AVOCADO - Vitamin B6 which helps the absorption of iron. Promotes normal red cell formation. Helps normal brain function. Helps in energy production and resistance to stress.
Contains manganese which aids spinal health. Contains potassium acetate which promotes regular heartbeat and normal muscle contraction. Acute loss of potassium via sweat, if not replaced, can cause a heart attack. Contains phenylalanine which improves memory and diminishes pain. Contains l-carnitine which increases the amount of fat burned for energy, it therefore aids weight loss.

BANANA - Contains vitamin B6. Contains potassium acetate. Contains tryptophan which aids sleep and is an anti-depressant. If overweight, it will suppress appetite.

BROCCOLI - Contains vitamin A which prevents night blindness. It promotes bone growth, teeth development, reproduction. Contains vitamin C which aids ironabsorption. Contains selenium which is an anti-oxidant.

APPLE- A low glycaemic carbohydrate which means that the glycogen in it is stored for endurance events, there is a lot of truth in the old saying, " An apple a day keeps the doctor away." A good source of fluoride which helps treat osteoporois with calcium and vitamin D. About 10mg of vitamin C is found in a medium sized apple.

LEAF LETTUCE - Contains vitamin A, and cobalt. Cobalt promotes normal red-blood cell formation and replaces zinc in some enzymes. In 220 grammes of lettuce there is 4.4 mg of iron.

ALMONDS - Contains vitamin E, vitamin B2 which aids the release of energy from food and maintains healthy mucous membranes lining the various tracts in the body. Contains calcium carbonate which aids bone growth and strengthens tooth enamel. Laxative in large doses. Small doses are antacid. One cup contaims 6.7mg of iron.

MILING TWINS (as at 1.1.2002)

Twins are to be found in all areas of human activity. Track and Field has its share and it seems possible that middle/long distance running is especially blessed. Listed below are some, if not all, of successful twins over the last forty years or so. Some of the performances may not appear to rate very highly but note needs to be made of the birth date, which gives an indication when the performances were achieved.

Some of those listed would have reached greater acclaim in the longer distances e.g. the Holts, the Yeomans and the Toobys. Some have yet to make their final mark in "Senior" competition e.g. Potters and Frosts.

No doubt there are, or have been, twins in other areas of the sport but their names do not as readily spring to mind in these numbers. Also to be noted is that 30% were born in the April to September period, although only a small sample does this indicate that winter births favour success at middle distance?

If readers know of other "successful" twins in this area of the sport I would be pleased to add them to the list. Success in this instance may be interpreted loosely as the purpose of this exercise is to identify the prevalence of twins in this range of events. My e-mail address is crouch_leslie@hotmail.com.

Surname	First Name	1500	Mile	First Name (Twin)	1500	Mile	DOB
Cooke	John		4:07.6	David		4:11.1	16.12.35
Milner	Tony		4:02.7	Peter		4:03.4	2.12.39
Holt	David		4:12.0	Robert	3:51.5	4:10.5	18.5.44
Murray	Mike		4:06.3	Pat		4:12.0	20.5.44
Lincoln	Rita	4:12.65	4:37.4	Iris		4:45.7	4.11.46
Tuck	Grenville		4:17.8	Graham		4:21.1	22.10.50
Yeoman	Ann	4:15.3	4:39.76	Paula	4:11.23	4:33.42	30.3.52
Knowles	Daniel	3:46.5		Ronald	3:48.2		15.10.54
Rimmer	Gordon	3:45.7		Steve	3:46.4		9.8.56
McKeenin	Christine	4:06.24		Evelyn	4:20.8		1.12.56
Gayter	Paul		4:05.9	Philip		4:09.1	15.5.57
Fielon	Helen	4:25.0		Kerry	4:32.5		7.2.58
Samy	Shireen	4:18.6		Marina	4:23.7		4.9.60
Tooby	Angela	4:14.3	4:38.39	Susan	4:16.23	4:44.5	24.10.60
Howard	Kevin	3:45.3	4:00.55	Mark	3:42.9	3:59.3	7.2.66
Tulloh	Katherine	4:25.5		JoJo	4:26.2		26.9.70
Stacey	Gillian	4:15.89		Julie	4:21.70		15.11.72
Graffin	Allen	3:40.14	3:59.86	Andrew	3:35.97	3:55.42	20.12.77
Potter	Jane	4:26.63		Juliet	4:25.1		24.10.81
Frost	Bryony	4:37.38		Kathryn	4:41.23		21.2.84

BIRTH MONTHS (MALE)

Following on from the article on twins an analysis of the world top 100 at 800 and 1500 last year reveals September as the most prolific month. The September to December period is by far the "greatest" third of the year.

800m
Jan 7 Feb 9 March 6 April 5 May 10 June 8 July 4 Aug 6 Sept 15 Oct 7 Nov 12 Dec 11

1500m
Jan 6 Feb 3 March 5 April 8 May 7 June 5 July 12 Aug 9 Sept 13 Oct 10 Nov 12 Dec 10

One year is a very small sample and of course may prove nothing but there may be some indication that, at this level, the runner born September through December is perhaps more likely to be successful than one born at another time.

An analysis of the world top 100's in these events is skewed because of the substantial number of Kenyan athletes in the list, plus of course those born further south of the equator. For a broad comparison at 800m 51 were born Jan to June and 46 July to Dec. (One or two birth dates are not known) At 15OOm the numbers are 45 and 55.

Perhaps readers might like to comment on these figures. Do they mean anything at all? Are they meaningless? Would further and more extensive research be justified?

The Fastest Ever BMC 800m Races

1:45.2	Patrick Ndururi	KEN	1	Battersea Park	15 June 97
1:46.29	Michael Rotich	KEN	1	Watford	1 Aug 95
1:46.4	Paul McMullen	USA	1	Stretford	1 Aug 95
1:46.4	Paul Walker		1	Stretford	22 July 97
1:46.6	Patrick Ndururi	KEN	1	Battersea Park	14 June 98

How To Train To Become a Top-Level Distance Runner

by

Lasse Mikkelsson, Finland

The aim of this discussion is to present principles of training over a sufficiently long time span that has, as a rule, led to success. This assumes that the athlete concerned has the will to train consistently in order to realise his ideals. Every training session would be a waste of time otherwise.

DEVELOPMENT OF BASIC ENDURANCE

A runner needs sufficiently developed base endurance for effective running and training. A balanced and prolonged loading of the body strengthens the cardiovascular system and helps to develop capillaries. These performance improving changes in the body are the result of multi-year training. Consequently, it is important for young athletes to run whenever possible on forest trails, meadows, roads and tracks. This requires self-discipline and continuous training before further development can take place.

The runner in the first stage of development must become accustomed to daily training before switching to twice-a-day workouts in the second phase of development. The author believes in the possibility of three workouts a day in the future, provided recovery, nutrition, massage and other training support aspects improve optimally. Finland's athletes cover 5km, then l0km and finally 30km in their initial stages of development without undue fatigue.

The heart rate in base endurance runs varies according to the form and the main competition distances of an athlete. Normally the heart rate is within a 130 to I50/min range. The running speed ranges from 6 minutes a kilometre for beginners to 3.30 minutes a kilometre for high-level performers.

The development of mileage, the number of weekly training units and the number of hours spent at additional sporting activities are shown in Tables 1, 2 and 3. The training volumes outlined, presented for the 14 to 35 years age range, secure a sufficient base endurance level. The volumes for girls and women are expected to be about 10% below the presented values.

DEVELOPMENT OF SPEED ENDURANCE

Once the base endurance has been sufficiently developed, it is time to begin with the improvement of speed endurance. Speed endurance development loads lift the heart rate up to 10-20/min below the maximal value and is responsible for a lactate build-up in the working muscles, although this is easily eliminated.

Heart rates in speed endurance training generally fluctuate between 150 and 170 beats a minute in adult athletes and between 160 and 180 in young athletes. In other words, the intensity of speed endurance training is within 85 to 90%, of the maximal heart rate. However, it should be kept in mind that there are large individual differences.

Distances in speed endurance training range between 3 and 5km for youth and up to 20km for marathon runners, These distances are executed either as fast, steady runs or tempo change runs (for example, lkm fast-lkm relaxed, etc.) Running speed for young athletes and beginners can be reasonably relaxed in comparison to high-level performers who train at a pace of 3:00 and 3:10 min a kilometre, while leading female runners use a pace between 3:20 and 3:30 min a kilometre. Leading performers of both sexes are capable of maintaining running speeds in the higher range of maximal speed endurance over about 20km. Those with a high base endurance are even capable of covering a marathon at a pace that is on average only 10 sec a kilometre slower.

Event	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20-22 Yrs	22-35 Yrs
800m	1600	2000	2400	2800	3200	3600	4000	4480
1500m	1920	2400	2880	3360	3840	4320	4960	5600
5000m	1920	2560	3200	3840	4480	5120	5920	6400-8000

Table 1: Recommended number of kilometres a year for elite runners

14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20-22 Yrs	22-35 Yrs
5-6	6-7	7-8	8-9	9-10	10-11	11-14	13-17

Table 2: Recommended running training units (weekly).

14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs	19 Yrs	20-22 Yrs	22-35 Yrs
8	7	6	5	4	3	2	2

Table 3: Recommended additional sporting activities (weekly hours).

Adult distance runners should cover around 500 to 1000 km a year in speed endurance training. This represents approximately 10% of a year's total volume and depends on their performance level and their main race distance.
Speed endurance training should start in autumn, using a moderate pace that is increased during winter and spring. Running speed is increased as form improves but the heart rate remains unchanged or even drops a little. When the average running pace fails to become gradually faster from autumn to spring, the reason for this is usually found in a high intensity of recovery runs.

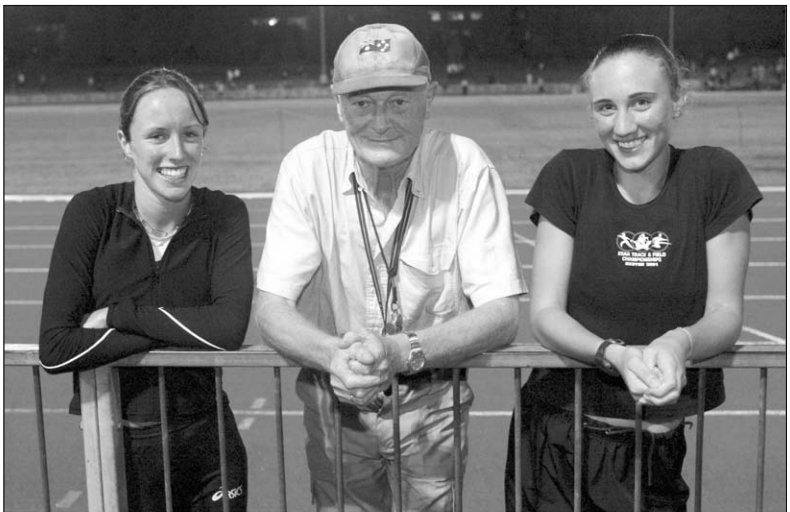
Two speed endurance training units a week should be performed during the development of base endurance, while a single unit a week is sufficient during the period of race preparations. Runners should maintain the level of speed endurance developed in winter during the months of May and June. Table 4 shows the development of tempo and speed endurance from November to April.

DEVELOPMENT OF MAXIMAL ENDURANCE

Athletes in the development of maximal endurance should perform runs at race speed (3000-10000m), or run over a demanding terrain at a fast pace. Cross-country runs are typical examples of hard runs, fostering the development of maximal oxygen uptake (VO_2max) capacity in a natural way. These loads should bring the heart rate up to 95% of the maximum, frequently reaching a maximal load intensity towards the end of the load (Fig. 1). The most common loads in the development of VO_2max capacity are repetition runs over 1000 to 3000m, hard fartlek and hill running. Repetition runs over 1000m are normally performed at race pace in training for 3000 and 5OOOm events, while repetition runs over 2000m correspond to the 10,000m pace. Generally, the pace of repetition runs should correspond to race speed and the ~ number of repetitions to the sum of kilometres in the race distance. Young athletes

	Nov	Dec	Jan	Feb	Mar	Apr
Men	3:35	3:30	3:25	3:20	3:15	3:10
Boys	3:55	3:50	3:45	3:40	3:35	3:30
Women	4:10	4:05	4:00	3:55	3:50	3:45
Girls	4:25	4:20	4:15	4:10	4:05	4:00

Table 4: Development of pace in speed endurance runs from November to April (minutes per kilometre).


Watford 14.8.02. FRANK HORWILL with CHARLOTTE MOORE (left) and LISA DOBRISKEY (right). photo by Mark Shearman.

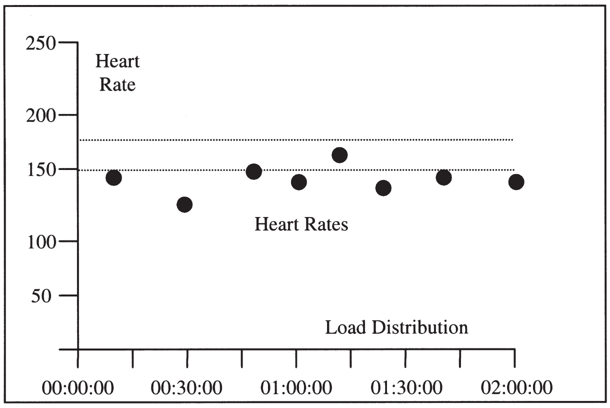


Figure 1: Heart rates in base endurance training (lower line-aerobic threshold; upper line-anaerobic threshold).

and 800m runners are urged to improve their VO_2max through performing many repetition runs which range between 1 to 3 minutes in duration.

Fartlek should in principle be performed over a demanding terrain. An athlete in good form is expected to execute these runs at a relatively high basic speed, increasing the tempo in uphill and downhill stretches for additional loading.

Hill running distances in maximal endurance development vary between 300 and 500m (sometimes even up to 1000m), depending on the athlete's main race distance. The number of repetitions ranges from 5 to 10, according to the athlete's performance level and age.

Running technique should always be carefully observed and must remain correct even in the hardest runs. The running stride must be loose and relaxed. Important aspects are a high knee lift, high hips, explosive drive and a vigorous arm action.

The author believes that a maximal development of VO_2max with a simultaneous improvement in running speed is the key factor in distance running training. A high oxygen uptake capacity alone would be of little value when the athlete is not capable of producing high running speeds. Table 5 provides an overview of the suggested speeds for tempo runs over 1000m in the development of maximal speed endurance.

Repetition runs in January and February are performed at 10,000m race speed. This is increased to 5000m race speed in April and May, followed by 3000m race speed in summer. Heart rates correspond to 95-100% of the maximum. Men should, in winter, perform eight, in spring six and in summer four or five repetitions, women and youth five or six, four or five, and three or four repetitions respectively. The share of the maximal speed endurance development should be around 5% of the total training volume.

DEVELOPMENT OF ANAEROBIC ENDURANCE

Considerable lactate build-up occurs in anaerobic endurance development. Top 400 and 800m runners usually have excellent tolerance to lactate with the highest measured blood lactate concentration 22 to 25 mmol/1. Anaerobic endurance in distance running can be progressively developed. The main practical problem is usually the maintenance of a relaxed running technique under heavy anaerobic training loads.

For this reason it is advisable to become gradually accustomed to anaerobic endurance training through hard runs in the development of oxygen uptake capacity. The difference of these runs and the runs to improve anaerobic endurance is generally rather theoretical and depends on the endurance qualities of an athlete. The coach should therefore not be worried whether a completed workout represented oxygen uptake development or improvement of anaerobic endurance.

	Jan	Feb	Mar	Apr	May	Jun	Jul
Men	2:58	2:55	2:52	2:49	2:46	2:43	2:40
Youth	3:08	3:05	3:02	2:59	2:56	2:53	2:50
Women	3:23	3:20	3:17	3:14	3:11	3:08	3:05
Girls	3:38	3:35	3:32	3:29	3:26	3:23	3:20

Table 5: Recommended speeds for 1000m repetition runs in the development of maximal speed endurance (minutes per kilometre).

	Jan	Feb	Mar	Apr	May	Jun	Jul
Men	30.5	30.0	29.5	29.0	28.5	28.0	27.5
Youth	31.0	30.5	30.0	29.5	29.0	28.5	28.0
Women	34.5	34.0	33.5	33.0	32.5	32.0	31.5
Girls	35.5	35.0	34.5	34.0	33.5	33.0	32.5

Table 6: Recommended speeds for 200m repetition runs in the development of anaerobic endurance for 3000 to 10,000 runners (seconds).

The yearly volume of anaerobic endurance training should for adult 800 and 1500m runners comprise about 2 to 3% of the total training volume. Long distance exponents require only around 1% of the total training volume. According to the author, marathoners have no need of anaerobic endurance training. They can develop it in races over shorter distances.

Speed-oriented athletes usually perform a limited number of very fast repetitions in anaerobic endurance training, while more endurance-oriented runners perform a larger number of not-so-fast repetitions. This applies in particular to 1500m athletes.

The author believes that 200m repetition runs still present a reliable method for anaerobic endurance development in the training of long distance runners. Table 6 shows a possible progression 200m repetition runs in the training of long distance runners between January and July. Table7 shows the same for a variety of distances.

	March	April	May	June	July	August
	3x5x200	*3x4x200*	*3x3x200*	*3x3x200*	*6x200*	*4x200*
Men	28	27	27-26	26	25	24
Women	32	31	31-30	30	29	28
	3x4x300	*3x4x300*	*3x3x300*	*3x3x300*	*2x3x300*	*2x3x300*
Men	45	44	43	42	41	40
Women	53	52	51	50	49	48
	10x400	*8x400*	*6x400*	*6x400*	*2x2x400*	*2-3x400*
Men	63	62	59	58	55	52
Women	73	71	68	67	64	62
	5x600	*5x600*	*4x600*	*4x600*	*3x600*	*2x600*
Men	1:38	1:36	1:34	1:30	1:25	1:22
Women	1:53	1:51	1:49	1:45	1:40	1:37
	4x1000	*4x1000*	*3x1000*	*4x800*	*3x800*	*2x800*
Men	2:50	2:45	2:40	2:04	2:02	2:00
Women	3:20	3:15	3:10	2:24	2:22	2:20

Table 7: Recommended speeds for the development of anaerobic endurance over a variety of distances (seconds/minutes).

DEVELOPMENT OF SPEED

Middle and long distance runners have to employ speed training but should never forget that endurance provides the foundation for speed development. Middle distance runners in speed training use sub-maximal interval runs with a high stride frequency and a changing rhythm in which the load intervals are treated as accelerations.

Long distance runners place emphasis on the development of speed qualities in their winter training and together with middle distance runners make use also of circuit training, strength training jumping exercises and coordination exercises as part of speed development. Running rhythm must be constantly increased and accelerations performed so that speed is gradually increased to reach the maximal over the last l0m before switching to the relaxation phase.

The coach plays an important part in these exercises by observing the position of the head, arm action, height of the hips, position of the feet and the contribution of the ankle joint to the forward drive. Sometimes it would be helpful to use a video camera to record the athlete's sprinting for evaluation.

Although morning workouts are generally not to include speed development, two or three acceleration runs included in the morning training sessions will prepare the organism for the main session later in the day.

PLANNING OF TRAINING

In short, the author suggests the division of a year's training plan into the following periods:

- Foundation training I: October, November, December.
- Foundation training II: January, February, March.
- Competition preparation phase: April, May, June.
- Competition Period: July, August.
- Transition period: September.

It is helpful to make day-to-day, weekly and monthly training plans because a day's plan is usually guided by the rhythm of the weekly cycles. As a weekly cycle appears to be often a little short, it is common to extend it to fortnightly or 10-day cycles in order to fit in the desired number of training units.

Middle and long distance runners perform very large training volumes. For example, a 1500m runner could cover in training:

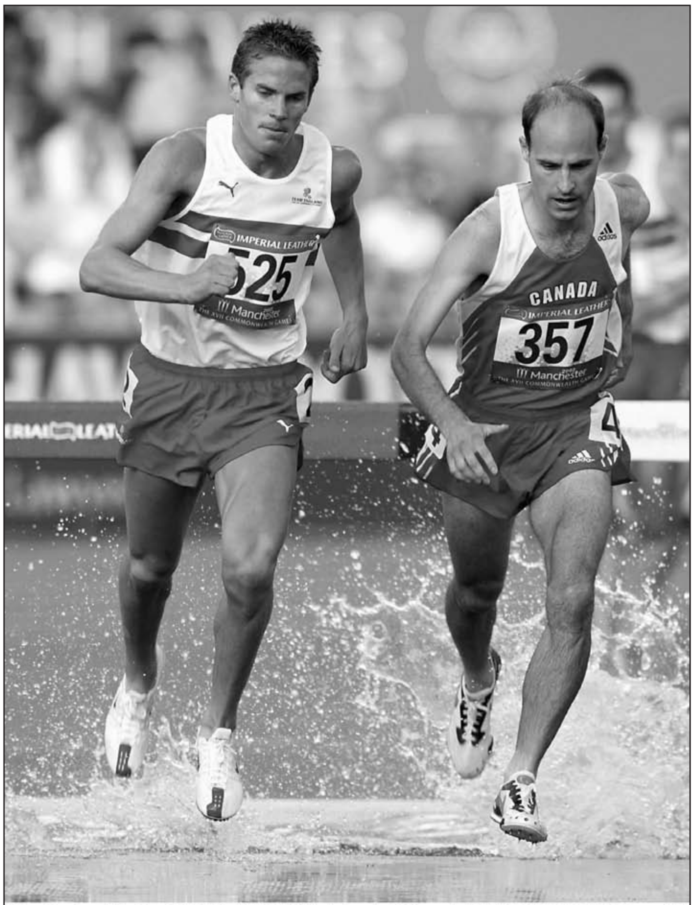
- 14 years-1920km
- 16 years-2880km
- 18 years-3840km
- 20 to 22 years-4960km
- 23 to 35 years-5600km

The volume for an 800m runner would be around 15% lower, while 5000 and 10,000 runners would use an approximately 15% higher volume. Women, according to their main race distance, use generally a 10% lower volume in comparison to men.

	800m	1500m	5000-10000m
SPEED	3%	2%	1%
ANAEROBIC ENDURANCE	3%	2%	1%
MAXIMAL ENDURANCE	6%	5%	5%
SPEED ENDURANCE	6%	8%	10%
BASE ENDURANCE	82%	83%	83%

Table 8: Intensity distribution in the training of different middle and long distance events.

As far as intensity is concerned, Table 8 gives an approximate guide to how training is distributed in percentages. It should be noted that the table serves only as a rough guideline and changes will be needed according to individual requirements.



Manchester July 02. STUART STOKES (England, 525) and JOEL BOURGEOIS (Canada). in the 3km. steepelchase. photo by Mark Shearman.

NEWS FROM HERE AND THERE . . .

We hear that B.M.C. Chairman, Dr Norman Poole, has been invited to lecture in Northern Ireland at a coaching conference. The subject is training sub 2-minute 800 metre runners. Who better to talk on the subject - he has coached four sub 2 females.

A record number of visiting coaches will be attending the B.M.C. endurance course at Ogmore-by-Sea early this October. Could it be that the attraction is the interview with John Anderson, former national coach of Scotland? Or could it be the lectures, which cover a variety of subjects. The total number of coaches attending, inclusive of the staff coaches will be thirty-two. Forty-six female athletes have booked in together with sixty-six males. It's such a good turn out, the Centre Trust has given the whole place over to the B.M.C. for the week-end.

Talking of training weekends, one Scottish female distance runner has found herself invited to five this year! It seems everyone wants to get in on the act. There are two official courses, and three from sports shoe firms.

A strange comment from a London Marathon official to the B.M.C. Chairman at the final B.M.C, Grand Prix meeting at Watford, "I would like to have a meeting with all involved in this meeting to move it on". Well there were thirty-three races staged, it took an average of 7-minutes per race to get through, this included two 5ks, two 3k steeplechases. The track officials were first-class. In addition, the BMC 800 and 1500 metres junior records were broken. So, what has he in mind?

Are U.K. Athletics lottery assessors getting a little out of their league? They phoned up one B.M.C. member who missed out of funding this year by one second and set a tougher standard for next year to qualify for cash-aid. Fair enough. They then told the athlete that no cross-country racing should be done after Christmas and track preparation must start. Well, O.K. The next comment was interesting, "Paula Radcliffe had her best track season ever this year because she didn't race cross-country," Anyone like to comment on this observation?

Charlotte Moore, who came second in the English Schools Cross-Country Championship, went on to crack 2-minutes for 800 metres in the Commonwealth Games. Apparently, her cross-country racing did no harm. Tim Hutchings in 1984, won a silver in the World Cross-Country Champs, then made the final of the 5k in the Olympics six months later, lowering his time by 11 seconds to gain fourth place. Cross-country didn't seem to reduce his 5k ability.

We learn that Brian Boulton, former Kent County mile champion, and a founder of the B.M.C. is not too happy over Frank Horwill and Alf Wilkins being continuously described as B.M.C. founders. It all depends on what one means by the word "founder". Certainly the whole idea of the club's formation was Frank's. Alf definitely drew up the Objects and Rules for the club's running. Brian became the first B.M.C. National Secretary.

The Irish Milers' Club, affiliated to the B.M.C., has a strict rule - you cannot run in any of their races unless you are an I.M.C, member, or a B.M.C. member. There is some talk of the B.M.C. bringing in the same rule, or making non-members pay more for race entry to cover the cost of electric timing and the travelling expenses of all qualified track officials. Next year, I.M.C. members will be issued with membership cards (you will only get one if your subs are up to date) which must be shown when collecting numbers. Failure to produce the card at a Grand Prix meeting may cost £7.50p to race.

B.M.C. members only pay £2 for a programme on entry and nothing else. Subs are due on the 1st January each year, and if not paid by March ending, you will be deemed a non-member. Subs can be sent to or banker's orders available from Pat Fitzgerald, 47 Station Road, Cowley UB8 3A8. The Ogmore-by-Sea course saw B.M.C. members only paying COST price, non B.M.C. members paid £20 extra to help cover the costs of the visiting lecturers and or staff coaches. All B.M.C. courses are non profit-making.

The B.M.C. President, Lt. Col. Glen Grant, twenty-two times national army champion at either 8OOm, 1500m or the mile, and also Combined Services champion a dozen times is thinking of a plan to eradicate the need for the twenty-two strong national B.M.C. committee meeting altogether several times a year. He proposes a number of "supremos", each with a sub-committee. Five chiefs will be selected and given a budget to work within. Assuming that they are called Directors, we may have a new look national committee, e.g., Director of Coach Education, Director of Race Planning, Director of Finance, Director of Publicity and Director of Development. Each director will have a sub-committee of not less than three and not more than six. The sub-committees will meet quarterly. Directors only will attend national committee meetings. An interesting concept.

Brendan Hackett, founder of the Irish Milers Club, also a B.M.C. member, is a well known writer on sports psychology and coach to several Irish internationals. He is convinced that the female 4 x 1500m world record can be broken by an Irish team. Frank Horwill is also convinced that the record, currently held by the Australians, can be in the hands of an all B.M.C. British squad. Such a contest would be great to stage in the 40th anniversary year of the B.M.C. Note - the B.M.C. was founded in 1963.

Dave Cocksedge, former athletics correspondent, now residing in the Far East, suggests in a letter to a B.M.C. founder, that opposition to the B.M.C. has a "kiss of death" about it. Three members of the old British Amateur Athletics Board, who thought the B.M.C. a nuisance, are no longer with us. A coach and author who openly criticised the B.M.C., died at a comparatively young age. Also, a coach who found the B.M.C. an irritation to his official position and tried to finish it off, is no longer with us. One or two critics of old, who are still alive, may be a little concerned at Dave's prognosis!

???? MIDDLE DISTANCE QUIZ ????

HISTORY

1) Name the two occasions when the Olympic 1500 metres title was won in world record time?
2) Who holds the U.K. male record For 2 miles?
3) What U.K. records does Kelly Holmes hold?
4) Who holds the U.K male mile record?
5) Who got silver medals in the male World Cross-Country Championships in 1984 and 1989?

PHYSIOLOGY

What middle-distance event accumulates more lactic acid than any other?
What allocation percentage-wise, did A.V. Hill allot anaerobically to the 1500 metres event?
What is the true measure of iron stores in the body?
9) Training in the morning helps what?
10) When is glycogen preferentially stored?
11) Name the simple test that can predict your VO_2max?

NUTRITION

12) List six iron-containing foods?
13) What is the best way to boil vegetables and preserve their vitamin and mineral content?
14) List six low-glycaemic carbohydrates which are stored preferentially as glycogen?
15) What should be the main meal of the day?
16) What vitamin and mineral is primarily concerned with anti-infection?

SPORTS MEDICINE

17) What daily procedure will help you to detect increasing stress and or infection?
18) How long should ice be applied to an injury?
19) Bruised tissue heals faster in the presence of a high intake of a particular vitamin. Name it?
20) If shin-soreness continues for more than 14 days with treatment what is the next step?

TRAINING

21) If you wish to train at 80 per cent of your VO_2max, what pulse rate will be required?
22) What simple measure can be applied to ensure that your steady runs are bringing about a training effect?
23) How long does it take for one training session, hopefully, to bring about a change in the body for the better?
24) Starting from scratch, training for 5 days a week for 35mins duration how 1ong will it take to bring about MAJOR changes in the body for the better?
25) What pace would you require to run at to achieve 100 per cent of the VO_2max?

Compiled by Frank J. Horwill

Doug Wilson-His Training

Doug Wilson, born 1920, was a leading miler who, as with others, lost his best years because of war. Despite that he trained and raced and shown below is his world ranking at one mile (It is accepted that apart from neutral countries and the USA competition was limited in the war years).

1942	4:14.0	8th
1943	4:13.4	6th
1944	4:11.4	8th
I945	4:16.0	15th
1946	————	
1947	4:14.8	13th
1948	4:13.4	22nd
1949	4:15.0	43rd

Training Schedule

Winter Training

Mondays - 3 mile road run
Wednesdays - Ditto
Saturdays - 5 or 7 1/2 mile cross-country race

Summer

March - September.
Varied according to races on Saturdays and mid-week events. Typical evening's training could alternate as follows; 3 times a week.

A Warm-up jogging 2 miles.
2 or 3 60 yd bursts.
¾ mile time test.

B Warm-up 2 miles.
A few speed bursts.
2 x 300 yds flat out.

C Warm-up jogging 2 miles.
A few speed bursts 660 yd time test.

D Occasional 3-4 miles fartlek.

Doug Wilson was a most stylish runner and will be remembered as running second to Gundar Haegg at the White City in the two miles race which was held in the same meeting as the Andersen/Wooderson clash. To be noted is the traditional(?) meagre quantity of training although to achieve the times he did suggests that the quality was there.

COMMONWEALTH GAMES

The British Milers Club can reflect with pride the results of their members' runs in the games. Some of the highlights were:

Women's 800m	4th	Susan Scott
	6th	Charlotte Moore
	7th	Jo Fenn
Women's 1500m	1st	Kelly Holmes
	2nd	Hayley Tullet
	3rd	Helen Pattinson
Women's 5000m	1st	Paula Radcliffe
	5th	Jo Pavey
Men's 1500m	1st	Michael East
	4th	Tony Whiteman
Men's 1500m	4th	John Mayock
	5th	Sam Haughian
Men's 3k St.	4th	Stuart Stokes.

The women's 800 involved three rounds in three days and was not easy. Susan Scott ran 2:02.82, 2:01.0 before a great PB of 1:59.30(Scottish Record)in the final. When one considers that her best before this year was a shade inside 2:04 it indicates the tremendous stride forward she, and her coach, have achieved.

The young Charlotte Moore ran 2:03.38, 2:00.95(new junior record) and a totally unexpected 1:59.75 for yet another PB and record. Note she was voted Athlete of the Course at Ardingley two years ago. Her best last year was 2:05.86 and this giant leap forward brings deserved acclamation to her and her coach.

Jo Fenn ran 2:04.17, 2:03.04 and a PB of 1:59.86. Three great performances.

The final was led out by the Jamaican Michelle Ballantine to a 56.72 bell and whilst we would not expect Mutola to be fazed by this pace it was heart-warming to see the three Brits hanging in there and challenging for podium places. Does this show the benefit of paced BMC races?

The 1500 required two rounds. The three eventual BMC medallists were not unduly pressed to reach the final in which the Aussie runner Jamieson took the first lap in 68.51. Then the Kenyan Mugo brought the race to a two-lap time of 2:16.96. At the bell Kelly Holmes and Helen Pattinson led with three laps being reached in 3:20.52(a 400 of 63.56). From there Holmes pressed on to win with Hayley Tullett passing Pattinson for the silver medal close to the finish line. Times were 4:05.99, 4:07.52 and 4:07.62. The last lap being run in close to 60 seconds.

The 5k was a Paula Radcliffe Production, directed by and starring her. It was a demonstration, on current form nobody in the world could have lived with her. As has been noted elsewhere if she had not waited for 600 metres to see if there were any front runners she would surely taken the World Record but how can anyone be critical?

One thousand metre times of 2:59.91, 2:53.65, 2:54.48 (8:48.04),2:52.30 and 2:51.08 brought her home in a British and Commonwealth record time of 14:31.42. What else can be said? Jo Pavey, reported to be not in the best of health, tried valiantly to hang on to the early pace -indeed ran 8:52.6 for the first 3k-but paid for it later. Nevertheless her fifth place of 15:19.91 was a brave effort.

The 10k did not offer up medals but Liz Yelling notched up a big PB in fourth, 31:58.39 with Hayley Yelling sixth, 32:29.73. Jo Wilkinson was seventh over a minute further back.

Men's I500. Two rounds with all three Englishmen, BMC members, getting through. Despite, surprisingly, with only two Kenyans entered medals were going to be hard to get. The lesser-rated Kenyan led the opening lap to a time of 61.8 followed by a 56.36 (1:57.44). Chirchir was the bell leader(2:41.47) and was still in front at 1200 (2:56.08). Tony Whiteman then went for it and looked a likely winner but he faltered in the home straight some 30 metres out. It then looked as thought the race was between Chipchir and the Aussie Abdi but Michael East swooped from way back for an unexpected gold medal in 3:37.35 with Tony Whiteman fourth in 3:38.04 and Tom Mayo eighth in 3:41.70. Although the BMC came out with only one medal overall they won the team race.

The 5k was a Kenyan procession but John Mayock and Sam Haughian ran well above themselves for superb PB's in fourth and fifth, 13:19.43 and 13:19.45.
The Steeplechase was again a Kenyan procession but BMC member Stuart Stokes ran an isolated but meritorious PB of 8:26.45 for fourth.
The overall results show just how strong the BMC is in athletics in this country and there were others in the Games e.g. Matt Shone, who were not so prominent in the results which further underlines its importance to middle, and long, distance running.

???? ANSWERS TO THE QUIZ ????

Question 1)	Answer - 1936 and 1960 (Jack Lovelock and Herb Elliott).
Question 2)	Answer - Steve Ovett(8:13.51).
Question 3)	Answer - 800, 1k, 1500m.
Question 4)	Answer - Steve Cram(3:46.32).
Question 5)	Answer - Tim Hutchings.
Question 6)	Answer - The 800 metres.
Question 7)	Answer - 50 per cent.
Question 8)	Answer - serum ferritin.
Question 9)	Answer - Reduce weight, increasing the metabolic rate for several hours, i.e.. burning more calories at rest.
Question 10)	Answer - The first 2 hours after training.
Question 11)	Answer - The Balke Test (15-minutes of running around the track and the distance covered.)
Question 12)	Answer - Organ meats(liver kidney heart), egg yo1k, legumes, cocoa, cane mollasses, shellfish and parsley. Meat, fish, poultry, nuts green vegetables, wholemeal bread.
Question 13)	Answer - Boil the water first, then place the vegetables in the saucepan.
Question 14)	Answer - Fructose, soyabeans, kidney beans, lentils, sweet potatoes, apples, oranges, oats, brown rice, whole wheat bread.
Question 15)	Answer - breakfast.
Question 16)	Answer - Vitamin C(1,000mg daily), zinc(30mg,daily).
Question 17)	Answer - Take the pulse first thing IN BED, take it again after rising, 60 secs later. Note the difference. A plateau difference wil1 occur after a week. When this is UP, DON'T TRAIN.
Question 18)	Answer - Not more than 5 minutes.
Question 19)	Answer - Vitamin C (2,000mg daily).
Question 20)	Answer - A bone scan.
Question 21)	Answer - 88 per cent of your maximal heart-rate.
Question 22)	Answer - Take the average time done per 400 metres in your best 1500 metres, and add 20secs then convert to time per mi1e, e.g. Best 1500m time= 5mins x 80 secs per 400m + 20secs = lOOsecs x 4 = 6mins.40 secs/mile on a steady run.
Question 23)	Answer - 10-12 days.
Question 24)	Answer - 12 weeks.
Question 25)	Answer - 3k pace (About 4 seconds per 400m slower than in your best 1500 metres time.)

THE EUROPEAN CHAMPIONSHIPS

Once again the BMC supplied the core of the "middle distance" team. Success proved much harder to come by than in Manchester. The exertions of the Commonwealth Games probably played some part in the level of under performing.

Women's 800: First round qualifying was first three plus four fastest losers, from four heats. The opening lap times in each went as follows, 60.87, 60.19, 59.42 and 58.12. The runners seemingly recognised that to ease qualifying they needed to operate somewhat faster than the earlier heats. How often is this recognised, and more importantly, acted upon in domestic competition?

Kelly Holmes won the first heat in 2:03.18 whilst Jo Fenn was second in heat four in 2:01.91, Jo had not needed that effort in Manchester. Semi-finals next day, first three and two fastest losers from the two races, again an advantage to those fortunate to run in the second race. After a 57.9 bell Jo could only manage sixth, 2:02.91 whilst Kelly led her semi home in 2:00.6 after a 58:91 bell. Although the bell time in the second race was slower than the first the runners clearly pressed on with greater effect as both fastest losers came from that semi.

The final was a Ceplak demonstration, a fast first 200, 27.82 took her to the bell in 57.61, the 600 in 87.72 some several metres ahead of Kelly who began to tie up in the home straight and this allowed Martinez to pass her for silver. Kelly notched 1:59.86 to reach only third on this years UK list. For Martinez it was a personal best.

1500: For Kelly Holmes a fourth race in four days. It proved a race to far. With qualifying set at first three from three heats with three fastest losers once again those going later would have the knowledge of knowing what was required. The lap times in the opening heat were 65.84, 2:13.24 and 3:20.64 and Kelly was only fourth in 4:08.11. The leader in the second lap went out to clock 62.44, 2:09.79 and 3:15.53, it was the "unknown" Ayhan and she finished well ahead of the field but Helen Pattinson only managed 4:09.66 for fifth. The third race went out to 61.28, 2:09.29 and 3:17.87. This race produced all three fastest losers, the slowest being 4:05.78 with Hayley Tullett a distant seventh in 4:10.68.

The final, sadly, was a complete reversal of Manchester, without any Brits. However it threw up a superlative run by the Turkish girl, Ayhan. Blasting through 60.14, 2:06.41 and 3:12.84 left all in her wake but not all adrift. Szabo closed from 150 out to get abreast around 30 metres out and both struggled for mastery with the Turk obtaining a narrow win. Her run was reminiscent of Bayi's 1500 in the Commonwealth Games thirty years ago, in which he set a world record with an even greater display of solo running.

5OOOm: This was a straight final. The kilometres went 3:10.52, 2:58.15, 3:06.15, 3:13: and 2:46.82, for a final time of 15:14.6. A race of "fasts and slows". Jo Pavey was "dropped" after surges but fought back with steady pace to finish fifth, her second such place in successive finals. This time in 15:18.70, just fractionally faster than in Manchester. Hayley Yelling was a distant 18th, clearly a long way from her best.

10,000 metres: What can be added to the superlatives lavished on the incomparable Paula? The rain that poured down drove the spectators on the back straight home and therefore their support was lessened. Lapping almost all, and some twice, added extra distance. A new "Championship best performance" at 5k if not a record.

1000m times

2:59.16	
2:58.05	(5.57.21)
2:59.84	(8:56.84!)
3:00.84	(11:56.81)
3:00.35	(14:57.65!)
3:00.53	(20:58.52)
3:02.66	(24:01.18)
3:02.38	(27:03.06)
2:57.53	(30:01.09)

Supporter of many BMC races; Sonia O' Sullivan held on for as long as possible but had the satisfaction of a new Irish record, 30:47.59, whilst Ribeiro, who also hung on to the pace in the early stages dropped back and out. Given the conditions a general view was that 29:50 would be within Paula's range and on a good day i.e. dry, windless, an "all-round" crowd and lesser competitors, then 29:40 was possible. Her 10k time offers 1268 points on the IAAF scoring tables. This equates with a 1:53.70 800 and a 3:53.03 1500. Such is the measure of her ability. Liz Yelling was unable to repeat her form of the Commonwealth Games and finished 20th, if she had repeated her Manchester time she would have been 9th.

Men's 800. Tony Whiteman in heat four blazed out a 51.38 first lap but could not maintain it. He finished last in 1:50.60. James McIlroy, the only other selected Briton, faced a first three plus four fastest losers situation. He was in heat three, the first two were won in the same time, 1:47.52. He was fourth in 1:47.67, winner 1:47.07. The last heat was won in 1:46.90, after the fastest first lap of the four, 51.38. Whilst the latter heats were faster by only a small margin they were faster. McIlroy ran in the first semi, and a relatively slow first lap, 55.83 saw all the runners manage negative splits with the winner notching 1:48.01 and the Brit 1:49.15 for fifth and out. With the qualifying for the final being first three and two fastest losers it was not surprising to see the second semi go out in 52.80 and both fastest losers coming from it. In fact the last man was faster than the winner of the first semi.

Men's 1500. All three of the Brits get through their opening heats to the final. The qualifying was first four in each of two heats plus four fastest losers. Tony Whiteman ran fourth in his heat, which was won in 3:46.71. The other semi runners, clearly aware of what was needed, were six seconds faster at 800 and consequently supplied all fastest losers. Michael East was 5th and John Mayock 6th. All ten finishers were faster than the winner of the other race.

The final, with a days rest, saw an opening lap of 63.52 and the 800 reached in 2:10.39. Then came the pressure as the 1200 was reached in 3:06.62, a 56.23 lap. The last 1ap was given as 51.66. This was not to be another Manchester.

Tony Whiteman and John Mayock could not match this pace and whilst Michael East was reputed to have covered his last 400 in 51.05 he, on this occasion, could not give men like Rui Silva, 3:30.07 this year, so much lead at the bell. His sixth place of 3:46.30 was noble but unavailing. The winner, and second placer, ran inside thirty-nine seconds for the last 300 and to pass them would have needed something undreamt of in terms of speed, perhaps fifty-second last 400 speed!! Readers may recall I made mention of the ages of our reps in Edmonton last year. John and Tony were again the oldest in the field, the average age of the others was 24.

Men's 5k: A mixture of "slows and spurts". Sam Haughian could not repeat his heroics of Manchester and despite starting as the seventh fastest European this year, actually fifth fastest of those who started, he came home in ninth place in 13:50.75. Note that humidity was 82%.

Men's 10k: Another race of "slows and spurts". Karl Keska responded to these with even pace except when the big push came three laps out. The last k took only 2:35.65 and the second half of the race 13:48.22. Karl clocked 28:01.72 for a creditable fifth place.

British Milers' Club Records (as at 31st August 2002)

	BMC Members' Record *by a paid-up BMC member in a BMC race*	**"BMC Record"** *by anyone in a BMC race*	**BMC Club Record** *by a paid-up BMC member in any race world-wide*
Men			
M600	1:17.4 Andrew Hart 1999	1:17.4 Andrew Hart 1999	1:15.0+ Seb Coe 1981
M800	1:46.7 James McIlroy IRE 1998	1:45.2 Patrick Ndururi KEN 1997	1:41.73 Seb Coe 1981
M1000	2:19.4 Andrew Hart 1997	2:19.4 Andrew Hart 1997	2:12.18 Seb Coe 1981
M1500	3:37.33 Andrew Graffin 2002	3:37.33 Andrew Graffin 2002	3:29.77 Seb Coe 1986
M Mile	3:56.35 Anthony Whiteman 1996	3:55.24 David Kisang KEN 2000	3:47.33 Seb Coe 1981
M2000	5:01.28 Andrew Graffin 2000	5:00.66 David Kisang KEN 2000	4:53.06 Jack Buckner 1987
M3000	7:51.4 Rob Whalley 1997	7:51.32 Craig Mottram AUS 2000	7:32.79 David Moorcroft 1982
M 2 Mile	8:34.5 Ian Gillespie 1997	8:34.5 Ian Gillespie 1997	8:13.51 Steven Ovett 1978
M4000	11:03.2 Rob Whalley 1998	11:03.2 Rob Whalley 1998	10:28.7+ David Moorcroft 1982
M5000	13:28.22 Kris Bowditch 2000	13:23.94 Craig Mottram AUS 2001	13:00.41 David Moorcroft 1982
M10000	28:00.50 Andres Jones 2000	27:56.94 Kameil Maase HOL 2000	27:30.3 Brendan Foster 1978
M1500SC	no mark known	4:16.57 Lee Hurst 2000	no mark known
M2000SC	5:35.73 Pat Davoren 2002	5:35.73 Pat Davoren 2002	5:23.56 Tom Buckner 1992
M3000SC	8:25.37 Christian Stephenson 2000	8:25.37 Christian Stephenson 2000	8:18.91 Roger Hackney 1988
Women			
W600	1:29.4 Linda Staines 1997	1:29.4 Linda Staines 1997	1:26.5 Kirsty Wade 1985
W800	2:01.93 Diane Modahl 1998	2:00.7 Shireen Bailey 1985	1:56.80 Kelly Holmes 2000
W1000	2:44.9 Jo White 1980	2:44.31 Sharron Davenport 1988	2:32.55 Kelly Holmes 1997
W1500	4:05.94mx Sonia O'Sullivan IRE 2002	4:05.94mx Sonia O'Sullivan IRE 2002	3:58.07 Kelly Holmes 1997
W Mile	4:30.77 Joanne Pavey 1997	4:30.77 Joanne Pavey 1997	4:19.41 Kirsty Wade 1985
W2000	6:12.4mx Dianne Henaghan 1998	6:12.4mx Dianne Henaghan 1998	5:37.00 Christine Benning 1984
W3000	8:53.7mx Joanne Pavey 2000	8:53.58mx Natalie Harvey AUS 2000	8:22.20 Paula Radcliffe 2002
W 2 Mile	no mark known	no mark known	9:32.07 Paula Radcliffe 1999
W5000	15:32.23 Sonia O'Sullivan IRE 2000	15:30.79 Natalie Harvey AUS 2000	14:31.42 Paula Radcliffe 2002
W10000	31:41.1 Elana Meyer RSA 2000	31:41.1 Elana Meyer RSA 2000	30:01.09 Paula Radcliffe 2002
W2000SC	7:05.03 Claire Entwistle 2002	6:36.02 Jayne Spark 2000	6:54.92 Claire Entwistle 2002
W3000SC	11:26.15 Paula Gowing 2001	9:55.01 Tara Kryzwicki 2001	10:56.22 Tina Brown 2002

British Milers' Club Junior Records (as at 31st August 2002)

	BMC Junior Members' Record *by a paid-up BMC junior member in a BMC race*	**"BMC Junior Record"** *by any junior member in a BMC race*	**BMC Junior Club Record** *by a paid-up BMC junior in any race world-wide*
Junior Men			
M600	1:24.3 Wayne Tarquini 1971	1:18.49 Richard Davenport 2002	1:19.5 Steven Ovett 1972
M800	1:47.18 Ricky Soos 2002	1:47.18 Ricky Soos 2002	1:45.77 Steven Ovett 1974
M1000	2:23.4 Justin Swift-Smith 1993	2:23.4 Justin Swift-Smith 1993	2:20.0 Steven Ovett 1973
M1500	3:42.2 Paul Wynn 1983	3:41.15 Stefan Beumer HOL 2000	3:40.90 David Robertson 1992
M Mile	3:59.4 Steven Ovett 1974	3:59.4 Steven Ovett 1974	3:59.4 Steven Ovett 1974
M2000	5:20.0 Glen Grant 1972	5:20.0 Glen Grant 1972	5:20.0 Glen Grant 1972
M3000	8:04.93 Chris Thompson 2000	7:53.40 Mizan Mehari ETH 1998	8:04.93 Chris Thompson 2000
M5000	14:06.52 Chris Thompson 2000	13:28.6 Mizan Mehari ETH 1998	14:06.52 Chris Thompson 2000
M10000	no mark known	no mark known	30:06.01 Andres Jones 1996
M1500SC	no mark known	4:19.98 Daniel Yates 2000	no mark known
M2000SC	5:46.85 Ricky Soos 2001	5:46.85 Ricky Soos 2001	5:43.23 Ricky Soos 2001
M3000SC	8:55.08+ Andrew Franklin 1999 (+ one barrier short)	8:55.08+ Andrew Franklin 1999	8:55.08+ Andrew Franklin 1999
Junior Women			
W600	1:32.8 Lesley Pamment 1974	1:32.2 Jane Finch 1974	1:30.2 Michelle Wilkinson 1989
W800	2:03.86 Lisa Dobriskey 2002	2:03.86 Lisa Dobriskey 2002	1:59.75 Charlotte Moore 2002
W1000	2:45.81 Lisa York 1988	2:44.31 Sharon Davenport 1988	2:38.58 Jo White 1977
W1500	4:13.94 Charlotte Moore 2002	4:11.67 Georgie Clarke AUS 2000	4:13.40 Wendy Sly 1976
W Mile	4:46.7 Jo Pavey 1990	4:39.0 Jacqueline Beasley 1985	4:34.29 Jo White 1979
W2000	6:22.2 Paula Yeoman 1971	6:22.2 Paula Yeoman 1971	6:22.2 Paula Yeoman 1971
W3000	9:24.40 Danielle Barnes 2002	9:24.40 Danielle Barnes 2002	9:09.14 Lisa York 1989
W5000	17:13.74 Charlotte Coffey 1999	16:16.55 Charlotte Dale 2002	16:16.39 Collette Fagan 2001
W10000	no mark known	no mark known	no mark known
W2000SC	no mark known	7:34.89 Ruth Waller 2002	6:55.83 Bryony Frost 2002
W3000SC	no mark known	12:15.79 Susan McGrenaghan 2001	no mark known

BMC Best Times for Place *Compiled by Matthew Fraser Moat*

These statistics show the best times achieved for each place in BMC races since 1963. They have been compiled from Athletics Weekly *1963 - 1991, the* BMC News *from 1992 – 2000 and the BMC website from 2001 onwards. Many thanks to Brian Boulton, David Cocksedge, Tim Grose and Martin Rix for their help.*

Men's 600m

1:17.4	Andrew Hart	1	Watford	26	May	99
1:18.7	* Pete Lewis	2	Crystal Palace	12	May	76
1:19.8	Jason Thompson	3	Sutcliffe Park	20	Apr	96

Men's 800m

1:45.2	* Patrick Ndururi KEN	1	Battersea Park	15	Jun	97
1:46.2	* Robert Kibet KEN	2	Battersea Park	15	Jun	97
1:46.8	* Bernard Kisilu KEN	3	Battersea Park	15	Jun	97
1:46.8	Andrew Hart	4	Battersea Park	15	Jun	97
1:47.2	Kevin McKay	5	Battersea Park	15	Jun	97
1:47.7	Anthony Whiteman	6	Battersea Park	15	Jun	97
1:48.0	* Francis Kemboi KEN	7	Battersea Park	14	Jun	98
1:48.5	Kevin McKay	8	Battersea Park	14	Jun	98
1:49.1	Tom Lerwill	9	Battersea Park	15	Jun	97
1:49.1	Daniel Chemase KEN	9	Battersea Park	14	Jun	98
1:49.3	Abraham Chirchir KEN	10	Battersea Park	15	Jun	97
1:49.8	Grant Cuddy	11	Battersea Park	14	Jun	98
1:50.5	Clive Gilby	12	Battersea Park	15	Jun	97

fastest 'B' race

1:46.97	Andrew Hart	1r2	Cardiff	5	Jul	00

fastest 'C' race

1:50.1	Jason Dupuy	1r3	Swindon	7	Aug	97

Men's 1,000m

2:19.4	Andrew Hart	1	Stretford	22	Jul	97
2:21.8	Kevin McKay	2	Stretford	18	Aug	98
2:22.4	Bradley Donkin	3	Stretford	18	Aug	98
2:22.7	* Matthew Dixon	4	Stretford	18	Aug	98
2:23.5	* Luc Michard	5	Stretford	30	Apr	96
2:23.7	Steve Green	6	Stretford	30	Apr	96

Men's 1,500m

3:37.33	Andrew Graffin	1	Bangor	21	Jul	02
3:39.47	Michael East	2	Watford	9	Jun	01
3:39.7	Michael Openshaw	3	Battersea Park	14	Jun	98
3:39.88	Angus MacLean	4	Watford	9	Jun	01
3:40.9	Neil Caddy	5	Battersea Park	14	Jun	98
3:41.5	Grant Graham	6	Battersea Park	14	Jun	98
3:41.5	* John Koskei KEN	7	Battersea Park	14	Jun	98
3:42.28	Thomas Mayo	8	Solihull	14	Jul	99
3:43.29	Adam Zawadski	9	Watford	9	Jun	01
3:43.52J	Colm McLean	10	Solihull	14	Jul	99
3:43.84	Mike Power AUS	11	Watford	9	Jun	01
3:44.42	Philip Tedd	12	Watford	9	Jun	01

fastest 'B' race

3:41.5	Robert Hough	1r2	Wythenshawe	30	Jul	96

fastest 'C' race

3:46.71	Simon Burton	1r3	Watford	23	Jun	99

Men's Mile

3:55.24	* David Kisang KEN	1	Battersea Park	4	Jun	00
3:55.31	* Abraham Chebii KEN	2	Battersea Park	4	Jun	00
3:59.2	John Boulter	3	Motspur Park	23	Jul	69
3:59.2	James McGuinness	3	Stretford	30	Aug	75
3:59.4	Anthony Settle	4	Stretford	30	Aug	75
3:59.7	* David McMeekin	5	Stretford	30	Aug	75
3:59.7	* Ron McDonald	6	Stretford	30	Aug	75

fastest 'B' race

4:04.50	Adam Zawadski	1r2	Barnet Copthall	31	Aug	96

Men's 2,000m

5:00.66	* David Kisang KEN	1	Battersea Park	25	Jun	00
5:01.28	Andrew Graffin	2	Battersea Park	25	Jun	00
5:02.90	Allen Graffin	3	Battersea Park	25	Jun	00
5:09.53	* David Chepkisa KEN	4	Battersea Park	25	Jun	00

Men's 3,000m

7:51.32	* Craig Mottram AUS	1	Wythenshawe	14	Jun	00
7:52.14	* Julius Kimutai KEN	2	Wythenshawe	14	Jun	00
7:52.27	Kris Bowditch	3	Wythenshawe	14	Jun	00
7:53.11	Julian Moorhouse	4	Wythenshawe	14	Jun	00
7:53.54	John Nuttall	5	Cardiff	5	Jul	00
7:54.12	Andres Jones	6	Cardiff	5	Jul	00
7:56.52	* John Henwood NZ	7	Cardiff	5	Jul	00
7:56.63	* George Okworo KEN	8	Cardiff	5	Jul	00
7:57.15	* Seamus Power IRE	9	Cardiff	5	Jul	00
7:58.03	Dermot Donnelly IRE	10	Wythenshawe	14	Jun	00
7:58.74	* James Nolan IRE	11	Wythenshawe	14	Jun	00
7:59.20	John Nuttall	12	Wythenshawe	14	Jun	00
7:59.35	Nick Wetheridge	13	Wythenshawe	14	Jun	00

fastest 'B' race

8:04.42	Andres Jones	1r2	Wythenshawe	14	Jun	00

Men's 5,000m

13:23.94	* Craig Mottram AUS	1	Solihull	23	Jun	01
13:27.09	* Mohammed Yagoub	2	Solihull	23	Jun	01
13:29.19	* George Okworo KEN	3	Battersea Park	25	Jun	00
13:30.22	* Boaz Kisang KEN	4	Battersea Park	25	Jun	00
13:31.32	* Seamus Power IRE	5	Battersea Park	25	Jun	00
13:37.97	Michael Openshaw	6	Battersea Park	25	Jun	00
13:42.15	* John Henwood NZ	7	Battersea Park	25	Jun	00
13:42.35	Julian Moorhouse	8	Battersea Park	25	Jun	00
13:47.18	* Peter Matthews IRE	9	Battersea Park	25	Jun	00
13:53.77	Nick Wetheridge	10	Solihull	23	Jun	01
13:54.58	Fiachra Lombard IRE	11	Solihull	23	Jun	01
13:56.31	* Mohammed Farah	12	Solihull	23	Jun	01
13:56.44	Guy Amos	13	Solihull	23	Jun	01
13:58.44	Nathaniel Lane	14	Stretford	11	Jul	00
13:58.88	Don Naylor	15	Stretford	11	Jul	00

fastest 'B' race

14:05.2	Boaz Kisang	1r2	Solihull	23	Jun	01

Men's 10,000m

27:56.94	* Kameil Maase HOL	1	Watford	22	Jul	00
28:00.50	Andres Jones	2	Watford	22	Jul	00
28:03.31	* Robert Denmark	3	Watford	22	Jul	00
28:04.48	* Mark Steinle	4	Watford	22	Jul	00
28:08.46	* Michael Aish NZ	5	Watford	22	Jul	00
28:13.44	* Hendrick Ramaala RSA	6	Watford	22	Jul	00
28:18.58	* Michael Buchleitner AUT	7	Watford	22	Jul	00
28:23.11	* Seamus Power IRE	8	Watford	22	Jul	00
28:27.32	* Peter Matthews IRE	9	Watford	22	Jul	00
28:42.40	* Claes Nyberg SWE	10	Watford	22	Jul	00
	(10)					
28:43.08	* Mark Hudspith	11	Watford	22	Jul	00
28:50.98	* Ian Hudspith	12	Watford	22	Jul	00

Men's 3,000m SteepleChase

8:25.37	Christian Stephenson	1	Solihull	19	Aug	00
8:26.07	Justin Chaston	2	Solihull	19	Aug	00
8:33.61	Stuart Stokes	3	Wythenshawe	14	Jun	00
8:37.63	Charlie Low	4	Solihull	19	Aug	00
8:44.03	Donald Naylor	5	Wythenshawe	14	Jun	00

Women's 600m

1:29.4	Linda Staines	1	Battersea Park	19	Apr	97
1:31.2	Rachel Jordan	2	Battersea Park	19	Apr	97
1:31.6	Cathy Dawson	3	Highgate	7	Aug	96

Women's 800m

2:00.7	* Shireen Bailey	1	Ipswich	19	Jun	85
2:01.98	* Oksana Zbrozhek RUS	2	Bangor	21	Jul	02
2:02.0	* Jane Finch	3	Stretford	24	Jul	83
2:03.0	* Christina Boxer	4	Stretford	24	Jul	83
2:04.0	Teena Colebrook	5	Stretford	24	Jul	83
2:04.6	* M Corcoran AUS	6	Stretford	24	Jul	83
2:05.0	Suzanne Morley	7	Stretford	24	Jul	83

fastest 'B' race

2:07.1J	Olivia Hines	1r2	Solihull	23	Jun	01

fastest 'C' race

2:11.79J	Lucy Jones	1r3	Solihull	23	Jun	01

Women's 1,500m

4:08.08	Sonia O'Sullivan IRE	1	Watford	22	Jul	00
4:10.65	Maria Lynch IRE	2	Eton	3	Jul	02
4:11.24	Rachel Newcombe	3	Eton	3	Jul	02
4:11.80	Kerry Gillibrand	4	Eton	3	Jul	02
4:15.05	Maria Lynch IRE	5	Solihull	23	Jun	01
4:16.61	* Naimh Beirne IRE	6	Solihull	23	Jun	01
4:18.04	Dianne Henaghan	7	Watford	22	Jul	00
4:18.42	Susan Scott	8	Watford	22	Jul	00
4:18.79	Maria Lynch IRE	9	Watford	22	Jul	00
4:19.61	* Andrea Whitcombe	10	Watford	22	Jul	00
4:20.25	Elaine Fitzgerald	11	Watford	22	Jul	00
4:23.65	Angela Newport	12	Watford	9	Jun	01
4:23.88	Hayley Ovens	13	Watford	9	Jun	01
	fastest 'B' race					
4:21.27	Sharon Morris	1r2	Watford	9	Jun	01
	fastest 'C' race					
4:24.99	Anne-Marie Hutchinson	1r3	Watford	9	Jun	01

Women's Mile

4:30.77	Joanne Pavey	1	Bristol	30	Aug	97
4:39.0J	* Jacqueline Beasley	2	Stretford	6	Aug	85
4:39.90	Sonya Bowyer	3	Barnet Copthall	31	Aug	96
4:40.74	* M Aboulahcen BEL	4	Barnet Copthall	31	Aug	96
4:40.93	Liz Francis-Thomas	5	Barnet Copthall	31	Aug	96
4:41.20	Joanne Pavey	6	Barnet Copthall	31	Aug	96
4:42.43	Beatrice Roh GER	7	Barnet Copthall	31	Aug	96
4:44.79	Sarah Salmon	8	Barnet Copthall	31	Aug	96

Women's 3,000m

8:53.58mx	* Natalie Harvey AUS	1mx	Cardiff	5	Jul	00
8:57.00mx	Joanne Pavey	2mx	Cardiff	5	Jul	00
9:02.35mx	Maria McCambridge IRE	3mx	Cardiff	5	Jul	00
9:02.88mx	* Hayley Yelling	4mx	Cardiff	5	Jul	00
9:16.42	Jilly Ingman	5	Wythenshawe	14	Jun	00
9:18.59	* Karen Hind	6	Wythenshawe	14	Jun	00
9:22.68	Dianne Henaghan	7	Wythenshawe	14	Jun	00
9:28.68	Sharon Morris	8	Wythenshawe	14	Jun	00

Women's 5,000m

15:30.79	* Natalie Harvey AUS	1	Stretford	11	Jul	00
15:32.62	* Andrea Whitcombe	2	Battersea Park	25	Jun	00
15:39.40	* Maria McCambridge IRE	3	Stretford	11	Jul	00
15:40.85	* Sarah Wilkinson	4	Stretford	11	Jul	00
15:56.64	Amanda Parkinson	5	Stretford	11	Jul	00
16:00.84	* Tara Krzywicki	6	Wythenshawe	3	Jun	98
16:03.30	* Lucy Wright	7	Wythenshawe	3	Jun	98
16:05.81	* Karen Hind	8	Battersea Park	25	Jun	00
16:10.08	Debbie Gunning	9	Wythenshawe	3	Jun	98
16:19.72	Amy Waterlow	10	Wythenshawe	3	Jun	98
16:29.57	Penny Thackray	11	Wythenshawe	3	Jun	98

Women's 10,000m

31:41.1	* Elana Meyer RSA	1	Watford	22	Jul	00
32:30.4	* Birhan Dagne	2	Watford	22	Jul	00
32:31.9	* Rosemary Ryan IRE	3	Watford	22	Jul	00
32:34.7	* Sarah Wilkinson	4	Watford	22	Jul	00
32:52.5	* Hayley Yelling	5	Watford	22	Jul	00
32:57.3	* Bente Landoy NOR	6	Watford	22	Jul	00
33:05.5	* Ann Keenan Buckley IRE	7	Watford	22	Jul	00
33:07.9	Liz Yelling	8	Watford	22	Jul	00
33:49.8	* Beverley Jenkins	9	Watford	22	Jul	00
34:30.9	* Debbie Sullivan	10	Watford	22	Jul	00

All-Time World Junior Lists Distance Relays

Men's Junior 4x800m

7:26.1	British Miler's Club (GB)	2	BMC	Oxford	2 Sep 95
	(Alan Tatham 1:53.8, David Stanley 1:51.9, Ally Donaldson 1:49.9, Andy Blackmore 1:50.6)				
7:31.4	South Africa			Pretoria	12 Oct 77
	(Willem Geyer __, Flippie Prinsloo __, Deon Bronkhorst __, Henning Gericke __)				
7:32.7	Fiamme Azzure (Ita)				8 Oct 86
7:32.89	Auburn (Washington) HS (US)	1	Nat Sch	Raleigh, NC	14 Jun 02
	(Mike Dickson 1:57.9, Tyler Campbell 1:54.1, Chris Lukezic 1:49.4, Adam Vogt 1:51.5)				
7:33.0'	Jackson HS, Cambria Heights, NY (US)	1		Jamaica, NY	7 Jun 66
	(Julio Meade 1:54.3y, Bill Jacobs 1:57.3y, Sam Thomas 1:52.7y, Mark Ferrell 1:51.3y)				
7:33.0'	Boys HS, Brooklyn NY (US)	2		Jamaica, NY	7 Jun 66
	(Mark Edmead 1:55.3y, John Henry 1:56.6y, Mike Randall 1:53.1y, Jim Jackson 1:50.6y)				

Men's Junior 4x1500m

15:47.8	CS Forsestale (Ita)				6 Oct 83
15:52.0	British Miler's Club (GB)	1B	BMC	Watford	30 Apr 97
	(Ross Fittall 4:03.2, Neil Speaight 3:56.7, Richard Vint 3:56.2, Lee Garrett 3:55.9)				
15:57.2	Doncaster Club (Aus)				17 Dec 89
16:00.30	Il Skjalg (Nor)				27 Jun 82
16:03.2	British Miler's Club (GB)	2	BMC	Stretford	30 Apr 96
	(Thomas Mayo 3:52.8, Alex Oldfield 4:05.5, Russell Cartwright 4:02.3, Andres Jones 4:02.6)				

Men's Junior 4xMile

16:56.8	British Miler's Club (GB)	5	BMC	Oxford	10 Jul 93
	(Justin Swift-Smith 4:09.1, Eddie King 4:13.5, Simon Saxby 4:13.4, Daniel Furmidge 4:20.8)				
17:06.6	South Eugene HS, Eugene, Ore. (US)			Eugene, Ore.	7 May 76
	(Dirk Lakeman 4:16.9, Chris Nielsen 4:19.7, Bill McChesney 4:11.8, John Gustafson 4:18.2)				
17:10.7'	McCullough HS, The Woodlands, Tex. (US)	1		The Woodlands, Tex.	1 Mar 86
	(Danny Green 4:22.5m, Scott Cramer 4:18.9m, Shawn Barnes 4:14.7m, Eric Henry 4:08.6m)				
17:11.7	South Eugene HS, Eugene, Ore. (US)	1	Axeman R	Eugene, Ore.	9 May 75
	(John Gustafson 4:20.5, Bill McChesney 4:17.6, Steve McChesney 4:19.4, Chris Nielsen 4:14.6)				
17:12.2	Essex Catholic HS, Newark, NH (US)	1		Highland Park, NJ	7 Jun 66
	(Jim McLoughlin 4:23.9, Art Martin 4:18.0, Fred Lane 4:14.8, Marty Liquori 4:15.5				

Women's Junior 4x800m

8:37.71	Vere Technical HS (Jam)	1	Penn	Philadelphia	27 Apr 91
	(__ Howell 2:11.3, __ Williams 2:11.1, J__ Turner 2:12.1, Inez Turner 2:03.2)				
8:39.6	British Miler's Club (GB)	1	BMC	Watford	17 Jul 96
	(Rachael Ogden 2:09.9, Emma Davies 2:09.6, Ellen O'Hare 2:09.1, Dorothea Lee 2:11.0)				
8:43.4'	Blue Ribbon Track Club (US)	1	AAU	White Plains, NY	28 Jun 75
	(Diane Vetter ___, Julie Stibbe ___, Janis Vetter ___, Debbie Vetter ___)				
8:44.09	Vere Technical HS (Jam)	1	Penn	Philadelphia	29 Apr 89
	(__ Boothe 2:13.6, J__ Turner 2:10.7, Inez Turner 2:09.2, __ Smith 2:10.5)				
8:44.69	Vere Technical HS (Jam)				92

Women's Junior 4x1500m

18:23.98	New South Wales (Aus)				24 Nov 90
18:34.58	Victoria Under 18 (Aus)				28 Mar 92
18:38.0	British Milers' Club (GB)	2	BMC	Watford	30 Apr 97
	(Ellen O'Hare 4:37.3, Camilla Waite 4:43.1, Rachael Ogden 4:43.5, Jodie Swallow 4:34.1)				
18:43.26	New South Wales U nde 16 (Aus)				26 Nov 88
18:52.5	University HS, Irvine, Ca (US)	1	Mt. SAC	Walnut, Calif.	23 Apr 82
	(Laura Sauerwein 4:48.7, Polly Plumer 4:28.1, Judy McLaughlin 4:55.7, Teresa Barrios 4:40.5)				

Women's Junior 4xMile

20:11.56	Bronxville (NY) HS (US)	1	Nat Sch	Raleigh	15 Jun 02
	(___ O'Gorazly 5:09.5, Car___ Mullen 5:08.2, Cat___ Mullen 5:02.4, ___ Rorke 4:51.5)				
20:16.2	British Milers' Club (GB)	1	BMC	Watford	11 Jun 97
	(Caroline Walsh 5:13.1, Camilla Waite 5:05.5, Rachael Ogden 5:00.2, Jodie Swallow 4:57.4)				
20:21.98'	Rockford (Michigan) HS (US)	1		Dayton, Ohio	4 May 01
	(Kelsey Toedebusch 5:06.9, Kalin Toedebusch 4:59.4, Nikki Bohnsack 5:14.5, Linsey Blaisdell 5:00.0)				
20:23.24 i	Rockford (Michigan) HS	1	Nike Ind	Bloomington	11 Mar 00
	(Nora Culligan ___, Linsey Blaisdel 5:02.x, Emily Blakeslee 5:08x, Kaelin Toadebusch 5:05.x)				
20:24.34	Rockford (Michigan) HS (US)	1	Nat Sch	Raleigh, NC	17 Jun 01
	(Kelsey Toedebusch 5:09.3, Kalin Toedebusch 4:59.7, Nikki Bohnsack 5:05.9, Linsey Blaisdell 5:09.5)				

BMC Rankings 2002

(performances in BMC races only)

Compiled by Tim Grose

Men 600

1:18.49	Richard Davenport U17
1:19.04	David Gow SEN
1:21.64	Greg McEwan U23
1:22.04	Andrew Brown SEN
1:25.7	Peter Kellie U20
1:34.59	Kenny Morrison SEN

Men 800

1:46.29	Michael Rotich U23
1:46.75	Paul Korir SEN
1:47.18	Ricky Soos U20
1:47.61	Neil Speaight SEN
1:47.69	James McIlroy SEN
1:47.82	Joel Kidger U23
1:47.83	Simon Lees SEN
1:47.87	Mark Rodgers SEN
1:48.01	Chris Moss SEN
1:48.09	Alasdair Donaldson SEN
1:48.17	Tom Mayo SEN
1:48.30	Bernard Kisilu SEN
1:48.83	Sam Ellis U23
1:48.85	Chris Bolt U23
1:48.91	Raymond Adams U23
1:48.93	Gregg Taylor SEN
1:49.01	Nic Andrews U23
1:49.47	Dominic Hall SEN
1:49.63	James Nasrat U20
1:49.68	Gary Vickers SEN
1:49.89	Neil Dougal U23
1:50.00	Michael Skinner SEN
1:50.00	James Thie SEN
1:50.06	Kevin Sheppard SEN
1:50.22	James Mayo SEN
1:50.35	Tim Alexander SEN
1:50.41	Terry Feasey SEN
1:50.46	Tom Carter U23
1:50.49	Karim Ouou SEN
1:50.51	Andrew Brown SEN
1:50.55	Michael Rimmer U17
1:50.57	Stuart Bailey SEN
1:50.6	Jone Anderson SEN
1:50.62	Tom Ranger SEN
1:50.63	Tom Nimmo SEN
1:50.7	Rob Hooton SEN
1:50.70	Rob Watkinson SEN
1:50.73	David Gow SEN
1:50.74	Steve Rees-Jones SEN
1:50.75	Steve Turvill SEN
1:50.76	Vince Wilson SEN
1:50.92	Peter Walsh U23
1:50.97	Jason Lobo SEN
1:51.01	Andrew Fulford U23
1:51.12	Phil Winfield U20
1:51.19	Jon McCallum SEN
1:51.20	Andy Knight SEN
1:51.23	Isirelli Naikelekelevesi SEN
1:51.26	Bradley Donkin SEN
1:51.27	Andy Baddeley U23
1:51.32	Gavin Massingham U23
1:51.40	Colin McCourt U20
1:51.47	Richard Ashe SEN
1:51.5	Ric Sumner U23
1:51.51	Nick McCormick U23
1:51.6	Damien Moss U23
1:51.63	David Moulton U23
1:51.78	Hicham Ali SEN
1:51.79	Michael Coltherd U23
1:51.8	Sean Kelly SEN
1:51.8	Ibrahim Siddig U20
1:51.81	Gary Murray U23
1:51.86	Paul Laslett U23
1:51.9	Andrew Brown SEN
1:51.96	Rob Whittle U23
1:51.99	Gareth Balch U20
1:52.08	Ali Ahmed U20
1:52.09	Andrew Dean U20
1:52.14	Lee Bowron U17
1:52.16	Brendan O'Shea SEN
1:52.23	Daragh McDaid U23
1:52.25	James Parker SEN
1:52.26	John Rogers SEN
1:52.3	Richard Davenport U17
1:52.38	Jeppe Thomsen SEN
1:52.43	James Bowler SEN
1:52.46	Ian Davey U23
1:52.51	Abdul Munim Tibn U20
1:52.54	Lea Farmer U23
1:52.57	Oliver Teasel U20
1:52.63	Christian Clement U20
1:52.69	Chris Stoves U20
1:52.71	Jonathan Stewart U23
1:52.72	Ian Tinsley U23
1:52.72	Adrian McGarva SEN
1:52.73	Alex Tanner SEN
1:52.87	Thomas Chamney U20
1:52.91	Mark Sanford SEN
1:52.92	Dean Clark SEN
1:52.95	Chris Reynolds U20
1:53.0	Neil Bangs U23
1:53.03	Ryan Davoile SEN
1:53.04	Phil Tedd SEN
1:53.07	Ben Wiffen U20
1:53.1	David Reader SEN
1:53.12	Shugri Omar U20
1:53.15	Adam Vandenberg U20
1:53.15	Ed Jackson U23
1:53.20	Andrew Young SEN
1:53.20	Laurence Chandy U23
1:53.24	Noel Pollock SEN
1:53.27	Martin Thomas SEN
1:53.28	Thomas Martin SEN
1:53.35	Richard Dowse U20
1:53.37	Roger Morley SEN
1:53.4	Steve Clarke SEN
1:53.40	Scott Sterling SEN
1:53.41	Andrew Evans U23
1:53.46	Richard Ward U23
1:53.57	Chris Taylor U23
1:53.62	Nigel Carlisle SEN
1:53.65	Ben Cooke U23
1:53.69	Tom Holden U20
1:53.7	Jermaine Mays U23
1:53.74	Scott Hughes SEN
1:53.78	Neil Tucker SEN
1:53.79	Gareth Hill SEN
1:53.8	Ben Tickner U23
1:53.86	Oliver Barrett U20
1:53.9	Ian Salisbury SEN
1:53.9	Ben Ruthe U23
1:53.97	Craig Heppenstall SEN
1:54.0	Phelim Kelly SEN
1:54.0	Rees Buck SEN
1:54.01	Hugh Kerr SEN
1:54.03	Garth Watson SEN
1:54.03	Steven Evison U20
1:54.03	Graeme Oudney U20
1:54.04	Sandy Cowan U23
1:54.07	Andy Thomas SEN
1:54.08	Stephen Davies U20
1:54.09	Martin Airey SEN
1:54.13	Paul Whitelam U23
1:54.17	Alex Wright U23
1:54.18	Mike Thompson SEN
1:54.18	Darren Gauson U23
1:54.19	Rob Jefferies SEN
1:54.19	Tom Gayle U20
1:54.2	Craig Houston U23
1:54.2	Steve Neill SEN
1:54.2	Steve Cooper SEN
1:54.22	James Hogg U23
1:54.24	Jonathan Burrell SEN
1:54.24	David Proctor U17
1:54.26	Marcus Bridges SEN
1:54.27	Matt Warley U20
1:54.29	Joseph Maynard U20
1:54.35	David Anderson SEN
1:54.37	Kerr Johnstone U23
1:54.38	David Peters SEN
1:54.39	Richard Waters U23
1:54.39	James Fewtrell U23
1:54.45	Drew Graham U20
1:54.48	Richard Blagrove U23
1:54.5	Andrew Dunwoody SEN
1:54.55	Chris Livesey U23
1:54.57	Tom Snow U17
1:54.6	Richard Clayton U20
1:54.60	Pat Davis SEN
1:54.66	Russell O'Keefe SEN
1:54.67	David Thornton SEN
1:54.72	Ciaran Kelly U20
1:54.8	Paul Bristow SEN
1:54.80	Jonathan Ferguson SEN
1:54.83	Robert Nixon SEN
1:54.85	Darren Middleton U23
1:54.86	Steve O'Neill SEN
1:54.87	Dan Acheson U23
1:54.89	Richard Kay SEN
1:54.97	Steffan North SEN
1:54.99	Alan Wales U20
1:55.01	James Boxell U20
1:55.02	Nick Samuels U23
1:55.02	Noel Edwards SEN
1:55.02	Andrew Blair U23
1:55.02	Alex Joanides SEN
1:55.04	Chris Warburton U20
1:55.09	David Cowlishaw SEN
1:55.2	Ciaran O'Connell U20
1:55.20	Robert Goodwin U20
1:55.30	Gareth Klepacz U23
1:55.30	Dave Taylor SEN
1:55.35	Andy Teate U20
1:55.38	James Hayden SEN
1:55.41	Brian Stopher U23
1:55.42	Ian Bowles U20
1:55.43	Robert Smith U23
1:55.5	Mark Draper U20
1:55.5	Jamie Atkinson U20
1:55.54	Martyn Gordon SEN
1:55.55	Leon McRae U23
1:55.57	Geoff Baxter SEN
1:55.61	Mark Milligan SEN
1:55.61	Jamie Buckley U17
1:55.63	James Wardman U23
1:55.67	Jon Brown SEN
1:55.7	Ahmed Ali U17
1:55.74	Nigel Wright U23
1:55.76	Matthew Jones U23
1:55.76	Ben Green U17
1:55.77	Andy Prophett SEN
1:55.78	Matthew Clarke SEN
1:55.83	Darren Malin U20
1:55.85	Najib Hliouat SEN
1:55.87	Eddie Betts SEN
1:55.93	Colin Miles SEN
1:56.09	Ketan Desai U23
1:56.13	Chris Gowell U17
1:56.18	Kevin Ritchie SEN
1:56.19	Liban Samater U23
1:56.2	Chris Hillier U20
1:56.20	Scott Riley U23
1:56.24	Mike Roberts SEN
1:56.29	Richard Weir U20
1:56.30	Richard Workman SEN
1:56.33	Nick Goodliffe U23
1:56.36	Luke Beevor U20
1:56.44	Colin Joyce U23
1:56.46	Richard Yates U17
1:56.49	Paul Grant U20
1:56.52	Stephen Borrill U20
1:56.57	Mike Benford SEN
1:56.59	Matt Lavis U23
1:56.62	Andrew Moreton U20
1:56.64	Grant Cuddy SEN
1:56.66	Greg McEwan U23
1:56.69	Michael Sawrey U17
1:56.7	Chris Bird U23
1:56.72	Chris O'Connell U23
1:56.76	Terry Hawkey U20
1:56.78	Tim Woodthorpe SEN
1:56.8	Karim Bouchamia SEN
1:56.84	Chris Symonds SEN
1:56.88	Anthony Moran U17
1:56.89	Glen Coppin U20
1:56.90	Kevin Quinn SEN
1:56.9	Toby Underdown U23
1:56.9	Ryan Cox U23
1:56.94	Karl McCulloch U20
1:57.0	Mark Goodger SEN
1:57.02	Matt Wood U17
1:57.06	Tom Settle U17
1:57.09	Chris Hearn U23
1:57.10	Ian Hough SEN
1:57.16	Nick Gold SEN
1:57.2	Ken Harker SEN
1:57.22	Peter Wilson U20
1:57.23	Mark Herrera U20
1:57.4	Richard Sinclair SEN
1:57.44	Chris Lamb U20
1:57.46	Richard Mace SEN
1:57.47	Ross Glover U17
1:57.5	Shaun Morallee U20
1:57.50	Andrew Osment SEN
1:57.55	Richard Griffiths SEN
1:57.56	Ed Alexander SEN
1:57.59	Lee Montgomery U23
1:57.60	Neil Gamester U20
1:57.65	Darren Talbot SEN
1:57.68	Rob Elmore U23
1:57.7	Peter Lennon SEN
1:57.7	Alex Felce U17
1:57.73	Jeremy Bradley SEN
1:57.78	James Bleakley SEN
1:57.81	Matthew Nicholson U23
1:57.84	Gareth Riddell SEN
1:57.98	Mark Glennie U23
1:58.0	Jon Hasell U20
1:58.03	Tom Graham U20
1:58.06	Ben Harding U17
1:58.09	Oliver Mytton SEN
1:58.12	Richard Burman SEN
1:58.17	Mark Oldham SEN
1:58.26	David Bruce U20
1:58.26	Chris Toms U20
1:58.29	Jason Atkinson U17
1:58.3	Andrew Ingle U23
1:58.3	Leigh Crispin U23
1:58.3	Gary Johnson U23
1:58.3	Gary Bostock U23
1:58.37	Aaron Bullock U23
1:58.39	Steven Dunn U23
1:58.39	Richard Hollingsworth SEN
1:58.44	Craig Bravington U17
1:58.51	Adam Lee U20
1:58.55	Paul Stockton U17
1:58.57	Andrew Donaldson U17
1:58.6	Jonathan Blackledge U20
1:58.61	Richard Burney SEN
1:58.62	James Daplyn U20
1:58.70	Graham Townsend SEN
1:58.70	Gareth Suffling U23
1:58.72	Darrell Bellinger U20
1:58.75	Charlie Lawrence U20
1:58.76	Mark Cripsey SEN
1:58.77	Jonathan Stanford U20
1:58.77	Mike Nolan SEN
1:58.78	Andrew Roberts U23
1:58.79	Frank Baddick U17
1:58.8	Matthew Raw SEN
1:58.8	Andrew Renfree SEN
1:58.80	Dave Battersby SEN
1:58.86	Ryan Armstrong U20
1:58.90	Richard Hill U17
1:58.98	James Watson SEN
1:59.04	Danny Crates SEN
1:59.06	Darren Jordan SEN
1:59.07	Paul Mullany SEN
1:59.09	Abdi Ali U23
1:59.1	Darren Doyle-Howson U20
1:59.1	Robert Spencer U20
1:59.15	Paul Moores U20
1:59.18	Martyn Gibbons U15
1:59.18	Richard Daniels SEN
1:59.27	Tim Grose SEN
1:59.29	Ben Jones U20
1:59.31	Ed Lake U17
1:59.33	Kev Hope SEN
1:59.34	Stuart Laycock U20
1:59.39	Mark Sinclair U23
1:59.47	Dan Stevens SEN
1:59.50	Alexander Pritchard U17
1:59.50	Abdi Igi U15
1:59.51	Lewis Cadman U20
1:59.51	Graeme Osborne SEN
1:59.6	Neil Jones U20
1:59.6	Lee Salter SEN
1:59.61	Aaron Lowery U20
1:59.62	Joe Boyce SEN
1:59.64	Chris Smith SEN
1:59.67	John Hutchins U23
1:59.67	Chris Lamb U20
1:59.7	Steven Heathcote SEN
1:59.7	Phil Hall VET
1:59.75	Dan Lewis SEN
1:59.84	Marc Johnston U20
1:59.91	Ben Finn U17
1:59.91	Sam Kissi U15
2:00.0	Mark Harris U23
2:00.05	R Anderson SEN
2:00.06	Andrew Welch U17
2:00.10	John Mcloone U23
2:00.31	Sean Dirrane U17
2:00.34	Robin MacIntosh U20
2:00.38	Jamie Smith U23
2:00.4	Oliver Harradenc SEN
2:00.45	D Quinn U17
2:00.49	Gary Davenport U20
2:00.7	Marc Turner SEN
2:00.7	Nathan Shrubb U17
2:00.8	Darren Westlake SEN
2:00.82	Simon Fraser SEN
2:00.83	Daniel Grant U17
2:00.87	Matthew Ashton U20
2:00.9	Chris Hrynkow SEN
2:00.93	Richard Bough U17
2:00.93	Andrew Whetstone U17
2:00.94	Tom Kennedy SEN
2:01.0	Lloyd Pritchard SEN
2:01.1	Shaun Dixon U23
2:01.19	Glen Davison SEN
2:01.33	Joe Van Der Toorn U17
2:01.36	Andrew Lingard U23
2:01.39	Shaun Desport U17
2:01.4	Shane McDermott U23
2:01.43	Paul Drake U20
2:01.53	James Wright U20
2:01.55	James Stephenson U20
2:01.56	Steven Pogue U17
2:01.74	Daniel Twerenbold SEN
2:01.9	Richard Sough SEN
2:01.91	Mark Duncan SEN
2:01.96	Tim Egerton U20
2:02.0	Ian Bateman U23
2:02.00	Robert Datnow SEN
2:02.02	Gary Taylor U17
2:02.04	Duncan Blyth U20
2:02.04	Martin Hutchin U20
2:02.1	Robert Smyth U20
2:02.14	Richard Wallace U17
2:02.16	Samuel Millar SEN
2:02.17	Alex Budd U20
2:02.2	Jack Lenzan U20
2:02.2	James Opio SEN
2:02.31	Con O'Neill U17
2:02.4	J Gray SEN
2:02.42	Alex Bostock U17
2:02.42	Julian Rendall SEN
2:02.5	Romeo Chekem U23
2:02.6	Robert Poulter SEN
2:02.82	C Tucker U20
2:02.86	Sam Barnes U17
2:02.9	Joe Chambers U20
2:02.91	David Hall SEN
2:02.97	David Bowker U17
2:03.0	Kevin McCloy SEN
2:03.03	Guy Thompson U20
2:03.04	Mark Burgess U15
2:03.2	Tom Jones U23
2:03.27	P Groom U17
2:03.36	Derek Watson U20
2:03.4	A Bell U23
2:03.4	Richard Burgh U17
2:03.42	David Bedwell VET
2:03.47	Matt Hill SEN
2:03.5	Matt Hart U23
2:03.52	Michael Ross U23
2:03.6	Rob Skornia U20
2:03.62	Ben Hyman SEN
2:03.66	Richard Warburton U17
2:03.66	Steve Cowlishaw SEN
2:03.71	Robert Morton U17
2:03.9	John Gelry SEN
2:04.0	Tom Marley U17
2:04.05	Jordan West U15
2:04.14	Chris Gillespie U17
2:04.17	Graham Mander U23
2:04.28	George Glancy U15
2:04.3	Matthew Barrett U17
2:04.5	Steven Morrow SEN
2:04.52	Dave Campbell VET
2:04.63	Paul Parkinson U20
2:04.7	M Leyshon U23
2:04.7	Richard Beasley U20
2:04.8	Lewis Danagher U17
2:04.88	Sebastian Clement U20
2:04.9	Eddie Thomas SEN
2:04.99	Grant Forrester U20
2:05.01	C Price U17
2:05.2	James Connor U20
2:05.23	Matt Hughes U17
2:05.26	Donal Iremonger SEN
2:05.4	Matt Neld SEN
2:05.41	Eddie Brown U17
2:05.48	Robert Rhodes SEN
2:05.5	Max Richardson U17
2:05.6	Matthew Cole U17
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2:05.82	Sam Bradley U15
2:05.9	Sean Hogan U17
2:05.91	Mike Williams U17
2:06.00	Peter Bains U17
2:06.07	Joe Holden U17
2:06.15	Owen Vale U17
2:06.16	Ian Jelbert U20
2:06.2	Joe Carter U17
2:06.46	Kevin Pye VET
2:06.6	Simon Davey SEN
2:06.78	Alan Sneddon U23
2:06.8	Luke Evans U20
2:06.80	Chris Mulroy U17
2:07.1	Jamie Palmer SEN
2:07.1	Duncan Bryan SEN
2:07.18	Mark Wilson U17
2:07.2	Richard Lang U17
2:07.5	Michael Morgan U17
2:07.52	Daniel Stepney U15
2:07.58	Richard Hyman U20
2:07.8	Michael Lloyd U17
2:07.9	J Neeves U17
2:07.99	Tony Macdowell U23
2:08.03	Robbie Hawkins U17
2:08.38	Aaron Denton U15
2:08.4	Nicolas Phillips U15
2:08.58	Steve Mann SEN
2:08.8	Dan Cree U20
2:08.86	Laurence Cox U15
2:09.03	Neil Thorpe U20
2:09.21	Matthew Woods U17
2:09.30	David Bishop U17
2:09.3	Steven Waldron U20
2:09.40	Darrell Reynolds U20
2:09.40	Anthony O'Connor SEN
2:09.6	Mark Linskill U23
2:10.1	Bob Minting VET
2:10.1	Steve Lang VET
2:10.2	Chris Baddick U15
2:10.3	Chris Lenn SEN
2:10.63	Lee Maginnis SEN
2:10.68	Matthew Mills U17
2:11.1	Matthew Retter U17
2:11.1	William Barnett U17
2:11.2	Peter Harvey U17
2:11.28	Richard Beaumont U17
2:11.67	Abdi Wahab U15
2:11.70	David Lewis U23
2:12.03	Oliver Berry U15
2:12.15	Robert Bates U15
2:12.19	Andrew Cochrane U17
2:12.24	Simon Barnard U17
2:12.55	Chris Friend U17
2:13.7	Luke Dumper U17
2:14.1	Ian Brannigan SEN
2:14.93	Jonathan Boyle U15
2:15.7	Steve Choules SEN
2:15.83	Malcolm Cowton VET
2:16.2	Aaron Twitchen U17
2:16.3	Michael Cole U13
2:16.64	Josh Garrett U15
2:16.7	David Shortridge SEN
2:17.4	Graeme Kay VET
2:18.6	G Stroud U17
2:18.6	Jonathan Boyes U15
2:18.7	Alan Cattell VET
2:19.37	Neil Bekker U15
2:20.22	Conor Tiernan U15
2:20.8	Jamal Mohammed SEN
2:21.15	Jake Meaking U13
2:22.76	Robert Grace VET
2:25.37	Tom Emmett U15
2:28.29	Tom Woods U13
2:29.87	Azit Castro VET
2:30.1	Elizabeth Gale U15
2:31.2	Mike Dyer VET
2:31.2	Richard Farrow U13
2:37.45	Mike Bayliss U13
2:39.42	David Platt U13
2:40.90	Charles Matthews U13
2:44.32	Linus Gruszewski U15
2:46.96	Matthew Bennett U13

Men 1500

3:37.33	Andrew Graffin SEN
3:40.22	Edwin Maranga SEN
3:41.06	James Thie SEN
3:41.10	Gregg Taylor SEN
3:41.61	Angus Maclean U23
3:42.08	Matt Shone SEN
3:42.22	Daniel Gachara SEN
3:42.32	Adam Zawadzki SEN
3:42.43	Michael Skinner SEN
3:42.62	Hamish Christensen SEN
3:42.73	Nick McCormick U23
3:42.79	Conor Sweeney U23
3:42.82	Rees Buck SEN
3:43.3	John Rogers SEN
3:43.30	Joel Kidger U23
3:43.42	Richard Ashe SEN
3:43.49	David Lelie SEN
3:43.58	Sammy Mutai SEN
3:43.62	Tom Carter U23
3:43.72	Ben Whitby SEN
3:44.01	Tom Ranger SEN
3:44.18	Rob Hooton SEN
3:44.60	Chris Bolt U23
3:44.67	Colin McCourt U20
3:44.76	Steve Sharp SEN
3:44.89	Neil Speaight SEN
3:45.00	Spencer Barden SEN
3:45.48	Stuart Stokes SEN
3:45.67	Chris Thompson U23
3:45.72	Mark Miles SEN
3:45.82	David Hibbert SEN
3:45.88	Robert Andersen SEN
3:46.12	Richard Ward U23
3:46.46	Neil Bangs U23
3:46.49	Ben Reese SEN
3:46.58	Chris Livesey U23
3:46.59	Andy Baddeley U23
3:46.68	Stephen Hepples U23
3:46.79	Iain Murdoch U23
3:46.85	Kevin Sheppard SEN
3:46.93	Derek Watson U20
3:47.01	Steve Body SEN
3:47.02	Rod Finch SEN
3:47.09	Oliver Laws U23
3:47.22	Ben Tickner U23
3:47.37	Mark Fountain U23
3:47.39	Gary Murray U23
3:47.53	Alasdair Mclean-Foreman U23
3:47.57	Andrew Sherman U23
3:47.60	Ed Prickett U20
3:47.78	Mohamed Farah U20
3:47.95	Phil Tedd SEN
3:47.96	Rob Whittle U23
3:48.08	Steve Vernon U23
3:48.12	Matthew Bowser U20
3:48.12	James Fewtrell U23
3:48.15	Jermaine Mays U23
3:48.34	Ed Jackson U23
3:48.43	Adam Bowden U23
3:48.63	Andrew Renfree SEN
3:48.71	Lee Merrien SEN
3:48.72	Scott Overall U20
3:48.74	Ricky Soos U20

3:49.10 Dave Taylor SEN
3:49.14 Stuart Bailey SEN
3:49.22 Chris Parr U20
3:49.25 Eoin O'Neill SEN
3:49.28 Nick Goodliffe U23
3:49.40 Anthony Moran U17
3:49.40 Chris Reynolds U20
3:49.43 John Frazer U23
3:49.50 David Anderson SEN
3:49.50 Peter Madson SEN
3:49.51 Andy Caine SEN
3:49.64 Steve Neill SEN
3:49.7 Karim Ouou SEN
3:49.81 Ben Ruthe U23
3:49.96 Tom Frazer U23
3:49.96 Gareth Raven SEN
3:49.99 Steve Murphy U20
3:50.06 Lee Emanuel U20
3:50.14 Jason Lobo SEN
3:50.14 Darren Middleton U23
3:50.27 Alex Wright U23
3:50.37 Des English SEN
3:50.66 David Kelly U23
3:50.86 Robert Scanlon SEN
3:50.90 Alex Hodgkinson U20
3:51.02 Mark Sanford SEN
3:51.02 Steve Rees-Jones SEN
3:51.06 Kojo Kyereme SEN
3:51.14 Mark Draper U20
3:51.15 Alastair O'Connor SEN
3:51.15 Curtis Robb SEN
3:51.28 Jonathan Burrell SEN
3:51.55 Jonathan Stewart U23
3:51.56 Steffan North SEN
3:51.64 Richard Kay SEN
3:51.86 Andrew Walker SEN
3:52.01 Tom Sharland U20
3:52.05 Corin Hughes U23
3:52.12 Jamie Atkinson U20
3:52.24 Lee Bowron U17
3:52.40 Clayton Bannon SEN
3:52.51 Mark Christie U20
3:52.66 Shugri Omar U20
3:52.71 Neil Miller SEN
3:52.93 Richard Girvan SEN
3:53.08 Adrian McGarva SEN
3:53.08 Trevor Antao SEN
3:53.18 Tom Doe U23
3:53.20 Brad Yewer SEN
3:53.35 Paul Ashley SEN
3:53.43 Bruce Raeside U23
3:53.44 David Cowlishaw SEN
3:53.55 Noel Pollock SEN
3:53.65 Andrew Brown SEN
3:53.70 Martyn Cryer U23
3:53.73 Paul Morby SEN
3:53.79 Matt Skelton SEN
3:53.92 Colm Rothery VET
3:54.02 Luke Gunn U20
3:54.06 Kerr Johnstone U23
3:54.06 Steve Clarke SEN
3:54.07 Michael Rimmer U17
3:54.10 Tim Prendergast SEN
3:54.11 Robert Goodwin U20
3:54.15 Gareth Klepacz U23
3:54.17 Nick Talbot SEN
3:54.25 James Hayden SEN
3:54.35 David Kelly U23
3:54.38 Mark Brown SEN
3:54.54 Matt Janes U23
3:54.57 Andrew Blair U23
3:54.59 Alan Wales U20
3:54.81 Dermot Donnelly SEN
3:54.86 Andrew Toward U20
3:55.1 Andy Thomas U23
3:55.15 Tom Penfold U20
3:55.48 Martin Hilton SEN
3:55.56 Tom Gayle U20
3:55.63 Matt Smith SEN
3:55.70 Sean Kelly SEN
3:55.75 Ian Salisbury SEN
3:55.89 Rick Hayman SEN
3:56.01 Steffan White SEN
3:56.06 Phil Nicholls U20
3:56.1 Lee Browell U23
3:56.15 Dan Lewis SEN
3:56.18 Luke Beevor U20
3:56.20 Paul Moores U20
3:56.23 James Ellis U17
3:56.25 Alistair Moses SEN
3:56.37 Andrew Dunwoody SEN
3:56.4 Gavin Massingham U23
3:56.42 Neil Burton U23
3:56.50 Alex Tanner SEN
3:56.52 Chris Warburton U20
3:56.57 Lee Rodriguez SEN
3:56.6 Craig Wheeler SEN
3:56.66 Chris Smith SEN
3:56.67 Ryan McLeod U20
3:56.81 Scott Tompsett SEN
3:56.82 Kevin Hayes SEN
3:56.85i Gareth Balch U20
3:56.90 Mike Benford SEN
3:56.91 Martin Whitehouse SEN
3:56.96 Matthew Plano SEN
3:57.14 Chris Hart U17
3:57.41 Paul Whitelam U23
3:57.43 Jon Rice U23
3:57.53 Richard Lee U23
3:57.62 Chris Bird U23
3:57.64 Rob Elmore U23
3:57.65 Gearoid O'Connor SEN
3:57.67 Andrew Morgan-Lee SEN
3:57.69 Simon Plummer SEN
3:57.7 Ben Wiffen U20
3:57.74 Chris O'Connell U23
3:57.83 Mark Pollard U23
3:57.84 David Jones U20
3:57.9 Kevin Quinn SEN
3:57.96 Gordon Lee U23
3:57.97 Alistair Smith U20
3:58.0 Dominic McAllister U20
3:58.02 Jon Brown SEN
3:58.11 Daniel Wicks SEN
3:58.13 Brian Farrell U20
3:58.17 Nick Samuels U23
3:58.28 Joe Stephenson U20
3:58.3 Owain Matthews U23
3:58.4 Francois Van Rensburg SEN
3:58.48 Robert Cole SEN
3:58.51 Tommy Davies U20
3:58.52 Henry Hammond U23
3:58.6 Jonathan Blackledge U20
3:58.70 Simon Hall U23
3:58.74 Mike Gregory SEN
3:58.77 Chris Lamb U20
3:58.81 Paul Erwood U17
3:58.83 Gareth Riddell SEN
3:58.85 Adam Thomas U23
3:58.9 Antony Ford U20
3:58.9 Andy Barber SEN
3:58.97 Simon Cotton SEN
3:58.99 Julian Wilkie SEN
3:59.05 Steven Horn SEN
3:59.09 David Wardle SEN
3:59.1 Edward McGinley U20
3:59.11 Ken Harker SEN
3:59.15 Gordon Irvine SEN
3:59.2 Andrew Ingle U23
3:59.20 Mustaffa Mohamed SEN
3:59.3 Shane McDermott U23
3:59.34 Jon Hasell U20
3:59.37 Ian Wetherhall SEN
3:59.4 Will Levett SEN
3:59.41 Tim Woodthorpe SEN
3:59.47 James Williams U23
3:59.48 Nigel Wright U23
3:59.51 Tom Snow U17
3:59.57 Ahmed Ali U17
3:59.60 Mike Burton SEN
3:59.65 Matthew Barnes-Smith U17
3:59.65 Brian Stopher U23
3:59.69 Stephen Davies U20
3:59.71 Adam Donegan U20
3:59.72 Matthew Raw SEN
3:59.73 Steve Ablitt U20
3:59.8 Daniel Simons SEN
3:59.87 Louis Jones SEN
3:59.95 Charlie Low SEN
3:59.98 Andrew McKenna U23
4:00.0 Sean Dixon U20
4:00.04 Dave Webb U23
4:00.09i Neil Tucker SEN
4:00.13 Ryan Davoile SEN
4:00.16 Kev Hope SEN
4:00.17 James Wardman U23
4:00.22 Tom Humphries U20
4:00.25 Lewis Cadman U20
4:00.27 Alaster Stewart SEN
4:00.3 Neil Gamester U20
4:00.35 Ian Munro U20
4:00.35 Tim Grose SEN
4:00.38 Richard Burman SEN
4:00.43 Chris Taylor U23
4:00.44 Ewen Malloch SEN
4:00.44 Daniel Yates U23
4:00.5 Mark Hood U23
4:00.50 Ian Carter U20
4:00.51 Adam Dyson U23
4:00.57 Martin Flook U23
4:00.59 Chris Bryant U20
4:00.6 Simon Rusbridge U23
4:00.71 Mark Buckingham U20
4:00.73 Richard Kinsey U20
4:00.76 Matt Warley U20
4:00.80 Joachim Wolf SEN
4:00.82 Ben Green U17
4:00.98 Andrew Walling SEN
4:01.01 James Horsman U17
4:01.03 Gavin Smith U20
4:01.19 Delroy Simon SEN
4:01.2 Ben Harding U17
4:01.34 Mike Thompson SEN
4:01.35 Matthew Jones U23
4:01.35 John Eves U20
4:01.35 Richard Burney SEN
4:01.40 Thomas Oliver U20
4:01.4 Chris Knights U17
4:01.4 Geoff Baxter SEN
4:01.49 Gareth Tapper U20
4:01.49 Huw Evans SEN
4:01.5 Abdi Ali U23
4:01.57 Matthew Nicholls SEN
4:01.6 Craig Iveny U17
4:01.62 Aidan Adams U23
4:01.77 Kirk Wilson U20
4:01.8 Richard Kemp U20
4:01.8 Mark Cripsey SEN
4:01.81 Terry Hawkey U20
4:01.96 Steve Hallas SEN
4:02.1 Colin Hawkins U20
4:02.11 Bill Foster VET
4:02.16 Darryl Hards U23
4:02.27 Daniel Gurmin U20
4:02.28 David Udal U20
4:02.36 Laurence Savva U20
4:02.37 Neil Wilkinson SEN
4:02.40 Tim Egerton U20
4:02.56 Darren Malin U20
4:02.84 Chris Hearn U23
4:02.88 Matthew Norminton SEN
4:03.00 Mike Paddon SEN
4:03.00 Adam Watt U20
4:03.21 Jim Guest SEN
4:03.4 Kairn Stone SEN
4:03.47 Tim Cook SEN
4:03.5 Dave Ricketts SEN
4:03.51 James Hogan U20
4:03.54 Sean Dirrane U17
4:03.64 Ryan Armstrong U20
4:03.67 David Nolan SEN
4:03.77 Richard Sinclair SEN
4:03.89 Andy Knight SEN
4:03.90 Emile Tambeh U20
4:04.02 Brian O'Donoghue SEN
4:04.06 Karl Fitzmaurice SEN
4:04.2 Richard Waters U23
4:04.26 Alan Stewart U20
4:04.3 Andrew Rayner U23
4:04.43 Simon Lewis SEN
4:04.44 Tom Bailey U23
4:04.47 Patrick White U20
4:04.67 Chris Watson U20
4:04.69 Matt Wood U17
4:04.73 Michael Sawrey U17
4:04.89 Matthew Ashton U20
4:04.9 Tom Warrender U23
4:04.90 James Henry U20
4:04.98 Andy Parker SEN
4:05.00 Jonathan Earnshaw V02
4:05.0 Tim Bailey SEN
4:05.13 Phil Clamp SEN
4:05.3 Lee Slater U20
4:05.3 Matthew Bell SEN
4:05.41 Kevin Ritchie SEN
4:05.8 Darren Westlake SEN
4:05.86 Andrew Kidling SEN
4:05.97 Tom Settle U17
4:06.06 Robert Smyth U20
4:06.1 Chris Parr U20
4:06.3 Alex Lockett SEN
4:06.4 Shaun Dixon U23
4:06.41 Graham Russ U20
4:06.5 Alan Turnbull SEN
4:06.54 Adam Lee U20
4:06.62 Steven Pogue U17
4:06.7 Colin Miles SEN
4:06.7 Mark Cowen U23
4:06.74 Andrew Fulford U23
4:06.83 Stephen Ames U20
4:06.9 Chris Symonds SEN
4:07.1 Rafael Bispo U23
4:07.11 Dave Shaw U23
4:07.11 Steve Hollas SEN
4:07.23 George Eves U20
4:07.28 Ian Rawlinson U20
4:07.3 Hassan Raidi SEN
4:07.54 Mike Nolan SEN
4:07.55 Sam Jacobs U20
4:07.6 Ben Paviour SEN
4:07.76 Alex Felce U17
4:07.77 Mark Burges U15
4:07.88 Adrian Holliday U17
4:07.90 Paul McNally U20
4:07.97 Phil Hall VET
4:08.05 Tom Ellacott SEN
4:08.19 Tom Holden U20
4:08.68 Robert Paterson SEN
4:08.79 James Connor U20
4:08.8 James Mitchell U17
4:08.89 Paul Pudney VET
4:08.9 Kevin Seaward U20
4:09.15 Russell Betts U17
4:09.3 David Swinburne SEN
4:09.34 David Crossland VET
4:09.5 Tom Jones U23
4:09.6 Andy Teate U20
4:09.6 Iskender Ibrahim U17
4:09.6 Nigel Carlisle SEN
4:09.66 Peter Emmett U20
4:09.7 Toby Underdown U23
4:09.80 Stephen Enright U20
4:09.95 Jan Butler-Rees U20
4:10.2 Dave Lockett SEN
4:10.27 Daryll Barnby U20
4:10.4 Mark Donkin SEN
4:10.55 Tom Russell U17
4:10.58 William Docherty U20
4:10.7 Allan Jones SEN
4:11.55 Chris Lamb U20
4:11.6 Mark Harris U23
4:11.7 Daniel Carthy U23
4:11.9 Paul Evans SEN
4:11.90 Alan McCormack U20
4:12.25 Phil Winfield U20
4:12.32 Jackson Samatei SEN
4:12.46 Jonny Ayres U17
4:12.50 Chris Gillespie U17
4:12.58 Jonathan Holt U17
4:12.84 Ben Jones U17
4:12.86 Russell Forsbrook SEN
4:12.86 David Bedwell VET
4:12.87 Colin Light U17
4:13.22 Thomas Bolton U20
4:13.66 Abdi Igi U15
4:13.78 Stephen Nicholls U20
4:13.90 Stuart Boon U17
4:14.13 Robert Morton U17
4:14.23 Ian Hobdell SEN
4:14.29 Paul Simner U17
4:14.5 Frank Baddick U17
4:14.54 Jonathan Long U17
4:15.1 Tom Payn SEN
4:15.21 Robert Datnow SEN
4:15.57 Alex Pigot SEN
4:16.08 Grey Kenny SEN
4:16.4 Kevin Worlock SEN
4:16.82 Hamish Robertson U17
4:16.95 James Brown SEN
4:17.1 Nick Webber SEN
4:17.2 Mark Wilkinson SEN
4:17.24 Nick Overton VET
4:17.37 Leigh Crispin U23
4:17.39 Ben Evans U20
4:17.78 Matthew Cole U17
4:17.92 Gary Darroch U20
4:17.93 Andrew Friend U17
4:17.97 Mike Williams U17
4:17.99 Robert Poulter SEN
4:18.1 Richard Wallace U17
4:18.86 Daniel Evans U17
4:19.0 James Bellward U20
4:19.15 Myles Houldsworth SEN
4:19.5 Tom Waldron U20
4:19.6 Steven Waldron U20
4:19.8 Jamie Palmer SEN
4:20.6 Mike Feighan SEN
4:20.79 Martin Mashford U17
4:21.0 James Walsh U23
4:21.05 Michael Kilmartin U20
4:21.76 Steven Quinn U20
4:22.2 Anthony Wilson U20
4:22.52 Kyle Bennett U17
4:22.64 Alex Wall-Clarke U17
4:22.78 Stephen Matthews U20
4:22.78 Bryce Butterworth SEN
4:22.93 Graham Welsh U17
4:23.09 Chris Burgess U23
4:24.4 James Sern U20
4:24.8 M Leyshon U23
4:24.96 Calum Morrison U17
4:25.25 Danny Barkes U17
4:25.4 Graham Riley SEN
4:25.61 Andrew Roberts U23
4:25.79 Terry Stanley U17
4:25.90 Owain Bristow U17
4:25.9 George Miller U23
4:26.0 Edward Benham U17
4:26.40 Lee Salter SEN
4:26.6 James Rodgers SEN
4:27.99 Chris Friend U17
4:28.0 Chris Baddick U15
4:28.86 James Whittington U15
4:29.03 Rory Walker U17
4:29.1 Turlough Donnelly SEN
4:29.24 Joe Thompson U17
4:29.9 Derek Leitch VET
4:29.9 Matthew Clark U15
4:30.72 Michael Bergin U15
4:31.0 Luke Evans U20
4:31.1 Ian Stewart SEN
4:31.3 Dan Cree U20
4:31.5 Andrew Conway U15
4:33.3 Gavin McBride SEN
4:33.32 Simon Reynolds U20
4:33.5 Simon Baker U17
4:33.5 Dan Hughes U17
4:33.5 Graham Mander U23
4:33.7 Robbie Hawkins U17
4:35.8 Matthew Mills U17
4:37.82 Aaron Twitchen U17
4:39.40 Kyle Allen U15
4:39.9 Greg Norman U17
4:40.20 Ashley Rymer U15
4:40.2 Sam Evans SEN
4:40.4 Bob Minting VET
4:41.26 Nicolas Phillips U15
4:42.03 Mike Tallis U15
4:42.90 Greg Smith U15
4:43.61 Dean Retallack U17
4:44.8 Michael Williams U15
4:45.46 Denham Elvin U17
4:46.13 Daniel Sheppard U15
4:46.71 Joe Taviner U15
4:53.1 Phil Norman U13
4:55.3 Nick Daniels U17
4:55.56i Devon Haskell U23
4:56.5 Richard Farrow U13
4:57.33 David Compton U17
4:59.6 Ian Page VET
5:04.6 Lee Richardson SEN
5:11.0 Ross Williams U13
5:11.0 Scott Williams U13
5:11.3 Jason Clarke SEN
5:14.2 Ian Sheppard U17

Men 3000

8:00.25 Chris Thompson U23
8:00.94 Flemming Bjerre SEN
8:02.39 Spencer Barden SEN
8:03.17 Steve Sharp SEN
8:03.17 Donald Naylor SEN
8:03.49 Glen Stewart SEN
8:04.26 James Fewtrell U23
8:04.36 Angus Maclean U23
8:05.06 Mark Miles SEN
8:07.64 Ian Hudspith SEN
8:07.91 Ian Grime SEN
8:08.86 Steve Body SEN
8:08.89 Rob Denmark SEN
8:09.01 Nick McCormick U23
8:09.16 James Thie SEN
8:09.24 Dermot Donnelly SEN
8:09.99 Andy Caine SEN
8:11.26 Tom Sharland U20
8:11.72 Oliver Laws U23
8:12.43 Stephen Hepples U23
8:13.80 Kairn Stone SEN
8:13.87 Paul McNamara SEN
8:15.13 Glynn Tromans SEN
8:15.89 Will Levett SEN
8:16.43 Ed Prickett U20
8:18.08 Alex Hains U23
8:19.48 Matthew Watson U23
8:21.40 Mark Brown SEN
8:23.12 Matt Janes U23
8:23.81 Martin Hilton SEN
8:24.08 Andres Jones SEN
8:24.63 Nathaniel Lane SEN
8:26.21 Louis Jones SEN
8:27.52 Richie Gardiner SEN
8:29.1 Jerome Brooks SEN
8:29.32 Nick Anderson SEN
8:29.36 David Wardle SEN
8:29.49 Daniel Simons SEN
8:30.62 Frank Tickner U20
8:30.99 Neil Wilkinson SEN
8:31.11 Matthew Barnes-Smith U17
8:31.79 Andrew Swearman SEN
8:32.86 Matthew Bell SEN
8:33.5 James Hayden SEN
8:33.99 Corin Hughes U23
8:34.19 Neil Miller SEN
8:34.7 Gordon Lee U23
8:35.05 Max Colligan SEN
8:35.07 David Anderson SEN
8:35.37 Simon Plummer SEN
8:35.78 Noel Thatcher SEN
8:36.12 Sam Jacobs U20
8:37.42 Matthew Norminton SEN
8:37.7 Kevin Hayes SEN
8:37.84 Simon Everington SEN
8:39.08 Mark Pollard U23
8:39.59 Jack Vail U20
8:39.89 Ryan McLeod U20
8:40.43 Scott Brittain SEN
8:41.04 Pat Muldoon U23
8:42.7 Simon Cotton SEN
8:43.21 Andrew Ingle U23
8:43.48 Nick Altmann SEN
8:46.09 Iain Donnan U20
8:46.29 Joe Stephenson U20
8:46.33 Andrew McKenna U23
8:49.24 Jonathan Blackledge U20
8:49.83 Hassan Raidi SEN
8:50.0 Kev Hope SEN
8:50.5 Sam Robinson U20
8:50.85 Dafydd Clarke SEN
8:51.35 Daniel Carthy U23
8:53.15 Stuart Campbell SEN
8:54.02 David Swinburne SEN
8:55.49 Chris Parr U20
8:56.6 Martin Shore SEN
8:57.07i R Starr SEN
8:57.23i Oliver Mytton SEN
8:57.94 Ian Murray SEN
9:00.96 Jon Archer SEN
9:03.44 Tim Grose SEN
9:03.55i Gareth Klepacz U23
9:06.68 Gary Hughes U17
9:13.12i Ben Cox U20
9:19.7 Tony Roper SEN
9:24.08 Mark Harris U23
9:32.27 Tom Faiers U15
9:41.2 Kane Desborough U17
9:53.05 Kieran Leeson U17
10:06.35 Robbie Dale U17

Men 5000

13:38.52 Sam Haughian SEN
13:46.63 Rob Denmark SEN
13:46.89 Julius Kimati SEN
13:47.10 Glen Stewart SEN
13:47.88 Ian Hudspith SEN
13:47.99 Killian Lonergan SEN
13:48.60 Mark Miles SEN
13:50.8 Chris Thompson U23
13:54.92 Jon Wild SEN
13:56.36 Julio Rey SEN
13:57.44 Glynn Tromans SEN
13:57.5 Rod Finch SEN
14:00.5 Mohamed Farah U20
14:01.81 Mark Steinle SEN
14:03.0 Robert Connelly SEN
14:05.23 Dermot Donnelly SEN
14:06.02 Ian Gillespie SEN
14:06.21 Andres Jones SEN
14:06.44 Rob Birchall SEN
14:07.18 David Hibbert SEN
14:08.05 Mark Morgan SEN
14:09.5 Stephen Hepples U23
14:12.10 Gareth Raven SEN
14:13.7 Oliver Laws U23
14:15.5 Arkangell Roko SEN
14:15.80 Kojo Kyereme SEN
14:16.2 Mark Kenneally U23
14:16.61 Will Levett SEN
14:19.89 Alex Hains U23
14:24.33 Steve Body SEN
14:24.48 Vinny Mulvey SEN
14:25.85 Nathaniel Lane SEN
14:26.27 Mark Brown SEN
14:26.7 Andy Caine SEN
14:26.86 Kairn Stone SEN
14:27.7 Nick Goodliffe U23
14:28.65 AC Muir SEN
14:29.28 Antony Ford U20
14:30.81 Steven Cairns SEN
14:33.3 Martin Hilton SEN
14:36.81 Dave Norman SEN
14:38.27 Martyn Cryer U23
14:39.12 Tom Sharland U20
14:39.49 Dave Ricketts SEN
14:40.7 Jerome Brooks SEN
14:42.5 Gordon Lee U23
14:42.8 Chris Cariss SEN
14:43.3 Tom Naylor SEN
14:43.44 Rick Hayman SEN
14:43.7 Huw Lobb SEN
14:44.0 Matt Janes U23
14:44.24 Mohamed El-Sadiki SEN
14:45.02 Andy Parker SEN
14:45.1 Andrew Morgan-Lee SEN
14:45.30 Robert Wade SEN
14:47.2 Mustaffa Mohamed SEN
14:48.8 David Wardle SEN
14:50.27 Dave Webb U23
14:50.60 Andrew Swearman SEN
14:50.87 Chris Carriss SEN
14:54.18 Sam Jacobs U20
14:54.42 Edward McGinley U20
14:57.3 Phil Hinch SEN
14:57.88 Matthew Bell SEN
14:59.93 Paul Moore SEN
15:00.88 Steve Edmonds SEN
15:01.43 Bill Foster VET
15:01.5 Louis Jones SEN
15:04.17 Noel Thatcher SEN
15:04.92 Paul Coleman SEN
15:05.2 Shane Snow SEN

15:05.33	Mike Burrett SEN
15:07.93	David Swinburne SEN
15:15.47	Matt Lockett SEN
15:19.3	Simon Plummer SEN
15:21.19	Peter Grime SEN
15:27.75	Kieron Carlin SEN
15:28.06	Alex Oldfield SEN
15:28.94	George Kirk SEN
15:32.43	Jon Archer SEN
15:41.1	Mike Boucher SEN
15:46.0	Tony Roper SEN
15:48.2	Tim Bailey SEN
15:52.05	David Jones U20
15:58.3	Chris Symonds SEN
15:59.49	Matthew Norminton SEN

Men 2000SC

5:35.73	Pat Davoren SEN
5:38.58	Eugene O'Neill SEN
5:41.22	Eliud Kirui U23
5:41.41	Andrew Robinson SEN
5:41.78	Kevin Sheppard SEN
5:43.53	Garrett Coughlan U23
5:48.29	Charlie Low SEN
5:49.10	Peter Kellie U20
5:51.39	Arkangell Roko SEN
5:51.66	Gareth Cochlin SEN
6:06.45	Alistair Smith U20
6:10.35	Mohamed El-Sadiki SEN
6:11.55	Gavin Smith U20
6:25.43	Andy Ellis U20
6:29.68	Daniel Taylor U20

Men 3000SC

8:38.80	Stuart Stokes SEN
8:46.06	Charlie Low SEN
8:46.69	Eliud Kirui U23
8:47.79	Donald Naylor SEN
8:52.02	Nick Talbot SEN
8:54.22	Eugene O'Neill SEN
8:56.30	Mark Warmby SEN
8:58.78	Andrew Robinson SEN
9:01.92	Andrew Morgan-Lee SEN
9:10.12	Craig Wheeler SEN
9:11.74	Alastair O'Connor SEN
9:20.17	John Brown SEN
9:21.45	Ewen Malloch SEN
9:21.88	Andy Thomas U23
9:23.55	Lee Garland SEN
9:29.62	Rob Berry SEN
9:38.70	Alex Felce U17
9:43.36	Lee Pickering U20
9:43.93	Sam Aldridge U23
10:00.34	Martin Gibbs SEN

Women 600

1:40.29	Sharon Lamont U17
1:41.63	Carol Ann Gray SEN
1:44.55	Michelle Love U20
1:55.90	Jill Lando U20

Women 800

2:01.51	Agnes Samaria SEN
2:01.98	Oksana Zbrozhek SEN
2:02.81	Adrienne McIvor SEN
2:03.61	Charmaine Howell SEN
2:03.70	Lucy Vaughan SEN
2:03.86	Lisa Dobriskey U20
2:03.88	Charlotte Moore U20
2:03.91	Anna Ndgeg SEN
2:03.96	Susan Andrews SEN
2:04.69	Rachel Newcombe SEN
2:04.72	Alex Carter U23
2:04.89	Rebecca Lyne U23
2:05.15	Jemma Simpson U20
2:05.33	Emma Davies SEN
2:05.87	Niamh Beirne SEN
2:05.87	Katrina Wootton U17
2:06.21	Catherine Riley U23
2:06.39	Hayley Tullett SEN
2:06.66	Michelle Ballentine SEN
2:06.72	Yekaterina Nikishina SEN
2:06.75	Sarah Bull SEN
2:06.77	Jane McKay SEN
2:06.82	Rachael Thompson U17
2:06.82	Sarah Jameson U23
2:06.97	Donna Riding U20
2:07.03	Hayley Ovens SEN
2:07.15	Joanna Ross U23
2:07.3	Karen Johns U23
2:07.35	Natalie Lewis U23
2:07.4	Danielle Barnes U17
2:07.76	Jeina Mitchell SEN
2:07.79	Mary McClung SEN
2:08.45	Kelly McNiece SEN
2:08.67	Vicky Lawrence SEN
2:08.91	Hayley Beard U17
2:08.98	Sarah Bouchard SEN
2:09.13	Lizbeth Pedersen SEN
2:09.53	Charlene Snelgrove U23
2:09.90	Jillian Jones SEN
2:09.96	Charlotte Best U20
2:10.32	Alice Butler SEN
2:10.38	Jennifer Ward SEN
2:10.49	Suzanne Hasler U23
2:10.58	Karen Hill SEN
2:10.95	Lois Brooks U17
2:11.1	Dorothea Lee SEN
2:11.10	Adele Bevan U20
2:11.3	Hannah England U17
2:11.44	Abby Westley U17
2:11.58	Claire Entwistle SEN
2:11.68	Katie Brennan U23
2:11.77	Louise Whittaker U23
2:11.86	Aoife Byrne U23
2:11.97	Debbie Jones SEN
2:12.01	Claire Gibson U23
2:12.17	Kerry Gillibrand SEN
2:12.2	Nikki Hamblin U15
2:12.3	Anouska McConnell SEN
2:12.3	Nicky McWilliams SEN
2:12.31	Charlotte Browning U15
2:12.34	Kirsty Baird SEN
2:12.40	Louisa Wood U23
2:12.52	Laura Finucane U17
2:12.57	Kathryn Sage SEN
2:12.61	Nina Anderson SEN
2:12.70	Lynne Gallagher SEN
2:12.74	Sarah Heath V02
2:12.80	Danielle Woods U20
2:12.81	Nisha Desai U20
2:12.85	Claire East SEN
2:12.91	Barbara Parker U23
2:12.93	Sally Read-Cayton SEN
2:13.0	Hannah Whitmore U20
2:13.21	Caroline Nelson U17
2:13.30	Lucy Jones U20
2:13.3	Claire Robson U20
2:13.4	Claire Martin SEN
2:13.42	Eleanor Baker U20
2:13.43	Dominique Oughton U23
2:13.5	Emma Grant U23
2:13.60	Jo Ankier U23
2:13.65	Ellie Childs U20
2:13.69	Joanne Dawes U20
2:13.74	Sarah Pickering U20
2:13.79	Muna Jabir U20
2:13.82	Liz Proctor SEN
2:14.06	Maria Sharp SEN
2:14.07	Linzi Snow U17
2:14.2	Alexa Joel U20
2:14.22	Louisa Gregory SEN
2:14.35	Lucy Pringle SEN
2:14.52	Emily Adams U20
2:14.59	Paula Hopley SEN
2:14.59	Sandra Andreou V02
2:15.11	Helen Glover U17
2:15.12	Sara Stevenson U23
2:15.2	Isabelle Stoate U17
2:15.2	Bernadine Pritchett SEN
2:15.23	Lisa Cater U20
2:15.26	Frances Briscoe U20
2:15.34	Ava Hutchinson U20
2:15.38	Jenna Hill U17
2:15.40	Ceri Mitchell U23
2:15.53	Katalin Thomas SEN
2:15.69	Elizabeth Austen U23
2:15.7	Lucy Parsons SEN
2:15.7	Claire Smallwood SEN
2:15.73	Michaela Hutchinson U20
2:15.77	Lorna Vyse U20
2:15.8	Sinead Peoples U20
2:15.81	Hollie Smith U20
2:15.82	Gemma Turtle U17
2:15.92	Ellen Leggate SEN
2:16.00	Louise Collier U15
2:16.02	Josephine Rhodes U17
2:16.11	Nicola Gunderson U20
2:16.2	Liz Crawford SEN
2:16.37	Julia Russell U20
2:16.47	Helen Hudson U17
2:16.49	Carley Wilson U23
2:16.6	Sarah Herbert U20
2:16.67	Hayley Rule U17
2:16.69	Anna Simmonds U17
2:16.82	Leonie Smith U17
2:16.82	Jenny Smith U20
2:16.88	Keri Genders U20
2:16.96	Niki Wasteney SEN
2:17.0	Gemma Marrs U20
2:17.1	Zoe Jelbert U20
2:17.2	Laurie Cossey U23
2:17.7	Vicky Rolfe U23
2:17.71	Laura Whitehead U17
2:17.76	Michelle Harvey U20
2:18.0	Georgina Riddiough U17
2:18.05	Rosalind Richards U20
2:18.08	Beth Carter U17
2:18.1	Emily Hathaway SEN
2:18.1	Sarah Fensome
2:18.2	Kate Buchan U20
2:18.4	Laura Nurse U20
2:18.47	Hannah Brooks U15
2:18.6	Connie Crone U17
2:18.65	Gemma Jones U20
2:18.7	Eloise Pittwood U17
2:18.73	Rosanna Iannone SEN
2:18.80	Helena Trigg SEN
2:18.97	Laura Johnson U20
2:18.97	Ellie Chadwick SEN
2:18.98	Sarah Beevers SEN
2:19.06	Laura Kenny U20
2:19.1	Hayley Mottram U20
2:19.5	Vicki Goodwin SEN
2:19.63	Jill Nicholson U17
2:19.7	Katherine Humphreys U17
2:19.79	Jacqui Brown SEN
2:19.8	Phillippa Aukett U20
2:20.0	Joy Wright SEN
2:20.07	Claire Taylor U23
2:20.13	Laura Tanner U17
2:20.41	Anna O'Connor U20
2:20.46	Elizabeth Egan SEN
2:20.9	Catherine Conway U15
2:20.99	Emma Satterly U23
2:21.0	Alison Hurford SEN
2:21.01	Louise Douglass U23
2:21.12	Helen Stevenson U20
2:21.3	Emily Pidgeon U15
2:21.4	Jackie Socas U20
2:21.63	Corinne Hunter U15
2:21.76	Lucy Williams U17
2:21.81	Katharine Uphill U15
2:21.97	Tracey Hinton SEN
2:22.0	Liz Cranford SEN
2:22.1	Kath Woods SEN
2:22.43	Kiri Nowak U17
2:22.59	Sarah-Jane Pickett U20
2:22.79	Amy Frith SEN
2:22.8	Phillippa McCrea SEN
2:22.81	Rachel Driver U17
2:22.92	Lisa Huston U17
2:22.93	Carol Ann Gray SEN
2:23.17	Bethan Strange U17
2:23.5	Kelly Crickmore SEN
2:23.51	Jo Stephenson U15
2:23.53	Jessica Parry-Williams U23
2:23.6	Danielle Cross U20
2:23.71	Emily Collinge U15
2:23.8	Becky Townsend U17
2:23.90	Alison Pye SEN
2:23.96	Emily Bonnett U15
2:24.04	Lucy Copley U17
2:24.64	Laura Bache U15
2:24.73	Sian Kirk U17
2:24.85	Helen Barnes U23
2:24.9	Lucy Aukett U20
2:25.12	Sarah Purvis U20
2:25.3	Abbie Williamson U15
2:25.3	Lynsey Jepson U17
2:25.35	Gemma Frisby U17
2:25.36	Claire Baissiel SEN
2:25.44	Ruth Vlassak V35
2:25.46	Jenny Anderton U15
2:25.67	Laura Jones U15
2:26.1	Veronique Pittwood U17
2:26.15	Jenny Binks U17
2:26.2	Katie Knowles U13
2:26.6	Michelle Moore U17
2:26.83	Dani Perks U15
2:27.44	Cheryl Hammond U17
2:27.56	Ruth Mitchell U17
2:27.85	Lisa Dollery U17
2:27.88	Hannah Bates U17
2:28.1	Veronica Haines SEN
2:28.32	Bethan Harrhy U17
2:28.36	Elisa Moores U15
2:28.52	Amanda Evans U20
2:28.7	Claire Barrett U20
2:28.7	Jessica Marriott SEN
2:28.8	Linda Ansell SEN
2:28.83	Tara Paisey U17
2:28.92	Nicola Wood U17
2:29.3	Helen Newcombe U15
2:29.43	Debbie Pope SEN
2:29.8	Tina Evans U15
2:30.27	Sarah Harber U15
2:30.76	Frances Brace U17
2:30.95	Liz Davies U23
2:31.0	Leanne Cross U17
2:31.59	Debbie Nichol U15
2:31.69	Elinor Kirk U15
2:31.7	Abbie Lawson U15
2:32.2	Stephanie-Kate Crowell U13
2:32.6	Lucy Owen V35
2:32.9	Sarah Hopkinson U13
2:34.3	Camilla Mussington U15
2:34.64	Leah Moores U17
2:34.7	Faith Taylor U15
2:34.7	Chelsea Simcox U15
2:35.38	Sian Emmett U15
2:35.68	Rebecca Ansell U13
2:36.6	Holly Knight U15
2:37.8	Laurel Callender U15
2:38.44	Jenny Milson U17
2:38.48	Adrienne Davies U15
2:41.7	Katie Law U17
2:42.2	Jess Scott U15
2:44.88	Rosemary Adlard U13
2:45.5	Jessica Hicks U13
2:45.58	Kalina Nowak U13
2:50.11	Jessica Griffin U15

Women 1500

4:05.94	Sonia O'Sullivan SEN
4:08.77	Sarah Jamieson SEN
4:10.65	Maria Lynch SEN
4:11.24	Rachel Newcombe SEN
4:11.8	Kerry Gillibrand SEN
4:13.94	Charlotte Moore U20
4:14.58	Lisa Dobriskey U20
4:14.79	Sarah Bull SEN
4:15.48	Natalie Harvey SEN
4:16.99	Anna Ndege SEN
4:17.03	Hayley Ovens SEN
4:17.95	Niamh Beirne SEN
4:19.42	Hayley McGreggor SEN
4:21.81	Ragnhild Kvarberg SEN
4:21.93	Louise Whittaker U23
4:22.09	Hind Musa U17
4:22.13	Sharon Morris SEN
4:22.17	Claire Martin SEN
4:22.25	Tina Brown SEN
4:22.28	Natalie Lewis U23
4:23.20	Ann Marie Larkin U23
4:24.4	Lucy Wright SEN
4:24.53	Danielle Barnes U17
4:25.18	Rebecca Lyne U23
4:26.40	Sally Evans SEN
4:26.43	Jemma Simpson U20
4:27.53	Sally Oldfield U20
4:27.54	Claire Entwistle SEN
4:27.84	Eleanor Baker U20
4:28.07	Catherine Dugdale SEN
4:28.56	Katalin Thomas SEN
4:29.10	Ursulla Counsell U23
4:29.4	Danielle Woods U20
4:29.70	Rosanna Iannone SEN
4:29.91	Charlotte Best U20
4:30.12	Charlotte Browning U15
4:30.2	Louise Damen U23
4:30.2	Hazel Murphy U20
4:30.83	Sonia Thomas SEN
4:31.0	Bryony Frost U20
4:31.19	Debbie Jones SEN
4:31.19	Sandra Andreou V02
4:31.79	Louisa Wood U23
4:31.8	Debbie Sullivan SEN
4:31.8	Jane Potter U23
4:31.94	Zoe Jelbert U20
4:32.22	Bev Blakeman VET
4:32.32i	Helen Zenner U23
4:32.74	Victoria Webster U20
4:32.9	Kathryn Frost U20
4:33.92	Freya Murray U20
4:34.2	Gemma Turtle U17
4:34.25i	Maria Sharp SEN
4:34.44	Susie Rutherford SEN
4:34.58	Hannah Whitmore U20
4:35.20	Karen Hill SEN
4:35.49	Leonie Smith U17
4:35.66	Hannah England U17
4:35.92	Esther Evans SEN
4:35.92	Stacey Ward U20
4:35.93	Sarah Herbert U20
4:36.08	Emily Adams U20
4:36.27	Charlotte Wickham U20
4:36.52	Ellie Chadwick SEN
4:36.7	Liz Proctor SEN
4:37.0	Meredith Pannett SEN
4:37.11	Miriam Gaskell U20
4:37.42	Josephine Rhodes U17
4:37.51	Alexa Joel U20
4:37.54	Ruth Waller U20
4:37.60	Becky Ellis U17
4:37.7	Claire Smallwood SEN
4:37.82	Jo Harper U17
4:38.2	Kerry Clarke SEN
4:38.27	Julia Russell U20
4:38.4	Ava Hutchinson U20
4:38.54	Lisa Cater U20
4:38.81	Abigail Wilshire U20
4:38.88	Laura Kennedy U20
4:39.15	Emma Satterly U23
4:39.20	Non Stanford U15
4:39.50	Emma Brady SEN
4:39.57	Helen Bebbington U23
4:40.2	Emily Pidgeon U15
4:40.34	Emma Pallant U15
4:40.66	Caroline Dickie SEN
4:40.77	Nikki Hamblin U15
4:41.11	Frances Briscoe U20
4:41.12	Eleanor Stevens U20
4:41.14	Isabelle Stoate U17
4:41.2	Joanne King SEN
4:41.46	Alison Hurford SEN
4:41.67	Elizabeth Egan SEN
4:41.79	Emily Nelson SEN
4:41.8	Emma Grant U23
4:41.81	Laura Nurse U20
4:42.01	Laura Carney SEN
4:42.07	Brigit Cooke U20
4:42.2	Bernadine Pritchett SEN
4:42.25	Sara Stevenson U23
4:42.32	Jill Knowles SEN
4:42.33	Lorna Vyse U20
4:42.4	Michelle Harvey U20
4:42.51	Eloise Pittwood U17
4:42.68	Grace Greenhalgh SEN
4:42.9	Gemma Marrs U20
4:43.06	Sara Ponsford U17
4:43.40	Claire Tarplee U15
4:44.32	Laura Dowsing U15
4:45.57	Claire Taylor U23
4:45.7	Megan Foley U15
4:45.75	Diana Kennedy SEN
4:45.9	Emily Collinge U15
4:46.55	Gemma Curley U15
4:46.62	Hannah Jones U15
4:46.65	Claire Holme U20
4:46.7	Denise Smith U23
4:46.7	Joanne Brewer U23
4:46.74	Natalie Dover U23
4:46.91	Kelly Crickmore SEN
4:47.16	Jolene Ennis U17
4:48.16	Claire Bassill U23
4:48.50	Carolyn Boosey U20
4:48.6	Katherine Humphreys U17
4:49.19	Natalie Real U15
4:49.71	Connie Crone U17
4:49.91	Samantha Hart U17
4:50.05	Lucy Ferguson U17
4:50.19	Stephanie Robson SEN
4:50.4	Linda Jackson SEN
4:50.44	Stacey Preston U15
4:51.00	Ruth Vlassak V35
4:51.04	Charlie Gaspar U15
4:51.11	Laura Bache U15
4:51.49	Jane Pidgeon SEN
4:51.8	Vicky Rolfe U23
4:51.83	Jemma Corley U15
4:52.05	Louise Durman U17
4:53.02	Beth Harris U23
4:53.2	Danielle Christmas U15
4:53.31	Kiri Nowak U17
4:53.58	Helen Hall U15
4:54.07	Sharon Marshall SEN
4:54.7	Vicky Callaway U17
4:55.21	Nisha Desai U20
4:55.25i	Deborah Howard VET
4:55.29	Cheryl Hammond U17
4:55.64	Veronique Pittwood U17
4:56.2	Georgina Parnell U23
4:56.68	Nawal Naji U17
4:57.11	Laura Johnson U20
4:57.14	Michelle Moore U17
4:57.54	Emma Whittaker-Axon U20
4:57.68	Laura Jones U15
4:57.8	Lucie Howarth U15
4:58.04	Stephanie Lyall U15
4:58.41	Laura Brenton U17
4:58.52	Victoria Adlard U17
4:58.78	Megan Jones U17
4:58.78	Lynsey Morris U23
4:58.79	Alexia Trafford U17
4:58.89	Bethan Davies U17
4:58.91	Justine Kinney U15
4:58.93	Elizabeth Spencer U20
4:59.6	Abbie Lawson U15
4:59.7	Abbie Williamson U15
4:59.7	Anna Ferguson U20
4:59.9	Katie Knowles U13
5:01.36	Sarah Hopkinson U13
5:01.4	Shavaun Henry SEN
5:01.83	Kirsty Walker U15
5:02.09	Linda Ansell SEN
5:02.9	Kate Buchan U20
5:03.80	Hayley Munns U17
5:04.44	Efa Llewellyn U17
5:04.5	Joanne Callaway U15
5:04.68	Natasha Barnes-Smith U17
5:04.84	Karen Reynolds V35
5:04.9	Kate Goodhead U20
5:05.0	Holly Knight U15
5:05.2	Olivia Kenney U15
5:05.21	Amy Wilkinson U17
5:06.21	Christina Whitelaw U17
5:06.8	Amanda Evans U20
5:07.56	Claire Conway U15
5:09.71	Georgina Furze U15
5:09.9	Nicky Morris U15
5:10.0	Susannah Davies U15
5:10.5	Melissa Harvey U15
5:10.54	Amy Tanner U20
5:12.8	Sarah Tedd U15
5:13.7	Sara Grosvenor SEN
5:14.8	Michelle Stevens U17
5:16.0	Sarah Jones U17
5:17.7	Lauren Webb U15
5:18.14	Lucy Hiscox U17
5:18.5	Tina Evans U15
5:20.5	Claire Griffin U17
5:26.88	Nicola Bartholemew U17
5:31.1	Jenni Burns U15
5:34.4	Rebecca Stubbs SEN
5:36.1	Kyra Hawkins U15
5:39.1	Zara Turner U13
5:43.0	Laura Robinson U15
6:03.9	Geraldine Kellman U15
6:23.0	Kim Rye SEN
6:28.3	Natalie Newton U15
6:38.9	Bernadette Rye U17
7:08.3	Emma Andrew SEN
7:20.0	Zoe Hodge U17

Women 3000

9:12.47	Gillian Palmer U23
9:14.58	Diane Heneghan SEN
9:15.88	Nicole Jefferson SEN
9:24.40	Danielle Barnes U17
9:26.61	Andrea Green SEN
9:27.78	Catherine Dugdale SEN
9:31.12	Sally Oldfield U20
9:34.88	Kate Reed U23
9:35.04	Claire Smallwood SEN
9:35.39	Ann-Marie Hutchison SEN
9:36.03	Collette Fagan U23
9:38.56	Allison Higgins SEN
9:40.59	Rachael Nathan U17
9:40.89	Maria Skelton U23
9:44.39	Emily Pidgeon U15
9:53.83	Denise Smith U23
9:57.28	Shona Hughes SEN
10:01.84	Jo Kelsey SEN
10:05.46	Joanne King SEN
10:06.37	Janine Brown U23
10:07.59	Elizabeth Egan SEN
10:11.71	Trudi Thomson VET
10:12.71	Kate Goodhead U20
10:14.84	Sheila Doyle SEN
10:19.14	Emma Whittaker U17
10:25.43	Katherine Humphreys U17
10:37.51	Toni McIntosh SEN
10:41.78	Suzanne Richards U17
11:04.34	Megan Dark U20

Women 5000

15:44.07	Yelena Burykina SEN
15:53.96	Gillian Palmer U23
15:59.54	Jo Wilkinson SEN
16:02.7	Hind Musa U17
16:10.32	Lucy Wright SEN
16:14.86	Dorte Viberg SEN
16:15.03	Vanessa Veiga SEN
16:16.55	Charlotte Dale U20
16:25.01	Penny Thackray SEN
16:25.70	Andrea Green SEN
16:26.24	Maria Skelton U23
16:27.61	Catherine Dugdale SEN
16:38.93	Collette Fagan U23
16:41.18	Tara Krzywicki SEN
16:41.72	Jilly Ingman SEN
16:46.94	Meredith Pannett SEN
16:49.60	Claire Smallwood SEN
16:59.24	Annette Kealy SEN
17:06.19	Caroline Hoyte SEN
17:10.44	Sue Cripsey U23
17:15.82	Rachel Goddard SEN
17:23.32	Sarah Singleton SEN
17:31.10	Gill Keddie SEN
17:36.28	Sheila Doyle SEN
17:39.10	Suzanne Owen SEN
18:23.89	Duka Mana U17
18:58.34	Sarah Willimott U23

Women 2000SC

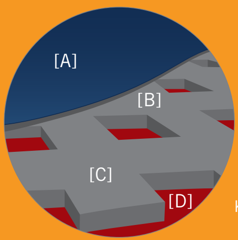
7:05.03	Claire Entwistle SEN
7:10.94	Elizabeth Egan SEN
7:24.98	Joanne King SEN
7:25.07	Jane Pidgeon SEN
7:29.03	Sarah Beevers SEN
7:34.89	Ruth Waller U20
7:37.73	Celia De Maria SEN
7:57.69	Louise Bardsley U23

Complete BMC rankings for this and previous seasons and also current UK ranking lists can be found on the BMC website www.britishmilersclub.com
Corrections are welcomed by Tim Grose timgrose@britishmilersclub.com

HALF THINKER HALF NUTTER

WITH A WIND CHILL OF MINUS 5 AND A 20 MPH SIDE WIND, 10 GRAMS OF EXTRA CLOTHING FEELS MORE LIKE 10 KG. OBVIOUSLY, LAYERING CLOTHES IN THESE CONDITIONS IS LESS THAN IDEAL: UNFORTUNATELY, IT IS ESSENTIAL. BUT THEN CAME THE NIKE SPHERE PRO JACKET. THIS THREE-DIMENSIONAL, MULTI-LAYERED, HYBRID FABRIC COMBINES MOISTURE MANAGEMENT, THERMO-REGULATION AND WATER PROTECTION ALL IN ONE. CONFUSED? SEE FIG 1.

FIG. 1



CROSS-SECTION OF THE MATERIAL

[A] TEFLON FINISHED WOVEN OUTER
[B] WATER-RESISTANT HYDROPHOBIC MEMBRANE
[C] ANTI-BACTERIAL POLYPROPYLENE FOAM
[D] SWEAT MANAGEMENT KNIT BASE

SO WHAT'S WITH ALL THE FUNNY WAFFLE DENTS?

THOSE ENGINEERED AIR POCKETS CREATE A COMFORTABLE PERSONAL ATMOSPHERE AROUND YOUR BODY, INDEPENDENT OF EXTERNAL ELEMENTS. IN OTHER WORDS, THEY KEEP YOU WARM AND DRY DESPITE THE ODDS.

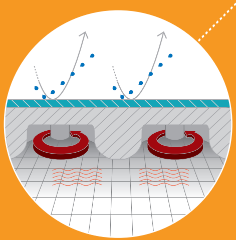


FIG.2 HEAT RISES FROM YOUR BODY AND GETS TRAPPED IN THE ENGINEERED AIR POCKETS.

UNDER ARM STRETCH GUSSET

TUCKS NICELY INTO YOUR ARMPIT TO REDUCE BULK. DOESN'T FLAP ABOUT. NUFF SAID.

MESH LINED SIDE POCKETS

DOUBLE UP AS EXTRA VENTS WITH LOCKABLE ZIPS. OPEN THE ZIP TO LET IN YOUR DESIRED AMOUNT OF AIR.