

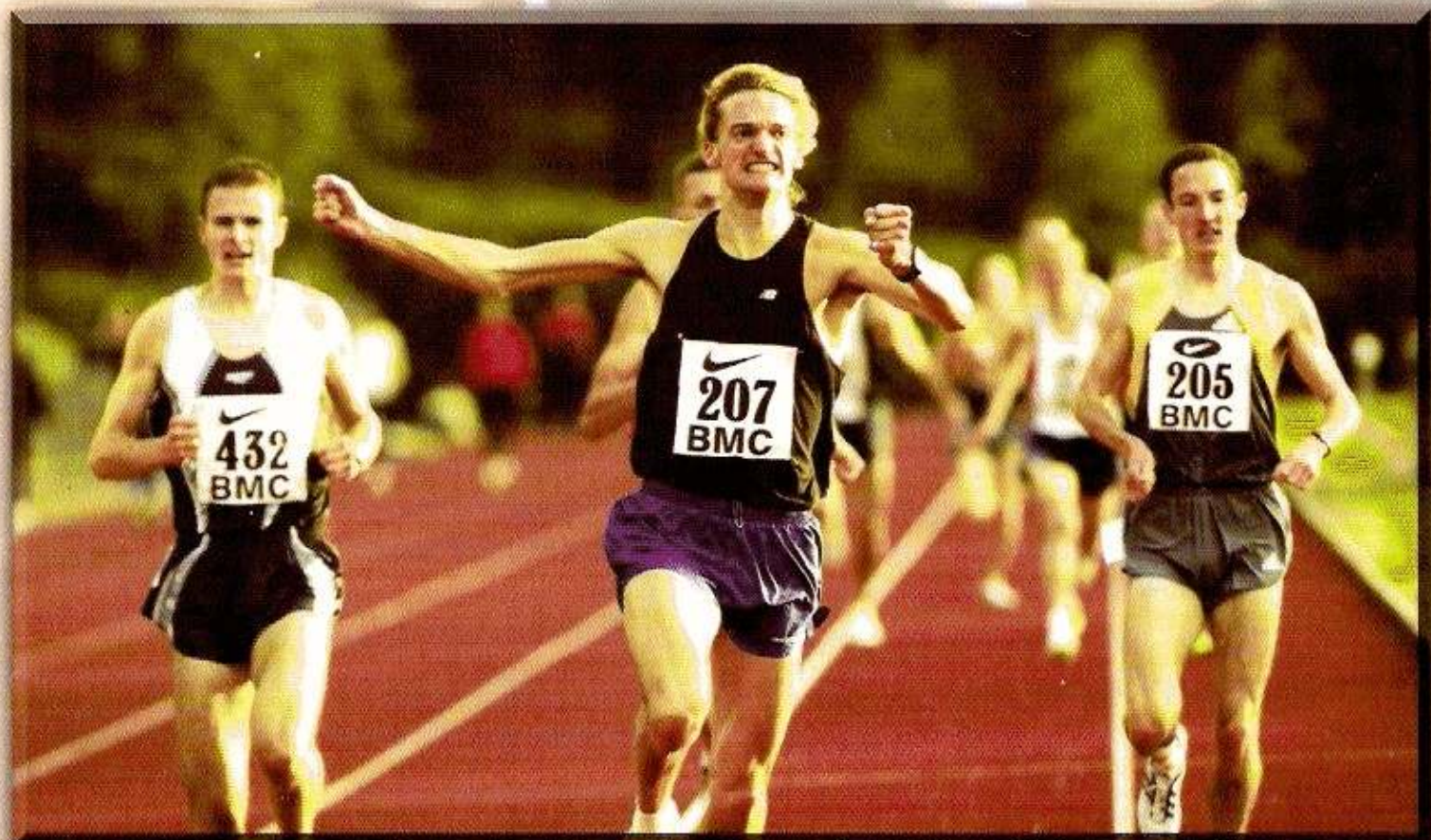
# BMC



# NEWS

*Official Journal of the  
British Milers' Club*

VOLUME 3 ISSUE 12  
AUTUMN 2001



## The British Milers' Club

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Top: Watford, 9.6.01  
ALLISON CURBISHLY.  
Bottom: TOM MAYO (207),  
MICHAEL EAST (432) &  
ANDREW GRAFFIN (205).  
By Mark Shearman

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### GRAND PRIX PRIZES

	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



Wythenshawe 23.05.01 BEN WHITBY (52), CHRISTIAN STEPHENSON (48), photo by Mark Shearman



# Chairmans' Notes

After many years as the Editor of the BMC News Mathew Fraser Moat has eased himself away from these duties due to the pressures of work. On behalf of the BMC Committee I thank Mathew for all of his unstinting dedication to this role and I am pleased to report that he will continue to contribute to the BMC as an active member of our Executive Committee.

I am also very pleased to welcome Les Crouch as the new Editor of the BMC News and know that he will receive your total support, and correspondence, in helping to air the views of the Membership and your written contributions to the 'way forward' for our branch of the Sport.

This particular topic, the 'way forward' for our sport regularly raises many passions and voices. Although we may feel proud of our contribution to this aspect of the middle distance events, particularly with our competitions structure, we are also very aware that all standards are not as high as we would wish. Womens 800/1500m have a number of International Class performers, Mens 1500m is reasonable but the Mens 800m is of a standard that compares with 1970. In very recent years many of our top 800m men have either been side-lined or forced to retire due to injury. These include David Sharpe, Curtis Robb, Craig Winrow and Mark Sesay. It is good to report that both Curtis and Mark still hope to return to track competition but their enforced absence has been a body blow to Mens 800m.



Dr. Norman Poole, Chairman

Although I do not wish to underestimate the effect their absence has had on the Event I firmly believe that the recent downward trend is temporary. All aspects of standards and events move in time cycles of several years. I can remember in years past when mens sprints, mens sprint hurdles, mens triple jump, womens distance running have all had their 'downs'. The good thing is that we have a number of highly talented U-20 and U-17 male and female athletes coming through the ranks who will undoubtedly make a major contribution to the senior rankings in the years ahead. We as a specialist Club are striving to offer all of these athletes appropriate levels of competition as they progress through to International level.

On this front I am in current discussion with UKA on initiatives to further enhance the standard of a number of our BMC Nike GP Series A races. I hope to report on this in the Spring 2002 issue of the BMC News. I will also report the latest views on paced or non paced BMC competitions. On this subject the article written by Gordon Surtees inside this issue makes very interesting reading since he has summarised the views of the UK's top 800/1500m athletes at a recent National Squad Training Week-end.

In terms of the dates for the 2002 BMC Nike GP Series I can report that discussions with UKA/AAA/Leagues have been in progress since April 2001. Many of our members have requested a change from mid-week to Saturdays for these Meetings. Saturdays are always more preferable if we are to increase the number of overseas athletes and our own athletes find it more convenient to travel at week-ends. Due to the highly congested 2002 fixtures we have been limited to 2 Saturdays if we are not to clash with the League etc. I would greatly welcome your views on this matter, ie should we continue to work around and be dictated to by the traditional UK Summer fixture list or should we ignore it and arrange dates that best suit our membership. I look forward to your correspondence.

# Editors' Notes

This is the first issue the BMC News that I have edited. It seems appropriate that I should introduce myself. My interest, and involvement, with Track and Field goes back a long way. When, as one of the 500,000 who claimed to be there, I witnessed Wooderson's battle with Andersen in 1945 was the start. I have been a member of the National Union of Track Statisticians since 1958, having served as Chairman for nineteen of those years. In addition I am a member of the world-wide Association of Track and Field Statisticians.

In working around the country I have been a member of Polytechnic Harriers, Roath (Cardiff) Harriers, Lozells Harriers and Watford Harriers, serving on the committee of the last three. Now in my dotage I have signed up with the Cardiff club.

May I now make a plea. This is your magazine and whilst there will be heavy emphasis on coaching and training articles I feel sure your committee would welcome contributions from members, especially on kindred matters. Can I suggest that as most of the members are runners, they must have views on training, what works for them and what does not, and why. As ever the aim of the BMC is to raise standards and anything that assists that aim must be worthwhile. Finally, as you know, the magazine prints articles from other sources, if any member spots something that might be useful please pass the info on so it can be pursued.

LES CROUCH

## 2002 Grand Prix Dates and Venues

June 3rd	Wythenshawe
June 22nd	Solihull
July 3rd	Windsor
July 20th	Glasgow
August 14th	Watford

## Current Elite Standards

Men's	800m	1:49.0
Men's	1500m	3:43.0
Women's	800m	2:05.0
Women's	1500m	4:20.0



## Grand Prix Report

The 2001 Grand Prix series continued where it left off in 2000 in providing well organised

and well paced races to help Athletes set season and personal bests. The UK rankings for 2001 reflect the success of BMC races with the top 100 lists in all the events being dominated by BMC races.

A feature of the season was some fine Women's 1500m racing with this proving to be overall the strongest Grand Prix event. Some of our most regular and consistent performers seized the opportunity to follow Kenyan Susan Muthoni's 4:12.55 at Solihull for break-through sub 4:15 performances. Kerry Smithson ran 4:13.02. Sarah Bull 4:13.68, Rachel Newcombe 4:14.01. At Cardiff Maria Lynch who just missed out at Solihull joined the sub 4:15 club with 4:14.65, again thanks to some strong pace making.

Perhaps the best race of the Grand Prix series was the Watford men's 1500m race. An exciting A race developed between an almost exclusively domestic field battling for top spot in the UK rankings. Going into the last lap Andy Graffin appeared to have established a convincing gap but he was eventually run down in the finishing straight by Tom Mayo and Mike East. Andy just held off Angus Maclean as the first four all went

under 3:40, three of them for the first time. Behind these four, another 7 men bettered 3:44 for a truly outstanding result. Following his win Tom was selected to represent Great Britain in the European Cup.

The Grand Prix continued to be a key event for U20 athletes with numerous qualifying times and notable breakthroughs being achieved. European junior A standards were achieved by James Nasrat (800m 1:50.05), Richard Ward (1500m 3:44.96), Ricky Soos (1500m 3:46.7), Jemma Simpson (800m 2:06.62), Charlotte Moore (800m 2:06.95).

Established world class athletes used our races to further their aims. For instance after an injury hit winter Tony Whiteman raced himself fit in the Watford (1:50.79) and Solihull 800m races (1:49.00) and went on to miss out by only one tenth on the World Championships 1500m final. Alison Curbishley used a BMC 800m as her (almost) first step into an 800m career.

Looking forward to 2002 we hope for continued success and even better results. You can expect to see a few more overseas athletes providing the competition that will enhance the races and lead to even faster times. We will also be putting in place a new prize money structure to further encourage fast racing.

## Where is the BMC Going

Every four years, the BMC Committee asks itself this question. Let's take stock: -

- 1) We have 1,500 members, of whom 140 are coaches and around 70 Vice Presidents.
- 2) We stage a Grand Prix in different parts of the country where some of the best times in the UK are recorded at all levels in the 800 and 1500 metres. In addition, we stage a series of races at Stretford, in the North East, Midlands, East, South, South West, Northern Ireland and Scotland. These local races need to be built up. We also stage a young athletes' meeting at Millfield and in the North East.
- 3) We provide coaching knowledge as follows: -
  - a) The BMC NEWS. b) Coaches Newsletter for the last 50 coaches to join the BMC (The others have heard it all before!).
  - c) Courses for young athletes in the autumn and spring.
  - d) Training days with local clubs as requested.
  - e) Coaching advice from Regional Secretaries when requested.
  - f) A website that contains some coaching information but mainly about future promotions and race results.
  - g) We provide lecturers on middle-distance and allied subjects on request at very low cost.

Now, before you launch into ambitious plans, remember one thing. All BMC officials are unpaid, they get expenses only paid. We are only sponsored by NIKE for our Grand Prix. We rely heavily on prompt payment of your subs to Pat Fitzgerald, 47 Station Road, Cowley UB8 3AB, we also rely on generous donations. If you are wealthy and believe in our past and future, a £5 or £10 note in with your subs will be used solely to further our goal of raising British middle-distance running to world class.

We invite your views on where the BMC should go?

SUB 3:40/1500 and sub 1:50/800 - GOOD, BUT NOT GOOD ENOUGH!

Some people get ecstatic when an athlete runs the above times in a BMC race, as do many when a female runs sub 2:05/800 or sub 4:15/1500. The target for 2002 is TEN male runners under 3:35/1500 and TEN women under 1:46/800. Also, TEN women under 4:10/1500 and TEN under 2mins/800. Start now and get used to the speed required: 3:35/1500 = 57.5/400, sub 1:46/800 = 52.5/400, sub 4:10/1500 = 66.5/400, sub 2:00/800 = 59.5/400. Not so difficult as you think!

## Merthyr Mawr - Autumn 7.11.2001

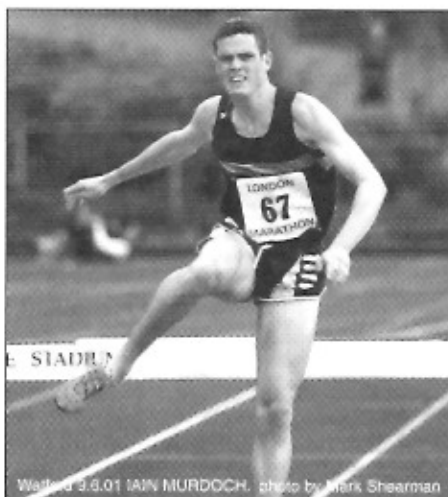
The BMC training weekend for young athletes was, encouragingly, over subscribed. It was attended by 75 keen runners, not all of whom were boys (despite the photos that appeared in Athletics Weekly!). In addition, as AW reported, there were a number of first class coaches in attendance.

The Saturday morning brought summer-like weather and set the tone for the course, encouraging maximum effort. For some this may have been their first taste of sand dunes, literally in some cases, and it showed. This type of training probably came to prominence back in the late 1950's when reports of the Elliot/Cerutti camps filtered over here (The writer recalls suffering under the guidance of Jim Alford circa 1958). For some of the youngsters it must have been a wake-up call, as one coach inferred the weekend doubles the norm in volume terms.

Sally Oldfield, one of a number of "class" athletes attending, said this was her third visit and although having been plagued with glandular fever in 2001 she found training over the same ground as Steve Ovett had

done was inspirational. In addition the weekend set her up for the long winters training ahead.

To those who have not tried Merthyr Mawr, seniors or juniors, it deserves at least one visit but be warned get fit before you go!



Waited 3.6.01 IAIN MURDOCH, photo by Mark Shearman



# 2001 World Championships

In the Autumn 2000 issue of this magazine Jason Henderson, in reviewing the "BMC events" wrote of the "Sydney success story". Could any of us visualise, less than twelve months on, that we would have no male representatives at 800, 10,000 and steeplechase? The ladies would have starters in all their events and a "finalist" in all less the 1500.

## 800 Metres

Kelly Holmes, having had health problems earlier in the season, again carried the flag. Unhappily she was unable to repeat her superb performance at the 2000 Olympics but nevertheless ran magnificently to a fifth place. Given her storming end to the season she must surely be considered the British middle-distance star of the season.

Heat 1	2nd	2:00.08
Semi-Final 2	2nd	2:01.90
Final	5th	1:59.76

## 1500 Metres

Anthony Whiteman came closest to a final place, running two of his fastest times of the season, in fact setting seasons bests in both runs. His seventh place in the semi-final was one shy of progressing.

John Mayoock won through to his semi-final but found further advancement impossible. This one of those rare times when he did not make a final.

Andrew Graffin found the going difficult. Just over two seconds covered the first ten in his heat and he lost out.

It is interesting to note that Whiteman was the oldest in his semi-final and Mayoock third oldest in his.

Anthony Whiteman	Heat 2	6th	3:37.75
	Semi-Final	7th	3:36.77
John Mayoock	Heat 1	8th	3:39.24
	Semi-Final 2	10th	3:42.63
Andrew Graffin	Heat 3	10th	3:40.44

Hayley Tullett and Helen Pattinson both won through their opening heats with what appeared to be some comfort. However the semi-finals were another story and proved a step too far. Both were some way back from qualifying.

Hayley Tullett	Heat 3	2nd	4:13.60
	Semi-Final 2	9th	4:13.95
Helen Pattinson	Heat 2	9th	4:13.06
	Semi-Final 1	9th	4:16.39

## 5000 Metres

Michael Openshaw, the only Briton to make Edmonton at this event, found it was not just his day. His final time represented some half a lap down on his seasons best.

Heat 2	13th	14:00.84
--------	------	----------

In heat 1, run at 09.35 (!!!) the humidity was given as 72% whereas the second heat, ran at 09.55, it was given as 56%

Kathy Butler was just half a second from winning through to the final whilst Joanne Pavey raced to a seasons best, not needing to go quite that fast to qualify. Come the final she found herself unable to repeat that form although it was a most commendable effort. Hayley Yelling was way outside her seasonal best, tailing off badly.

Joanne Pavey	Heat 2	2nd	15:10.62
	Final	11th	15:28.41
Kathy Butler	Heat 1	7th	15:20.78
Hayley Yelling	Heat 1	16th	15:59.39

## 10000 Metres

Fewer than expected reported so the heats were cancelled. In the Final Paula Radcliffe, as ever, ran with tremendous heart. She left her challenge until late into the race but again could not shake them all off. The last lap was recorded as 62 seconds, which suggests Paula ran around 63.2, not bad for one "without a finish" but of course not enough. Note that there were no Kenyans in the race!!

Final	4th	31:50.06
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As a tailpiece there were no British runners in either marathon.

Were there acceptable reasons for this relatively, overall, indifferent showing? Injuries and withdrawals of course. Heat? It was hot at times, up to 25c, but usually less than that. Humidity varied from 30% to 90% but for much of the time was around 50%. Perhaps the altitude played a part. Edmonton lies just under 1000m above sea level, just inside the "legal" level for record acceptance. This may have some effect but it was the same for all and there were many exceptional performances in the range reviewed.

Looking forward, the Commonwealth Games and the European Championships will provide an opportunity for BMC members, in greater numbers with "softer" qualifying terms, to pit their talents at a level not usually available to most of them. We must wish them well.

Having just written a small piece for "AW" on 800m running I should advise you that the fastest GB time of the year (1:47.16) is the slowest list leader since 1970 - when three guys ran 1:47.2 - the tenth best of 1:48.85 is the slowest since 1976 and the fiftieth best of 1:51.03 is the slowest since 1979. And this despite our runners searching almost exclusively for fast times!

To finish off, is Simon Lees, our current number one 800m runner any less able than Chris McGeorge? The answer I feel is no. There certainly is no way that Chris should have a PB more than two seconds faster than Simon. Your mission, should you wish to accept it, is to provide the right coaching (and trust that the athlete will come forth with the right commitment) to ensure that in 2002 Mr Lees runs 1:45.14. I really don't think that should be impossible.

## Comment - Ian Hodge

I think that it is fair to say that athletes must learn to win and ALSO spend some of their season trying to run as fast as they can.

It is true to say that the majority of athletes who compete extensively in the BMC races do so only to run as fast as they can. This is also the case with the majority of athletes who run in the IAAF Golden League.

It must also be said that there can only be a few winners! Many athletes however cannot win because they do not have the acceleration to get away/past their rivals in the home straight.

I would have to agree that it would be nice to see some of the BMC races having no pacemakers indeed I once suggested intentionally slow first laps to get athletes used

to running races in which they can only place highly if they have a fast finish (a requirement in virtually all championships). But it must also be said that this is not the primary role of the BMC. Of course Overt would say that you don't need special races for this, you just do it yourself (as he often did at the Southern champs). But do the current breed have the nous to think in this manner??

What is so exasperating is that the majority of GB 800m/1500m runners spend 80% of their season racing in fast paced races but then come to the AAA's and all employ a tactic to which they are unfamiliar (and with the exception of Mayoock a tactic for which they do not train sufficiently well for).



# Scott puts smiles back on his miles

by John Zant of Santa Barbara News

Steve Scott wears a large No.1 permanently on his lower torso. It is not a tattoo that tells everybody he is the greatest mile runner in U.S. history. It is a vertical scar that reminds Scott of his mortality.

Scott ran 136 sub-four-minute miles over a 17-year span during his track career. The annual State Street Mile in downtown Santa Barbara might have been a sure 3:50-something for him - before he got that scar. Now Scott says he will be happy to get under 4:20 in today's elite race.

For a 45-year old, that's still plenty fast. Most importantly to Scott, it's a healthy time. He missed the world record by three-tenths of a second when he clocked 3:37.69 on July 7, 1982, in Oslo. The mark still stands as an American record.

Twelve years later, Scott found out he had testicular cancer. "Why in the world would I come down with cancer?" he wondered. "I never did drugs. I ate reasonably well. I was getting exercise and sleep". But in evaluating his life, Scott realised anxiety was gnawing at him. "The common denominator of people with illness is stress," he said. "You can handle stress, but if you don't take control, if your stress goes unabated, you're going to get sick."

Scott realised he was being buffeted by "all kinds of stress - physical, emotional and mental". He had been over-training, pushing his body too hard, as he tried to stem the natural erosion of his abilities. With slower times came lower payouts, and his income started to decline. "It was stressful for me to think of looking for another career," he said. "You're not going to get too many jobs with a C.V. of sub-four miles. Yet he received little support at home. "I had a difficult marriage, huge problems."

Two surgical procedures took care of his cancer in 1994. A diseased testicle was taken away, and then he was cut open "from stem to stern" down his front side. Lymph nodes, which might have carried cancer to the rest of his body, were removed.

"I had exactly the same cancer as Lance Armstrong (the cyclist) but his went to his brain", Scott said. "He pulled off a miracle. Your average person would be dead". Scott's more benign experience was dramatic enough for him, and he was determined to learn from it.

"I had a shift in my attitude", he said. "If we had to sell our house and move inland to a little house - so what? God has always provided." He

resumed running six months after surgery, but he respected his limits. "I was much more compassionate to my body", he said. "I don't have the same desire to hurt".

He got divorced and remarried. He met his new wife, Jo Ann, when they won the men's and women's masters divisions of a cross-country racer in San Diego's Balboa Park. "We were made for each other", Scott said.

He has a job coaching young runners at Cal State San Marcos in San Diego County. The Cougars placed third in the men's NAIA cross-country last fall. He says of the new miling sensation Alan Webb, "He is certainly impressive, he has all the ingredients, speed and a tough attitude. He should just continue what he's doing and trusting the people who are advising him. If I have anything to say to him, it's that he should always run for the pure pleasure of the sport and never for money."

Scott was a 4:16 miler as a high school athlete in the smog-shrouded foothill community of Upland. "I was lazy but it was not a conducive environment for training." When he went to UC Irvine, he found air to breathe and a coach, Len Miller, who put his legs and lungs to work. "With Len standing there, I would run very hard", he said.

Scott qualified for the US Olympic trials in 1976, and he was beaten by runners whom he perceived as having no more ability than he did. "I thought that if I could step up to their commitment, what would happen?, the next year was a real breakthrough". He ran his first sub-four mile at the Sunkist Meet in 1977 and was on his way to becoming the dominant US middle-distance runner for over a decade.

"I was a guy who worked really hard, my speed was good (48.5 for 440 yards) but not great. When you get guys who can run 46 seconds with the endurance to run a mile the records will get faster." (Editors note, Seb Coe had a 46+ 400 to his name).

Additional notes from F.J.H.: - Scott ran his fastest mile when aged 26 years, 3:47.69 in Oslo 1982. He is currently ranked eighth in the world on the All Time List. He claimed he never won an Olympic medal of any kind because by the time every Olympics came along he was exhausted from running for money too often! He wrote frequently about Ovet's waving to the crowd when leading in the home straight - it irritated him greatly! He beat Ovet once over 1500 metres in Jamaica, it was Ovet's last defeat before he ran a string of victories.

*A reminder  
from the BMC  
Co-Founder -  
Frank Horwill  
(The other  
Founder  
is Alf Wilkins)*

The BMC was started in 1963 to raise the standard of British miling to world supremacy. By 1980, BMC members Sebastian Coe and Steve Ovet achieved this target. How was this achieved? Regional Secretaries were appointed, all of whom were Senior AAA Coaches. They were charged with providing fast races in their area, some were sponsored by commercial concerns, many more were not. These secretaries were also available to provide coaching advice to members or to find them a coach from our membership. In addition, secretaries were asked to organise training days and or training weekends. That this simple plan worked, is born out by Ovet first breaking sub 4-minutes for the mile at 19 years of age in the BMC organised Brigg Mile. Coe first cracked 1:50 for 800 metres in a BMC organised race at Stretford. Both attended BMC training days and training weekends. BMC member, John Whetton, paved the way ahead by winning the European Championships 1500 metres title in 1970. Others who moved things forward were Alan Simpson, John Kirkbride and Jim Douglas, all running well under 4-minutes for the mile. By 1980 fourteen BMC members had run 3mins.56secs or better for the mile from 1963. In 1973 the BMC ceased to be a purely milers' club, a

joining qualifying standard was introduced for the 800 metres. It should be noted that at Leicester, in 1969, an invitation 1500 metres race for women broke the world record. This received scant recognition from a then hostile ATHLETICS WEEKLY.

In 1980, the UK Coaching Scheme came into being. The BMC was told officially that it was "superfluous" to athletes' needs! Many BMC officials chose to accept official coaching positions with the UK Coaching Committee and left the BMC. It's interesting to note that a decline in standards occurred from 1984 onwards when the UK Coaching Scheme was described as "the envy of the world". In 1990, the BMC virtually started from scratch again with a band of enthusiasts. It's estimated that if history repeats itself, the UK will be a dominant force again in the year 2007 onwards.

The BMC is not just a club, it's a brotherhood/sisterhood. Each member is an evangelist, the mission is simple - TOTAL COMMITMENT in training and racing. Let no one stand in the way of this commitment. Your BMC vest marks you out as an evangelist - train like one, race like one. THE END



# Energy Systems and Duration of Effort

by Kevin Prendergast, Australia

*The following text attempts to outline in a systematic manner the range of training sessions used in middle distance running in terms of duration and effort and to relate them to the energy systems and the intended training effort.*

## INTRODUCTION

Most coaches, particularly in their early days, have probably been confused by the terminology used in the description of training sessions. Those with a scientific background are often dismayed to find that this is of little help in understanding what it is all about, and those wishing to apply logic are in similar difficulty. In as much as there is a recognised terminology, it is very much a matter of "if you know what it means, you know what it means. But some of it is contradictory, some of it is ambiguous, and some of it is simply unhelpful.

For instance, alactic can be aerobic or anaerobic, and anaerobic can be lactic or alactic. Even the term lactic is insufficient because there are two aspects - lactic production and lactic tolerance - both of which are important. Then there is specific endurance, which raises the question "specific to what?"

Some of the "you know what it means, if you know what it means" is apparent in the distinction some people make between repetitions and intervals. It is not a logical distinction so there is little chance of knowing which is which unless you know the language, and even then there is disagreement. Even with the term interval, whether or not it is distinguished from repetition, there is disagreement and confusion. Some claim that the interval refers to the recovery period and others to the effort, and both are equally adamant.

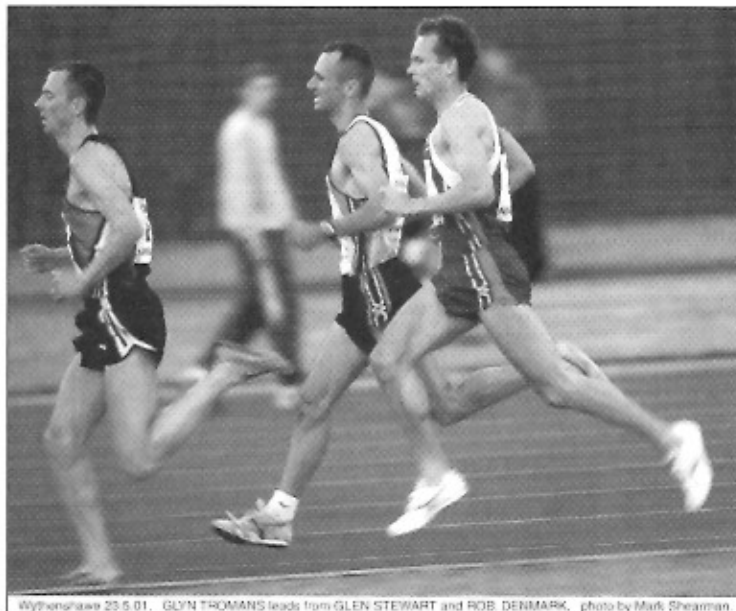
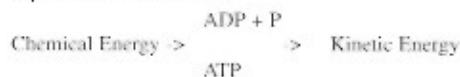
## ENERGY, POWER AND ENERGY SYSTEMS

It will be helpful to recall a few scientific terms before we begin discussion of energy systems.

Work is performed on a body when a force is applied to it over a distance. If the force is constant, work is equal to force multiplied by distance. In the case of a runner the force is applied to the runner's centre of gravity by means of a series of contractions of various muscles of the leg while the foot is fixed on the ground. The distance is the distance travelled by the centre of gravity while the foot is on the ground. This work performed on the runner by means of his muscular effort results in his forward motion.

Energy is defined as the capacity for doing work. For the runner that capacity exists as chemical energy.

The energy enables a chemical substance adenosine diphosphate (commonly known as ADP) to combine with free phosphorous (P) to form adenosine triphosphate (commonly known as ATP). ATP is the substance which causes the muscle to contract and so results in physical work. In the effort ATP breaks down again to form ADP and P. It will require further chemical energy to cause them to combine again. The chemical reactions can be represented as follows:



Wythenshawe 25.5.01. GLEN THOMAS leads from GLEN STEWART and ROB DENMARK. photo by Mark Shearman

**Power** is the rate at which work is done. A 100m runner is very powerful because his work is performed quickly. However the work, and hence the energy he has used, would not keep a marathon runner going for even a minute of his approximate 200 minutes.

An energy system is a system within the body by means of which chemical energy is converted into physical work. All systems produce ATP, but the means by which they do it differ, and each for a different purpose. An energy system can be thought of as a reservoir from which energy is drawn. As with all reservoirs, some are big and some are small; some can be emptied quickly while others take longer to empty; some can be replenished quickly but others only slowly.

These are four types of energy system, as follows:

### Stored ATP

The smallest reservoir of energy is ATP stored in the muscle. There is only a sufficient amount for a single contraction and therefore is of great value to a thrower but of very limited value to a runner. Obviously it is useful in a sprinter's start. Since the ATP is immediately available the rate of its use can be very rapid and hence it is the most powerful of all systems.

### CP System

The next smallest reservoir is the creatine phosphate (CP) system. Unexerted muscles have a store of CP which, when high demand is made on the muscle, breaks down to C and P. This breakdown releases chemical energy, which enables ADP and P to combine, thus causing muscular contraction. When the available CP is used this system is finished until rest allows the C and P to combine again. For a 100m runner this system is depleted after about 6 seconds, so it is a very limited system in terms of energy. However, it is the system which enables a top 80kg sprinter to accelerate from 0 to 12 meters per second (43kmph) in 6 seconds, so it is very powerful.

Although there is little in the literature on the topic, it would appear that the CP system can be made to last much longer than 6 seconds, in fact up to about 25 seconds, with very little reduction in speed. For instance a 400m runner, by restraining his explosive effort and running at about 92.5% of his best 100m speed for the first 100m can run the first 200m at 96% of his 100m speed and the first 300m at 96%, before deceleration becomes an issue. This indicates that acceleration is quite wasteful in terms of energy, and that this extended CP system, while not as powerful, produces considerably more energy. For a 400m runner it is worth developing. It is both identifying as a subsystem and it is reasonable to call it the extended CP system. This is unambiguous and is preferred to speed endurance. The latter would be good description, except that it is used for distances up to 800m, which is not really speed.





The above two ways of using the CP system are concerned with different aspects of it. The very short duration effort is concerned with the power of the system while the longer effort is concerned with its capacity.

### Lactic System

The next in ascending order of energy capacity and descending order of power is the lactic system. It is an unusual name for an energy system, because it is the name of the inhibitor of the system. However, this characterisation is the predominant feature for the runner, because of the discomfort it causes.

In this system glycogen in the muscle is broken down chemically in an anaerobic reaction (i.e. without oxygen). This releases energy which enables ADP and P to combine to form ATP, whence muscular contraction occurs. The chemical process of the glycogen breakdown takes longer than the breakdown of CP, so the system is not as powerful as the CP system.

However, its capacity is also not as limited because the muscles have a plentiful supply of glycogen and the limitation is one of muscle tolerance of lactic acid, an end product of chemical breakdown of glycogen without oxygen.

This lactic acid inhibits the operation of the muscles and the accumulation of it is therefore accompanied by deceleration. The most striking illustration of this is in the 400m event, in which the speed falls by about 13% from the second to the fourth 100m, and if 10m intervals are considered the reduction from the back straight to the last 10m would be about 20%.

There are two aspects to this system also, namely power and energy. The first is the speed the system will produce, and the second is its capacity, i.e. how much work can be derived from it. The latter is determined by tolerance of lactic acid, or the ability to continue the effort while minimising deceleration.

### Aerobic System

This is the least powerful of the systems but it has the greatest capacity. In it glycogen is broken down chemically together with oxygen, and the end products are carbon dioxide and water, neither of which inhibits the process. As with the other systems the breakdown releases energy which enables ADP and P to combine to form ATP. The rate of the chemical breakdown is limited by the rate at which oxygen can be consumed. This is not as fast as the anaerobic breakdown so the system is not as powerful as the lactic.

The supply of oxygen of course is limitless as the capacity of the system is limited only by the fuel available. The glycogen will last about one hour and beyond that breakdown of the body occurs, beginning with fat. The process is steady state, i.e. there is a balance between oxygen intake and speed of running, and the maximum speed is constant.

As with the other systems, it has two aspects - power and capacity. There are two factors which affect power. The first is the rate at which oxygen can be consumed, and is usually known as maximum oxygen uptake. The second is anaerobic threshold, the intensity of effort beyond which the lactic system is invoked.

Since the speed is constant, the capacity is affected by both of the above two factors and beyond that the available fat in the muscle.

### Systems in General

The first three of the above systems are anaerobic: i.e. they work without oxygen. The last, as its name says, is aerobic, since it uses oxygen. There is another system, though not in the sense of the above. It is the nervous system, which transmits the signal to contract from the brain to the muscle. Obviously this is very important for a sprinter, because it determines reaction time to the starting gun.

### TRAINING SESSIONS

Many training sessions are repetitions of efforts of a certain duration and the duration varies from session to session. We break the session into repetitions in order to maximise the work we can do at a given intensity in the session, thereby maximising the training effect. If all of the work in the session was done in one effort, it would either not be as much, or it would be slower, and the training effect would be less.

There are two ways we can increase the intensity - by increasing the speed or reducing the recovery between repetitions. The two have different purposes. The first has to do with the energy system which will sustain the effort; we vary the speed in order to call upon different energy systems. The second is particularly applicable to runners in the 400m to 1500m bracket, though it is useful to runners on either side of this range. It stresses the athlete by calling for an effort while the muscle are subject to lactic acid loading and hence causes him/her to adapt to work with this loading.

### TRAINING ENERGY SYSTEMS

In this type of session we allow sufficient recovery to enable the speed for a given duration to be maintained at near maximum (approximately at or above 95%) for the complete set of repetitions. The duration and the intensity are inversely related. Since the intensity determines - the energy system(s) which sustains it, the duration of the individual efforts tell us what systems are being trained (see Table 1).

What sessions an athlete does and how frequently he does them depend on the event he is training for and the stage he is at in your program. A 100m runner will use mainly sessions 1 to 7, while an 800m runner will use mainly 6 to 13. In general, all sessions in these ranges will be there all of the year, but the emphasis will shift from the higher number to the lower number sessions as the athlete moves from the off-season to the track season.

The number of repetitions he does in a session will be the maximum while the pace holds. The limiting factors, providing the recovery has been sufficient, will usually be muscular tiredness or glycogen depletion. Obviously the longer the duration of the effort the fewer the repetitions.

### TRAINING LACTIC TOLERANCE

For the middle distance runner the lactic system is fundamental. The race is too long to rely on the powerful CP system and too fast to be satisfied with the economical but weaker steady-state aerobic system. The lactic system is the link between the two which holds the performance together. But it can only do so if it can be sustained in the presence of its by-product, namely lactic acid. No lactic acid means no lactic energy, so the by-product is necessary, but it is debilitating; it will cause deceleration. The better a runner can cope with it the less will be the deceleration, so we train the coping. This consists of subjecting the body to levels of lactic loading, while expecting the same speed in each repetition. We achieve this by not allowing complete recovery between efforts which use the lactic System.

Progression can be achieved by shortening the recovery period, i.e. subjecting the body to exercise with increasing amounts of lactic acid in the muscles.

It is the pace of the effort which determines whether or not it is lactic, not the duration. If the pace is too fast to be sustained by oxygen intake yet too slow to call upon the powerful CP system, then it is a lactic effort, which causes an accumulation of lactic acid. For a given pace of lactic effort the duration of the effort will determine the amount of accumulation of lactic acid.

A hard sustained lactic effort will result in an accumulation of lactic acid which will take ½ to 1 hour to dissipate. Therefore recovery periods of only a few minutes will still leave the lactic level high after a hard effort. For





more moderate, but still lactic efforts, the level can be kept up by reducing the recovery periods to a minute or less.

Creatine phosphate (CP) requires about 2 to 3 minutes to resynthesize in the muscles after the cessation of a powerful effort. Thereafter if is available for another powerful effort. Therefore, if we want the repeat efforts to be without the benefit of the powerful CP system, we restrict the recoveries to less than 1 minute.

Repetitions are not the only way to train lactic tolerance. An effort of duration of 1 to 2 minutes not only demands lactic energy, with its attendant acidic by-product, it also requires tolerance of the by-product as the effort continues.

In all of the above the recoveries are indicative only. Progression is the measure for the improvement in lactic tolerance. This can be achieved by maintaining the pace and

progressively reducing the recovery. The start point in this block of the program could be either present race pace or goal pace.

However, at the beginning of winter training, when pace would be absent after a rest, progression can be by pace rather than recovery, until the pace is up. In the early part of the training program the emphasis will be on sessions 21, 22 and 23 for a middle distance runner and 17 for a 400m runner.

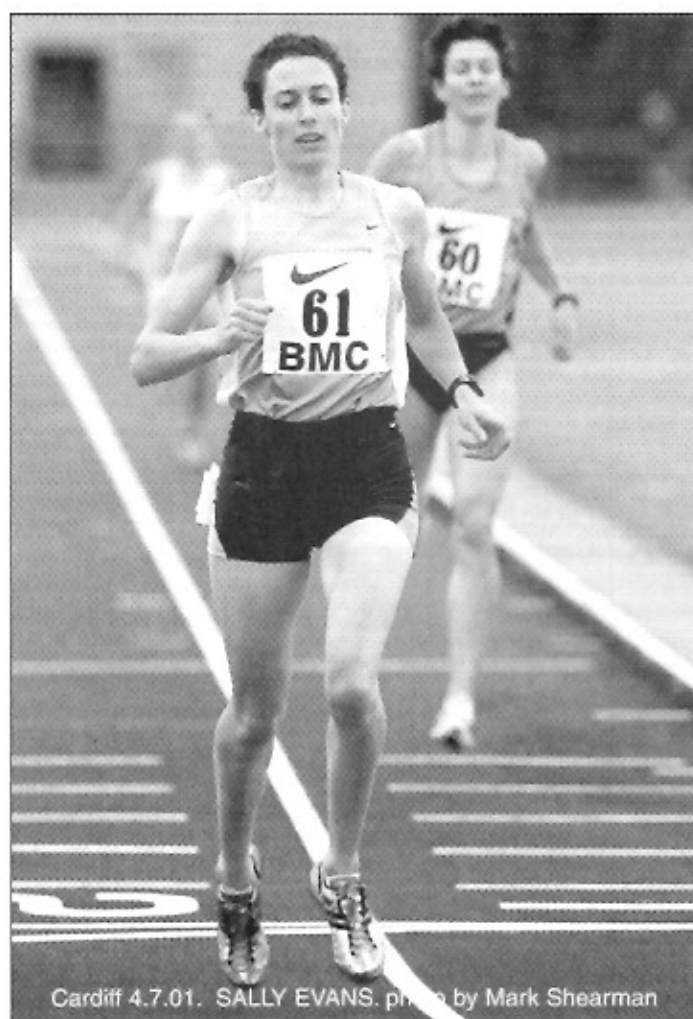
SESSION	DURATION OF EFFORT	ENERGY SYSTEM (S)	POWER CAPACITY	TRAINING EFFECT
1.	0 to 0.2 sec	Nervous	-	Reaction
2.	0 to 0.2 sec (per leg)	Alactic (stored muscular ATP)	Power	Initial thrust
3.	0 to 0.1 sec	Alactic (CP system)	Power	Single leg thrust at top speed
4.	1 to 2 sec	Alactic (nervous + stored ATP + CP)	Power	Starts
5.	2 to 5 sec	Alactic (CP system)	Power	Acceleration
6.	5 to 15 sec	Alactic (CP system)	Power	Maximum speed (Flying start)
7.	15 to 30 sec	Alactic (extended CP system)	Capacity	Speed endurance (Ability to hold > 95%)
8.	30 to 45 sec	Lactic	Power	Ability to produce energy without O <sub>2</sub> or CP
9.	45 to 90 sec	Lactic	Capacity	As above, plus ability to tolerate lactic acid
10.	90 TO 300 sec	Lactic with aerobic support	Aerobic Power Lactic Capacity	Ability to use O <sub>2</sub> to hold up pace as lactic acid accumulates
11.	5 to 10 min	Aerobic with minor lactic	Aerobic Power	Max O <sub>2</sub> rate
12.	10 to 20 min	Aerobic	Power Capacity	Raise aerobic threshold
13.	20 to 60 min	Aerobic Fuel: glycogen	Capacity	Ability to maintain steady pace
14.	Above 1 hour	Aerobic Fuel: glycogen + fat	Capacity	Ability to maintain steady pace for marathon

Table 1: Near-maximum efforts – duration/training effort.

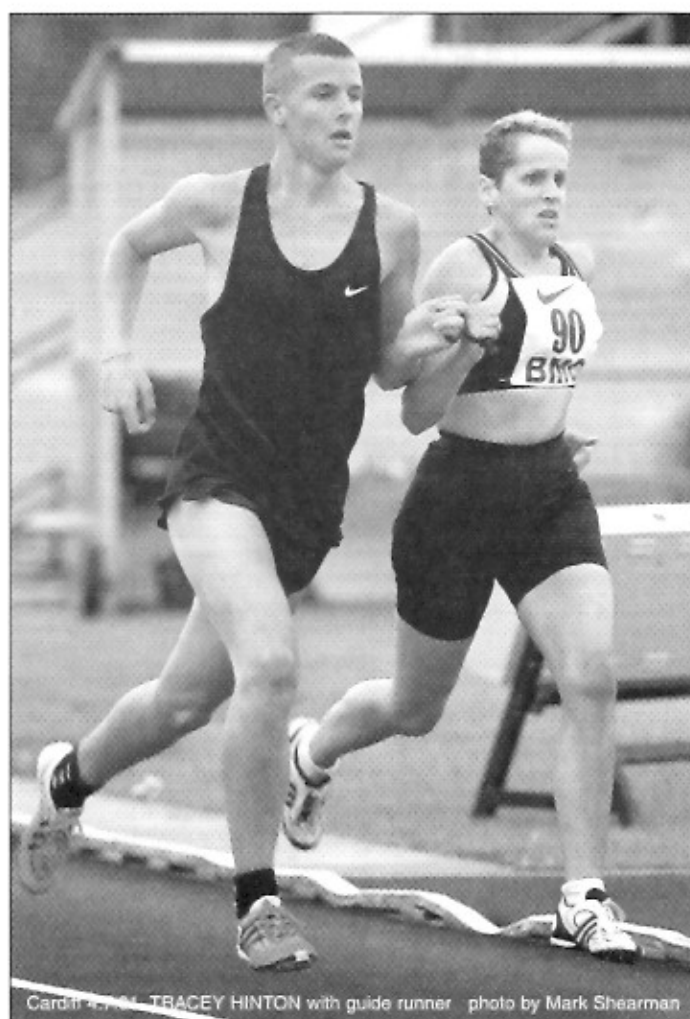


SESSION	DURATION OF EFFORT (SEC)	PACE	DURATION OF RECOVERY (SEC)	NO OF REPS*	TRAINING EFFECT
15.	15 to 30	400	60 to 120	3 X (3 or 2)	Extended CP lactic tolerance
16.	30 to 60	800	90 to 180	8 to 4	lactic production lactic tolerance
17.	15 to 30	800	30 to 60	15 to 8	lactic tolerance
18.	15 to 30	800	15 to 30	2 X (5 to 3)	lactic tolerance
19.	30 to 60	1000	60 to 120	12 to 6	lactic tolerance
20.	30 to 60	1500	60 to 120	15 to 8	lactic tolerance aerobic
21.	30 to 60	2000	30 to 60	15 to 7	aerobic lactic tolerance
22.	90 to 180	2000	120 to 240	12 to 8	aerobic lactic tolerance
23.	90 to 180	3000	60	12 to 8	mainly aerobic lactic tolerance

Table 2: Range of lactic tolerance sessions. (\* - larger number of repetitions for shorter duration)



Cardiff 4.7.01. SALLY EVANS. photo by Mark Shearman



Cardiff 4.7.01. TRACEY HINTON with guide runner photo by Mark Shearman



# Different But Very Effective

It's raining hard; you've just recovered from a bad cold and don't fancy running in the rain. You still want to do something useful to enhance your fitness. Well, that's easy. Find a chair or bench capable of taking your weight when you stand on it. When you place one foot on it, your thigh should be parallel to the floor, that's about 18 inches (45cm) for most people. If you are tall, you need to find a chair a little higher. Stand erect in front of it. Place one foot on the chair/bench and step up until both feet are fully on the bench with STRAIGHT legs and BODY ERECT (Counts 1 and 2). Step down with one foot at a time (Counts 3 and 4). Repeat procedure at the rate of one ascent (4 counts) per 2 seconds, for a total of 150 ascents, that's 30 ascents a minute for 5 minutes. This is the equivalent of running, for 35 minutes at 80 per cent of your VO<sub>2</sub> max (Half-marathon pace). If you want to make it tougher, get a chair which, when you place your foot on it, your thigh is slightly pointing upwards (not parallel to the floor), this workout will be equivalent to running for 20 minutes at your best 10k pace. You might be interested in some calculations after doing this to ascertain your Physical Fitness Index. To do this, lie down after the exercise and take your pulse 1 minute after the exercise is completed for 30 seconds. Take it again 2 minutes afterwards for 30 seconds. Take it once more 4 minutes afterwards for a further 30 seconds. Add up the three 30 second pulse counts and divide it into 15,000. Here is your PFI Index score:- Above 110 - Excellent. 95 to 110 - Very good. 88 to 94 - Good. 81 to 87 - Average. 75 to 80 - Fair. 71 to 74 - Poor. Below 71 - Very Poor. You may like to use a treadmill where you can run. Set the speed at 11.3km/hour and start running. At the end of each minute for the first 5 minutes, raise the angle of the treadmill 2 degrees. Then raise it 1 (one) degree for every minute thereafter, until you cannot

maintain the 11.3km/hour speed, then stop. If you stop at 9 minutes' duration, you will have, an estimated VO<sub>2</sub> max of 60mls.kg.min. At 10 minutes, it will be 62mls. 11 minutes will be 64mls and 12 minutes equals 66mls. World class athletes will keep going for more than 14 minutes. But, the real point of this exercise is that you will be training at about 95 to 100 per cent of your VO<sub>2</sub>max, the equivalent of running at 5k to 3k pace for a good time, in fact, the equivalent of doing the previous test twice!

One day you may be in a rush to get your training over because of an important appointment. What's the best session to do? Assuming you have warmed up for 10 minutes, go straight in to a 6-minute maximum effort run. Rest 3 minutes, then run HALF the distance run on the 6-minute effort, with 3 minutes' rest. If you ran exactly 1600 metres on the 6-minute run, you will be running, 800 metres in 3 minutes with the same time rest. In 30 minutes, inclusive of the warm up, you will have run 1 x 6mins at maximum speed, and 3 x 3mins at the same speed. The speed of running approximates to 3k speed. This recently invented session by French physiologist, Veronique Billat, causes you to use your muscular system with a high rate of Oxygen. Once the 6-minute distance is known, it's not necessary to repeat it every time you do the 3-minute efforts. However, each month a 6-minute test run should be done. Don't be surprised if, every time you do this, you run 100 metres farther. You are getting fitter from the session.

You find it very handy to open the front door and go for a run. You don't have to bother going to the track that might be an hour away on public transport, or half an hour by car. But, do you know if you are running, at a speed,

which is giving you the maximum training effect? Strange to say, when this question was put to young athletes on a British Milers' Club young athletes' course, very few knew what constituted a training effect run. We have two guidelines. The first is Karvonen's Training Threshold Table. Before a run you take your pulse, let's say it's 60 beats a minute, you subtract this from 200, which leaves 140, you take 60 per cent of that, which is 84, you now add the 84 to your pulse rate taken earlier, this comes to 144. You need to register 144 beats a minute throughout your run. This is all right if you have a pulse monitor, otherwise, you will have to stop halfway through your run and take your pulse for 10-seconds and multiply it by 6; not to everyone's liking! The other method requires some simple calculations to get the speed per mile. You take the average 400 metres time done in your best 1500 metres race and simply add 20-seconds to it and multiply by 4 (four). For instance, if your best 1500 metres time is 5 minutes, that's an average of 80secs/400m, plus 20secs = 100 (one hundred) secs x 4 = 400secs/mile = 6mins.40secs. This 5-minute 1500 metre runner must cover every mile in 6min.40secs to get the true training effect. But, supposing you haven't run a 1500 metres? Do not despair! Should you have a 10k time of 37mins.30secs, that's 6mins/mile or 90secs/400m. You simply add 8 seconds to the 90secs = 98secs x 4 = 6mins.32secs/mile on a steady run. And, if you've only run up to 5k in a race, all you have to do is to take your average 400 time in the race and add 12-seconds. If your best 5k time is 16mins.40secs, that's 80secs per 400m + 12 = 92secs x 4 = 6mins.08secs/mile. Steady runs should be measured on a map, and every mile point noted and the time checked as you run. The simplest way of doing this is to measure out an exact mile or two mile circuit, and run over it several times. New circuits should be measured when they become boring.

One day you feel a little twinge in a muscle and don't fancy aggravating it that day by going for a run. But, you can swim. If you swim a mile steady in your local pool, this is equivalent to running, for 4-miles steady, but, there's something else you can do better, SWIM UNDER WATER for as long as possible en route to the mile. Attempt every other length of the pool this way. This is called hypoxic swimming, it teaches your lungs to go without air for up to 3-minutes. You will find running easier after this!

If you cannot swim, you can try cycling. Four miles of cycling equals one mile of running. The advantages of static cycling in a gym are that you can fix the speed of cycling, say at 18km/hour at a gradient of 2 degrees. You can also do bursts of speed lasting 3-minutes at 36km/hour with 3mins. of 18km/hour as recovery.

No time to train? Nonsense! you can do it one way or another.



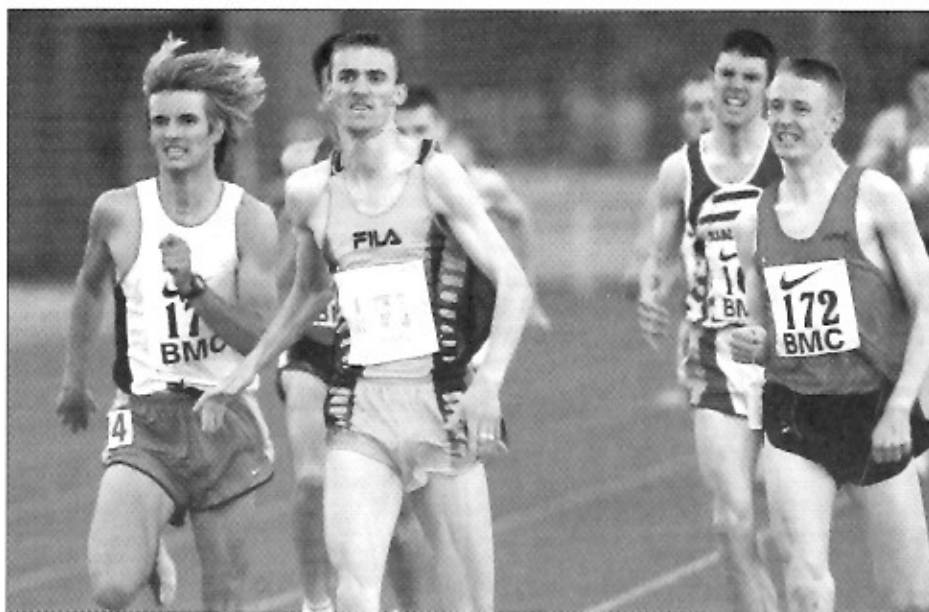
Wythenshawe 23.5.01 HAYLEY OWENS (269), KERRY SMITHSON (280), RACHEL NEWCOMBE (9) & ANNE MARIE LARKIN (271) photo by Mark Shearman



## *"35 Miles in a Weekend! Outrageous!"*

This was the observation of a Surrey coach when he heard that the senior boys on the BMC Merthyr Mawr course in the year 2000 had possibly run 35 miles in total. The athletes did a morning run before breakfast, another session after breakfast preceded by a lecture, and a final session after lunch, also preceded by a lecture. That works out at about 6 miles a session. If you cannot step up your training on a Saturday or Sunday when not at school or work, when can you? The other point the Surrey coach missed was that

this sort of CRASH TRAINING, when followed by the same number of HALF TRAINING or less, resulted in major fitness increases. How do we know this? Dr. Peter Snell, former world record holder for 800 metres/1500 metres, half mile/mile, found this out from his research. Meanwhile, Kenyan schoolboys/girls are running 10k to and from school daily, and on top of that are running 10k at school as part of their PE programme! We have no concept of the work required to reach world class standards.



Wylsheslawe 23.5.01. COLM McLEAN (176), VINCE WILSON (171) and JAMES BOWLER (172) photo by Mark Shearman.



Watford, 9.6.01. SHARON MORRIS (377) wins the women's 'B' 1500m. from JOE JELBERT (364). photo by Mark Shearman.

## *IAAF World Rankings*

In the annual ranking lists published on their web-site the IAAF have listed the under mentioned British athletes as follows: -

800m	Kelly Holmes 3rd
	Tanya Blake 40th
	Joanne Fenn 47th
1500m	John Maycock 18th
	Tony Whiteman 42nd
	Andrew Graffin 44th
1500m	Hayley Tullett 8th
	Helen Pattinson 34th

## *Get It Down in Black and White*

Decide your target for the season. That target must be reasonable and challenging. Not much point in talking about a sub 4-minute mile if you haven't broken 4mins. or 1500 metre's. Decide what sessions are necessary to achieve your goal each week. Give yourself time - it takes 12 weeks to bring about major changes in the body for the better. Write down your goal so that you can see it daily, for instance, on your bathroom mirror. Decide what build up races are necessary to reach your aim. A 1500 metres in 4mins might include a first race at 3k in about 8mins.45secs. A second race at 800 metres around 2-minutes minus will provide speed. The third race at 1500 metres will seem fairly comfortable. The sequence of races is - a) ENDURANCE. b) SPEED. c) TARGET. The Americans favour speed before the target. Every 1500 metres race is preceded by an 800 metres one. One thing is for sure - racing 1500 metres consecutively doesn't get the best results. One runner last year ran twelve consecutive 800 metre races. The result? No improvement.



# The Big Difference

by Frank J. Horwill

A hard-hitting article about British distance-running attitudes to training for distance-running success compared to the Africans:

- 1) Africans do one-third of their running between 80 and 100 per cent of their VO<sub>2</sub>max. We do 10 per cent.
- 2) We eat too much junk food, Africans rely on fruit, vegetables, grain and fish. We weigh more for our height than Africans.
- 3) From childhood, Africans run twice daily.
- 4) We have a preponderance of "You mustn't do too much..." experts.
- 5) We make excuses about Africans being born genetically superior to us due to altitude. It took the Africans 16 years to break Coe's 800 metres world record - he was not born at altitude, but he trained regularly at altitude.
- 6) Much steady running is junk mileage. We need to calculate what speed is required to produce the maximum training effect.

## THE BIG DIFFERENCE

The famous physiologists, Saltin of Sweden and Noakes of South Africa, took a critical look at the training done by Africans generally and that executed by European runners. They found that ONE-THIRD of the African's running was between 80 and 100 per cent of the VO<sub>2</sub>max, while that of the Europeans was ONE-TENTH for a whole year of running. That's a staggering 23 PER CENT LESS QUALITY WORK. Eighty per cent of the VO<sub>2</sub>max is YOUR half-marathon pace, 90 per cent is YOUR 10k pace, 95 per cent is YOUR 5k pace and 100 per cent is YOUR 3k pace.

Now, if you have never raced these distances you will be at a loss to know what speed to train at for these speeds. But, Frank Horwill's 4-second rule should be used. This was described by Owen Anderson in PEAK PERFORMANCE as, "The best known way of assessing your potential at other distances..." You simply take your average 400 metres time in your best 1500 metres performance and keep adding, 4-seconds per 400 metres to it. To establish your potential 3k time. If your best 1500 metres is 5-minutes, that's 80 seconds per 400m, you simply add, 4-seconds to that (84secs) which is 5mins.36secs per 1600m, which is 10mins.30secs for 3k. If your best 1500 metres is 4mins, that's 64secs per 400, add 4secs = 68secs x 4 = 4mins.32secs/1600m = 8mins.30secs for 3k. We now add another 4-seconds per 400 metres to the assessed 3k time to get the potential 5k time. For the 5mins/1500 runner, this will be 88secs per 400 metres (5:52/1600) = 18mins.20secs/5k. For the 4mins/1500 runner, it comes to 72secs/400 (4:48/1600) = 15mins/5k. To assess the potential 10k time, we add another 4-seconds per 400 metres to the approximated 5k time,

for the 5mins/1500m runner this will be 88secs + 4secs = 92secs/400 (6mins.08secs/1600) = 38mins.20secs. For the 4mins/1500m runner this works out at 76secs/400m = 5mins.04secs/1600m = 31mins.40secs/10k. Finally, we add 4secs per 400m to the 10k time to get the potential half-marathon speed. For the 5mins/1500m runner, this will be 92secs + 4secs = 96secs/400m x 4 = 6mins.24secs/1600 = 83mins.12secs. For the 4mins/1500m runner this will be 76secs + 4secs = 80secs = 5mins.20secs/1600m = 69mins.20secs.

Here is a table for suggested training times: -

BEST 1500 METRES = 5mins (83secs/400m)

SUGGESTED TRAINING TIMES

3k speed (100% VO<sub>2</sub>max) = 84secs/400

5k speed (95%) = 88secs/400

10k speed (90%) = 92secs/400

½ marathon (80%) = 96secs/400

BEST 1500 METRES = 4mins (64secs/400m)

SUGGESTED TRAINING TIMES

3k speed = 68secs/400

5k speed = 72secs/400

10k speed = 76secs/400

½ marathon speed = 80secs/400

Now, we come to the type of sessions to perform at these different speeds. All the world's physiologists stipulate that they should be done "...for several minutes duration if their full effect is to occur..." That eradicates just doing them for 400 metres. Here are a number of sessions to BUILD UP TO, i.e. increase the number of reps, when comfortable:-

3k speed - 4 x 1500 at YOUR calculated speed with 5mins recovery.

5k speed - 5 x 1200 at YOUR calculated speed with 1min recovery.

10k speed - 6 x 1600 at YOUR calculated speed with 4secs rest.

½ marathon speed - Run as far as possible at YOUR calculated speed.

Note the recovery times. They are based on this principle: for 3k pace, jog ONE-QUARTER distance of the rep. For 5k speed, jog ONE-EIGHTH. For 10k paced jog ONE-SIXTEENTH. Remember that 3k is 7½ laps of the track without respite. 5k is 12½ laps with no rest. 10k is 25 laps with no feeding stations! Allocate a maximum of 45secs to jog 100m, 90secs for 200m, 2mins.15secs for 300, and 3mins for 400m.

How should we allocate these FOUR different paces throughout the year?

OCTOBER/NOVEMBER - 1 run at ½ marathon speed, 1 run at 10k pace PER WEEK.

DECEMBER/JANUARY - 1 run at ½ marathon speed, 1 run at 10k pace, 1 run at 5k pace PER WEEK.



Wythenshawe, 23.5.01. HELEN PATTINSON. photo by Mark Swannan

FEBRUARY/MARCH - 1 run at ½ marathon speed, 1 run at 10k pace, 1 run at 5k speed, 1 run at 3k speed PER WEEK.

APRIL/MAY - 1 session at 10k speed, 1 session at 5k speed, 1 session at 3k speed.

JUNE/JULY - 1 session at 5k speed, 1 session at 3k speed.

AUGUST/SEPTEMBER - 1 session at 3k speed.

Now, make no mistake about it, THESE SESSIONS ARE TOUGH, when the going gets tough, the tough get going, an old saying, but very relevant. You may need to have a RECOVERY RUN next day of 35 minutes' duration at a very slow pace. RECOVER from each session before the next tough one, if necessary, take 2 days of recovery runs and extend the programme over 14 days. This does not matter, you are still working between the magical 83 to 100 per cent of YOUR VO<sub>2</sub>max.

The next big difference between the Africans and us is that there aren't many fast-food take-away junk food shops. They can't afford them. The African WEIGHS LESS FOR HIS HEIGHT THAN THE EUROPEAN, but he/she EATS WELL. They don't consume these foods, which contain 30 to 60 per cent FAT and CHOLESTEROL: Beefburger, Roast Pork, Bologna, Frankfurters, Roast Beef, Bacon, T-Bone Steak, Pork sausage, Cheddar Cheese and Cream Cheese. They eat fruit, vegetables, cod, sole, halibut, flounder, lobster, crab, mussels, scallops and turkey breast, plus whole grain cereals and whole wheat bread. Fruit and vegetables contain no fat. The Late Dr. Sheehan, the running-doctor stated: "The key factor in distance running is WEIGHT



relative to HEIGHT." Eat well every 4 hours, but avoid the killer high-fat foods. If in doubt about your diet, take a good multi-vitamin and multi-mineral capsule. ASDA do a very good cheap capsule called ASDA TOTAL FOR SPORT.

All Kenyans TRAIN TWICE DAILY. Never mind what some "experts" in this country say about the volume of training young athletes MUST NOT DO. Running to school and back every day is commonplace among African children. We have become too cautious with our young. Take, for example, the comments of a Senior Surrey Coach. "I've heard that the senior group of boys at Merthyr Mawr ran a total of 35 miles at the week-end, that's terrible.. If you cannot step up your mileage at weekends when not working or going to school, WHEN CAN YOU STEP IT UP? What would our Surrey stick-in-the-mud coach say about the SEVEN YEAR OLD (7 years-old) Kenyan girl who ran 10k to school and back five days a week? That's 60 miles a week, 240 miles a month, and allowing for school holidays, 40 weeks x 60 miles, 2,400 miles a year for NINE (9) years, 21,600 miles total. By the time she was 15 years old, she could run the 10k in 36mins. She casually observed: "This gave me a good background on which to build speed work." She didn't drop dead as our Surrey know-all coach suggested might happen. She went on to become the world's greatest marathoner to date. She won the New York Marathon by a clear 2-minutes and a week later came to the UK and wiped the floor with our women over a 10k race. What was the reaction to this feat in the UK? One writer to AW of the Surrey coach ilk suggested she, "...must be on something." Yes, she was on "something". HARD WORK!

If you cannot run to school and back, you can cycle to school/work. Four miles of cycling equals one mile of running. If you have a swimming pool available, swim a mile that's worth four (4) miles of running. Don't stand on the right of escalators looking at the ceiling, WALK UP. Don't use the lift to go up one or two floors, WALK UP. Run to the track as part of your warm up. USE YOUR FEET at every opportunity and to Hell with the stick-in-the-mud Surrey coach types!

Yes, a lot of Africans are born at altitude, not all. This gives them some advantage, but this is not insurmountable. Remember this, Coe wasn't born at altitude, it took 16 years for an African to break his 800 metres world record. It took 8 years for an African to break Cram's world mile record. It took 3 years for an African to break Moorcroft's 5k world record. It took 17 years for an African to break Coe's 1500 metres Olympic record. In 1989, Tim Hutchings defeated all but one of the Kenyans in the World cross-country Championships in Norway. These men are English, they have the same body as us, but do we do the same work as them? All the English runners named, trained, regularly at ALTITUDE. Warm weather training camps are all fine and dandy, but we should STOP THEM NOW and start going to altitude camps to get on terms with the Africans. Russian runners have come to the fore again this last 4 years. They, in the past

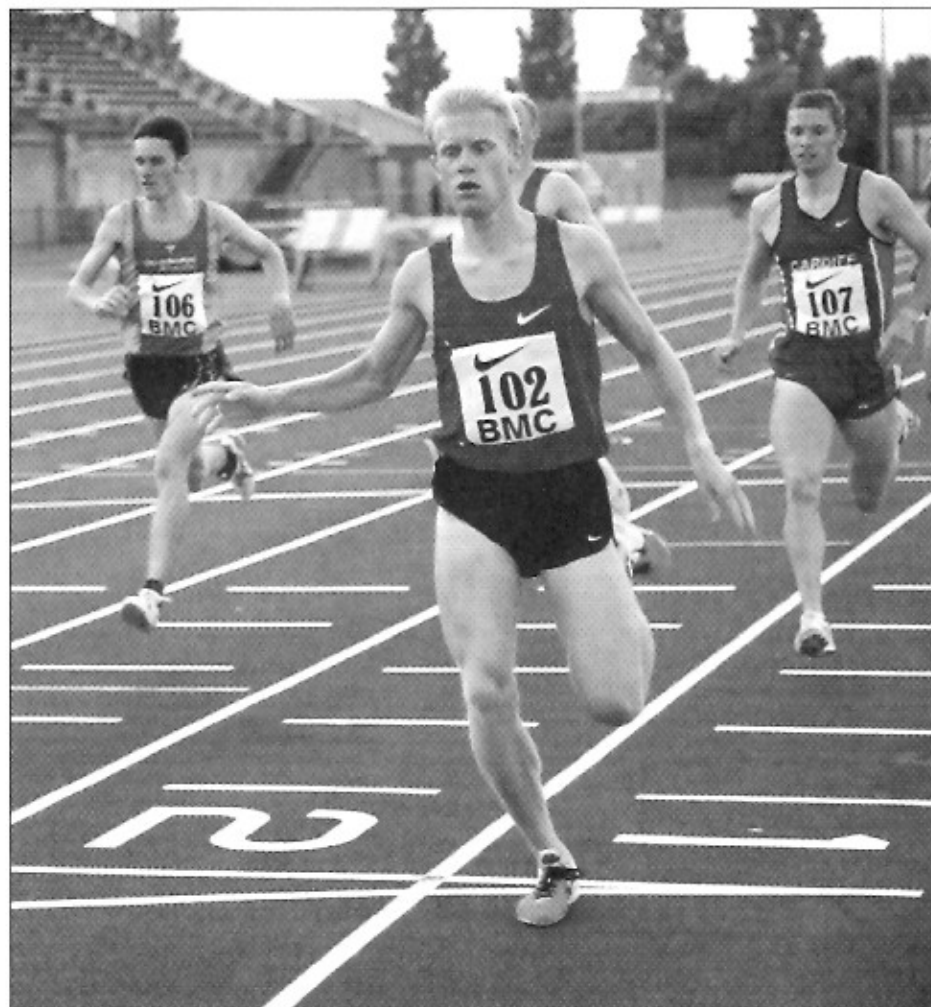
under the old Soviet system, spent 3 weeks at altitude followed by eight weeks at sea-level, repeated throughout the year. That's about four visits a year to altitude. (See article in this issue on ALTITUDE TRAINING).

To sum up the big difference between African runners and us:-

- 1) Their youngsters do more mileage.
- 2) They do one-third of their total volume between 80 and 100 per cent of their VO2 max.
- 3) They train twice a day.
- 4) They don't eat fat-food which increases weight: fruit, vegetable and grain are the staple diet.
- 5) They are either born at altitude or visit it regularly.
- 6) THEIR steady runs are faster. To find out YOUR steady run pace, add 20secs to your average 400 metres time in your best 1500 metres. If your 1500m time is 4mins, that's  $64\text{secs}/400 + 20\text{secs} = 84\text{secs} = 5\text{mins}$ . 36secs/mile approx. NB Coe had an average time of 56secs/400m for 1500m, that works out at 76secs/400 (5.04/mile) on a steady run. Coe's diary entries read, "Ran 10 miles in 50mins ..."



Cardiff, 4.7.01. MARIA LYNCH (Ireland).  
photo by Mark Shearman.



Cardiff 4.7.01. PAW NIELSEN (Denmark, 102), JAMES THIE (107) & STEVE REES-JONES (106).  
photograph by Mark Shearman.



# BMC Junior Development

*This is a reprint of an article published in the BMC NEWS of spring 1984.*

*The same thinking is relevant today.*

## Overcoming the Middle-Distance Crisis

By common consent British middle-distance running is at a low ebb. The prime reason for our having had so little recent success at major championships is that we have very few senior athletes routinely running the championship entry standards. An athlete who has to chase a qualifying time around the tracks of Europe cannot be expected to come home from the championships with a medal.

Normal Poole's axiom that "athletes race the way they train" doesn't just apply to tactics. An athlete who doesn't routinely train at qualifying pace will not routinely race at that pace - he becomes yet another no-hoper.

## The Crisis at Junior Level

If senior performances justify concern, then our juniors' efforts bring one close to despair. Such is the decline in performances that the BMC has recently had to reduce its admission standards (see page 2).

The development of British athletes who have achieved, or come close to achieving, championship qualifying times over the last five or so years has followed sufficiently parallel paths for us to identify a general trend (Fig. 1). This shows, for example, that an U20 athlete will typically run 94.5% of his 1 her eventual senior pb as a junior. Some ran ahead for a while, others behind, but their collective paths show the route that those following must seek to follow.

These statistics allow us to identify young athletes who have the potential to achieve the highest standards. A decade ago one could assume, other than men's 800m, that there would be a pool of a dozen to twenty U17s en route to success; 1993 sees just a couple of U17 men on target and the pool of women halved in size. At U20 level, virtually no one, male or female, appears to be accepting the challenge. Quality in depth, as measured by 10th ranked performances, has consistently declined over the decade and a quantum leap in junior times is required if British middle-distance running is to have any future at world level.

Sadly a new breed of coaches appear to have arisen who believe that 'gentle' sub-optimal progress as a teenager somehow ensures senior stardom. Nothing could be further from the truth! Whilst few great juniors survive to become great seniors, far fewer great seniors were not great juniors.

As with seniors, juniors who do not routinely train at a pace designed to keep them on the path to success will find that success eludes them. Those who do not realise that European and World Junior Championships qualifying times sit neatly on the path to World

Championship qualifying times, and accept what that implies, had better put aside dreams of competing on the world stage as seniors.

## Remedial Action

Many, of course, cannot aspire to World Junior Championship qualifying times but, in consultation with their coaches, all athletes should be able to set themselves demanding but achievable objectives. Once the target is agreed, these statistics can be used to chart the pace development that must be sought (Table 2). Balanced development means that young athletes seek complementary progress over three or more adjacent distances. Those who concentrate too narrowly may achieve early and outstanding success at a single distance but rarely enjoy long term success even at that distance. Remember that Steve Ovett first came to prominence as a 400m runner.

Parallel progress over three distances implies that training must include work over an even wider range. Using the BMC 4-second and 5-second rules for males and females (adjusted to 5-second and 6-second rules for U17s), the coach can set a consistent set of training times for sessions targeted from 400m to 5k pace.

Whilst work across the full range must be maintained throughout the year, before Christmas the emphasis needs to be at 5k pace, but by Easter for most athletes this shifts to 3k pace, and by early summer race pace and faster work take precedence.

## Race Programmes

Experience shows that balanced progress demands that every pair of races at an athlete's 'best distance' must be matched by one under-distance, and one over-distance race. If conflicts are to be avoided, this implies very early negotiations with team managers (club, county, school etc), otherwise an athlete may be stuck on a pointless treadmill of races over a single distance.

Clubs who do not understand the need to give talented athletes a proper chance to develop deserve an immediate resignation letter. There is sufficient quality racing available outside the club and league scene for a resigning athlete to suffer no disadvantage whilst the loss to an uncooperative club can be immense and deserved.

Once the season's target has been achieved at one distance the emphasis must shift to the adjacent distances; there is no point chasing further improvement if balanced progress is not being made. If all three are achieved early in the season then a radical rethink of the long-term objective may well be justified.

## Competition Opportunities

There is no shortage of racing opportunities for talented young athletes. It is simply not true that "the English Schools marks the end of the young athlete's season". Good quality tactical competition is available to top youngsters throughout the season and top ranking performances in 1992 and 1993 were spread fairly uniformly across the season from May to early September.

What are, however, virtually non-existent are 'race-for-pace' opportunities for those too young to compete successfully against good quality seniors.

The BMC's Sports Aid Foundation races in 1993 demonstrated that young athletes are ready, willing and able to benefit from 'race-for-pace' and that their performance in more tactical competitions improved correspondingly. Unfortunately, there often just weren't enough good young athletes to make a competitive race.

## Our Contribution

The only justification for reducing our qualifying standards is that, if we are not in direct contact with the best young athletes, we can do little to advance their cause. Beyond that, we must do nothing to suggest that we tolerate the current performance levels. In practice young athletes and their coaches receive a lot of attention and advice through TSB English Schools' training days, area and county elite squad meetings and the like. They are also subject to very heavy demands from team managers so that many over-race without having a properly structured race programme. So whilst concerned over the quality of the advice being given, and in particular the lack of imagination, in firing long-term vision the BMC must take care not to add to this overburden.

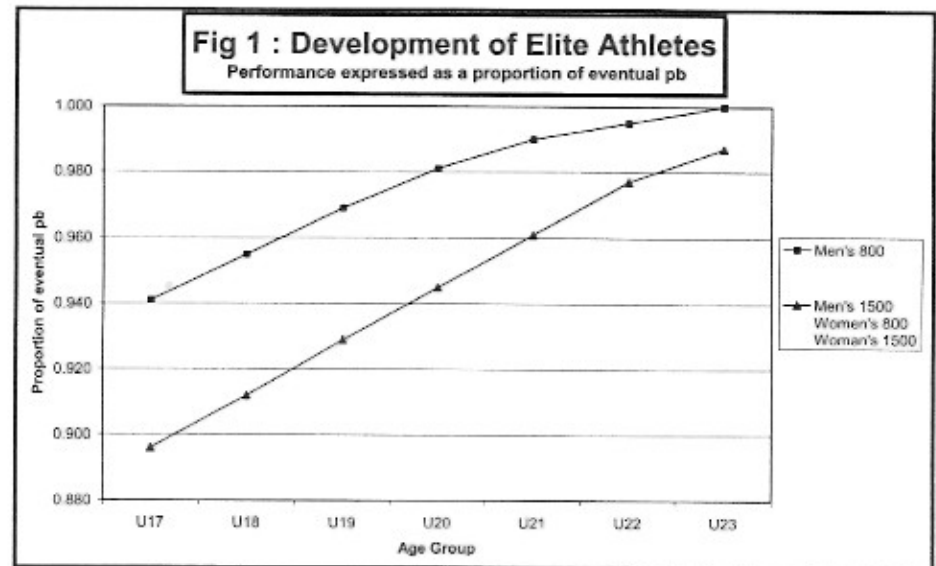
The BMC's forte is providing 'race-for-pace' opportunities - lack of funds over many years has prevented us from really providing these opportunities for young athletes, although the best of the U20s have always benefited from running in our senior races. However, in 1993, we received a most welcome grant from the Sports Aid Foundation, which enabled us to make a start in filling this need.

The lesson from our 1993 SAF races was that a number of U17s showed real commitment to pace, and it is here that the BMC should concentrate its efforts. It is proposed that in 1994 race opportunities should be targeted at U18s (ie keeping in touch with last year's U17s, whilst making contact with the new crop of youngsters) and that in 1995 and thereafter junior BMC races should be organised for both U19s and U17s.



Entry to these junior performance development races should be restricted to those who are performing within two age-groups of the 'AAA's potential' times in Figure 2 in 1994 (ie U20s should be able to run at least at U18 standards), and if practical within one age-group in 1995. But we recognise that in practice it may prove extremely difficult to assemble junior fields of even this low quality. An alternative to diluting the fields with less able juniors would be for BMC seniors to make up the fields and run at the juniors' pace. This could require a sacrifice from some seniors wishing to race at their own pace but from time to time all BMC members should accept their part in achieving the Club's objectives!

'Race-for-pace' opportunities should be provided early season with possibly a second initiative in late August / early September. Assuming that our application for SAF funding for 1994 is successful, enabling travel expenses etc to be paid, financial support will be restricted to races with the above entry standards without dilution by less able athletes. Regional Secretaries should be free to use locally organised sponsorship as they judge best but in no circumstances should this include combining BMC races with those of



the lesser 'open-graded' standard.

#### Assembling Age-Group Fields

Over the last three years our entry standards have excluded all but the most outstanding juniors from joining the BMC; we have therefore 'missed a generation', and had little

direct contact with the current crop of age-group athletes. We will therefore need to seek the active support of National and Area Event Coaches in building up lists of athletes to whom invitations to compete can be sent - our five BMC National Squad Meetings in 1994 would appear to be the ideal opportunity to begin the long road back.

**Fig 2 : Pace Development Plans to achieve :**

		U17	U18	U19	U20	U21	U22	U23
<b>Men's 800m</b>	a) World Championship qualifying times	1:53.2	1:51.2	1:49.9	1:48.6	1:47.1	1:46.5	1:46.0
	b) AAA's qualifying times	1:55.8	1:54.1	1:52.5	1:51.1	1:50.1	1:49.5	1:49.0
<b>Men's 1,500m</b>	a) World Championship qualifying times	3:59.5	3:54.3	3:50.0	3:46.1	3:42.4	3:38.7	3:36.5
	b) AAA's qualifying times	4:06.8	4:02.4	3:58.0	3:54.0	3:50.1	3:46.3	3:44.0
<b>Woman's 800m</b>	a) World Championship qualifying times	2:13.6	2:11.3	2:08.9	2:06.7	2:04.6	2:02.5	2:01.3
	b) AAA's qualifying times	2:19.9	2:17.4	2:14.9	2:12.6	2:10.4	2:08.3	2:07.3
<b>Woman's 1,500m</b>	a) World Championship qualifying times	4:35.6	4:30.8	4:25.8	4:21.3	4:17.0	4:12.8	4:10.2
	b) AAA's qualifying times	4:44.5	4:42.5	4:37.3	4:32.6	4:28.1	4:23.7	4:21.0

**Fig 3 : Proposed Entry Standards for BMC Junior Development Races**

	1994			1995		
	U17	U18	U19	U17	U18	U19
<b>Men's 800m</b>	1:59.0	1:57.4	1:55.8	1:57.4	1:55.8	1:54.1
<b>Men's 1,500m</b>	4:11.6	4:09.2	4:08.6	4:09.2	4:06.8	4:02.4
<b>Women's 800m</b>	2:24.9	2:22.4	2:19.9	2:22.4	2:19.9	2:17.4
<b>Women's 1,500m</b>	4:54.2	4:49.2	4:44.5	4:49.4	4:44.5	4:42.5





# BMC Races

During the recent National Squad Training Weekend held in Birmingham (Nov. 17/18) a debate was held re BMC races. The UKA National Performance Coach at 800/1500m, Gordon Surtees, has summarised the debate and his report appears below.

Amongst athletes attending were Jo Fenn, Allison Curbishley, Alex Carter, Kelly Caffel, Neil Speight, Simon Lees, Chris Moss, and Alisdair Donaldson. Another contributor was Dave Arnold, who coaches Kelly Holmes.

It was felt that the following points were worthy of further discussion within the framework of BMC and preferably in conjunction with UK Athletics Endurance Technical Director.

a) All present were most appreciative of the role played by BMC in providing competitive opportunities. There were, however, some improvements which could be implemented and ensure that the BMC contribution to British athletics was even more worthwhile.

The absence of early season quality races in the UK Athletics calendar increases the dependency on BMC to provide such events during May. Watford and Stretford were the venues most favoured.

b) Suggestions that BMC should include races aimed at the development of tactical skills rather than the pursuance of fast times were totally rejected. Most athletes were attracted to join BMC ranks by the original aim of running fast times. Excellent tactical ability without necessary qualifying times would not achieve selection.

Most athletes present indicated that they would not participate in BMC races of a tactical nature, as these were freely available in various league fixtures and championships. Even a percentage of tactical or un-paced races would appear to be unacceptable to the majority of athletes.

c) While realising the difficulties of staging BMC GP events at the most advantageous time for athletes because of clashes with other fixtures in the UK athletics calendar, it was stressed that the proposed date for Watford was too late in the season.

The opportunity to achieve fast times late in the season was appreciated but the general feeling was that by that stage of the season, incentives had diminished. Major championships will have concluded and the relevant trials will have ensured an earlier than normal peaking. For maximum benefit from such an excellent venue as Watford this particular meeting should be held at a much earlier date.

d) Pace making was a major concern not only from the competitor's point of view but also from an awareness of the difficulties which BMC organisers would experience in trying to overcome this problem.

Athletes requested that pace making in 800m should be extended to a minimum of 500m and, if possible, closer to 600m. Some athletes confessed a reluctance to occupy second position behind the pacemaker knowing they would become sitting ducks when the leader dropped out. This may explain why some anticipated results were not achieved. In 1500m events pacing to a minimum of 1000m and preferably to 1200 was requested.

The use of 400m athletes in pacing two lap events, while appreciated did not always produce consistency of pace with the initial stages too quick and a slowing down approaching the bell necessitating an uplift in pace by the new leader. Because of this the intended split times may be achieved fairly accurately but not by the most economical means.

It was realised that the ideal situation would require genuine 800m athletes to control the pace but any domestic athlete capable of such pacing should actually be competing in the race. This inevitably raised the question of overseas athletes, preferably Kenyans, to take on pace making duties. Due to possible costs involved it was felt that BMC have discussions with the Technical Director for Endurance.

The women 800/1500m athletes gave strong indications that they, like the men, should benefit from the inclusion of overseas pacemakers. Any involvement of male pacemakers in women's events was considered unacceptable in view of possible annulment of qualifying times.

e) The size of fields was another issue debated at length and it was generally felt that too many races were in danger of becoming oversubscribed. Excessive numbers restrict movement and do not allow a settled relaxed rhythm. It was felt that in 800m races the line up be restricted to 8 athletes plus a pacemaker. In 1500m 12 athletes should be the maximum.

f) Composition of fields occasionally causes disgruntlement among athletes. Two or three 'A' races instead of A, B & C events could remove feelings of inferior status.

Some felt that the leading participants be split and not put in one race. Others favoured a relegation and promotion

system where the last finisher(s) are replaced by the winner of the next important race. A safeguard would be needed to guard the interests of athletes who for valid reasons did not compete in the full series.

The number of overseas athletes in the field should be limited. On behalf of members BMC should support a similar request to Fastrack to increase the numbers of domestic athletes in relation to foreign athletes.

g) While the organisation of BMC events was generally of a very high standard it was considered helpful for athletes involved in races early in the programme if officials at each venue were available early enough for athletes to collect their numbers and then concentrate on pre race preparations.

Some disappointment was expressed at malfunctioning of electronic timing system and steps should be taken to eliminate such incidents.

In conclusion, with so many championship venues not having adequate protection from the elements most athletes recognise that the best opportunity to achieve qualification times is by means of participation in BMC events.

Hopefully BMC organisers will give some consideration to the points raised in an endeavour to improve an already excellent service to athletes.



Watford, 9.6.01 SEAMUS POWER (Ireland)  
photo by Mark Sheerman



# Kirsty Wade – Questions & Answers

Q) During your track career you raced over distances from 300 to 3000 with success. Did you amend your training for these extremes? Or did the 800/1500 training carry you through?

A) *I was fortunate to be coached, from 1985, by Harry Wilson. Each October we would sit down, together with Tony my husband, and plan the whole years training. The target would be the major championships (in our view) of the next season. My training was varied and I always included 10k road races for January to April plus 400m races in early season (May/June) but my training was always geared to that one major event - 800/1500 or both.*

Q) Can you give an outline of a typical winter weeks training?

A) *This, an impossible question...but we usually worked not on a weekly cycle but more on a 10-14 day cycle that repeated itself. In summer once racing had started we were more flexible depending on how I was racing or coping with travel-stiffness etc.*

*However in winter,*

Sunday	AM	10miles easy
	PM	3 miles brisk plus 6x100 strides plus circuits
Monday	AM	5 miles easy
	PM	5 miles steady
Tuesday	AM	4 miles easy
	PM	6 x 600, track
Wednesday	PM	40 mins Fartlek or sand-dunes or 3 miles hard or race
Thursday	AM	5 miles steady
Friday		No running. Rest or perhaps some weights.
Saturday	AM	Road race, 5-10k, or cross-country, with 3 miles easy PM

Q) Can you give an outline of a typical summer weeks training?

A) *Note comment as above.*

Monday	AM	Drills and pick-ups
	PM	Run
Tuesday	AM	300 - 30 secs recovery - 200 x 4
	PM	4 miles easy
Wednesday	AM	3 miles easy
	PM	4x3min efforts
Thursday	AM	3 miles easy
	PM	8 x 200, fast and relaxed
Friday		Warm up and 6-8 strides
Saturday		Race
Sunday	AM	6-8 miles easy plus strides

Q) Did you run cross-country at school? If so did you regard it as beneficial or was it an absolute requirement to your training strategy?

A) *I never felt physically suited to cross-country but I did do a few each year. I hated being unable to control the races and I ever only won one "Big" event, at Cardiff Castle. I consider that a REAL achievement.*

Q) Have you any views on to-days performers at 800/1500 as to why, with very limited exceptions, they are recording marks some way shy of yours?

A) *I don't know enough about current training and attitudes to comment...but I do know that we appear to have cyclical talent "blocks" e.g. in my time it was middle-distance and now it is sprinting. Maybe our "pool" of runners is simply not big enough for us to be at the "top" all the time...but I do feel that physical activity in general life is leaving our children less able.*

Q) Given the benefit of hindsight are there any training ploys you would now not include? Are there any you feel would have benefited you had you tried them?

A) *Profiles that were on going would have helped me to train more wisely. On the other hand being "bloody" minded made me a more able athlete, you need that and I wish I'd been a more confident racer - I trained better than I raced which is a shame.*

Q) Which event was your favourite?

A) *800m.*

Q) Do you feel you optimised your ability i.e. could you have run faster and by how much?

A) *I feel I should have run a lot faster over 1500m. But don't all runners think that? I was lucky to stay injury free long enough to get the times I did from Harry's advice.*

Q) As you know the BMC organise paced races for their members. Do you regard these as a benefit or should there be another format?

A) *I always thought that the mixed sex seeded races that the officials at Gateshead allowed me to run were the best "tests" for me.*



## Kirsty Wade – Questions & Answers (continued)

- Q) Do you regard indoor racing as critical to preparation for the summer season or just something to break up winter training?  
A) *The latter; I love running indoors and ran a lot in Canada and the USA. It broadened my racing experience and left me "keen" and focussed but I never tapered my training.*

- Q) Many young runners have an idol whom they respect (admire). Did you have such an idol?  
A) *Many – Steve Ovett, Seb Coe, Lillian Board and Daley Thompson.*

- Q) I understand you grew up in the Brecon area. Did you have cause to walk/run/cycle to and from school? If so what sort of distances were involved?

- A) *I grew up in Llandridnod Wells. Yes I did run to and from school (and at lunch times). It was not far, about one mile. I also cycled a lot. I was very lucky that I was the last child in our family and that my father was able to drive me to Brecon/Talgarth and elsewhere for training and races or I would probably never have made it. My first coach, Roy Jones, was careful not to make training very hard or serious. This "light" approach left me with positive feelings about running and racing. I felt very differently about training from age 16 onwards. I was very close to giving it all up on many occasions.*

*Meeting Tony (my husband), who had a very different attitude to training made a huge difference. We decided to try and really find out what I could achieve with a more determined and comprehensive approach to training. At least I can say I really had done the most I could with what ability I had and if others were "enhancing" their performances then that was their "pigeon". I decided to first focus on seeing how good/fast I could be. In the end however, I did get very disillusioned with the less than level playing field. Having the children was psychologically the end. I hated leaving Rachel (my daughter) and the real 'hunger' and 'drive' to run evaporated. I couldn't be self-orientated, I had other priorities.*

### Cross Country & Track, the case of Sydney Wooderson and Other Thoughts

Some middle-distance runners choose to race over the country and some not. No doubt there will be a variety of reasons given for particular choices. This career analysis suggests that, within limits, it is not harmful and indeed may be a big plus. Bearing in mind that this is the record of one athlete, and, we are all different.

The career of Wooderson, before World War Two, was a mix of track and country. From the age of 14 he raced all but one winter up to the outbreak of war. Sometimes as little as twice up to a maximum of five times (These stats

taken from Mike Sheridan's booklet on Wooderson). These were not National Championships but were inter-clubs and County Championships, and, he usually won! That in itself offers evidence that he could, if he chose, have achieved some success at a higher level.

From this background he ran a world record for 880 of 1:48.92 and for the mile of 4:06.4. No doubt some will scorn such handicap races but they were surely little different from today's paced runs. Critics could also say that the quality of performance was so much lower than today but with rare exceptions Wooderson beat all-comers for a long period, at a time when his British contemporaries were, although good, some way from "World Class".

In 1938 he ran six half-miles prior to the world record. On June 8th he won in 1:58.4, June 25th saw a heat win then final in 1:56.4. On July 23rd the Waddilove Trophy won in 2:00.6 followed by a 1:50.9 on August 1st. Twelve days later came a 1:55.8 and a week later the world record. A point of interest must be that apart from the August 1st run he had not raced at anything like the pace needed for a record attempt. Further in 1939 he appears only to have raced once over two laps for a 2:01.0!!!!

Over four laps he was prodigious. He set his world record in 1937. The season started with a 4:17.1 on May 29th, then 4:30.8 on June 5th, followed by a 4:14.6 on June 26th. July 3rd saw a 4:20.6 before the AAA's which produced a 4:21.0 heat and a 4:13.2 final on July 17th. Eight days later he ran a 1500 in 3:51.0 before a 4:15.8 on August 2nd. Then a 4:19.0 on August 9th. Other than the 1500 there was no real indication of true form although a three lap run at 3:00.9 at Ibrox on August 7th was perhaps the real pointer. He then had a three week break before the Mospur Park run entered the history books.

In 1945 his running was limited but was marked by three, for the time, staggering peaks.

May 18	880	1:58.4
June 22	Mile	4:20.8
July 21	"	4:14.8
July 28	"	4:19.6
Aug 1	"	4:24.0

These were all winning marks and note the gap between the early races. The Arne Andersen race on August 6th at the White City has passed in to history with the Swede winning in 4:08.8 and Wooderson second in 4:09.2. Thereafter ran,

Aug 9	Mile	4:26.0
Aug 25	880	1:56.4
Sep 2	1500	3:48.9

He would then lose again to the Swede, 4:03.8 to 4:04.2 on Sep 9th, achieving British records at 1500 en route plus at a mile.

What, if any, conclusions can be drawn? Did his light build and light (?) training prevent a more sustained period of high level effort? Domestically it was not available to him although he did run in some handicap races. Overseas opportunities were limited. But his ability to lift his level of performance from the, dare we say, mediocre, to the superb will always be a stand out memory.

As to the plus or minus gained from cross-country it is difficult if not impossible to say. Clearly for him he saw advantages, for others this is not the case – how many top Europeans and Africans who are "middle-distance" venture on to the mud?

The advent of the British Milers Club effectively substituted paced races for handicaps and their popularity and success is self-evident. The lingering question must be how would Wooderson have performed if given the chance to race in these conditions at regular intervals?



# British Mile Record Progression

(courtesy of NUTS)

4:28p	Charles Westhall	26.7.1852
4:52.0	Marshall	2.9.1852
4:28p	Thomas Horspool	29.9.1857
4:23p	Thomas Horspool	12.7.1858
4:45.0	Thomas Finch	3.11.1858
4:45.0	St Vincent Hammick	15.11.1858
4:40.0	Gerald Surman	24.11.1859
4:26.0 (Not accepted)	Charles Mallock	26.11.1859
4:22.1/4p	Siah Albison	27.10.1860
4:33.0	George Farran	23.5.1862
4:21.3/4p	William Lang	11.7.1863
4:20.1/2p	Edward Mills	23.4.1864
4:17.1/4p	William Lang	19.8.1865
4:17.1/4p	William Richards	19.8.1865
4:29.3/5	Walter Chinnery	10.3.1868
4:28.4/5	William Gibbs	3.4.1868
4:29.0	Walter Chinnery	30.5.1868
4:28.3/5	Charles Gunton	31.3.1873
4:26.0	Walter Slade	30.5.1874
4:24.1/2	Walter Slade	19.6.1875
4:23.1/5	Walter Slade	16.8.1880
4:16.1/5p	William Cummings	14.4.1881
4:19.2/5	Walter George	3.6.1882
4:18.2/5	Walter George	21.6.1884
4:12.3/4p	Walter George	23.8.1886
4:17.0	Fred Bacon	6.7.1895
4:16.4/5	Joe Binks	5.7.1902
4:16.8	Albert Hill	9.8.1919
4:13.8	Albert Hill	2.7.1921
4:13.4	Reg Thomas	25.5.1931
4:13.4	Sydney Wooderson	7.8.1934
4:12.7	Sydney Wooderson	3.8.1935
4:12.0	Robert Graham	20.8.1935
4:10.8	Sydney Wooderson	20.6.1936
4:06.4	Sydney Wooderson	28.8.1937
4:04.2	Sydney Wooderson	9.9.1945
4:03.6	Roger Bannister	2.5.1953
3:59.4	Roger Bannister	6.5.1954
3:58.8	Roger Bannister	7.8.1954
3:58.4	Derek Ibbotson	15.6.1957
3:57.2	Derek Ibbotson	19.7.1957
3:56.6	Alan Simpson	7.6.1965
3:55.68	Alan Simpson	30.8.1965
3:55.3	Peter Stewart	10.6.1972
3:54.95	Frank Clement	30.6.1975
3:54.69	Steve Overtt	26.6.1977
3:54.2	Frank Clement	27.6.1978
3:52.8	Steve Overtt	20.9.1978
3:48.95	Sebastian Coe	17.6.1979
3:48.8	Steve Overtt	1.7.1980
3:48.53	Sebastian Coe	18.8.1981
3:48.40	Steve Overtt	26.8.1981
3:47.33	Sebastian Coe	28.8.1981
3:46.32	Steve Cram	27.7.1985

The mile record progression list reveals many interesting facets. One amongst them is that it is not only in recent years that there has been a long wait for a new record. There was a nine year wait from 1886 to 1895, then seven years then seventeen lengthened by the Great War, then ten years.

The Second World War created an eight year gap, and another until Roger Bannister emerged. Alan Simpson broke another eight year pause, Peter Stewart a seven year hole before an avalanche of new records.

It is perhaps unfortunate for recent generations of milers that they have followed such a cluster of supreme athletes. Those times were truly "Golden" but records are said to be made to be broken. Whilst the faster they become the more difficult they are to be broken, record breaking is part and parcel of sport and such achievements invariably raise the image of athletics in the public's eyes.

The lesser running of the mile in recent years must reduce the chance of this particular record being improved but it is a very strong one, having been bettered by only a handful of men in the world over the last seventeen years. It would seem that it is beyond the reach of the present generation of British milers but surely there must be someone, or two hopefully, out there, just starting on an athletic career, who will do it.

## How to Win Friends

A Surrey coach sitting opposite Hicham El Guerrouj's coach at dinner after he was interviewed at a BMC organised coaching conference, asked, "Why don't Moslems eat pig?" The astounded coach replied, "Because we think it's an unclean animal." The Surrey coach cynically asked, "Is a cow cleaner than a pig?" Guerrouj's coach did not reply. However, the Surrey coach when asked to attend his club's committee meeting, replied, "I have an important task to perform at the London Marathon on that day." When his excuse for non-attendance at the meeting was highlighted in his club's minutes, he got very annoyed and rattled off letters of protest. As Shakespeare said, "If we could only see ourselves as others see us."

## Obituary

Kim McDonald, died in November 2001, in a hotel room in Australia. He was the world's leading agent for runners with offices in Teddington and New York. He joined the B.M.C. as a boy of 15 years, and once a month the BMC paid his fares to travel down from Yorkshire to train all day on a Sunday with Frank Horwill's group at the Crystal Palace. By the age of 17, he gained a GB junior international vest at 3k. He started a window cleaning business at 18 years, using a bicycle and trailer to transport his ladder and other equipment. Four years later he became a registered athletics agent. Unlike many agents, Kim took an active role in coaching his charges if they required it. He employed Senior AAA coaches to supervise sessions. Kim was convinced that Coe's method of training at five different paces over a period of 14 days, was the answer to success. In a phone call to Frank Horwill after the Sydney Olympics, he stated, "Noah's victory in the 1500 metres over Guerrouj was a vindication of Coe's multi-tier system of training." He was generous beyond belief to firm friends. In business, he did not compromise. Athletes were asked to read a contract carefully. He would pay out big money to bring an athlete along, if they opted out, they had to pay him back that investment. While many agents have been accused of cheating their charges, he remained untainted by rumours. Our sympathies to his son and next of kin.



# Common Questions about Altitude Training Answered

- 1) What is altitude? It's any height above sea level. However, most of the current African distance runners were born in one of these three areas: - Low - up to 1200m Medium - from 1300 to 2500m. High - over 3000m.
- 2) What would happen to me if I was asked to compete at altitude without any previous exposure to altitude? If you are a sprinter up to 400 metres, you would most probably perform a personal best. At 800 metres you might equal your PB. But from 1500m onwards your performance would be 10 per cent less, in fact, as the race distance increases you may perform some 30 per cent below par.
- 3) What's the cause of this decline? There are less oxygen molecules in the air and this lack of atmospheric pressure causes partial pressure of oxygen to be inadequate enough to be fully absorbed in the blood. The oxygen-carrying power of your blood (haemoglobin) would only be saturated to 93 per cent of its total.
- 4) If I went to train at altitude, how long would it take me to acclimatise? The first visit will take longer, about 14 days. Subsequent trips may take as little as 3 days. The body compensates for the lack of oxygen, respiration and heart rate will increase. If you have a haemoglobin level of 15g/100ml of blood, this will increase to 17g within a week. The alveoli of the lungs will change; the capillaries will dilate which will provide a greater diffusing capacity (A greater quantity of air to make contact with more blood.). The heart also increases in size, as does the density of capillaries in the tissues. Myoglobin (Iron stored in muscle) increases; this in turn provides more blood to the mitochondria, which produces ATP essential for all exercise. The mitochondria also increase in number and size. This not only increases aerobic capacity, anaerobic pathways are improved.
- 5) How should I train at altitude? If you are a sprinter, you can start normal work however, you will require more recovery times during the session. An endurance runner (1500m to the marathon) on a first visit will discover that for the first week, running up hills will be tough and steady runs will be slower than at sea-level. It is estimated that a mile of running at altitude is worth one and a half miles at sea level. Race-pace work in the first week will be difficult and should be confined to 100 to 200 metres. These distances can be doubled in the second week and doubled again in the third week. A pulse recovery of 120 beats a minute (20 beats in 10 secs) after each rep, is a safe plan. As stated, habitual trainers at altitude can start such

work more ambitiously, for example, Africans have been seen doing 10 x 1k reps with 30 secs recovery, soon after arrival.

- 6) Should I pay special attention to my nutritional needs? This is very important. Research has shown that more oxygen is required to break down fat. The diet should see 80 per cent of the calories derived from low glycaemic carbohydrates. Meals should be taken every 4 hours on the dot (8am-12-4-8pm). There is some evidence that 60mg of vitamin E daily improves the V02 max. at altitude, it does not do this at sea level. Soviet coaches also recommend the doubling of the Vitamin B complex at altitude. Taking a comprehensive multi-vitamin and mineral capsule 14 days before and during the stay is a wise precaution.
- 7) There is a lot of controversy about the best time to compete after coming down from altitude. What's best? For years this was a hit-and-miss affair which got altitude training a bad name. The Russians have been going to altitude for 50 years and have solved the issue. Good performances can occur between the FIFTH AND SEVENTH DAY on returning. The worst time is the NINTH day. Performances peak between the NINETEENTH and TWENTY-FIRST DAY. The fifth week after return sees a decline, but between 36 and 48 days after returning, there is a new upsurge in performance.
- 8) Is it true that one can get various afflictions at altitude? These can occur on first visits: Alpine Sickness, inflammation of the trachea, dehydration, sunburn. The taking of the morning pulse in bed first thing in the morning, and then again 60-seconds after rising, should be routine. After a week, the difference between the two will stabilise e.g. 45 in bed, 60 out of bed, a difference of 15. When the difference is greater i.e. 17, this signifies stress and or an infection. **DON'T TRAIN THAT DAY.** Increase the vitamin C intake to 1G morning and night, and take 30mg of zinc. Weighing oneself daily is also a wise routine. A daily slight decline in weight is a warning that one might be dehydrating.
- 9) How often do you think one should go to altitude? Some athletes and coaches seem to think that one visit of 3 weeks at altitude is going to transform them into world-beaters! When this doesn't happen, they give it up. The minimum is 3 weeks before the track season and 3 weeks before the cross country period. Russian women spend 3 weeks up and 8 weeks down, repeated throughout the year, which works out at four times a year.

- 10) What about going to live and train at altitude for 6 months? This depends on the venue. Not much point in going to a place where it's thick with snow and difficult to train. Noakes, the famous South African physiologist, is in favour of athletes living 22-hours at altitude and then travelling down to sea level to train. This seems an ideal situation but, finding a suitable venue and transport for this may prove difficult.

Some Finnish scientists have suggested that long stays at altitude cause muscle wastage. Indeed, the writer, after six-months at altitude definitely lost weight. The answer is to ensure a high carb. diet together with high protein foods (Nuts, fish, dried peas, oatmeal, lentils, beans, wholemeal bread.)

- 11) How would you sum up the benefits of altitude? Don't expect miracles from one visit. The link between world records and previous exposure to altitude by the athletes concerned is beyond doubt. Study the facts carefully. Fine-weather camps have become popular; they should be displaced by altitude training camps. This is the way ahead.

Lecture by Frank Horwill  
BMC training weekend Merthyr Mawr Sept. 2001

## UK Records (compiled by Dave Cocksedge)

800m	men	Yorkshire	1:41.73	Seb Coe
"	women	Middx.	1:56.21	Kelly Holmes
1500m	men	N. & Durham	3:29.67	Steve Cram
"	women	Middx	3:58.07	Kelly Holmes
3000m	men	Warwicks.	7:32.79	Dave Moorcroft
"	women	Bedford	8:26.97	Paula Radcliffe
5000m	men	Warwicks	13:00.41	Dave Moorcroft
"	women	Bedford	14:32.44	Paula Radcliffe
10000m	men	Yorkshire	27:18.11	John Brown
"	women	Bedford	30:26.97	Paula Radcliffe



# BMC Rankings 2001

Performances set in BMC race - compiled by Tim Grose

Men									
800	1:47.5 Andrew Graffin	1:52.1 Ian Munro U20	1:54.13 Ian Salisbury	1:55.93 Bradley Yewer	1:58.0 D Hull	2:00.0 Darren Westlake			
1:47.67 Neil Speaight	1:52.10 Ryan Daville	1:54.22 Richard Weir U20	1:55.94 Jon Hamblen	1:58.00 Matthew Lavis U20	2:00.03 D Morris U17				
1:47.89 Grant Corner AUS	1:52.10 Alister Moses	1:54.24 Richard Davenport U17	1:56.06 Jamie Adkinson U20	1:58.04 Alan Thompson	2:00.03 Alex Phelps				
1:48.27 Grant Cuddy	1:52.11 Ahmed Baloun SAU	1:54.25 Simon Stebbings	1:56.1 Liam Evans	1:58.08 Steve Mosley	2:00.10 Martin Tarney				
1:48.5 Brendan O'Shea IRE	1:52.2 Neil Bangs	1:54.26 Steve Body	1:56.1 Chris Kozanopoulos GRE	1:58.09 Andrew Roberts U20	2:00.18 Stuart Laycock U17				
1:48.5 Ricky Soos U20	1:52.2 Andrew Brown	1:54.3 Scott Sterling	1:56.10 Chris Bentshaw	1:58.1 Duncan Marsden	2:00.2 John Stanford				
1:48.50 Radwan Itane U20 SYR	1:52.2 Gavin Massingham U20	1:54.32 Matthew Jones U20	1:56.15 W Fraser	1:58.10 David Proctor U17	2:00.25 Dave Hall				
1:48.64 Kevin McCarthy AUS	1:52.24 Lee Cadwallader	1:54.32 Matt Simpkins U20	1:56.15 Oliver Myton	1:58.11 Adam Dyson U20	2:00.3 L Hudson				
1:48.66 Mike East	1:52.25 Denis Murphy	1:54.40 Andrew Blair	1:56.19 Graham Godney U17	1:58.14 Aidan Adams	2:00.31 Robert Elmose				
1:48.71 Neil Dougal	1:52.28 Marcus Bridges	1:54.40 Steve Neill	1:56.2 Lee Salter	1:58.2 Russell Shute U17	2:00.44 Rob Anderson				
1:48.85 Gary Vickers	1:52.3 Adam Zawadzki	1:54.41 Daragh McDaid IRE	1:56.21 Robert Laming	1:58.20 Steven Kenyon	2:00.63 Matthew Farmer U17				
1:48.90 Matt Shone	1:52.35 Najib Hlouat	1:54.42 Craig Houston	1:56.26 Rory Smith U17	1:58.22 Kevin Ritchie	2:00.68 Danny Marlow				
1:48.95 Chris Moss	1:52.36 Michael Rimmer U17	1:54.5 Tom Holden U20	1:56.3 Richard Burman	1:58.28 Paul Jones U20	2:00.69 Ben Crossall U20				
1:49.00 Anthony Whiteman	1:52.37 Dominic Cole	1:54.5 Scott McDiarmid	1:56.3 Marilyn Cryer	1:58.3 Simon Hall	2:00.7 Chris Sampson				
1:49.25 Sireli Nalakelekeleses FI	1:52.40 James Bowler	1:54.52 David Ward U17 IRE	1:56.3 Glenn Garrett U20	1:58.31 David Battersby	2:00.7 Andy Smece				
1:49.4 Justin Swift-Smith	1:52.46 Mark Turner	1:54.54 Ryan Priddy U20	1:56.3 Peter Lennon	1:58.35 Gavin Keight U20	2:00.71 M Sinclair U20				
1:49.40 Jason Stewart NZL	1:52.47 Stephen Davies U20	1:54.6 Andrew Franklin	1:56.3 Chris Simmons	1:58.43 M Holt	2:00.74 Nicholas Harren U20				
1:49.41 Alisdair Donaldson	1:52.48 Paul Cooper	1:54.72 Andrew Dean U20	1:56.30 Ken Harker	1:58.45 Ed Alexander	2:00.78 Richard Daniels				
1:49.47 Tom Mayo	1:52.6 Andrew Sherman	1:54.78 Nick Darcy	1:56.4 Craig Heppenstall	1:58.5 Brad Webb U20	2:00.78 Hayden Turner U20				
1:49.62 Rob Watkinson	1:52.69 Kevin Sheppard	1:54.78 Bruce Reeside	1:56.5 Chris Bird U20	1:58.55 Michael Targett U20	2:00.9 Julian Rendell				
1:49.7 Vince Wilson	1:52.7 A Albalawi SAU	1:54.79 Joe Collins U20	1:56.5 Dave MacRae	1:58.56 Julian Day	2:00.92 Andrew Lingard				
1:49.74 Andrew Brown	1:52.7 David Anderson	1:54.79 Ben Hyman	1:56.50 Tim Egerton U20	1:58.56 Stuart Maxwell	2:00.95 Daniel Ryan U17				
1:49.76 Angus Maclean	1:52.7 John Burrell	1:54.8 Lee Crispin	1:56.52 Simon McInyre	1:58.56 Graham Townsend	2:01.04 Paul Parkinson				
1:49.85 Chris Bolt	1:52.7 Sean Kelly	1:54.8 Stephen Holmes	1:56.6 Toby Underdown U20	1:58.6 Matthew Gubbins U17	2:01.08 Danny Whitaker				
1:49.85 Gregg Taylor	1:52.7 Unknown SPA	1:54.8 Jamie McCullagh	1:56.60 Chris Hillier U17	1:58.68 Lewis Gudman U17	2:01.1 Matthew Hart				
1:49.88 Daniel Chemase KEN	1:52.71 Graeme Walker	1:54.8 G Parkinson	1:56.61 Chris Burtenshaw	1:58.68 Chris Lamb U17	2:01.12 Chris Hayes				
1:49.90 Mark Sesay	1:52.75 Stewart Reid	1:54.8 Ben Tackner	1:56.64 Brian Stopher	1:58.68 Nick Leigh	2:01.2 Duncan Blithe U17				
1:49.94 Jonathan Stewart	1:52.89 Gary Richards U20	1:54.8 Raymond Waggitt	1:56.68 Ian Carter U20	1:58.7 Matt Furber U17	2:01.3 S Allan				
1:50.0 Eoin Cummins IRE	1:52.97 Steve Green	1:54.8 Paul Whitlam U20	1:56.69 Ian Hough	1:58.7 Ben Pink U17	2:01.3 Alex Dukers U20				
1:50.00 Andrew Young	1:53.0 Nick McCormick	1:54.82 Joe Corbett	1:56.7 Robin MacIntosh U17	1:58.7 Graham Powell U17	2:01.30 Matt Woods				
1:50.01 Peter Walsh	1:53.0 Richard Blagrove	1:54.90 Richard Waters U20	1:56.7 Lee Slater	1:58.72 Edward Bailey U20	2:01.31 Matthew Collins U20				
1:50.05 James Nairat U20	1:53.01 Mark Glennie U20	1:54.92 Kojo Kyereme	1:56.71 Darren Malin U17	1:58.72 Jamie Buckley U17	2:01.4 Wayne Speake				
1:50.31 Phillip Tulba	1:53.03 Daniel Acheson	1:54.99 Brett Stocks	1:56.78 Adam Watt U17	1:58.78 Chris Toms U20	2:01.43 Alex Felce U15				
1:50.32 Terry Feasy	1:53.04 Adam Davies U20	1:55.00 James Hayden	1:56.8 Chris Burrows U20	1:58.79 Peter Wilson U20	2:01.45 Paul Stockton U17				
1:50.5 Richard Ashe	1:53.09 James Bewtrel	1:55.06 James Sylvester U20	1:56.81 Mark Amdt	1:58.81 Tom Graham	2:01.47 Johnny Howarth U20				
1:50.62 Bradley Donkin	1:53.1 Paul Richardson U20	1:55.09 James Hogg U20	1:56.86 Nigel Wright	1:58.82 Andrew Oldham	2:01.61 Andrew Sims U20				
1:50.65 Richard Garvan	1:53.12 Naph Hlouat MOR	1:55.09 Stefan North	1:56.9 Daniel Stevens	1:58.88 Gareth Robbins	2:01.7 Stephen Nicholls U20				
1:50.7 Stuart Bailey	1:53.13 Damien Moss U20	1:55.1 Tom Carter U20	1:57.0 Chris Smith	1:58.9 Matt Bristow	2:01.94 Gavin Ross				
1:50.75 David Campbell IRE	1:53.18 Unknown SPA	1:55.1 Dean Clark	1:57.0 A Stone	1:58.9 Aaron Lowery U17	2:01.98 Matt Hill				
1:50.8 David Moulton	1:53.21 Paul Ard U20	1:55.1 Wayne Royce	1:57.08 Darfyd Clark	1:58.97 Ben Green U17	2:01.99 Darrell Bellinger U17				
1:50.89 Chris Watson U20	1:53.25 Ian Grime	1:55.10 Jon Guest	1:57.09 Steven Dunn	1:59.0 Richard Clayton U17	2:02.0 Ben Rees U20				
1:50.9 Tim Alexander	1:53.3 Matt Davies	1:55.2 James Wardman	1:57.1 James Boswell U20	1:59.04 Tom Settle U17	2:02.00 Shaun Martin				
1:50.9 Joel Kidger	1:53.3 Edward Jackson U20	1:55.21 Corin Hughes	1:57.1 Hugh Evans	1:59.05 Chris Heam	2:02.00 Karl McCulloch U17				
1:50.9 Richard Ward U20	1:53.3 Adrian McGarva	1:55.22 Andrew Moreton U20	1:57.13 Sam Aldridge	1:59.06 Darrin Grant U20	2:02.03 Matthew Wills U17				
1:50.96 Andrew Fulford U20	1:53.3 Daniel Reader	1:55.25 Robert Goodwin U20	1:57.14 Paul Carron	1:59.06 Michael Sawrey U17	2:02.1 Ian Jelbert U20				
1:51.02 Roger Mosley	1:53.32 Ryan Cox	1:55.25 Phil Winfield U20	1:57.3 Gavin Chatterton	1:59.09 Leon Russell	2:02.12 David Campbell VET				
1:51.03 Steve Rees-Jones	1:53.39 Alex Tanner	1:55.25 Alex Wright U20	1:57.3 Yusuf Harbi	1:59.12 Mark Pollard U20	2:02.18 Oliver Hugby U20				
1:51.14 David Kelly U20 IRE	1:53.4 Simon Roshridge U20	1:55.3 Stefan White	1:57.3 Richard Scott	1:59.15 Tim Grose	2:02.21 Joseph Maynard U20				
1:51.16 Philip Todd	1:53.41 Alan McDougall	1:55.31 Mark Draper U20	1:57.3 Neil Tucker	1:59.2 Phil Clamp	2:02.22 David Boughiey				
1:51.2 Tom Ranger	1:53.43 Martin Airey	1:55.31 Marilyn Jones	1:57.30 Ian Craig	1:59.20 R Male	2:02.27 John Walker U17				
1:51.2 Michael Skinner	1:53.5 Nigel Carlisle	1:55.32 Carl Izard	1:57.31 Jamie Pringle	1:59.20 Gareth Tapper U17	2:02.40 James Latimer				
1:51.29 Noel Edwards	1:53.51 Patrick Davis	1:55.33 Tom Gayle U20	1:57.33 Russell Bentley U20	1:59.25 Stephen Millward	2:02.53 Simon Elliott				
1:51.4 Raymond Adams	1:53.53 Michael Coltherd U20	1:55.35 Chris Clement U20	1:57.36 Steven Carter IRE	1:59.26 Steve Green	2:02.72 David Notman				
1:51.5 Chris Stokes U20	1:53.53 Tom Condy	1:55.39 David Thornton	1:57.44 Jason Atkinson U17	1:59.3 Mark Harris U20	2:02.74 William Devenish U17				
1:51.6 Royston Green U20	1:53.53 Tom Ranger	1:55.4 Andrew Ingle	1:57.46 John Rice	1:59.30 D Jackson U20	2:02.8 Mark Cowen				
1:51.62 Matthew Clarke	1:53.59 Ivan Hollingsworth	1:55.4 Alex Ioannides	1:57.57 Ewen North	1:59.30 Nick Samuels	2:02.91 Unknown				
1:51.7 Rob Hooton	1:53.59 Mark Sanford	1:55.45 Adam Davies U20	1:57.6 Keran Desai U20	1:59.35 Paul Douglass	2:02.97 Robert Poulton				
1:51.7 Greg McEwan	1:53.6 Robert John U20	1:55.50 Oliver Barrett U17	1:57.6 Ben Walfen U17	1:59.36 Adam Lee U17	2:03.0 Alex Bodd U17				
1:51.76 Tom Nimmo	1:53.66 Steve Turville	1:55.52 Matthew Almond	1:57.61 Danny Donohy	1:59.39 Jonathan Farnshaw	2:03.06 Paul Doble U20				
1:51.76 James Tise	1:53.61 Lee Willis USA	1:55.56 Rob Hughes	1:57.61 Lloyd Pritchard U20	1:59.45 Terry Hawkey U20	2:03.16 Gavin Reynolds				
1:51.8 Andy Knight	1:53.64 Chris Reynolds U17	1:55.6 Eddie Betts	1:57.62 Steven Evison U20	1:59.48 Owen Matthews	2:03.2 Jamie Palmer				
1:51.83 Alisdair McLean-Foreman	1:53.68 Huw Jenkins	1:55.6 Alex Ioannides	1:57.67 Gary Slater	1:59.49 K Johnston	2:03.2 Julien Rebdall				
1:51.86 Carl Tipton	1:53.7 Adam Vandenberg U20	1:55.7 Paul Ashley	1:57.69 Richard Mace	1:59.5 Bryan Brett	2:03.43 Simon Lingard U20				
1:51.87 Daniel Hermann	1:53.70 Derek Ryan	1:55.7 Nick Goodliffe U20	1:57.7 D Lewis	1:59.52 Andrew Donaldson U17	2:03.52 Allan Sneddon				
1:51.90 Christopher Lavey	1:53.71 Gareth Hill	1:55.7 Dave Taylor	1:57.7 M Oldham	1:59.55 Matt Warley U17	2:03.6 Will Davemsh				
1:51.95 Ben Cooke	1:53.78 David Cowlishaw	1:55.7 Lee Turner U20	1:57.71 Jamie Pringle	1:59.56 Matthew Vale U17	2:03.7 K Grimes				
1:52.0 Paul Laidler	1:53.8 Robert Seaton	1:55.70 Andrew McKenna	1:57.72 Keiron Murray	1:59.59 Mark Crispey	2:03.8 Frank Braddick U17				
1:52.02 Paul Morby	1:53.80 Christopher Bryan	1:55.70 Mike Roberts	1:57.74 Lloyd Pritchard U20	1:59.6 David Lee	2:04.8 Neville Carr				
1:52.03 Garth Watson	1:53.82 James Scarth	1:55.72 R O'Keefe	1:57.76 Andy Tate U17	1:59.71 Darryl Harnby U17	2:04.0 Anthony Wilson U17				
1:52.04 Karl Henrik Feld NOR	1:53.9 Mark Vidler	1:55.75 Scott Riley	1:57.81 Stephen Kavanagh IRE	1:59.73 Yusuf Haubi	2:04.03 C Barlass				
1:52.04 Conor Sweeney IRE	1:53.91 Andy Prophet	1:55.77 Andrew Morton U20	1:57.85 Tom Doe U20	1:59.78 Abdi Ali U20	2:04.2 Craig Ivory U17				
1:52.08 Simon Deakin	1:53.93 Richard Douce U17	1:55.8 Shagen Omar U17	1:57.9 Mike Peters	1:59.78 Craig Bravington U15	2:04.33 Jon Weaver U20				
1:52.09 Robert Whittle	1:53.97 Ric Sumner	1:55.8 Darren Talbot	1:57.9 Dave Peters	1:59.8 Liam Barton U20	2:04.6 Simon Mitting U20				
1:52.1 Ian Davey U20	1:54.0 Ed Williams	1:55.88 Ihan Summarter	1:57.93 Ian Lawton	1:59.8 Markus Bateman U20	2:04.73 Tim Balsam				
	1:54.01 Russell Slade U20	1:55.89 Chris Taylor U20	1:57.96 P Bradshaw	1:59.80 A Jones	2:04.8 Simon Mirwood				
	1:54.03 Robert Nixon	1:55.9 Thomas Cartwright	1:58.0 Robin Duffly	1:59.82 Stephen Borrill U20	2:04.86 Matthew Gallivan U17				
	1:54.05 Scott Hughes	1:55.9 Steve Cooper	1:58.0 Tom Gunning U20	1:59.82 Iestyn Carr	2:04.9 Tim Bayham				
	1:54.1 Jon Ferguson	1:55.9 John Malone	1:58.0 Philip Hall U20	2:00.0 Tom Jones U20	2:05.0 Matthew Barrett U17				



# BMC Rankings 2001 (continued)

2:05.0 Robin Southcombe U20	2:13.66 Michael Ross	3:48.31 Andrew Sherman	3:54.54 Colin McCourt U17	3:59.4 Gary Richards U20	4:03.78 II Nemisiam
2:05.0 David Stephenson U20	2:14.78 A Steven	3:48.35 Rob Watkinson	3:54.6 Jermaine Mays U20	3:59.44 Richard Hayman	4:03.89 Tim Cook
2:05.07 T Cunningham	2:14.9 Chris Baddick U15	3:48.54 Neil Bangs	3:54.6 Robert Nixon	3:59.52 Ian Harkness	4:03.9 Daniel Yates
2:05.1 Chris Bertle	2:16.15 Steven Lawley	3:48.56 Gavin Thompson	3:54.6 Simon Stebbings	3:59.57 Robert Goodwin U20	4:04.0 Richard Waters U20
2:05.19 Luke Benyon U17	2:16.3 Richard Long U15	3:48.79 Ben Cooke	3:54.68 Detrov Simon	3:59.60 Richard Kinsey U20	4:04.1 Andrew Basey
2:05.20 Steven Quinn U20	2:16.6 Chris Braddick U15	3:48.89 Ivan Hollingsworth	3:54.89 Tom Cordy	3:59.65 Mike Benford	4:04.11 Alan Wales U17
2:05.25 Richard Bough U17	2:16.7 Simon Gilmore U15	3:48.91 Kevin Sheppard	3:55.02 How Lobb	3:59.71 Anthony Brewer	4:04.12 Mark Watson U20
2:05.4 Gary Hawkes U17	2:17.7 Darren Tremble U13	3:48.97 Mike Gregory	3:55.13 David Moulton	3:59.79 Mark Johnston U17	4:04.18 Martin Cairns IRE
2:05.40 Matt Gurmin	2:17.9 T Dreger	3:49.06 Tom Frazer U20 IRE	3:55.28 Mark McKay	3:59.83 Paul Whitlam U20	4:04.4 Simon Anderson
2:05.5 Jamie Ashford	2:18.8 Kevin Mills	3:49.12 Andrew Franklin	3:55.32 Louis Jones	3:59.96 Dave Ragan U20	4:04.42 Aidan Adams
2:05.5 Simon Hintung	2:19.88 Henry Brendon U15	3:49.15 Fiachra Lombard IRE	3:55.32 Simon Macintyre	4:00.0 Kevin Quinn	4:04.69 Liam Barron U20
2:05.7 Matthew Retter U17	2:23.26 Anthony Spoor U20	3:49.21 Stuart Bailey	3:55.35 Tom Gayle U20	4:00.07 Stuart Overthrow	4:04.7 Duncan Marston
2:05.75 Andy Whetstone U17	2:24.5 Aaron Twitchen U17	3:49.22 Ben Tickner	3:55.4 Lee McCash	4:00.1 Andrew Thompson	4:04.72 Tom Jones U20
2:06.1 Jordon Butler	2:24.99 Patrick Brendon U15	3:49.41 Don Nayler	3:55.46 Alex Wright U20	4:00.14 David Jones U20	4:04.82 Robert Tuck U20
2:06.1 Ryan McFarlane U15	2:26.8 Greg Smith U13	3:49.55 Martin Airey	3:55.5 Darren Talbot	4:00.16 Julian Day	4:05.0 Nathan Montague
2:06.2 Dave Barlow VET	2:31.4 Phil Norman U13	3:49.58 James Fewtrell	3:55.54 Andrew Thomas	4:00.2 Tom Doe U20	4:05.00 Richard Burney
2:06.3 Peter Bains U17		3:49.70 Nick Wetheridge	3:55.58 Diarmuid Grant U20	4:00.32 Rory Smith U17	4:05.08 Michael Sawrey U17
2:06.30 D McLelland	<b>1000</b>	3:49.71 Steve Neill	3:55.73 Matthew Clarke	4:00.4 E Van Der Schans U20	4:05.11 Phil Winfield U20
2:06.32 Gary Hawkes U17	2:26.33 Vince Wilson	3:49.79 Robert Smith U20	3:55.83 Mark Draper U20	4:00.47 Dave MacRae	4:05.26 David Webb U20
2:06.37 Terry Craddock	2:27.13 Nick McCormick	3:49.87 Mark Santford	3:55.84 Ian Carter U20	4:00.5 Mark Cowen	4:05.3 Rod Hansen
2:06.37 Thierry Revelle	2:28.34 Malcolm Hassan U20	3:49.90 Kojo Kyereme	3:55.92 Simon Norris	4:00.50 A Jones	4:05.48 Alex Felce U15
2:06.46 D Watson	<b>1500</b>	3:50.0 Matt Stone	3:55.98 Alan McDougall	4:00.55 Sam Coombes	4:05.5 Chris Knights U17
2:06.5 Richard Wallace U17	3:39.27 Tom Mayo	3:50.01 Chris Stoves U20	3:56.02 David Beagley	4:00.58 Paul Miles U20	4:05.5 Lee Salter
2:06.50 Jonathon Mace U17	3:39.47 Mike East	3:50.11 Brian Murray IRE	3:56.07 Craig Wheeler	4:00.59 Anthony Moran U17	4:05.50 Michael Hammer U20
2:06.6 Eddie Brown U15	3:39.80 Andrew Grafton	3:50.12 Rob Berry	3:56.1 Mark Shurland U20	4:00.6 Allan Lee	4:05.67 Stephen Enright U17
2:06.6 A Mitchell U17	3:39.88 Angus Maclean	3:50.19 Steve Vernon	3:56.19 Mark Pollard U20	4:00.6 Craig Pearson	4:05.71 Shaun Pickering U17
2:06.6 Paul Tasher	3:41.04 Yusuf Abdi AUS	3:50.31 Gary Caughlin IRE	3:56.28 Daragh McDaid IRE	4:00.60 Ken Harler	4:05.74 Stephen Whitlam
2:06.7 Bob Minting VET	3:41.75 James Bowler	3:50.38 Tony O'Brien	3:56.29 Detrov Simon	4:00.71 Phil Banks U20	4:05.8 Leigh Slater U20
2:06.70 William Docherty U17	3:41.94 Christian Stephenson	3:50.53 Ray Ward	3:56.32 Christopher O'Connell	4:00.85 Stuart Wilkie	4:05.9 Phil Clamp
2:06.79 Ben Harding U15	3:42.58 Richard Ashe	3:50.59 Kevin Farrow	3:56.37 Antony Ford U20	4:00.87 Mike Colligan	4:05.92 Nick Samuels
2:06.8 Brent Regler U20	3:42.73 Gregg Taylor	3:50.6 Kevin Hayes	3:56.43 Matthew Almond	4:00.87 Oliver Myton	4:06.08 Adam Wareing
2:06.82 Frank Baddick U17	3:42.77 Simon Lees	3:50.74 Dave Minchinson	3:56.44 Richard Sinclair	4:00.89 James Hogg U20	4:06.14 Roger Mullins
2:06.87 Nathan Coleman-Farrow U20	3:42.81 Vince Wilson	3:50.86 Andrew Renfree	3:56.46 Jeremy Bradley	4:00.9 Gary Bostock	4:06.28 Steve Kember
2:06.93 Chris Hockin U17	3:43.29 Adam Zawadzki	3:50.87 Robert Whittle	3:56.47 Martin Whitehouse	4:00.9 Colin Hawkins U20	4:06.43 Ian Hobdall
2:07.1 Richard Wallace U17	3:43.55 Chris Thompson	3:50.91 Ewen North	3:56.5 Colin Miles	4:00.97 Mark Harris U20	4:06.57 Ryan Armstrong U17
2:07.12 Graham Welsh	3:43.84 Mike Power AUS	3:51.00 Paul Freary	3:56.5 Denis Murphy	4:01.02 Simon Kosbridge U20	4:06.6 Stuart Laycock U17
2:07.2 Luke Evans U20	3:43.85 Conor Sweeney IRE	3:51.05 Carl Tipton	3:56.52 Peter Walsh	4:01.05 Unknown SPA	4:06.67 John Rice
2:07.2 Simon Rule	3:44.09 Steve Rees-Jones	3:51.09 Matthew Bowser U20	3:56.53 Simon Plummer	4:01.20 Jonathan Powell U20	4:06.9 Wayne Dasher
2:07.2 Jamie Smith U20	3:44.26 Colin McLean IRE	3:51.11 John Burrell	3:56.59 Andrew Walling	4:01.21 Chris Parr U17	4:06.92 Chris Hearn
2:07.2 Ian Stuart	3:44.51 James Thur	3:51.18 Bradley Yewer	3:56.67 Craig Wheeler	4:01.27 Eugene O'Neil IRE	4:06.95 B Mooney
2:07.3 Joe Holden	3:44.55 Simon Deaton	3:51.23 David Cowlishaw	3:56.63 Tom Penfold U20	4:01.29 Terry Hawkey U20	4:07.2 Daryl Hards U20
2:07.6 Dale Wilkinson	3:44.62 Alister Moses	3:51.33 Derek Watson U20	3:56.69 Alex Tanner	4:01.34 Colin Hughes	4:07.25 Darrell Hards U20
2:07.7 Iain Stewart	3:44.82 Philip Todd	3:51.37 Steve Murphy U20	3:56.7 Tom Grady	4:01.46 Daniel Robinson U17	4:07.3 Dave Norman
2:07.78 Martin Turnbull U20	3:44.96 Richard Ward U20	3:51.4 Mark McIntosh U20	3:56.7 Andy Mitchell	4:01.56 Phil Nicholls U20	4:07.4 Wayne Speake
2:07.8 George Miller	3:45.30 Tom Ranger	3:51.4 Scott Sterling	3:56.75 Adam Dyson U20	4:01.6 Matthew Lavis U20	4:07.47 Simon Panther
2:07.8 Kevin Pye	3:45.33 Steve Sharp	3:51.42 Martin Hilton	3:56.8 Gordon Taylor	4:01.6 Gary Slater	4:07.60 Ed Alexander
2:08.0 Tim Atkins	3:45.49 Paw Nielsen DEN	3:51.43 Martyn Cryer	3:56.84 Kerr Johnstone U20	4:01.60 Chris Warburton U20	4:07.63 Daniel McCarthy U20
2:08.0 Tom Marley U15	3:45.66 David Byrne AUS	3:51.60 Jonathan Earnshaw	3:56.85 Steve Abbit U20	4:01.66 Carl Convey U20	4:07.68 Andrew Oldham
2:08.08 Lee Cassidy	3:45.67 Chris Bolt	3:51.83 Bradley Donkin	3:57.0 Simon Marwood	4:01.68 Darren Malin U17	4:07.79 Andrew Kilding
2:08.2 Richard Lang U15	3:45.82 Christopher Livesey	3:51.96 Adrian McGarva	3:57.04 Gordon Lee	4:01.70 Chris Bertenshaw	4:07.89 Robert Poulton
2:08.26 Chris Sargent U17	3:45.92 Rod Finch	3:52.0 Ben Jeffries	3:57.04 Ben Wiffen U17	4:01.75 Luke Gunn U17	4:08.04 Tim Crossland
2:08.4 Mark Linskill	3:46.04 Julian Moorhouse	3:52.05 Martin Fagan IRE	3:57.17 Owen Matthews	4:01.85 Russell Forsbrook	4:08.23 Daniel Gurrin U20
2:08.49 Miles Hamilton U17	3:46.1 Mohamed Farah U20	3:52.2 James Fitzsimmons	3:57.24 Chris Kouzoupis GRE	4:01.85 Tom Holden U20	4:08.26 Tom Bailey
2:08.74 Stephen Matthews U17	3:46.10 Matt Smith	3:52.20 Dave Minchinson	3:57.44 Sam Aldridge	4:02.02 Stuart Maxwell	4:08.4 Gareth Robbins
2:08.8 D Jones	3:46.10 Ben Whitby	3:52.52 Steffan North	3:57.45 James Williams	4:02.04 Andrew Pickett U20	4:08.5 J Stephenson U20
2:08.8 Anthony Yates U20	3:46.13 Patrick Davoren IRE	3:52.58 Rosslyn Green U20	3:57.5 Russell Slade U20	4:02.05 Matt James U20	4:08.77 Lawrence Carby
2:09.0 Chris Segrant U17	3:46.24 Justin Swift-Smith	3:52.63 Matt Skelton	3:57.50 Ian Boncham U20	4:02.18 Kevin Nash	4:08.98 James Scath
2:09.1 Hamish Roberson	3:46.32 Stuart Stokes	3:52.7 John Wilkie	3:57.62 Chris Reynolds U17	4:02.2 Stephen Holmes	4:09.20 Paul Erwood U17
2:09.1 Tom Stanley U15	3:46.44 Richard Girvan	3:52.75 John Mooney	3:57.62 Chris Reynolds U17	4:02.21 Abdi Ali U20	4:09.4 James Mitchell U15
2:09.22 Chris Mulroy U17	3:46.46 Mark Miles	3:52.77 Robert Maycock	3:57.78 Ian Lawton	4:02.21 Kevin Hope	4:09.59 Chris Minor U17
2:09.3 Matt Mills U15	3:46.49 Ian Grime	3:52.79 Brett Stocks	3:57.80 Neil Garmeter U20	4:02.26 Russell Shute U17	4:09.81 Alan Wray
2:09.34 Paul Preddy	3:46.55 Phillip Talba	3:52.88 Oliver Laws	3:57.87 Matthew Raw	4:02.27 Simon Everington	4:09.85 Simon Manning U20
2:09.39 Michael Short U17	3:46.70 Ricky Soos U20	3:52.96 Mark McIntosh U20	3:57.90 Russell Pitman	4:02.29 Patrick White U20 IRE	4:09.9 Ben Cox U17
2:09.42 Tim Wallis U17	3:46.77 David Anderson	3:53.0 Matt Dixon	3:58.17 Darren Westlake	4:02.4 Andrew Mand	4:09.90 Donald Macauley U20
2:09.8 Robboe Hawkins U17	3:46.84 Nick McCormick	3:53.0 Andrew Fulford U20	3:58.3 Neil Tucker	4:02.4 Tom Snow U17	4:10.0 Matthew Barnes-Smith U17
2:09.92 James Harvey U20	3:47.13 Sam Haughan	3:53.10 Raymond Waggitt	3:58.4 James Sylvester U20	4:02.49 Lewis Cadman U17	4:10.07 James Ellis U17
2:10.0 Steve Cloves	3:47.13 Steve Sharp	3:53.11 Andrew Brown	3:58.45 Peter Kellie U20	4:02.5 Paul Shaw U20	4:10.4 Matt Armstrong U17
2:10.1 John Bailey	3:47.17 Michael Skinner	3:53.21 Scott Overall U20	3:58.47 Martin Flook	4:02.77 Steffan White	4:10.5 Richard Burman
2:10.2 Laurence Cox U15	3:47.21 Matthew O'Dowd	3:53.48 Andrew McKenna	3:58.5 Chris Simmons	4:02.94 Alan Turnbull	4:10.5 Steve Edmonds
2:10.29 Alasdair Stewart U17	3:47.27 Gareth Price	3:53.58 David Reader	3:58.60 Mark Shankey U17	4:03.0 Barry Stephenson	4:10.6 Jeff Kettle
2:10.51 James Lambourne U17	3:47.29 Robert Scanlon	3:53.79 Andrew Norman	3:58.70 Paul Farmer	4:03.0 Alaster Stewart	4:10.7 Steve Ames U17
2:10.66 Neal Thorpe U20	3:47.57 Gary Murray IRE	3:53.83 Roger Motley	3:58.79 Robert Barton U20	4:03.00 Alan McCormack U20 IRE	4:10.76 Unknown SPA
2:10.88 Gavin Stokes U15	3:47.65 Steve Green	3:54.0 Tom Carter U20	3:58.8 Stuart Major	4:03.16 Phil Williams U17	4:10.8 Smart Hall
2:10.9 Nicolas Phillips U15	3:47.70 Jon Widd	3:54.0 Raymond Waggitt	3:58.9 Andrew Brown	4:03.27 Richard Mabstead	4:10.88 Alistair Smith U20
2:11.5 J Holman	3:47.94 James Fewtrell	3:54.11 Andrew Brown	3:59.19 Rob Hughes	4:03.3 Neil Cox	4:11.1 David Wilkinson
2:11.62 Ross Pivett U15	3:47.97 Matthew Jones U20	3:54.21 Scott Overall U20	3:59.20 Gareth Klepacz	4:03.3 Mark Crispey	4:11.46 Toby Gosnell
2:12.3 Luke Bone U15	3:48.06 Steve Body	3:54.3 Jason Ward	3:59.3 James Tydeman U20	4:03.4 David Nolan	4:11.5 James Conner
2:12.56 Calum Morrison	3:48.15 Ed Prickett U20	3:54.4 Edward Jackson U20	3:59.32 Simon Burton	4:03.48 Nigel Wright	4:11.75 James Horsman U17
2:13.0 Gareth Massey U17	3:48.27 Adam Bowden U20	3:54.40 Terry Feasey	3:59.39 Andy Barber	4:03.66 Nick Leigh	4:11.9 Ian Jelbert U20
2:13.60 Robert Bates U15	3:48.29 Nick Goodfellow U20	3:54.46 Lee Turner U20	3:59.4 Tom Naylor	4:03.71 Duncan Marsden	4:11.9 Robin Southcombe U20



# BMC Rankings 2001 (continued)

4:12.5	High Evans	4:35.4	Bob Minting VET	8:23.97	Stephen Hepples	13:43.40	Glyn Tromans	28:31.33	Glyn Tromans	<b>Women</b>	
4:12.62	Ian Murray	4:35.5	John Anderson U20	8:28.35	Francois Van Rensburg RSA	13:45.16	Boaz Kissang KEN	28:39.33	Jon Wild	<b>800</b>	
4:12.7	Chris Ramsey U17	4:37.05	Martin Taylor U20	8:29.0	Neal Miller	13:46.35	Chris Thompson	28:40.14	Gen Stewart	2:03.9	Alex Vaughan
4:12.74	Steve Howarth	4:37.1	Nathan Keithley	8:29.15	Steve Murphy U17	13:46.55	Sam Haughan	28:40.63	Ian Hudspith	2:04.9	Alex Carter
4:12.8	Stephen Nicholls U20	4:37.26	Laurence Cox U15	8:29.4	Daniel Simons	13:51.75	Julian Moorhouse	28:40.82	Jean-Philippe	2:04.94	Allison Curbishley
4:13.1	Mark Warley U17	4:39.2	Richard Wallace U17	8:29.53	Mark Draper U20	13:53.77	Nick Wetheridge	28:42.73	Christian Nemeth BEL	2:04.97	Sally Evans
4:13.3	George Miller	4:39.3	Stephen Grainger	8:30.17	Dan Dalmedo	13:56.31	Mohamed Farah U20	28:43.45	Man Smith	2:05.01	Emma Davies
4:13.5	Lee Boswell U20	4:39.9	Matt Briggs U15	8:30.43	Conor McGee IRE	13:56.44	Guy Arnos	28:46.70	Rob Denmark	2:05.05	Rebecca Lyne U20
4:13.58	Chris Lamb U17	4:40.4	Paul Bridgman U15	8:30.5	Peter Clarke	13:58.88	Craig Killowood NZL	28:48.03	Peter Matthews IRE	2:05.29	Moirá Prendeville IRE
4:13.65	Tommy Davies U17	4:40.4	Paul Bridgman U15	8:30.9	Steve Kellie U20	14:01.86	Tony O'Brien	29:22.22	Dave Taylor	2:05.50	Helen Pattinson
4:13.74	Craig Ivemy U17	4:41.5	Jon Rackstraw U20	8:31.3	Andrew McKenna	14:02.66	Steffan White	29:28.70	Tony O'Brien	2:05.8	Jennifer Meadows
4:13.8	Mark Hood U20	4:41.55	Guy Henderson	8:31.3	Scott Overall U20	14:03.50	Ian Hudspith	29:31.98	Daniel Robinson	2:05.86	Charlotte Moore U17
4:13.89	Gary Davernport U17	4:41.85	Paul Jastrzebski U17	8:31.3	Pho Banks U20	14:04.51	Christian Nicolson	29:33.94	Andy Caine	2:06.32	Adrienne McIvor IRE
4:13.98	Peter Hryniewiecki U17	4:43.21	Denholm Elvin U17	8:33.18	Andrew Ingle	14:06.22	Pablo Angulo SPA	29:34.10	Robert Gould	2:06.37	Aoife Byrne IRE
4:14.0	Jamie Pascoe	4:44.15	Alex Croucher U20	8:33.73	Louis Jones	14:08.14	Dave Taylor	29:45.31	Alan Buckley	2:06.62	Jemma Simpson U20
4:14.4	Steven Gascione	4:46.30	Sam Evans U17	8:34.85	Mike Coleman	14:09.41	Stephen Hepples	30:40.52	Simon Cotton	2:07.1	Olivia Hines U20
4:14.58	Gavin Chatterton	4:46.50	Robbie Dale U15	8:36.61	Chris Sadler	14:11.42	Andy Caine	30:51.12	Stuart Major	2:07.24	Ellie Childs U20
4:14.6	John List	4:48.07	David Wall U15	8:36.70	Ian Boneham U20	14:12.50	Mark Hudspith	31:16.84	Richie Gardiner	2:07.42	Susan Crook
4:14.65	Graham Russ U17	4:48.7	Aaron Twitche U17	8:39.22	Cathal Lombard IRE	14:13.29	Alan Buckley	31:18.80	Will Levett	2:07.8	Sarah Bull
4:15.05	Steven Kamber	4:50.80	Greg Smith U13	8:39.53	Andrew Sherman	14:13.60	Matt Smith	31:39.25	Andrew Norman	2:08.33	Sarah Knights
4:15.08	Mas Lacey U17	4:53.2	Keith Reardon U20	8:39.9	Dave Rickett	14:16.24	Gareth Raven	30:45.34	John Downes IRE	2:08.57	Sarah Bouchard
4:15.4	Patrick Martin U17	4:53.71	Matthew Head U17	8:41.34	Steve Abbott U20	14:18.53	Steve Sharp	30:40.52	Simon Cotton	2:08.65	Maria Lynch IRE
4:15.53	Joe Chambers	4:54.01	David Smith U15	8:41.8	P Rogers	14:19.14	Dave Mitchinson	30:51.12	Stuart Major	2:08.7	Kate Reed U20
4:15.8	Ben Harding U15	4:54.86	Andrew Cochran U17	8:42.29	Sullivan Smith	14:19.31	Joe McAllister IRE	30:51.12	Stuart Major	2:08.81	Natalie Lewis U20
4:15.87	Nick Hillier U17	5:00.2	Kelly Borthwick	8:42.6	Matt James U20	14:19.90	Don Naylor	4:45.24	Ian Revell U17	2:08.85	Donna Riding U20
4:16.5	Paul Sommer U17	5:00.4	Ian Humphries	8:43.5	B Wells	14:25.8	Simon Deakin	4:47.71	Andrew Ellis U17	2:08.88	Faye Fullerton U20
4:16.6	Peter Gouak U20	5:01.5	Joshua Garner U13	8:44.59	Frank Tickner U20	14:26.60	Patrick Davoren NZL	4:47.71	Andrew Ellis U17	2:08.88	Katrina Wootton U17
4:16.6	Chris Stokoe U20	5:01.5	Ashley Rammer U13	8:45.81	G O'Hanlon IRE	14:26.84	Patrick Davoren IRE	4:50.0	John Selly-Sly U20	2:09.07	Linda Straines VET
4:16.8	Wayne Roye	5:13.0	L Bridgeman U17	8:46.12	Shugli Omar U17	14:27.7	Oliver Laws	4:55.05	Michael Kilmartin U17	2:09.27	Carolina Nylen SWE
4:17.3	Adam Davies U20	5:16.1	Simon Gill U13	8:46.36	Carl Conroy U20	14:28.20	Ian McCash	4:56.82	David Phillips U17	2:09.4	Joy Wright
4:18.5	Steve Loughton USA	5:22.0	Tom Graser U15	8:46.74	Ahmed Ali U17	14:29.08	Lee Grime	5:05.1	Marc Linton U17	2:09.41	Debbie Gunning
4:18.52	Steven Quinn U20			8:47.49	Andrew Pickett U20	14:31.21	Richie Gardiner			2:09.49	Joanna Ross
4:18.89	Phil Hennessy			8:48.36	Jem Spragg U17	14:31.72	Peter Grimme			2:09.69	Rosen Quinn
4:19.4	Mike Feighan			8:48.46	Jem Spragg U17	14:33.99	Paul Pickett U20			2:09.8	Karen Johns IRE
4:19.40	Karl McCulloch U17			8:50.81	Neilson Hall U20	14:34.5	Edel Robinson			2:10.00	Barba Parker
4:19.83	Stephen Olekay U17			8:52.03	Tom Fahy U17	14:35.26	Tom Hart			2:10.02	Bey Blakemans
4:20.24	James Fooks-Bald U20			8:52.1	Abdi Ali U20	14:38.15	Ben Fish U20			2:10.04	Lorraine Phillips
4:20.47	Gavin Smith U17			8:52.3	Paul Moore	14:38.15	Stuart Martin			2:10.2	Michelle Thomas
4:20.64	Jamie Smith U20			8:53.67	Martin Flook U20	14:38.7	Martin Fagan IRE			2:10.3	Lisa Dobrinsky
4:21.2	Paul Dable U20			8:53.77	Ian Cunningham	14:38.7	Martin Fagan IRE			2:10.50	Paul-Francis Larkin IRE
4:22.09	Richard Holland VET			8:54.20	Matthew Bell	14:40.80	Andrew Swearman			2:10.67	Anna Marie
4:22.58	Hamish Robertson U15			8:54.25	Tim Grose	14:42.66	Jessome Brooks			2:10.70	Kathryn Sage
4:23.14	Alex Badd U17			8:54.7	Paul Moore	14:43.50	Mite Hill			2:10.9	Suzanne Hasley VET
4:23.23	Luke Scott U17			8:55.27	Martin Graham	14:45.63	Nick Goodfote U20			2:10.97	Sandra Androsu VET
4:23.51	Brendan McDaid M40 IRE			8:57.05	John List	14:48.31	Martin McKenna			2:10.92	Claire Raven
4:23.95	Mytes Haddoworth U20			8:57.42	Matthew Barnes Smith U17	14:48.9	Andrew McKenna			2:11.0	Claire Entwistle
4:25.0	Frank Baddick U17			8:57.95	Sean Saunders	14:50.04	Steve Cairns			2:11.05	Kate Brennan U20
4:25.21	Jake McCulloch U15			8:58.91	Steve Grace	14:50.57	Jonathan Phillips			2:11.10	Nasha Drea U20
4:26.15	Louis Spencer U17			9:00.02	Shaun Dixon U20	14:52.70	Andy Barber			2:11.2	Celia Brown
4:26.29	Daniel Evans U17			9:00.02	Shaun Dixon U20	14:55.5	Andrew Norman			2:11.2	K Renad
4:26.4	Andrew Elias U17			9:01.11	Neil Gunstone	14:55.85	Francois Van Rensburg SA			2:11.45	Karen Hill
4:27.1	Paul Evans			9:02.04	Andrew Toward U20	14:54.5	Phil Nicholls U20			2:11.6	Lucy Jones U20
4:27.4	Rafael Baspo			9:02.17	Marv Overth	14:54.98	Matthew Jones U20			2:11.63	Louise Whitaker U20
4:27.48	Alex Sheppard			9:09.01	Stuart Hobbrow	14:55.6	Dave Norman			2:11.77	Rachael Thompson U17
4:28.31	Antony Morris U17			9:09.3	Alex Felce U15	14:59.9	William Sprake			2:11.7	Louisa Wood
4:28.36	Ben Austin U17			9:09.63	Tom Snow U17	15:00.20	Mike Colligan			2:11.77	Charlotte Best U17
4:29.0	Anthony Wilson U17			9:11.64	Robin Southcombe	15:00.21	Tom Sharland U20			2:11.9	Kim Huffman
4:29.01	Matthew Leslie U15			9:14.23	Peter Fimmen U17	15:02.24	Alister Russell			2:11.9	Jenny Smith U20
4:29.1	Andrew Butterworth IRE			9:23.67	Gary Hughes U17	15:02.4	Robert Wade U20 IRE			2:11.91	Shirley Griffiths
4:29.24	Rory Walker U17			9:25.35	Chris Ward U17	15:04.3	Allan Lee			2:12.00	Maria Sharpe
4:29.30	Andrew Bradley U20			9:27.15	Will Joyce	15:04.36	Dan Dalmedo			2:12.18	Alice Butler
4:30.43	Owen Vale U15			9:29.23	Mick McGeech	15:04.48	Anthony Brewer			2:12.20	Tina Wides
4:30.6	Jonathan Davis			9:33.43	Jonathan Crisp U20	15:11.23	Billy Richardson			2:12.26	Vicki Rolfe
4:30.7	Chris Sergeant U17			9:33.94	James Altard U20 AUS	15:20.91	Martin Graham			2:12.39	Danielle Woods U17
4:30.9	147ewett U17			9:42.82	Ashley Humphreys U17	15:22.1	John Archer			2:12.4	Con Mitchell U20
4:31.20	Colin Light U17			9:47.39	Richard Bensley U17	15:23.9	Andrew Kidding			2:12.42	Jule Barnett
4:32.1	Stuart Boon U17			9:47.6	Tom Otton	15:25.03	Frankie Tonner			2:12.52	Emily Heath U17
4:32.23	Tom Fares U17			9:52.9	Rich Westman	15:25.6	Ged Hull			2:12.55	Hayley Bradshaw
4:32.4	Matthew Retter U17			10:02.37	Barry Johnstone	15:27.9	Rory Byrne IRE			2:12.7	Sarah Pickering U20
4:32.7	David Woodfield U15			10:03.85	Jesper Kallehagne	15:28.62	Matthew Jones U20			2:12.85	Lois Brooks U15
4:33.0	Andrew Boothfield U15			10:23.61	Ferdard Johnson U17	15:29.64	Alan MacPherson			2:12.89	L Whigham
4:33.2	David Woods U15					15:31.94	Paul Moore			2:12.90	Leslie Clarkson
4:33.4	Matthew Cole U17					15:49.42	Tim Grose			2:12.90	Dominique Oughton
4:33.9	Nigel Doyle					15:57.97	Lee Siemaszko			2:13.15	Sue Crisley
4:34.2	Michael Wiener U17					16:31.25	Tom Elliott			2:13.15	Sharlene Snelgrove U20
4:34.3	Chris Baddick U15					16:53.9	Rich Westerman			2:13.21	Catherine Riley U20
4:34.4	Luke Evans U20									2:13.4	Chaire Robson U20
4:34.4	Tom Marley U15									2:13.43	S Andrew
4:34.4	Anthony Yates U20									2:13.44	Jo Wilkinson





# BMC Rankings 2001 (continued)

2:13.71	Laure Cossey	2:20.1	Laura Kenny	2:37.6	Karen Cornwall	4:36.66	Wendy Farrow	4:52.6	Danielle Cross U17	9:20.95	Ann Marie Hutchinson
2:13.78	Jenny Mockler U20	2:20.16	Nicky Hasteney	2:37.6	Jeanne Leighton U15	4:37.51	Esther Evans	4:52.81	Emma Pallant U13	9:21.36	Juliet Potter
2:13.86	Jenna Hill U17	2:20.2	Alice Naylor	2:38.20	Liz Lingard U17	4:37.74	Emma Whitaker	4:52.87	Katharine Uphill U15	9:24.49	Diane Hennigan
2:13.91	Debbie Jones	2:20.3	Julia Bleasdale	2:41.07	Sarah Willcock U17	4:37.83	Ursula Counsel U20	4:54.1	Catherine Humphries U17	9:35.30	Catherine Dugdale
2:14.11	Alexa Joel U20	2:20.30	Ava Hutchinson U20	2:47.00	Amy Lake U15	4:38.25	Ruth Brown	4:54.2	Lucy Howarth U15	9:35.46	Danielle Barnes U17
2:14.35	Isabelle Stoute U17	2:20.4	Ruth Brown	2:47.71	Heidi Burdett U17	4:38.29	Liz Proctor	4:54.2	Lucy Howarth U15	9:40.49	Kelly Wilder USA
2:14.52	Sara Luck U15	2:20.5	Rosalind Cockett U17	2:51.82	Laura Davidson U15	4:38.4	Tina Wales	4:54.51	Emily Pidgeon U13	9:40.95	Sonia Thomas
2:14.6	Lauren Deadman U20	2:20.5	Kelly Rodmell	2:52.51	Kayleigh Mulroy U17	4:38.44	Charlotte Browning U15	4:54.65	Rachel Ost U17	9:48.60	Ruth Brown
2:14.6	Helena Robey U20	2:20.51	Sarah Holah U17			4:38.46	Bryony Frost U20	4:55.14	Non Stanford U13	9:49.86	Claire Smallwood
2:14.60	Hannah Whitmore U20	2:20.64	Helen Barnes	<b>1500</b>		4:38.5	Elena Stevens	4:55.16	Hannah England U15	9:50.23	Deirdre Byrne U20 IRE
2:14.68	Charlene Snelgrove U20	2:20.79	Kelly Turner	4:11.99	Kelly Caffet	4:38.52	Helen Bebbington	4:55.44	Amie Booth U17	9:50.74	Dorothy Lee
2:14.72	Emma Grant	2:20.81	Maggie Powell U17	4:12.55	Susan Muthoni KEN	4:38.62	Karen Hill	4:55.5	Gemma Mars	9:53.90	Courtney Birch U17
2:14.9	Sally Read-Cayton VET	2:20.9	Leonie Smith U15	4:13.02	Kerry Smithson	4:38.9	Lisa Cater U20	4:55.58	K Munn	10:00.62	Charlotte Coffey
2:14.98	Kathryn Waugh	2:20.98	Charlotte Jackson U17	4:13.68	Sarah Bull	4:39.1	Rachel Bulker	4:55.60	Connie Crone U15	10:02.71	Paula Gowling
2:15.0	Chaire Robinson	2:21.00	Rachael Driver U17	4:14.01	Rachel Newcombe	4:39.58	Leonie Smith U15	4:56.03	Aime Hoban U20	10:03.24	Michelle Speller
2:15.01	Vicki Andrews	2:21.10	Liz Lilley U20	4:14.65	Maria Lynch IRE	4:39.83	Paula Gowling	4:56.07	Gemma Viney U20	10:05.61	Victoria Kenny U20
2:15.27	Bernadine Pitcher	2:21.2	Sarah Purvis U20	4:16.61	Niamh Beirne IRE	4:40.14	Liz Lilley U20	4:56.2	Leanne Cross U15	10:11.27	Ursula Counsell U20
2:15.3	Michelle Harvey U20 IRE	2:21.36	C Wynn	4:16.61	Frida Davoren IRE	4:40.34	Louisa Wood	4:56.4	E Austin	10:16.16	Abigail Wilshire U20
		2:21.39	Stephanie Reynolds U17	4:16.95	Susan Muthoni KEN	4:40.56	Barbara Parter	4:57.1	Liz Crawford	10:19.68	Alison Dixon
2:15.30	Jessica Woolley	2:21.45	Joanne King	4:18.36	Ann-Marie Larkin IRE	4:40.58	Rosanna Iannone	4:57.11	Louise Darman U15	10:27.50	D Murray
2:15.37	Jessica Nugent U20	2:21.5	Eloise Pittwood U17	4:18.68	Angela Newport	4:40.9	Grace Greenhalgh	4:57.32	Emily Collinge U15	10:28.15	Katharine Humphries U17
2:15.48	C Bacon	2:21.86	Dawn Monerette CAN	4:19.29	Ellen Leggate	4:41.0	Suzanne Hasler U20	4:57.6	Stacy Fairhead U17	10:31.75	Laura Johnson U20
2:15.50	Gemma Hill U17	2:21.9	Natalie Real U15	4:21.37	Sharon Morris	4:41.10	Abigail Wilshire U20	4:58.29	Tabu Gill U17	10:37.04	Danielle Cross U17
2:15.59	Camilla Waite	2:21.99	Chaire Holland U17	4:21.47	Zoe Jelbert U20	4:41.48	Emily Ferenczi	4:58.29	Lucy Ferguson U15	10:39.4	Emily Pidgeon U13
2:15.7	Sarah Herbert U20	2:22.05	Helen Hudson U17	4:21.76	Alex Carter	4:41.9	Rachel Gibney	4:58.53	Susie Hignett U17	10:49.01	Sarah Herbert U20
2:15.97	Alison Hurford VET	2:22.2	Georgina Radrough U15	4:22.58	Jo Wilkinson	4:41.93	Ceri Mitchell U20	4:58.54	Samantha Stewart U20	11:02.16	Linda Ansell VET
2:15.97	Sara Stevenson	2:22.6	Danielle Cross U17	4:22.61	Hayley Owens	4:41.99	D Smith	4:59.79	Dawn Monerette CAN	11:11.17	Aimee Davies U17
2:16.14	Lynsey Jepson U15	2:22.9	Rosie Saunders U17	4:22.72	Debbie Sullivan	4:42.21	Alli Crossman VET	5:00.18	Veronique Pittwood U15		
2:16.17	Kirsty Baird	2:23.1	Cooney Crone U15	4:22.76	Faye Fullerton U20	4:42.39	Kerry Clarke	5:00.2	Eleanor Woods U20	<b>5000</b>	
2:16.2	Liz Canwell	2:23.20	Tiffany Hinton	4:23.07	Charlote Moore U17	4:42.57	Katharine Frost U20	5:00.82	Luz Hiscocks U15	15:50.36	Hayley Yelling
2:16.2	Georgie Parnell U20	2:23.1	V Arrand	4:23.08	Deirdre Byrne U20 IRE	4:42.58	Heather Gordon U20	5:01.86	Sharon Marshall	15:54.9	Amanda Parkinson
2:16.3	Laura Nurse U17	2:23.6	Nicola Fifield U20	4:23.10	Liz Yelling	4:42.76	Emma Satterly	5:01.87	Lynsey Morris U20	15:57.32	Angela Newport
2:16.38	Eleanor Baker U20	2:23.63	F Aston	4:23.13	Ann Marie Hutchinson	4:43.05	Celia De Maria	5:01.87	Lynsey Morris U20	15:57.4	Juliet Potter
2:16.4	Catherine Humphries U17	2:23.67	Alice Cotinho U20	4:24.41	Debbie Gunning	4:43.23	Melanie Boon U20	5:02.0	Gillian Dunleavy	16:04.1	Karen Hind
		2:23.78	Krista Carlidge U17	4:24.86	Natalie Lewis U20	4:43.47	Jane Horner	5:02.2	Linda Ansell VET	16:10.26	Bev Jenkins
2:16.57	Helen Zenner U20	2:23.78	Louise Collier	4:25.34	Jo Anker U20	4:43.6	Emma Grant	5:02.3	Katie Grimshaw U20	16:14.0	Bennie Lanyon NOR
2:16.8	Ruth Chadney U17	2:23.81	I Robertson	4:25.65	Jilly Ingham	4:43.69	Isabelle Stoute U17	5:03.20	Sian Kirk U17	16:22.24	Gillian Palmer
2:16.80	Gemma Jones U17	2:24.4	Bethan Strange U15	4:25.91	Hayley Yelling	4:43.91	Benita Johnson U17	5:03.76	Hayley Rule	16:23.3	Maria McCambridge IRE
2:16.9	Mary Edwards VET	2:24.5	India Lee U15	4:26.05	Pauline Thorn	4:44.33	Eleanor Baker U20	5:04.22	Georgina Purze U15	16:24.75	Penny Thackray
2:16.95	Lisa Cater U20	2:25.05	Tara Pusey	4:26.13	Gillian Palmer	4:44.33	Amanda Jones U17	5:04.9	Aimee Davies U17	16:29.59	Jodie Swallow
2:17.2	Rachel Jablonski	2:25.07	Laura Tanner U15	4:26.4	Tara Krzywicki	4:44.38	Unknown SPA	5:05.0	Sarah Wallcott	16:30.7	Sheila Fairweather
2:17.3	E Austin	2:25.52	Victoria Mason U17	4:27.17	Louise Whittaker U20	4:44.41	Josephine Rhodes U17	5:05.77	Sadie Cramis U20	16:32.60	Leslie Patterson
2:17.3	Ellen Butler	2:25.6	Amy Randle	4:27.45	Katie Brennan U20	4:44.50	Joanne King	5:05.8	Charlotte Aberlehen U15	16:37.42	Catherine Dugdale
2:17.3	Laura Johnson	2:25.66	Laura Whitehead U15	4:28.09	Niamh Beirne IRE	4:44.6	Emily Adams U17	5:05.9	Brenda Fear	16:38.2	Vanesa Vegas SPA
2:17.36	Laura Johnson U20	2:26.00	Nicola Bartholomew U15	4:28.32	Sarah Broochard	4:44.89	Michelle Speller	5:05.93	Megan Jones U17	16:38.53	Jilly Ingham
2:17.62	Rosanna Iannone			4:28.56	Jane Potter	4:45.02	Helen Glover U17	5:06.19	Sarah Ponsford U15	16:43.9	Unknown SPA
2:17.62	Stacey Ward U17	2:26.36	Jacy Copley U17	4:28.71	Sally Evans	4:45.08	Alison Hurford VET	5:06.71	Amy Tanner U17	16:48.6	Charlotte Sanderson
2:17.72	Rachel Roodberry	2:26.99	Simon Barnard U15	4:28.74	Louise Darnon U20	4:45.1	Gemma Phillips	5:07.01	India Lee U15	16:48.6	Charlotte Sanderson
2:17.80	Vicki Goodwin	2:27.0	Leanne Cross U15	4:28.88	Lynne Gallagher	4:45.17	Natalie Bass U17	5:07.01	India Lee U15	16:50.7	Emma O'Dowd
2:17.88	Kirsten Martin	2:27.0	Helen Newcombe U15	4:28.95	Jilly Ingham	4:45.2	Becky Ellis U15	5:07.69	Maria Therese Gardner U17	16:52.7	Morag McDonnell
2:17.93	Leah Harris U20	2:27.2	Jenny Midson U17	4:29.04	Jessica Woolley	4:45.2	Becky Ellis U15	5:07.69	Maria Therese Gardner U17	16:53.97	Alison Higgins
2:17.98	Karen Yule	2:27.4	Hannah Brooks U15	4:29.53	Maria Sharpe	4:45.35	Eloise Pittwood U17	5:08.36	J Classic	17:05.34	Ann Marie Hutchinson
2:18.16	Roslyn Clark	2:27.4	Ammanda Evans U17	4:29.74	Danielle Woods U17	4:45.5	Lisa Carter	5:09.9	Laura Whitehead U15	17:09.3	Lisa Mawer
2:18.3	Chaire Martin	2:27.46	Simon Barnard U17	4:29.83	Shirley Griffiths	4:45.6	Gemma Tottle U17	5:10.17	Morris Lynsey U20	17:18.70	Jodie O'Mara
2:18.33	Nicki Wastaney	2:28.09	Hannah Jones U15	4:30.19	Emma Brady	4:45.66	Victoria Kenny U20	5:11.4	Nawam Naji	17:23.22	Claire Martin
2:18.38	Nicola Gundersen U17	2:29.08	Cassie Barfoot U17	4:30.21	Hazel Murphy U20 IRE	4:46.0	Laura Kenny	5:12.09	Jessica Dickson U13	17:27.69	Emma Fisher
2:18.39	Emily Ferenczi	2:29.4	Veronique Pittwood U15	4:30.94	F Murray	4:46.4	Meredith Pannett	5:12.15	Clair Conway U15	17:28.96	Ambre Gascogne
2:18.5	Charlotte Browning U15	2:29.51	Diana Kennedy	4:31.22	Karen Johns	4:46.48	Laura Nurse U17	5:12.8	Jenny Midson U17	17:29.4	Gemma Phillips
2:18.5	Claire Garwood	2:29.6	Aimee Davies U17	4:31.25	Sophie Morris	4:46.48	Laura Nurse U17	5:14.4	S Webb U17		
2:18.6	Sonia Thomas	2:29.74	Lisa Dallery U17	4:31.33	Sue Crispey	4:46.53	Miriam Gaskell U20	5:15.55	Jenny Tadhall U20	32:42.79	Irene Limuka KEN
2:18.6	Kerry Walker	2:30.1	N Yates	4:31.66	Hannah Whitmore U20	4:46.76	Eloise Crowley	5:16.48	M Cameron	33:25.74	Penny Thackray
2:18.9	Lizzi Snow U15	2:30.4	Michelle Moore U17	4:31.74	Kathryn Waugh	4:46.79	Lindsay MacNeil	5:16.6	Hayley Barratt	33:29.27	Bev Jenkins
2:18.97	Jo Sullivan	2:30.7	Kate Knowles U13	4:31.87	Emma O'Dowd	4:47.54	Sheila Douglas IRE	5:16.6	Chelsea Simcox U13	34:23.55	Sheila Fairweather
2:19.0	Sinead Peoples U20 IRE	2:30.8	L Dunn	4:31.95	Maria Skelton IRE	4:47.9	E Giles	5:17.86	Mary Russ U15	34:52.41	Debra Robinson
2:19.0	Lorna Vise U17	2:31.1	Chelsea Simcox U13	4:32.02	Charlotte Dale U20	4:47.9	E Giles	5:17.86	Katrina Whitcombe U13	35:41.89	Louise Watson
2:19.1	Clemeline Adams U20	2:31.22	Laura Barfoot U17	4:32.40	Sonia Thomas	4:48.0	Frances Ceshricose	5:20.24	Suzanne Richards U15		
2:19.11	Rachel Deegan U17	2:31.30	Heidi Barton U15	4:33.01	Caroline Johnson	4:48.2	Ruth Chadney U17	5:21.7	Gemma Rose	<b>3000</b>	
2:19.35	Ceri Grech Thomas	2:31.54	Natalie Grabbam	4:33.23	Sarah Herbert U20	4:48.6	Laura Bungeim U17	5:21.7	Gemma Rose	9:55.01	Tara Krzywicki
2:19.41	Sara Cox	2:31.60	Kerry Brown U15	4:33.30	Jessica Nugent U20	4:48.67	Alexa Joel U20	5:24.63	Teila Francis-Coleman U15	10:44.69	Claire Martin
2:19.5	A Guthrie	2:31.94	Jenny Banks U15	4:33.5	Emily Hathaway	4:48.73	Ava Hutchinson U20	5:28.81	Amy Bell U20	10:49.39	Jayne Knowles-Spork
2:19.6	Melanie White	2:32.05	Sarah Jones U15	4:34.18	Roisin Quinn IRE	4:49.20	Emma Whittaker U17	5:29.91	Michelle Abitt U17	10:55.70	Alison Higgins
2:19.8	Lucy Howarth U15	2:32.3	Emily Bennett U15	4:34.34	Charlotte Coffey	4:49.87	Lorna Vise U17	5:30.30	Joanne Leighton U15	11:26.15	Paula Gowling
2:19.8	Alison James	2:32.79	Lisa Brown	4:34.49	Jenna Hill U17	4:49.9	Natalie Real U15	5:33.70	Joanne Leighton U15	11:31.37	Jane Pidgeon VET
2:19.8	S William	2:33.05	Alexia Trafford U15	4:34.50	Catherine Riley U20	4:50.0	Nikki Hamblin U15	5:37.03	Hayley Crawford U15	11:30.73	Sarah Jackson
2:19.81	Rosanna Iannone	2:34.24	Stacey Preston U13	4:35.13	Bernadine Pritchett	4:50.05	Lizzy Hall U17			12:03.79	Siona Lampkin
2:19.87	Hannah Bates U15	2:34.7	Katie Grimshaw U20	4:35.81	Helen Zenner U20	4:50.4	Gemma Curley U15			12:10.94	Emma Hudson VET
2:19.92	Alice Couninho U20	2:34.71	Aderenne Davies U13	4:35.95	Ambre Gascogne	4:50.8	Laura Tanner U15	8:58.98	Hayley Yelling	12:15.79	Susan McGinnigan
2:20.0	Emma Satterly	2:34.77	Tina Evans U15	4:35.96	Joey Wright	4:52.2	E Martin	9:08.13	Liz Yelling	12:17.98	Alison White
2:20.02	Clare Gibson	2:34.99	Francis Bruce U15	4:36.3	Carolyn Walsh	4:52.3	Ken Nowak U15	9:09.61	Catherine Berry	12:35.60	Sarah Davies



# UK 1500 Metres Statistics Over the Years

Year	Best		10th	50th	100th	No. under			No. in World Top	
						3:40	3:45	3:50	25	100
2001	3:34.43	John Mayock	3:42.58			6	22		-	47
2000	3:34.69	John Mayock	3:41.19	3:47.31	3:51.12	7	30	85	-	5
1999	3:33.97	John Mayock	3:42.23	3:46.9	3:51.12	2	26	80	-	2
1998	3:32.69	Anthony Whiteman	3:41.5	3:47.24	3:52.3	7	24	83	2	4
1997	3:31.86	John Mayock	3:40.34	3:46.7	3:50.6	6	40	85	2	4
1996	3:33.38	John Mayock	3:40.7	3:45.6	3:49.8	7	45	100	2	5
1995	3:34.05	John Mayock	3:41.28	3:46.7	3:51.32	8	38	85	2	7
1994	3:35.32	Matthew Yates	3:40.17	3:46.23	3:49.86	9	37	100	2	9
1993	3:35.04	Matthew Yates	3:39.62	3:45.53	3:49.48	12	41	110	2	11
1992	3:35.94	Kevin McKay	3:38.67	3:44.67	3:48.0	13	54	116 (3:48.83)	1	11
1991	3:32.94	Peter Elliott	3:41.52	3:45.50	3:48.3	9	43	134	4	9
1990	3:32.69	Peter Elliott	3:39.29	3:45.96	3:48.3	12	35	114 (3:49.0)	6	12
1989	3:34.05	Sebastian Coe	3:38.9	3:45.1	3:47.78	11	47	134	4	11
1988	3:30.95	Steve Cram	3:38.79	3:46.1	3:48.5	11	38	111 (3:48.9)	6	10
1987	3:31.43	Steve Cram	3:39.72	3:45.0	3:48.3	11	49	112 (3:48.9)	4	9
1986	3:29.77	Sebastian Coe	3:38.02	3:44.4	3:47.9	13	57	116 (3:48.6)	7	13
1985	3:29.67	Steve Cram	3:40.15	3:45.80	3:48.57	7	39	114 (3:49.1)	2	10
1984	3:32.39	Sebastian Coe	3:38.44	3:45.0	3:48.1	17	49	143+(3:49.3)	6	13
1983	3:30.77	Steve Ovett	3:41.3	3:46.2	3:49.0	6	42	135	4	6
1982	3:33.66	Steve Cram	3:39.3	3:45.83	3:49.37	11	43	109	4	12
1981	3:31.57	Steve Ovett	3:40.79	3:46.5	3:49.5	7	30	107	4	10
1980	3:31.36	Steve Ovett	3:41.04	3:46.4	3:49.6	6	32	104	4	7
1979	3:32.03	Sebastian Coe	3:42.5	3:46.1	3:49.9	6	35	101	5	5
1978	3:35.48	David Moorcroft	3:41.9	3:47.1	3:50.4	7	21	92	5	9
1977	3:34.45	Steve Ovett	3:41.59	3:48.4	3:51.06	5	25	79	3	9
1976	3:37.53	Frank Clement	3:41.4	3:48.8	3:52.56	3	21	65	2	7
1975	3:38.0	Frank Clement	3:40.84	3:49.1	3:52.2	3	22	59	1	12
1974	3:37.38	Frank Clement	3:43.1	3:49.0	3:53.0	4	17	58	2	5
1973	3:38.45	Frank Clement	3:42.8	3:49.0	3:52.8	3	18	63	2	8
1972	3:38.20	Brendan Foster	3:43.3	3:49.4	3:52.8	6	16	58	5	6
1971	3:39.2	Brendan Foster	3:44.7	3:49.5	3:53.2	2	10	55	3	5
1970	3:39.0	Peter Stewart	3:44.1	3:49.8	3:52.6	1	11	53	3	11
1969	3:39.12	Ian Stewart	3:44.9	3:49.8	3:53.1	3	10	52	3	8
1968	3:42.4	Walter Wilkinson	3:45.6	3:52.2		-	6	34	-	4
1967	3:41.7	Alan Simpson	3:47.8			-	3	19	1	7
1966	3:39.80	Alan Simpson	3:46.6			1	3	21	2	7
1965	3:40.6	Alan Simpson	3:45.5			-	8	20	1	9
1964	3:39.10	Alan Simpson	3:44.3			1	10	20	4	13
1963	3:43.3	John Boulter, A Simpson	3:47.6			-	4	14	3	10
1962	3:41.9	Stan Taylor	3:49.2			-	3	13	1	7
1961	3:42.5	Gordon Pirie	3:48.8			-	6	14	4	9
1960	3:42.9	Michael Wiggs	3:46.2			-	5	22	2	14
1959	3:42.9	Derek Johnson	3:48.8			-	2	13	1	9
1958	3:41.1	Brian Hewson	3:52.7			-	2	5	2	5
1957	3:41.9	Derek Ibbotson				-	4	6	3	7

Year	Best		10th	Under			No. in World Top	
				3:45	3:50	3:55	25	50
1956	3:42.6	Brian Hewson	3:47.4	5	11		5	8
1955	3:43.2	Brian Hewson		3	7		3	6
1954	3:42.2	Roger Bannister	3:53.6	1	6		4	6
1953	3:44.8	Roger Bannister		1	3		3	5
1952	3:46.0	Roger Bannister		-	3		2	4
1951	3:48.4	Roger Bannister		-	1		2	3
1950	3:48.0	Bill Nankeville		-	1	3	3	3
1949	3:59.7	John Parlett		-	-	-	-	-
1948	3:52.6	Bill Nankeville		-	-	2	1	2
1947	3:55.9	Alan Parker		-	-	-	-	-
1946	3:53.2	Doug Wilson		-	-	1	1	1
1945	3:48.4	Sydney Wooderson		-	1	2	2	
1939	3:50.2	Denis Pell		-	-	2	2	3
1938	3:48.7	Sydney Wooderson		-	1	2	2	2
1937	3:50.3	Sydney Wooderson		-	-	4	4	7
1936	3:51.4	Jerry Cornes		-	-	1	1	2
1935	3:54.2	Aubrey Reeve		-	-	2	2	4
1934	3:53.8	Jerry Cornes		-	-	2	2	2
1933	3:53.6	Reginald Thomas		-	-	1	1	2
1932	3:52.6	Jerry Cornes		-	-	1	2	2
1931	3:54.6	Reginald Thomas		-	-	1	1	3
1930	4:01.7	Joseph Helps		-	-	-	-	1
1929	4:04.0	Cyril Ellis		-	-	-	-	1
1928	3:57.6	Cyril Ellis		-	-	-	1	3
1927	3:59.0	John Moore		-	-	-	3	3
1926	4:06.0	Ralph Starr		-	-	-	-	1
1925	4:03+e?	Robert MacAlpine-Downie		-	-	-	-	-
1924	3:55.6	Henry Stallard		-	-	-	3	3
1923	4:01.2	Bertram Macdonald		-	-	-	2	2
1922	4:04.4	Henry Stallard		-	-	-	2	2
1921	4:03.4	Henry Stallard		-	-	-	1	1
1920	4:01.8	Albert Hill		-	-	-	-	-

Note that the standard distance run in British meetings changed with metrication in 1969 from 1 mile to 1500m. So for true comparisons of progress it is necessary to put the lists together.



# UK Mile Statistics Over the Years

Year	Best		10th	50th	100th	no. under			No. in World Top	
						4:00	4:05	4:10	25	100
2001	3:54.05	John Mayock				5			1	5
2000	3:50.61	John Mayock	4:01.61			5	18	30	3	
1999	3:52.79	John Mayock	4:03.84			4	12	24	1	
1998	3:51.90	Anthony Whiteman	3:59.7			11	25	36	1	
1997	3:51.46	John Mayock	4:03.08			7	20	30	2	
1996	3:50.32	John Mayock	4:01.2			6	21	43	2	
1995	3:51.89	John Mayock	4:01.4			8	21	32	3	
1994	3:53.64	Kevin McKay	4:00.80			7	21	34	2	
1993	3:52.17	Steve Cram	3:58.87			12	22	37	3	
1992	3:54.45	Kevin McKay	4:00.57	4:08.27		13	31	60	4	
1991	3:49.46	Peter Elliott	3:58.83	4:06.3		15	40	77	2	
1990	3:49.76	Peter Elliott	3:57.82	4:04.28		17	51	71/4:08.0	7	
1989	3:51.58	Steve Cram	3:57.0	4:05.7		23	45	64/4:07.7	5	
1988	3:48.85	Steve Cram	3:58.5	4:04.8		16	50	63/4:07.3	3	
1987	3:50.08	Steve Cram	3:59.28	4:04.6		17	52	79/4:07.5	3	
1986	3:48.31	Steve Cram	3:56.68	4:05.2		25	47	65/4:07.5	7	
1985	3:46.32	Steve Cram	3:58.8	4:05.1		18	45	66/4:08.0	4	
1984	3:49.65	Steve Cram	3:56.88	4:05.62		17	44	74/4:08.0	6	
1983	3:50.29	Steve Overt	3:58.6	4:04.3		12	54	88/4:09.2	4	
1982	3:49.34	David Moorcroft	3:57.65	4:04.5		16	55	80/4:09.0	5	
1981	3:47.33	Sebastian Coe	3:58.20	4:07.7		11	33	59	6	
1980	3:48.8	Steve Overt	3:58.94	4:08.3		11	29	60	4	
1979	3:48.95	Sebastian Coe	3:57.91	4:08.5		16	28	57	8	
1978	3:52.8	Steve Overt	3:59.38	4:06.0		11	43	80	8	
1977	3:54.69	Steve Overt	3:58.8	4:07.4		13	30	72	5	
1976	3:57.06	David Moorcroft	3:59.35	4:09.5		10	23	53	4	
1975	3:54.95	Frank Clement	3:59.1	4:08.9		13	31	51	4	
1974	3:57.44	Frank Clement	4:01.25	4:10.7		5	23	45	2	
1973	3:58.4	Nick Rose	4:01.8	4:07.5		4	28	67	2	
1972	3:55.3	Peter Stewart	4:01.8	4:10.0		8	26	49	6	
1971	3:56.6	Walter Wilkinson	4:00.5	4:09.3		6	22	50	6	
1970	3:57.0	John Kirkbride	4:01.5	4:11.0		5	16	43	4	16
1969	3:56.8	Ian McCafferty	4:01.5	4:07.6		8	22	65	9	23
1968	3:58.56	John Whetton	4:00.9	4:06.5	4:11.0	4	33	83	4	32
1967	3:57.6	Alan Simpson	4:02.3	4:07.8	4:11.0	3	26	82	5	31
1966	3:56.1	Neill Duggan	4:03.3	4:07.9	4:12.0	4	17	78	6	21
1965	3:55.68	Alan Simpson	4:00.3	4:09.0	4:13.0	8	19	55	9	23
1964	3:58.95	John Whetton	4:02.1	4:09.5	4:13.0	3	18	55	6	31
1963	4:00.8	Bill Cornell	4:03.8	4:10.5	4:13.9	-	18	45	3	28
1962	3:58.01	Stan Taylor	4:03.1	4:10.0	4:14.3	3	20	49	8	37
1961	4:01.3	Derek Heath	4:03.9	4:11.0	4:14.9	-	15	42	11	36
1960	3:59.9	Gordon Pirie	4:02.8	4:12.1	-	1	16	39	10	41
1959	4:03.1	Derek Ibbotson	4:06.0	4:11.6	4:15.2	0	3	34	3	35
1958	3:58.9	Brian Hewson	4:05.4	4:13.6	c.4:16.4	1	8	21	5	25
1957	3:57.2	Derek Ibbotson	4:05.3	4:14.1	-	2	8	20	7	32

Year	Best		10th	Under			No. in World Top	
				4:05	4:10	4:15	25	50
1956	3:59.4	Derek Ibbotson	4:07.4	6	19		5	13
1955	3:59.8	B Hewson, C Chataway	4:07.8	4	19		6	17
1954	3:58.8	Roger Bannister	4:08.6	3	15		13	20
1953	4:02.0	Roger Bannister	4:10.8	1	7	17	7	14
1952	4:09.8	Bill Nankeville	4:13.4	-	1	12	3	10
1951	4:07.8	Roger Bannister	4:14.8	-	3	10	6	10
1950	4:09.9	Roger Bannister	4:16.5	-	1	4	2	7
1949	4:08.8	Bill Nankeville	4:17.4	-	1	7	6	
1948	4:14.2	Bill Nankeville	c.4:20.0	-	-	1	3	
1947	4:18.8	Bill Nankeville	4:26.0	-	-	-	-	
1946	4:16.0	Doug Wilson	4:27.0	-	-	-	-	1 in 15
1945	4:04.2	Sydney Wooderson		1	1	2	2	in 10
1944	4:12.8	Sydney Wooderson		-	-	2	2	in 10
1943	4:11.5	Sydney Wooderson		-	-	2	3+	
1942	4:16.4	Sydney Wooderson		-	-	-	2	
1941	4:11.2u	Sydney Wooderson		-	-	1?	1?	
1940	4:11.0	Sydney Wooderson		-	-	1	1	2
1939	4:07.4	Sydney Wooderson	4:21.6	-	1	2	3	
1938	4:13.4	Sydney Wooderson	4:21.0	-	-	2	2	
1937	4:06.4	Sydney Wooderson	4:17.8	-	1	2	4	10+
1936	4:10.8	Sydney Wooderson	4:22.2	-	-	2	4	
1935	4:12.0	Robert Graham	4:24.4	-	-	2	4	
1934	4:13.4	Sydney Wooderson	4:23.6	-	-	3	5	
1933	4:14.2	Reginald Thomas	4:24.8	-	-	1	5?	
1932	4:14.2	Jerry Cornes	4:22.2	-	-	2	7?	
1931	4:13.4	Reginald Thomas	4:22.0	-	-	1	4	11
1930	4:14.0	Reginald Thomas	4:23.3	-	-	1	5	10
1929	4:16.4	Vernon Morgan	4:23.8	-	-	-	7	
1928	4:19.6	Ralph Starr		-	-	-	6	
1927	4:17.0	Cyril Ellis		-	-	-	5	8
1926	4:18.4	Tom Riddell	4:26.2	-	-	-	3	10
1925	4:18.0	Bertram Macdonald	4:27+	-	-	-	7	8
1924	4:21.2	William Seagrove		-	-	-	7	
1923	4:21.6	Joe Blewitt, H Stallard	4:27.3	-	-	-	8	
1922	4:21.0	Henry Stallard		-	-	-	3	
1921	4:13.8	Albert Hill		-	-	-	5	
1920	4:25.2	Albert Hill		-	-	-	-	



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