Towards World Class?

BMC NEWS

Official Journal of the British Milers' Club

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Photo by Mark Shearman

UK 1500 Champion, Joanne Pavey

Are we catching up?

Can we catch up?

It starts here!

The BMC is sponsored by NIKE

The British Milers' Club

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Founded 1963

BMC VISION 2000

"to strive to win all four middle-distance gold medals for Britain in the 2000 Olympics and at each successive games"

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JOURNAL

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The training articles expressed in this journal do not necessarily reflect the opinions of the National Committee. They are published as part of the BMC's policy of a liberal approach to diverse training theories.

MEMBERSHIP

Membership is limited to athletes who have achieved the required qualifying times, and to BAF Coaches. Associate membership is granted to those possessing special qualifications likely to benefit the club.

Members receive the *BMC News* twice a year. They are eligible for reduced entry fees to BMC races and courses, preference in BMC race-seeding, travel expenses to certain BMC races and access to FSA funds.

All applications to join the BMC should be sent to the Membership Secretary with a cheque for £20 (£25 overseas) stating vest size and enclosing an A4 SAE. Annual subscriptions of £10 (overseas £15) are due 1st January each year and should be sent to the Treasurer.

MERCHANDISE

BMC vests (gold/white - S/M/L/XL - £10), BMC T Shirts (S/M/L/XL - £10) and BMC ties (£5) are available from the Membership Secretary, William Anderson. Back issues of *BMC News* (£2 each) and the *BMC Fitness Testing Booklet* (£1) are available from the Treasurer, Pat Fitzgerald. Please make all cheques payable to 'The British Milers' Club' and enclose an A4 SAE.

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BMC QUALIFYING TIMES

(from 1st January 1995)

	MEMBERSHIP		GOLD Standard	
	800m	**1,500m**	**800m**	**1,500m**
Senior Men	1:56.0	3:56.0	1:52.0	3:49.0
Under 17	2:10.0	4:30.0	n/a	n/a
Veterans	2:10.0	4:30.0	n/a	n/a
Senior Women	2:20.0	4:45.0	2:12.0	4:30.0
Under 17	2:25.0	5:00.0	n/a	n/a
Veterans	2:25.0	5:00.0	n/a	n/a

Chairman's Notes

by Glen Grant

Glen Grant, the Chairman of the BMC, steps down after this issue due to work commitments. He has most ably led the BMC through times of rapid expansion and development and will be greatly missed. In his last and most forthright Chairman's Notes he reviews the year and looks forward to the challenges ahead.

By any standards, this has been a good season for the members of the BMC. When I spoke at the last Endurance Conference, I said that the immediate aim of the Club, on route to fulfilling Vision 2000, was to raise the acceptable standard in BMC races. We were stuck at a level of 1:47 and 3:40 for men and 2:04 and 4:15 for women. This summer has seen what I hope to be the first stirrings of a breakthrough. Messrs McKay, Hart and Walker went to 1:46 in BMC races and Rob Hough took the first Grand Prix to 3:39.

In the women's races, we had good competition, and Joanne Pavey took a huge stride towards world class, making her easily the most improved senior women's middle distance runner of the year in GB. Well done Mike Down. Behind this group there were several athletes who looked capable of much faster next year. On the front cover we ask if British Middle Distance athletes are improving?, and can we catch up with world class?. On the evidence of this year I believe that we have made good strides forward and that we can catch up. I stress CAN rather than WILL because I believe that we have some fundamental problems of attitude that we must solve first.

The real problem for British Middle Distance, and therefore the BMC, is that too many athletes, both male and female, and their coaches, remain entrenched in the training standards of yesteryear. It is no good using the argument that Coe did not do this, or Cram did not do that. The world has moved on, especially in the volume of work done, the use of science, and in particular the quality and quantity of strength work. Many athletes still do not follow a regular strength programme and it would appear that the majority of BMC members still do not own, use, or understand pulse watches.

In the past it was possible to get by on trial and error. Now it is not. Coaches must study physiology and must understand how to use all the facilities and knowledge that are available to them. This means CHANGE. It means doing next year what you may not have done before. It may even mean doing what you have done before and discarded. The only rule is that you must be able to back up any programme you follow with sound evidence. This must be scientific evidence or results backed by the experience of many. What is quite clear is that if success came from hard training alone, then every headbanger would always be successful. They are not. Many get short term success but they cannot sustain consistent overload for more than 3-4 years. After this injury rules. To get the full picture, coaches must take a longer term view of what they see, i.e. 10-12 years not just a weeks snapshot of training. They must view the training programmes of successful athletes as a video, not just as a single frame.

I have also been saddened by the number of coaches who seem to have decided that every successful foreign athlete is either on drugs or is blessed with some superhuman gene that allows them to do better. This is the policy of failure because it eats away at motivation and determination. In a way it also harkens back to the days of the Raj. It assumes that foreigners are different or are cheating. The truth is that at the moment in UK we have lost the upper hand because we are not training as cleverly as others. We are certainly not using the facilities that God has given us in this country. Too few coaches use the moors, mountains and sand dunes to full effect.

Peter Coe has gone on record as saying that the majority of athletes in UK have little understanding of the sheer physical requirements of world class racing. The recent BMC training day went a long way to confirming this, not only in the results of those who were there, but in the sheer folly of those who stayed away. Many, because they said that they had to run in local league cross country races the day before. Cross country league races are two a penny and racing in yet another will have little long term effect. However, the knowledge that was available on the training day, if used properly, will**.**

We also need a sea change in our understanding of the transition from successful junior to senior. It is clear from the many phone calls I receive as chairman that many coaches with juniors do not realise that natural growth and age has as much, and perhaps more, to do with the progress of their athletes than the training they have undertaken. To continue to thrash them into senior age is a guarantee of failure. They do not progress and they become disheartened. The progress of strength improvement that came with maturity needs to be continued. (In some cases started!) The years of high lactate training that was washed away by youthful muscles cannot go on. It must be replaced by a more aerobic programme that takes account of the vast capacity that aerobic work can give. Failure to understand this, ensures injury from stress caused by the lack of elasticity in degraded muscle tissue in the early years of senior competition

This year, joining the BMC, we have seen an influx of brilliant juniors, some as young as 12. I watched four of them on the recent training day and their age was no barrier to a professional performance. Given a steady build up of aerobic work and a sensible strength training programme we have athletes to challenge the world. Both they and their coaches have made a good move by joining the BMC early and we look forward to seeing them in the lower races in next years Grand Prix.

This is my last Chairman's notes, as I stand down in December because of work commitments. It has been a great honour to serve the club and I trust that you will support my successor with VISION 2000 as well as you did me. Farewell to Tim Grose the Editor of the *BMC News.* You have done a great job. My thanks also go to all the members of the committee, the area secretaries and the race organisers who work long and hard hours with often only criticism as a reward. You are a special bunch. I hope that this year we will get some more volunteers to join you to continue the good work.

The final point that I wish to leave you with, is that this sport of ours is a hard and cruel taskmaster. To achieve success you have to approach it with exactly the same level of thoroughness that you would if you were planning to conquer Everest alone. You have to live your preparations 24 hours a day, not just the hour or more you have dedicated to training. Ruthless application is the only path to success. No less will do. Good luck.

BMC *News...News...News...*

1997 RACE PROGRAMME

In the first year of sponsorship from Nike, the 1997 Race Programme comprised some 192 races of membership standard at 53 meetings at 26 venues. 1187 membership standards were set by 529 athletes (328 of whom were members), which included 508 gold standard performances by 213 athletes (156 of whom were members).

An unprecedented 17 BMC records were set during the season - ample proof that Nike sponsorship had provided the necessary step-change for the BMC to work effectively towards "Vision 2000". The records were:

- Linda Staines set a BMC 600m record at the opening meeting of the summer season at Battersea Park on 19th April.
- David Taylor set a BMC 10,000m record of 29:32.8 at the opening BAEI race at Watford on 30th April.
- Carol Galea of Malta set a BMC 10,000m of 34:25.1 in the women's race at Watford.
- Ian Gillespie took just over 10 seconds from Alan Blinston's 27 year old 2 mile BMC record at Millfield on 5th May, and was at the time a world leading performance.
- Rob Hough equalled Neil Caddy's BMC Members' record over 1500m with 3:39.1 at Wythenshawe on 14th May.
- Andrew Pearson ran 13:42.2 for a new 5,000m BMC record at Loughborough on 18th May.
- At the Loughborough Grand Prix on 3rd June, Theresa Duffy of Ireland ran 33:33.7 to break Carol Galea's short-lived BMC 10,000m record.
- Behind Duffy, Heather Heasman ran 34:44.9 to set a BMC Members' record.
- On June 11th, again at Loughborough, Vicki McPherson set a BMC Members' record of 15:56.8 in a mixed 5,000m race.
- At Battersea Park on June 15th, Patrick Ndururi of Kenya, at the time an unknown Kenyan, set a personal best when he ran 1:45.2 to break Paul McMullen's two-year-old BMC record. Ndururi of course went on to run 1:42.62 at Zurich!
- Behind Ndururi, and incredibly only in 4th place, Andy Hart finally broke Seb Coe's 21 year old BMC members' record with 1:46.8.
- On 17th June, Sarah Bentley broke her own BMC 3,000m members' record with 9:08.8 in a mixed race at Stretford.
- Seamus Power broke Andrew Pearson's two-month-old 5,000m record when he ran 13:40.5 at Watford on July 30th.
- Omitted from the GB team for the world championships, Anthony Whiteman had a point to prove to the selectors and ran a staggering 3:37.5 to break Dave Lewis' 14 year-old 1,500m record at Swindon on August 7th. 9 days later Whiteman ran 3:32.34 at Monaco.
- Also at Swindon, Rob Whalley became the first person to break his own BMC record when he ran 7:51.4 for 3,000m.
- Rob Whalley then went on to set a BMC Members' 5,000m mark at Bristol on August 30th with 13:41.08.
- Also at Bristol, in the final Grand Prix race of the season, Joanne Pavey at last broke Mia Gommers' 28 year old BMC Women's Mile Record with 4:30.77.

We are delighted to announce that Nike have increased the money available to the BMC to allow automatic timing of, and increased publicity for, our Grand Prix meetings in 1998.

FASTEST RACES IN BRITAIN 1997

This year saw the BMC putting on races just as fast as BAF promotions and their National Championships. The fastest races staged in Britain in 1997 were:

•	M800	BMC Battersea Park	1:45.2
•	M1000	BMC Stretford	2:19.4
•	M1500	BMC Swindon	3:37.5
•	M Mile	BAF Emsley Carr	3:53.28
•	W800	BAF British Champs	1:58.59
•	W1000	Busellato, Leeds	2:32.55
•	W1500	BAF GP1 Sheffield	3:58.07
•	W Mile	BMC Bristol	4:30.77

In summary it was BMC 4, BAF 3 and Andy Norman 1. Also pleasing was the fact that both the mile races in the BMC Grand Prix Final were faster than their counterparts in the IAAF Grand Prix Final in Tokyo a couple of weeks later.

BMC RELAY MEETINGS

Two BMC relay meetings were held at Watford during 1997.

4 x 1500m relays were held on 30th April.

In the men's races the BMC National Junior Squad of Ross Fittall, Neil Speaight, Richard Vint and Lee Garrett set a British and European record of 15:52.0 and the BMC National Veteran squad of Peter Molloy, Glen Grant, Dave Bedwell and Dave Wilcock set a world veteran record of 16:41.1.

In the women's race the BMC National Squad of Elinor Doubell, Joanne Pavey, Michelle Faherty and Lynn Gibson set a British, Commonwealth and All-Comers record of 17:41.0, and behind them the BMC National Junior Squad of Ellen O'Hare, Camilla Waite, Rachael Ogden and Jody Swallow set a British and European Junior Record of 18:38.0. The BMC National Veterans of Deborah Howard, Pat Gallagher, Kim Davison and Liz Craig set a world veterans record of 20:13.0. Indeed each of the six teams in the race achieved the record they were aiming for!

4x1 Mile relays were held on 11th June where the BMC National Junior Squad of Caroline Walsh, Camilla Waite, Rachael Ogden and Jody Swallow set a world junior record of 20:16.2. In the men's race our veteran squad of Peter Molloy, Keith McLellan, Dave Bedwell and Dave Wilcock set their fourth world record with 18:08.5!

Twelve world best performances have now been set in BMC relay meetings in the last 5 years. We now have the complete set of 6 British Junior records from 4x800m to 4x1 Mile (three of them are world records), and the complete set of 4 world veteran records over 4x1500m and 4x1Mile.

BMC DEVELOPMENT OFFICER'S AWARD

This award is made to the athlete who, in the opinion of the BMC National Committee, made the outstanding contribution to the British Milers' Club in 1997. The committee were unanimous in their selection of Joanne Pavey who broke through to international level as UK Champion and then reached the semi-finals of the world championships. Joanne has run in 16 BMC races in the last two years.

Also recognised by the Committee were: Alice Beecroft, Sarah Bentley, Clive Gilby, Brad Glenton, Steve Green, Andy Hart, Ian Gillespie, Matthew Kloiber, Kevin McKay, Helen Pattinson, Penny Thackray, Claire Raven, Jason Thompson, Linda Staines, Andrew Young and Rob Whalley.

COACH OF THE YEAR

Once again the Committee recognised the achievements of Mike Down, coach to Ian Gillespie, Rob Whalley and Joanne Pavey. All three of these were crowned BMC Champions and ranked top of the BMC merit rankings in their particular events. This time the rule that Mike was not eligible for the award as he is a member of the BMC committee was waived unanimously!

BMC *News...News...News...*

BMC NIKE GRAND PRIX

The first year of the BMC Nike Grand Prix comprised 5 meetings. The first was the traditional Wythenshawe meeting on May 14th and the event winners were:

- M800 Andrew Hart 1:48.5
- M1500 Robert Hough 3:39.1
- W800 Phylis Smith 2:05.2
- W1500 Joanne Pavey 4:18.7

The second meeting took place in cool windy conditions at Loughborough on June 3rd and the event winners were:

- M800 Kevin McKay 1:49.2
- M1500 Andrew Pearson 3:43.8
- W800 Linda Staines 2:06.3
- W1500 Joanne Pavey 4:15.2

The third meeting took place just after a thunderstorm at Watford on June 25th. The event winners were:

- M800 Kevin McKay 1:48.2
- M1500 Jason Dullforce 3:43.8
- W800 Linda Staines 2:05.7
- W1500 Helen Pattinson 4:20.3

The fourth meeting took place in perfect conditions at Swindon on August 7th. This proved to be the best meeting of the series and the event winners were:

- M800 Justin Swift-Smith 1:47.9
- M1500 Anthony Whiteman 3:37.5
- W800 Diane Modahl 2:03.4
- W1500 Angela Davies 4:18.5

The Grand Prix Final took place on a cold Saturday evening at Bristol on August 30th, the date having had to be re-arranged twice by changes in the national fixtures list outside of our control. The winners were:

- M800 Bernard Kisilu KEN 1:46.67
- M Mile Samir Benfares FRA 4:00.04
- W800 Claire Raven 2:05.43
- W Mile Joanne Pavey 4:30.77

Adding up all the points, the final Standings in the Men's Grand Prix were:

- 1st Kevin McKay 144pts
- 2nd Steve Green 121pts
- 3rd Bradford Glenton 107pts
- 4th Andrew Pearson 105pts
- 5th= Matthew Kloiber 101pts
- 5th= Ian Gillespie 101pts
- 7th Andrew Knight 91pts
- 8th Andrew Young 90pts
- 9th Ben Sutton 85pts
- 10th= Luke Veness 83pts
- 10th= Matt Barnes 83pts
- 10th= Matt Skelton 83pts

It was a little disappointing that so few men completed 4 races. Only Steve Green ran in all five Grand Prix.

In the Women's Grand Prix the final standings were:

- 1st Joanne Pavey 146pts
- 2nd Claire Raven 131pts
- 3rd Helen Pattinson 125pts
- 4th Alice Beecroft 122pts
- 5th Jillian Jones 114pts
- 6th Linda Staines 104pts
- 7th= Lucy Field 101pts
- 7th= Penny Thackray 101pts
- 9th Lynn Gibson 100pts
- 10th Angela Davies 97pts

Joanne Pavey won the overall first prize of £1,000 in a nail biting finish vs. Kevin McKay at Bristol. After Kevin's 1:46.87, Joanne had needed to run inside 4:33.0, i.e. breaking the BMC record by over three seconds, to clinch victory. The pressure was on, and the result was 4:30.77!

BA ENDURANCE INITIATIVE

The 1997 British Athletics Endurance Initiative, with equal funding from the London Marathon and BAF, took place within the BMC race programme. Races took place both regionally and nationally, the national ones taking place principally within the BMC NIKE Grand Prix meetings. The final Standings in the BAEI Men's Grand Prix were:

- 1st Rob Whalley 144pts
- 2nd Kris Bowditch 131pts
- 3rd Spencer Barden 121pts
- 4th David Taylor 116pts
- 5th Phil Mowbray 83pts

and the Women's standings were:

- 1st Sarah Bentley 122pts
- 2nd Jo Thompson W35 87pts
- 3rd Angela Joiner 81pts
- 4th Lucy Elliot 69pts
- 5th Amber Gascoigne U20 63pts

BMC CHAMPIONSHIPS

It was not possible to hold separate BMC Championships in 1997. Instead the leading Britons in the BMC NIKE Grand Prix Final were deemed to be the 1997 BMC champions, as follows:

- M800 Kevin McKay 1:46.87
- M Mile Ian Gillespie 4:01.37
- M5000 Rob Whalley 13:41.02
- W800 Claire Raven 2:05.43
- W Mile Joanne Pavey 4:30.77

Gillespie, Whalley and Pavey are all coached by Mike Down. Gillespie has been BMC Champion three years running at different distances.

BMC CLUB RECORDS

Congratulations to "new member" Kelly Holmes who set three BMC Club Records in 1997. A BMC Club Record is defined as the fastest time by a paid-up BMC member in any race anywhere in the world.

- W800 Kelly Holmes 1:57.14
- W1000 Kelly Holmes 2:32.55
- W1500 Kelly Holmes 3:58.07

SUB-FOUR FOR THE FIRST TIME

Congratulations to Ben Reese who ran 3:59.82 indoors at Ypsilanti, USA on the 14th February.

1998 RACE PROGRAMME

Next year's AAA's have been set for 25th and 26th July, the European Championships are from 16th - 25th August and the Commonwealth Games are from 16th - 21st September.

Accordingly some very provisional dates for next year's major BMC races have been proposed:

- Mon 4th May Millfield
- Sun 17th May Loughborough (v AAA's)
- Wed 3rd June Wythenshawe GP
- Wed 24th June Swindon GP
- Wed 15th July Cardiff GP
- Wed 5th Aug Watford GP
- Wed 2nd Sept Solihull GP Final

Events marked GP will form the 1998 BMC NIKE Grand Prix.

1998 SUBSCRIPTIONS

Your 1998 subscriptions were due on January 1st 1998. The BMC does not send out individual subscription reminders, so if you have not paid already, please could you send your cheque for £10 (£15 overseas) made payable to the BMC, together with any change of address, to the Treasurer Pat Fitzgerald. The AGM determined that subscriptions would be raised to £15 (£20 overseas) from 1st January 1999.

BMC WEB SITE

The BMC has its own Internet site courtesy of CG Systems of Barnet. It is:
http://www.british-athletics.co.uk/bmc/ and contains full 1997 BMC Ranking Lists, the latest 1998 fixtures and articles from recent issues of the *BMC News*. As the season progresses the site is updated with the latest BMC Ranking Lists and the overall standings in the BMC NIKE Grand Prix.

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BMC MAILING LIST

To receive news of BMC events and full BMC results as they happen throughout the summer, BMC members on E-mail can join the BMC Mailing List. To subscribe to this free of charge service, please send an e-mail to Matthew Fraser Moat at mfm@fmconsultants.telme.com.

TOP 100 ATHLETES DESKMAIL

Athletes who are in the National Top 100 will have received Electronic Desk Mail from the BMC over the last year. This address list is kept separately from the main database, so if you are on this list, please notify Matthew Fraser Moat as well as Pat Fitzgerald of changes in address etc.

RECOMMENDED SERVICES

- *Aesthetes*, for a nation-wide network of podiatrists and suppliers of orthotics. For further details please call 01332 202232.
- *Peak Performance*, for the best technical athletics technical journal in the world. Write to Peak Performance, 1st Floor, 5 Charterhouse Buildings, Goswell Road, London EC1B 1HH.
- *Athletics International*, for the best coverage of international results. Write to Mel Watman, 13 Garden Court, Marsh Lane, Stanmore, Middlesex HA7 4TE.
- *Sports Tours International*, for the best warm-weather training trips ever. Write to Vince Regan, Sports Tours International, 91 Walkden Road, Walkden, Worsley, M28 5DQ or phone 0161 703 8161.
- *Len Lewis*, for an excellent second-hand, no-obligation, book-search service. Please ring any evening 01938 552023 or write to Len Lewis, 3 Aubet Drive, Guilsfield, Welshpool, Powys, SY21 9LX.
- *Ultrafit Magazine* - cost £2.50. A bi-monthly journal on all aspects of fitness. Frank Horwill, BMC founder, has had five articles published in it during the last l2 months. If you want to take out a subscription to this excellent journal write to Simone Kiburn, Ultrafit Magazine, Champions House, 5 Princes Street, Penzance TR18 2NL, phone 0l736 50204, fax 01736 68587. The magazine is on sale at most large W.H. Smith shops. Some back issues are of particular interest to athletes and coaches. For example Volume 7.2 has a good editorial on heart-rates and eighteen articles allied to running fitness. And, if you think you know all about fitness, their regular quiz can be a bit of a shock!

BMC FOUNDER MEMBERS TOGETHER AGAIN AFTER 25 YEARS

The occasion was the 70th birthday of BMC founder - Frank Horwill, at the Spaghetti House restaurant in Holborn on June 20th l997. Frank was presented with a portrait of Roger Bannister (BMC's first President) breaking the 4-minute mile barrier at Iffley Road track, Oxford. The portrait was signed by all the world-record holders since that day, with two exceptions, Steve Ovett and Roger Bannister! However, Peter Thompson (IAAF. Director of Coaching Projects), took the portrait away to get the missing signatures. Among those present were the following founder members:-

- Maureen Smith- former British Mile Champion.
- Tony Elder, Senior BAF Coach, well-known lecturer and writer on middle-distance.
- Alf Wilkins, Senior BAF Coach, former BMC Treasurer, and manager of the British Jewish team to the World Israel Games.
- Brian Boulton, Kent County Mile Champion, former BMC National Secretary.
- Frank Horwill.

It was the first time for 25 years that they had all come together again. The other founder members who did sterling work for the club in its first difficult years were:

- John Thresher, Surrey County Mile Champion and now president and chief executive of Athletics Canada.
- Bryan Buxton, coached by Alf Wilkins and member of the British Jewish team to Israel in 1963-1969.
- Henry Hayes, a non runner who kept the BMC finances in order for 4 years from its foundation.

One of the BMC founder members has disputed that Frank alone started the BMC and signs letters - "Co-founder of the BMC." They have a friendly bone of contention about the matter. Frank says it was he who wrote the letter to AW in June l963 suggesting the formation of a club to be known as the British Milers' Club, and those who replied became founder members. The rival claimant states that it was he who compiled the BMC constitution and Rules and therefore he is a joint founder. The last word comes from Frank, "I produced the skeleton, he put the flesh on it. One without the other would have been useless. I think he has a valid point. I'm signing after my name - Co-founder of the BMC. Alf Wilkins can now do the same with my blessing!"

SEB COE BLAMED FOR NEW ZEALAND'S POOR STANDARD OF RUNNING!

An article by John Davies (bronze medallist, 1500 metres, l964 Tokyo Olympics), in the June issue of *New Zealand Runner*, states that NZ runners are failing at world-class level because they are not doing enough "base" work. One assumes from this that Davies, a former Lydiard protege, would like to see the latter's system of 10 weeks of l00 miles a week, followed by 6 weeks of hill running every day, come back in popularity. Davies goes on to say, "Much of the erosion of this lack of base training is due to Seb Coe who claimed he did only 40 miles a week of quality running in the winter - so he says."

When the *BMC News* consulted with Peter Coe about Davies's article, he said, "Well, his training in the winter should not be condemned because Seb at age thirty-three was still running 1:43.3 and beating all the Kenyans. Also, his world record in the 800 stood for 16 years and his one for 1,000 metres still does. However, the figure of 40 miles per week is not correct. Occasionally, following a lay-off due to injury, he recorded 76 miles a week to get his base up to standard. But, sometimes in the track season ALL his work was anaerobic. If you use the multi-tier system (training at 5 different paces) over a period of 10 days, it is impossible to do big mileage as well. Multi-tier training is very tough." Peter's observations were conveyed to the editor of *New Zealand Runner*.

QUOTE

Overheard in Battersea Park Track changing rooms: Athlete "A" - "I must look around for a good race in a graded meeting. "Athlete "B" - "Go to the BMC races at Watford - they are the best in the country."

EDITOR'S NOTE

Please accept my apologies for the slightly late production of this *BMC News*. Regrettably, due to other commitments, this will be the last edition under my editorship. I would to say a special thanks to my support team June Lee, Tony and Valerie Grose and all those who sent in articles over the last couple of years. Please send all articles for the next issue on disk to Matthew Fraser Moat, Ripple Court, Ripple, Deal, Kent CT14 8HX by 28th February 1998.

New Members

Congratulations to the following people who have been elected to the BMC since the last issue:

2893	William Davies	
2894	Anthony Lee U17	
2895	Gareth McGee	
2896	Mark Kuklinski U20	
2897	Donna McCullagh U20	
2898	Michael Openshaw	Gold
2899	Kelly Brownhill U20	Gold
2900	Stephen M Green U20	
2901	Ross Houston U20	
2902	Brian Gardner V40	
2903	David Bedwell V40	
2904	Liam Cain	Sen Coach
2905	Eddie Richards	Sen Coach
2906	Zoe Whitten U17	
2907	Rebecca Williams U17	
2908	Kieran Farrelly U17	
2909	Noeleen Murrin U20	
2910	Heather Heasman	
2911	Michael East U20	
2912	Rachel Buller	
2913	Katy Smith U17	
2914	Teresa Penhorwood U17	
2915	George Miller U20	
2916	Lisa Hollick	Gold
2917	Ann Terek	Gold
2918	Michael Hatch U20	
2919	Carl Morris U20	
2920	Nicholas Andrews U17	
2921	Tom Cartwright U20	
2922	Amber Gascoigne U20	
2923	Catherine Riley U17	
2924	Ian Smith U17	
2925	Gary Johnson U17	
2926	Pauline Powell	
2927	Kevin McKay	Gold
2928	Toby Dolman	
2929	Christopher Ling	Gold
2930	Amy Waterlow U20	
2931	Michael Wassell	Gold
2932	Keith McLellan V40	
2933	Noel Cullen IRE	Gold
2934	Jacqueline Kind	
2935	Jade Clark U15	
2936	Martyn Pert	
2937	Lee Eastley U17	
2938	Dominic Bannister	
2939	Richard Griffiths	
2940	Kelly Holmes	Gold
2941	Danny McCormack	
2942	Nick Davy	
2943	Jane Horner	
2944	Hayley Parkinson	Gold
2945	Alex Flynn U17	
2946	William Levett	
2947	David Wilcock V40	
2948	Jason Levy	
2949	Jessica Nugent U15	
2950	Juliette Parkin	
2951	Joel Ellis U20	
2952	Steven Crowe	
2953	Graham Ferguson U20	
2954	P J Lennon	
2955	Linda Staines	Gold
2956	Modupe Cole	
2957	Peter Ivens	
2958	Charlotte Moore U13	
2959	Jason Ward	
2960	Robert Berry	
2961	Richard Cressey	
2962	Georgina Parnell U17	
2963	Barbara Dix U17	
2964	Daniel Beynon U17	
2965	Darrell Maynard	Gold
2966	Bradford Glenton	Gold
2967	Ray Tucker	Sen Coach
2968	Elizabeth Crawford	
2969	Natasha Newton U15	
2970	Phylis Smith	Gold
2971	Lisa Moody	
2972	Jamie Muir U20	
2973	Stuart Stokes	
2974	Stuart Overthrow	
2975	Scott Hughes U20	
2976	Stefano Deomaso	
2977	Emma Brady	Gold
2978	Louise Damen U15	
2979	Ray Daniel V40	
2980	Tim Crossland	
2981	Edward Jackson U17	
2982	Paul Morby U20	
2983	Christopher Livesey U20	
2984	Paul Gardner	Gold
2985	John Lawson	
2986	Michael Thie U17	
2987	Faye Fullerton U15	
2988	Emma Satterly U20	
2989	Simone Hardy	Gold
2990	Joanne Mersh	Gold
2991	Caroline Walsh U20	
2992	Iain Murdoch U20	
2993	Matthew Morris	Gold
2994	Stephen Green	Gold
2995	Esther Evans	Gold
2996	Sammuel Haughian	
2997	Ben Whitby	
2998	Delwyn Bainton	
2999	Chris Thompson U17	
3000	Adam Lloyd U17	
3001	Jolene Goldsack U17	
3002	Andrew Graffin	Gold
3003	Allen Graffin	
3004	David Arnold	Sen Coach
3005	Roy Tilling	Sen Coach
3006	Chris Owen U17	
3007	Sarah Douglas U15	
3008	Ronnie Havill U17	
3009	Ben Walters	
3010	Andrew Barber	
3011	Christopher Davies	
3012	Gavin Littaur V45	
3013	Alexander Macdonald U20	
3014	Matthew Raw	
3015	Faith Aston	Gold
3016	Jennifer Mockler U17	
3017	Lisa Cater U15	
3018	Jason Dullforce	Gold
3019	Matthew Yates	Gold
3020	Jonathan Wild	Gold
3021	Tim Newbery	
3022	Christina Radon	
3023	Rebecca Everett U20	
3024	Matthew Barnes	Gold
3025	Sarah Simmons	Gold
3026	Sarah Wells	Gold
3027	Steven Baldock	
3028	Andrew Osment	
3029	Rebecca Spies USA	Gold
3030	Matthew Lawson	
3031	Adam Mole	Gold
3032	Simon Cotton	
3033	Clare Goldsborough	
3034	John Sherban	Gold
3035	Chris Allan	
3036	Gareth Turnbull IRE U20	Gold
3037	Jason Humm	
3038	Ricky Soos U15	
3039	Lindsay Dunn	Sen Coach
3040	Jody Swallow U17	
3041	Charlie Low	
3042	Marcus Harrop	
3043	Graham Edmonds	
3044	Ian Craig	
3045	Richard Daniels	
3046	Colin Palmer	
3047	Carolyn May	
3048	Adrian Marriott	
3049	Andrew Fulford U17	
3050	James McIlroy Gold	
3051	Emma Jayne Dumbleton U17	
3052	Alistair Dawber U17	
3053	Daniel Palmer U15	
3054	Maurice Millington	Sen Coach
3055	Clive Thomas	Sen Coach
3056	Bart Lloyd Ricketts	
3057	Diane Modahl	Gold
3058	Tony Read U17	
3059	Tom Laurie U17	
3060	James Foster	
3061	Roderick Lock	Sen Coach
3062	Abdusalam Mohammed	
3063	Angela Routledge	

Pulse Rate

by Frank Horwill

Know What Pulse Rate Is Doing What?

A heart rate monitor is not essential in the pursuit of maximum fitness. If this were the case, we have to ask how former British world record holders like David Bedford, David Moorcroft and Roger Bannister, achieved their success without ever using the clever device. And, Peter Coe, father and coach to the current Commonwealth 800 and world 1000 metres record holder, Seb Coe, not only never used the invention but is openly hostile to its use. Peter Coe pointed out in an interview with an athletics magazine that using a heart rate monitor in COMPETITION could actually be an hindrance. This is because before a competition there is a thing called "psyched up heart rate". In other words, the pulse at rest is some ten beats faster than normal. If this were the case and an athlete relied on a certain rate, ascertained from using the monitor in training, to run a marathon at a certain pulse level, the athlete would get a shock when the time of the first 10k was announced - it would be much slower than planned. For the simple reason that the planned percentage of the maximal heart rate for the event would be reached much sooner than in training, therefore the pace would be slower. In such cases, the athlete would do better to concentrate on times at various stages of the race.

"The correct use of a pulse monitor revolves around an essential factor - the athlete must know what maximum possible pulse rate he or she can achieve."

The correct use of a pulse monitor revolves around an essential factor - the athlete must know what maximum possible pulse rate he or she can achieve. Now, it was once thought that running 400 or 800 metres at full effort would register a maximum. Well, it's not far off, however, these two distances when run at full effort, produce a lot of lactic acid very quickly which seems to retard the pulse rate reaching maximum. A recent research finding from Sweden suggests that running full out for 3 minutes is more likely to register maximum.

If the athlete declines to do a maximum pulse rate outing, it must be calculated. The old method was to take 220 beats per minute as maximum, and then to subtract from that figure one's age. So, a female aged twenty five years would have this formula: 220 minus 25 = 195 bpm maximum. This is close but not close enough! Recent research suggests a more accurate estimation - 209 beats per minute maximum minus point seven for every year of age - 209 minus 25 x 0.7 (17.5) = 191.5 bpm, this is less than the old calculation.

The figure for males is 214 bpm minus point eight for every year of age. Given a male aged twenty five, the formula would be - 214 minus 25 x 0.8 (20) = 194 bpm. Note that the old formula is more accurate for men than women.

Pulse rates are intricately linked with work done at a percentage of VO_2 max. They are closely linked with training at what is called - the lactate threshold. This is a point in our training when the blood starts to get more and more saturated with lactic acid. The idea of lactate threshold running, sometimes called lactate response running, is to run for about 4 miles (6.5km) just short of this sudden lactate increase point. By so doing, we eventually "push" or delay the point of lactate increase. In practical terms this means we can run faster (at a slower pulse rate) than before without incurring a lactate penalty. Twelve weeks of once a week lactate threshold running will boost fitness levels which may not be detected in a VO_2 max test. It also has the advantage of not being so fast as track repetitions thereby reducing injury risks.

"Twelve weeks of once a week lactate threshold running will boost fitness levels which may not be detected in a VO_2 max test."

We must now ask how the aforementioned world record breakers achieved their success without the use of a pulse monitor? The answer is that they trained at speeds which were a percentage of their VO_2 max, and in doing so, elevated their pulse rates to the required point. For example, if a 3K runner wished to improve his time from 8:30 to 8:15, by running 3 x 1500m in 4:07.5 with 3 mins rest, it would be 100 percent of his VO_2 max and would involve the pulse rate achieving maximum.

If we take the example of the 25 year old female above with an estimated maximum of 191 bpm, we can plan out what pulse rates should be used to record specific percentages of VO_2 max. In doing this, we must remember one vital criteria - THE GREATEST FITNESS GAINS COME FROM WORK BETWEEN 80 AND 100 PER CENT OF THE VO_2 max. Most of the world's physiologists favour the figure of 95 per cent of the VO_2 max (about 5k speed), however Russian coaches working with female athletes favour 100 per cent of the VO_2 max (about 3k speed). We also come to another important point - THE LOWER THE VO_2 MAX PERCENTAGE OF WORK - THE GREATER THE DURATION OF THE REPETITION. Thus, an athlete training at 90 per cent of his/her VO_2 max (about 10k speed), should do 4 x 10 minutes at 10k speed with very short recovery (about 90 seconds). The minimum duration of any repetitions between 80-100 per cent of the VO_2 max is 3 minutes. But work, at the lower end of that scale (80%) would be much longer, e.g. 3 x 20 minutes (about half-marathon speed), with extremely short recovery (about 60 seconds).

Here is a table of pulse rates related to percentage of VO_2 max, and examples of actual pulse requirements for a female aged twenty-five years with an estimated maximum pulse rate of 191 bpm.

% of VO_2 Max	Equivalent % of Max Pulse Rate	Actual Pulse (bpm)
35 (Jogging)	55	105
50 (Long slow running	60	115
60 (Steady running	73	139
70 (Slow marathon pace	80	153
80 (Fast marathon pace)	88 (Near lactate threshold running)	168
90 (10k speed)	93	178
95 (5k speed)	98	187
100 (3k speed)	100	191

Pulse Rate

by Frank Horwill

A rule-of-thumb rough guide is to remember that whatever the percentage of the VO_2 max is required, the percentage of the pulse rate is that figure PLUS, so that given a workout at 80 per cent, the required pulse rate STARTS at 80 per cent maximum plus about 10 beats more.

When we come to calculating what speed and pulse rate our lactate threshold runs should be, there is much to put us off! Ideally, we require a sports physiologist or coach with a portable lactate measuring computer to decide from a sample of an athlete's blood at what speed of running lactate starts to increase markedly. Failing that there is a thing called the Conconi Test, where an athlete runs a heart-rate monitor increasing speed every 200 metres by 2 seconds, and from a slow start involves about 2400 - 3200m of running during which time about sixteen pulse measurements are taken. The 200 metre times have to be converted into km/h. The formula being: v = 720 / t (t = split time). A graph is then drawn of the heart-rate on the left vertical and the km/h values at base. The breakaway point from the linear is known as the "deflection point". The test is subject to human error on many counts. But, analysis is made easier when an interface and a compatible IBM computer are available. There are computer programmes on the market - such as HRCT Leuenberg Medicine Technique AG, that make an automatic analysis of the test possible.

"A greatly under-rated method of calculating lactate threshold speed is a table drawn up by the notes physiologist Jack Daniels (USA), who uses the 3k or 2 mile time of an athlete to assess what the lactate response run should be."

A greatly under-rated method of calculating lactate threshold speed is a table drawn up by the notes physiologist Jack Daniels (USA), who uses the 3k or 2 mile time of an athlete to assess what the lactate response run should be. The author has compared the findings of this table with known blood sample readings of some of Britain's leading athletes and they were identical.

A rule-of-thumb method is to take this 3k time per MILE and to add 22 seconds to it, this is about 90 per cent accurate. For example, given a 3k time of 8:30 (68 secs per 400m), this is about 4:34 per mile + 22 seconds = 4:56 per mile (close to the tabulated value of 4:53) for 4 miles on a lactate response run. A person with a time of 11:15 for 3k (90 secs per 400m), about 6 minutes per mile pace, however, needs to add about one minute to that figure i.e. 7 minutes a mile, for 4 miles. Once past 9:15 for 3k the lactate response run per mile rapidly slows. Here is a table of accurate recommendations:

Best 3k Time	Recommended Lactate Response Time For 4-Mile	Mile Difference (secs)
7:30	4:16	15
8:30	4:53	19
9:30	5:32	26
10:30	6:23	45
11:15	6:54	52
12:15	7:38	64

Many heart-rate monitor devotees may have never run in a 3k race and, therefore, Daniels' table will be of little use. But there is more to this table than at first meets the eye. If we look at the mile differential column of the table, it will be noted that a 7:30 3k runner who will be running at about 4:01 a mile in that event, is only going to be running 15 seconds slower per mile on a lactate response run (4:16 per mile)! That's 5k pace and 95 per cent of the VO_2 max and 98 per cent MHR.

On the other hand, if we look at a 9:30 3k performer (5:06 per mile), the lactate response run is 26 seconds slower (5:32 per mile). For this particular runner, this is 10k pace and 90 per cent of the VO_2 max and 93 per cent MHR.

If we take one more example, a 11:15 3k performer (6:02 per mile), the lactate response run is 6:54, some 52 seconds per mile slower than per mile in the 3k. This is slower than 10k speed, about 85 per cent of the VO_2 max, about 90 per cent MHR. This last calculation has led some physiologists to a rule of thumb recommendation for lactate response runs: "Run about 10 seconds per mile slower than per mile for your best 10k time." This may be apt for the 37:30 plus 10k performer, but not for those who are much speedier.

"...if an athlete can run for more than 30 minutes at 80 per cent of maximal heart rate - that run is not a lactate threshold run..."

What it boils down to is this: if an athlete can run for more than 30 minutes at 80 per cent of maximal heart rate - that run is not a lactate threshold run: it's a useful outing, but will do nothing to improve the lactate threshold. Moving the run up to 85 per cent MHR should be tried and if the athlete can just make 4 miles distance at that rate and no further, the target pattern has been set.

One winter, Yvonne Murray, GB International (8:29.02/3k), had her lactate response runs set (by blood analysis) at 5:20 per mile. Six months later it was set at 4:53 per mile. This shows what can be achieved with regular lactate threshold running done correctly.

"Where a pulse monitor scores over the stop-watch is when running into a stiff wind."

Where a pulse monitor scores over the stop-watch is when running into a stiff wind. While the time per mile advocate will struggle to keep to the schedule the pulse monitor athlete will keep to the required pulse-rate even though the speed of running may decline - BUT THE EFFORT REMAINS CONSTANT. This is a valuable preventative of overtraining.

As a matter of interest, in South Africa (where the author has lectured and coached on numerous occasions) there are heart-rate monitor clubs, i.e. you cannot be a member of the club unless you purchase a monitor from them. All training is done by pulse readings. These clubs are run on a franchise system, a person applies to the heart-rate manufacturers for a franchise using their name to sell the equipment and start a club. A new member, having purchased the monitor receives instructions on its use, which requires an annual club membership fee. A club with a membership of five hundred who have purchased the required monitor and paid the annual fee, nets the club's founder a handsome livelihood of around £25,000 (R200,000) a year! Enough to boost most pulse rates above resting rate!

Letters to the Editor

A BLUEPRINT TO REJUVINATE BRITISH MIDDLE DISTANCE RUNNING

I am sure that most of your readers share with me, and with all of our media exponents, concern at the demise of our middle and distance running standards.

While I believe that all of our success is cyclical, and that our time will come again, I am sure that I do not need to remind people that in 1964 we won both of the Olympic Games long jump events. I also wish to remind all track and field enthusiasts that we have no divine right to any medals in any Games, and that our athletes were very successful in Athens.

However, to return to the plight of our middle and distance runners I believe that it is now time to effect a reform. Had our sport been soccer, or rugby league some "heads would have rolled" a few years ago. Hence, I firmly believe that the supporters of our sport need to see the actions of a new "broom". It is quite obvious that the current structure and groupings of our coaches is not proving successful. Perhaps changes in the structure might not prove successful and a change might indicate that our current group of athletes are not good enough. My reasoning is that the sport needs to see that attempts are being made to improve standards.

During the course of my 'play' I meet very many coaches, throughout the country involved in the coaching of good middle distance runners. In conversation it is quite obvious that their ideas are based upon empiricism. That their ideas of training lack the support that modern sport science can offer. Many of the coaches are excellent "artists", extremely good motivators and managers of people. Hence for a start we MUST educate our coaches to a higher level of understanding. To achieve this there must be a British middle distance supremo coach with a duty to restructure training methods and coach education.. That person will need to be supported by a group of regional senior coaches.

What qualifications will the supremo need :-

1. A sound basic education in sports science. I rate this highly because such a person MUST understand the energy systems. Be able to differentiate between strength and strength endurance, speed and speed endurance and local muscular endurance. To understand how these components, together with power training can be phased into a training period. To understand the biomechanics of the running action. When a person genetically lacks leg speed, then stride length is the only alternative to increasing velocity. Perhaps a better understanding of this might have made Paula Radcliffe a medallist?

Sports science must include an understanding of all of the legal distance running ergogenic aids. The use of altitude training, nutrition therapy including hydration and rehydration. l stated a basic education in this science since it is unlikely that one person will have this knowledge, but with the basic qualification the person will know where to go to select a team of helpers, and be able to translate the scientific jargon into layman's English. .

2. The supremo would need to be a good communicator and have excellent personal skills to be able to lead a team and to educate the subordinates. Such a position would be a high profile one, hence the person must have proven integrity and be able to manage the media. Have a commitment to the cause of improving the current performance rankings.

3. Lastly but by no means the least the supremo MUST be a B.A.F. qualified SENIOR COACH in middle distance events and have proven expertise in producing international class distance runners. I am uncertain whether such a person still exists. There were certainly several of them functioning ten years ago. Perhaps that is why we were successful in the period 1965 - 1985? Wilf Paish

All-Time World Junior Lists

compiled by Matthew Fraser Moat

Men's 4 x 800m

7:26.2	British Milers' Club, UK	2 Sep 1995
7:32.7	Fiamme Azzure, ITA	8th Oct 1986
7:33.0+	Jackson, Cambria Heights, NY, USA	7th Jun 1966
7:33.0+	Boys, Brooklyn, NY, USA	7th Jun 1966
7:34.8	York, Elmhurst, Il, USA	7th May 1985
7:35.27	East Coast Classic Team, NC, USA	2nd Aug 1981
7:35.3	Liverpool Harriers, UK	14th Aug 1990
7:35.4+	Thornton, Harvey, Il, USA	1976
7:35.7+	Lyons Township, Lagrange, Il, USA	1976
7:35.89	St Jago Boys, JAM	1990

Men's 4 x 1500m

15:47.8	CS Forestale, ITA	6th Oct 1983
15:52.0	British Milers' Club, UK	30th Apr 1997
15:57.2	Doncaster Club, AUS	17th Dec 1989
16:00.30	Il Skjalg, Nor	27th Jun 1982
16:03.2	British Milers' Club, UK	30th Apr 1996
16:03.7	South Eugene, Eugene, Or, USA	30th Apr 1982
16:04.3	Blackburn Harriers, UK	15th Sep 1979
16:04.7	Victoria U18	17th Dec 1989
16:07.7	Stretford AC, UK	27th Sep 1977
16:09.3	Solihull & Small Heath AC, UK	30th Apr 1997

Men's 4 x 1Mile

16:56.8	British Milers' Club, UK	10th Jul 1993
17:06.6	South Eugene, Eugene, Or, USA	7th May 1976
17:10.7+	McCulloch, The Woodlands, USA	1st Mar 1986
17:11.7	South Eugene, Eugene, Or, USA	1975
17:12.2	Essex Catholic, Newark, NJ, USA	1966
17:12.6	Catholic, Paramus, NJ, USA	1973
17:13.2	Lompoc, Ca, USA	27th Apr 1973
17:13.9	British Milers' Club, UK	11th Jun 1997
17:15.0	Clairemont, San Diego, Ca, USA	9th Jun 1971
17:19.6	Power Memorial, NYC, NY, USA	1974

Women's 4 x 800m

8:37.71	Vere Technical HS, JAM	1991
8:39.6	British Milers' Club, UK	17th Jul 1996
8:44.09	Vere Technical HS, JAM	1989
8:44.69	Vere Technical HS, JAM	1992
8:45.35	Vere Technical HS, JAM	1990
8:48.5	Australia U20	19th Dec 1989
8:50.09	Vere Technical HS, JAM	1991
8:52.89	Vere Technical HS, JAM	1994
8:53.05	St Elizabeth HS, JAM	30th Apr 1997
8:53.1	Havering AC U17, UK	24th May 1980

Women's 4 x 1500m

18:23.98	New South Wales, AUS	24th Nov 1990
18:34.58	Victoria U18, AUS	28th Mar 1992
18:38.0	British Milers' Club, UK	30th Apr 1997
18:43.26	New South Wales U16, AUS	26th Nov 1988
18:52.5	University, Irvine, Ca, USA	23rd Apr 1982
18:54.7	Fiat Sud Formia, ITA	2nd May 1993
19:06.7	British Milers' Club, UK	30th Apr 1996
19:12.9	British Milers' Club U17, UK	30th Apr 1997
19:32.7	Millikan, Long Beach, Ca, USA	1982
19:35.1	Bristol AC, UK	30th Apr 1997

Women's 4 x 1Mile

20:16.2	British Milers' Club, UK	11th Jun 1997
20:28.00+	Brighton, Rochester, NY, USA	11th Jun 1985
20:34.0	Ridgewood, NJ, USA	17th May 1983
20:36.33	Agoura, Agoura Hills, Ca, USA	1992
20:37.4+	Rutland, Vt, USA	1984
20:42.27	Agoura, Agoura Hills, Ca, USA	1991
20:49.8	Miramonte, Orinda, Ca, USA	1981
20:52.53	Agoura, Agoura Hills, Ca, USA	1992
20:52.9+	State College, Pa, USA	1981
20:53.3+	North Hunterdon, Annadale, NJ, USA	1984

British Milers' Club Records

as at 31st December 1997

	BMC Member's Record *by a paid-up BMC member in a BMC race*	BMC All-Time Record *by anyone in a BMC race*	BMC Club Record *by a paid-up BMC member in any race*
M600	1:18.5 Steve Ovett 1976 1:18.5 Andy Knight 1996	1:18.5 Steve Ovett 1976 1:18.5 Andy Knight 1996	1:15.0+ Seb Coe 1981
M800	1:46.8 Andy Hart 1997	1:45.2 Patrick Ndururi KEN 1997	1:41.73 Seb Coe 1981
M1000	2:19.4 Andy Hart 1997	2:19.4 Andy Hart 1997	2:12.18 Seb Coe 1981
M1500	3:37.5 Anthony Whiteman 1997	3:37.5 Anthony Whiteman 1997	3:29.77 Seb Coe 1986
M Mile	3:56.35 Anthony Whiteman 1996	3:56.35 Anthony Whiteman 1996	3:47.33 Seb Coe 1981
M2000	5:11.0 Walter Wilkinson 1972	5:11.0 Walter Wilkinson 1972	4:53.06 Jack Buckner 1987
M3000	7:51.4 Rob Whalley 1997	7:51.4 Rob Whalley 1997	7:32.79 David Moorcroft 1982
M 2 Mile	8:34.5 Ian Gillespie 1997	8:34.5 Ian Gillespie 1997	8:13.51 Steve Ovett 1978
M5000	13:41.08 Rob Whalley 1997	13:40.5 Seamus Power IRE 1997	13:00.41 David Moorcroft 1982
M10000	29:49.2 John Lisiewicz 1994	29:32.8 David Taylor 1997	27:30.3 Brendan Foster 1978
W600	1:29.4 Linda Staines 1997	1:29.4 Linda Staines 1997	1:26.5 Kirsty Wade 1985
W800	2:03.0 Kirsty Wade 1982	2:00.7 Shireen Bailey 1985	1:57.14 Kelly Holmes 1997
W1000	2:44.9 Jo White 1980	2:44.9 Jo White 1980	2:32.55 Kelly Holmes 1997
W1500	4:10.7mx Sonya Bowyer 1996	4:10.7mx Sonya Bowyer 1996	3:58.07 Kelly Holmes 1997
W Mile	4:30.77 Joanne Pavey 1997	4:30.77 Joanne Pavey 1997	4:19.41 Kirsty Wade 1985
W2000	6:22.2 Paula Yeoman 1971	6:22.2 Paula Yeoman 1971	5:37.00 Christine Benning 1984
W3000	9:08.8mx Sarah Bentley 1997	9:06.2mx Sinead Delahunty IRE 1995	8:37.06 Wendy Sly 1983
W5000	15:56.8mx Vicky McPherson 1997	15:47.9 Andrea Wallace 1990	15:21.45 Wendy Sly 1987
W10000	34:44.9 Heather Heasman 1997	33:33.7 Theresa Duffy IRE 1997	31:53.36 Wendy Sly 1988

Progression

by Frank Horwill

Progression - The Key To Increasing Fitness

The late Ron Pickering, former national athletics coach for Wales, and mentor to Olympic gold medallist Lynn Davies in the long jump (8.23m), many years ago was giving a lecture to the British distance running squad at their training camp in Merthyr Mawr. The theme of his lecture was - PROGRESSION. He said, "If you wake up every morning and go for a 2-mile run around the park in 15 minutes, you will become very good at running 2 miles in 15 minutes. But, if you wish to progress, some of your runs will have to be 4 miles around the park, and some, just one mile around the park much faster".

During his lecture he was puzzled by the appearance of a middle-aged man sitting in the back-row of the audience, wearing a battered old trilby hat and smoking a pipe (Smoking was not so badly thought of thirty years ago!). Pickering thought no more of the matter until a year later when he was again addressing the same gathering - the same man, in the same place and in the same gear.

After his lecture, the man approached Pickering and said, "I thought about what you said last year on progression. I started with one chin to the bar and increased it by one a day. I got up to fifty!" The average for chinning the bar correctly for the British running elite in 1963, was three for men and a half chin for women.

Pickering felt inclined to doubt the man's story and suggested they adjourn to the gymnasium for the man to give a demonstration. When the man had reached thirty chins he spluttered to Pickering, "Sometimes I get bored doing these and pull myself up to arms-length." He then proceeded to pull himself up until his arms were fully extended and his hips were above the bar! He completed fifty chins. His sport was sheer face rock climbing, for which he was world-renowned.

"If you wake up every morning and go for a 2-mile run around the park in 15-minutes, you will become very good at running 2 miles in 15-minutes."

The moral of that story is obvious and not new. One of the most famous stories of its kind occurred more than 500 years before the birth of Christ. Milo of Crotona was delighted with the birth of a bull calf from a good stock cow, he expressed his joy for lifting the calf above his head first thing in the morning. He continued to do this until it was 4-years old and twenty times heavier than when first born. This did not stop him carrying it the length of the stadium at Olympia. Progressive weight-training had started.

One athlete scored only 30 - he was asked to start with one press up every morning and to add one each day. Several months later, the athlete enquired of the writer, "How long should I keep up these press-ups, Frank! I'm up to 133 at present".

The writer had a similar experience to that of Ron Pickering. He was in the habit of putting his athletes through a series of tests at the beginning of each winter, one of these was the number of press-ups that could be done in one minute - 60 was good, 50 was fair and 40 was poor. One athlete scored only thirty - he was asked to start with one press up every morning and to add one each day. Several months later, the athlete enquired of the writer, "How long should I keep up these press-ups, Frank! I'm up to one hundred and thirty-three at present".

The key to progressive training is to START SMALL - AIM BIG. One never to be forgotten distance runner did just that when he ran in the 1948 Olympic Games at Wembley in the 5,000 metres, where he gained a silver medal, his daily training consisted of 5 x 200, 200 job recovery, 10 x 400, 200 jog recovery and 5 x 200. Two years later, he doubled this and a year later, he doubled it again, i.e. 20 x 200, 40 x 400, 20 x 200 daily! Inclusive of the job recoveries, this is the equivalent of running the marathon distance daily! He was to be handsomely rewarded - Emil Zatopek gained gold metals in the 5,000 and 10,000 metres, plus the marathon, the last distance he had never run before, but it did not stop him breaking the Olympic record (2:23:03.2) A feat that has never been equalled.

"The art is to start with minuscule amounts of work and progressively to add to it."

There are many who watch the London Marathon in April each year, with admiration tinged with envy. The latter sentiment comes from a feeling of wanting to run but doubting one's ability to do so. There is also a fear of looking something of a spectacle in one's initial outings. But, the simple fact is that every person who completes the London Marathon has had to make a start from a start of semi-decadence. Some start by doing a little too much, they get stressed and depressed - they give up.

The art is to start with minuscule amounts of work and progressively to add to it. We can either begin with just ONE MINUTE of running on the first day then add ONE MINUTE a day to this with every seventh day off, or we can run for ONE MINUTE a day for a whole week and then make it TWO MINUTES a day for the second week, and so on.

With the first method, a person will reach 100 minutes a day in about 4 months. Once thirty-five minutes of running are reached in thirty-five weeks by the second method, it should be changed to a MINUTE a day progression, so that by the end of the thirty-ninth week an hour's running is done daily (about 8 miles).

To complete a marathon without too much stress, double the distance of the marathon (52 miles) should be run each week. Do not believe those who tell you that you need double that amount! The writer has coached females who in their FIRST marathons, ran about 2 hours 40 minutes 30 seconds and 2 hours 54 minutes on just 40 miles a week.

Progression

by Frank Horwill

"There will come a time when the quantity of an activity is not practicable ... then it's perhaps time to halve the quantity and make it harder."

This brings us to another important aspect of PROGRESSION - making the activity tougher. There will come a time when the quantity of an activity is not practicable, we have only so much time in the day for exercise. When we reach the limit of that practicality, it's perhaps time to halve the quantity and make it harder. Take, for example, the lad who reached 133 press ups. It he had placed his feet on a chair and hands on the floor he would not have done so many repetitions at first. But, given a month or two he might reach his former maximum, and in doing so make his arms and shoulders immensely strong. So, with progressive training we have some options:

1. Going for quantity.
2. Aiming for a quantity making it tougher and aiming for the same quantity.
3. Fixing the quantity and increasing the quality.

Emil Zatopek concentrated on two things at the same time. In a conversation with the writer in 1963, he claimed that he did his 20 x 200, 40 x 400 20 x 200 at the same speed as he did only 5 x 200, 10 x 400, 5 x 200. That takes some doing!

Roger Bannister (first man to break 4-minute for the mile), on the other hand, went for (3) above. His motto was - MINIMUM TIME - MAXIMUM EFFORT. Time for him was a precious commodity, he had medical exams to pass, and later, when a house doctor, he was on call 24 hours a day. From the time he left his students' residence to the time he returned, not more than an hour had elapsed, and during that hour he did his training!

He started the winter with 10 x 440 yds in 66 seconds with 440 yds jog in 2 - 3 minutes. The aim was to reduce the time of the repetitions by a second a month. In May, 1954 he got them down to 56 seconds. But, he was mindful that he needed endurance as well, and did the "dreaded" session of 3 x 1.5 miles (6 laps of 440 yds) once a week with 5 minutes' recovery after each. This regime led him to immortality.

Tradition in Britain has decreed that runners go for quantity in the winter. The runner is somewhat unique: he/she is expected to compete all the year round although some other sports at international level do compete abroad out of season due to the timing of world championships. Needless to say, there are some runners who do not believe in year-round competition.

Sebastian Coe at 21 years of age, decided to give up cross-country racing in the winter and aimed to concentrate on category (3) above in training, whilst Steve Ovett aimed for category (1) above and competed in cross-country. When both were aged sixteen years, Steve Ovett was the superior athlete. At 15 years of age, Coe's best for 1500 metres was 4:25 at the same age, Ovett was 10 seconds faster.

"Many middle-distance runners (usually 800 metre specialists) are good sprinters but poor endurance runners - they would avoid long repetitions with short recoveries. Such thinking is not world-class thinking, it is third-rate also-ran thinking."

But, 10 years later Coe was superior to Ovett in the 800 metres, 1500 metres, mile and 1,000 metres, and had gained twice as many Olympic medals and word records. This could be a strong recommendation to follow category (3) in training and to avoid cross-country racing. The latter choice is not popular with die-hard athletics club officials.

So, what is your weakness? Usually a weakness is something you avoid because you are no good at it and don't want to be humiliated. One thing is for sure, it won't get any better by ignoring it. It will always be your weak link in the chain of total fitness. Many middle-distance runners (usually 800 metre specialists) are good sprinters but poor endurance runners - they would avoid long repetitions with short recoveries. Such thinking is not world-class thinking, it is third-rate also-ran thinking.

Here is a plan to move up a peg in your own estimation, and possibly to improve your fitness beyond your wildest dreams. Accept that you have a personality - it is made up of three things, a trinity in unity, MIND, BODY AND WILL. They are all important but the WILL is the most important since it dictates to the mind and thence the body. Treat the WILL as a muscle to be exercised daily with small tasks which grow in magnitude.

Decide NOW what aspect of your fitness or competitive training you dislike most. Be honest! Have the guts to say, "I hate running up hills", or "I hate any form of strength training." Once this is said, you have accepted that you are not so cracked-up as you think you are. Your days as a poseur are over, no longer will you do just the things you are good at and look good. You are prepared to face reality and look, at times, "all fingers and thumbs". You have made a momentous decision.

Remember the old Chinese saying - "A 10,000 mile walk starts with the first step." Choose a minuscule amount of the activity you dislike most and decide whether you want to do it daily or weekly, remember that it PROGRESSES each time you do it.

For example, you may dislike bent-knee abdominal exercise. This can be done daily at home first thing in the morning. You start with one exercise, next day two, etc. It may be that you are afraid of hill-running - once a week will suffice. You choose a long hill of about 1200 metres. You scale it once, next time it will be two efforts. Choose the same time and the same day.

At the end of a week of progression, give yourself a pat on the back. Get a postcard and write on it in block letters, the word WILL, and stick it up on the bedroom wall, it will remind you that your will-power is in the ascendancy. Each week of progression replace the paper with bigger letters, if necessary start painting the wall with the word - WILL! Be able to say 6 months hence, "I AM FAR GREATER THAN I EVER KNEW".

Be able to say 6 months hence, "I AM FAR GREATER THAN I EVER KNEW".

BMC Merit Rankings 1997

by Matthew Fraser Moat

Inspired by Peter Matthews' national merit rankings, the BMC Merit Rankings take account of performances made in BMC races only, on the following basis (i) best times and number of performances at that level, (ii) number of winning performances and the margins of their victories, (iii) win-loss record against other ranked athletes, (iv) performances in the 'special BMC events' i.e. the BMC Nike Grand Prix Final incorporating the BMC Championships at Bristol and the relays meetings at Watford, (v) the style of the athlete's racing, i.e. whether they are willing to take up the pace or not, (vi) the distances athletes are prepared to travel to get fast races.

The rankings are therefore meant to reward consistent excellence by BMC members prepared to travel throughout the season. They are not meant to predict what would happen in an idealised race. Non-members are excluded, and members who only ran once are listed as 'nr' (not ranked). Places in the last two years BMC rankings are in brackets. Times for women set in mixed races are discounted slightly in the rankings.

Men's 600m / 800m / 1,000m

1 **Hart** (1, 2) 1:46.8 / 2:19.4:
1 WythGP, 4 Batt 15/6, 1 Stret 22/7k,1 Toot 20/8;

2 **McKay** (new) 1:46.87:
2 WythGP, 1 LoughGP, 5 Batt 15/6, 1 WatGP, 2 BrisGPF;

3 **Swift-Smith** (8, -) 1:47.9 / 2:24.56:
2 Lough 18/5, 1 Wat 28/5, 7 Batt 15/6, 1 SwinGP;

4 **Cuddy** (19, -) 1:47.2 / 2:22.91:
4 WythGP, 1 Lough 18/5, 8 Batt 15/6, 9 WatGP, 2 Stret 22/7, 2 SwinGP;

5 **Lerwill** (nr, -) 1:48.3:
4 LoughGP, 9 Batt 15/6, 3 SwinGP;

6 **Yates** (new) 1:49.0:
2 WatGP, 1 Fins Pk 1/7, 1 Wat 27/8;

7 **Knight** (7, 3) 1:22.4 / 1:48.9:
6 Batt 19/4, 6 WatGP, 4 Wat 16/7, 2 Fins Pk 5/8, 4 SwinGP, 2 Toot 20/8, 3 BrisGPF;

8 **King** (9, -) 1:49.5 / 2:26.9:
1 Belfast, 3 WythGP, 3 WatGP;

9 **Young** (-,-) 1:49.7:
2 LoughGP, 11 Batt 15/6, 5 WatGP, 8 Stret 22/7, 5 BrisGPF;

10 **Sutton** (-,-) 1:49.8:
1 Stret 29/4, 1b WythGP, 3 LoughGP, 1b Stret 17/6, 4 WatGP;

11 **Edwards** (-, -) 1:49.4:
1 Stret 20/5, 1b WatGP, 5 SwinGP;

12 **Kloiber** (-, 16) 1:49.56:
2b LoughGP, 3b Batt 15/6, 8 WatGP, 1b1 SwinGP, 3 Toot 20/8, 4 BrisGPF;

13 **Donkin** (nr, -) 1:49.3 / 2:24.0:
1 Stret 29/4, 6 WythGP, 3 Stret 22/7;

14 **Hall** (-,-) 1:20.3 / 1:49.8:
4 Batt 19/4, 1 Fins Pk 3/6, 4b Batt 15/6, 1 Fins Pk 5/8;

15 **Tulba-Morrison** (18, -) 1:49.88:
3b2 SwinGP, 2 Wat 27/8, 6 BrisGPF

16 **Girvan** (-,-) 1:49.7:
2 Stret 20/5, 1 Londonderry, 6 SwinGP, 8 BrisGPF;

17 **Thompson** (20, -) 1:20.1 / 1:50.3 / 2:25.07:
1 Batt 18/1, 2 Batt 19/4, 3 Lough 18/5, 1b LoughGP, 2b Batt 15/6, 7 WatGP, 1 Wat 16/7, 3 Fins Pk 5/7, 5b2 SwinGP, 4 Toot 20/8;

18 **Gilby** (-, -) 1:19.0 / 1:50.1 / 2:28.6:
2 Batt 18/1, 3 Sut Pk 3/5, 7 WythGP, 6 LoughGP, 12 Batt 15/6, 1 Sut Pk 5/7;

19 **Dupuy** (-,-) 1:21.2 / 1:50.1:
5 Batt 19/4, 1e WythGP, 2 Wat 16/7, 4 Fins Pk 5/8, 1b2 SwinGP, 9 BrisGPF;

20 **Ashe** (26, -) 1:49.94:
6b Batt 15/6, 7 BrisGPF;

21 **Green** (new) 1:51.1 / 2:22.0:
2b Stret 17/6, 2 Stret 22/7k;

22 **Graffin**, Andrew (new) 1:50.0:
2c WatGP, 1 Toot 6/8;

23= **Davoile** U20 (-,-) 1:50.6:
4b WythGP, 1c WatGP;

23= **Lees** U20 (-, -) 1:50.5:
4c WythGP, 2 Wat 28/5, 1 Stret 17/6;

25 **Veness** (29, -) 1:50.1:
2b WatGP, 3b1 SwinGP;

26 **Scanlon** (-, -) 1:50.4:
4b LoughGP, 2b2 Swin GP;

27 **Donaldson** (16, 9) 1:50.6:
3b WythGP, 7 LoughGP, 7 SwinGP;

28 **Wilson** (27, -) 1:50.3:
8b Batt 15/6, 2 Jarrow 23/7;

29 **Mate T** (17, -) 1:50.4:
8 LoughGP, 3 Jarrow 23/7;

30= **Airey** (24, 15) 1:22.8 / 1:51.1:
7 Batt 19/4, 3b LoughGP, 8 Wat 16/7, 8 Fins Pk 5/8, 5b1 SwinGP, 6 Toot 20/8;

30= **Morris, Matt** (-,-) 1:50.5:
5c Stret 17/6, 1b Stret 22/7, 2b1 SwinGP; 6 Stret 26/8, 4b BrisGPF;

30= **Walling** (-, -) 1:51.3 / 2:23.7:
1c WythGP, 4 Stret 20/5, 5 Stret 17/6, 7b WatGP, 3 Stret 22/7k, 6b1 SwinGP, 7 Toot 20/8, 1 Stret 26/8;

nr: **Whiteman** (-,-) 1:47.7: 6 Batt 15/6;
Kirk U20 (-, -) 1:49.8: 1b Batt 15/6;
Openshaw (new) 1:49.9: 1 Jarrow 23/7.

In the year in which he became undisputed British number 1 (and also finally removed Seb Coe from the BMC Record books), Andy Hart is top ranked for the second year running. BMC Champion Kevin McKay dominated the BMC NIKE Men's Grand Prix but was critically 0-2 versus Hart. We were honoured by the presence of Patrick Ndururi, Robert Kibet and Bernard Kisilu - they set new standards in our races and ensured that the BMC got international coverage. The race at Battersea Park on 15th June was the fastest 800m in Britain in 1997 (1:45.2), and the race at Stretford on 22nd July was the fastest 1,000m race in Britain in 1997 (2:19.4). At Stretford in July we were able to provide Paul Walker with the race that got him his world championship qualifying time. Nationally, four Britons broke 1:47 this year, all of them domestically, and three of them in BMC races.

Men's 1,500m / Mile

1 **Gillespie** (4, 4) 3:39.8 / 3:58.4M:
3 WythGP, dnf LoughGP, 2 Bath, 1 Exeter, 2 SwinGP, 2 BrisGPF;

2 **Caddy** (1, 1) 3:41.6 / 4:00.9M:
1re4 Wat 30/4, 4 WythGP, 1 Bath, 2 Exeter;

3 **Pearson** (-,-) 3:40.3: 2 WythGP, 1 LoughGP;

4 **Green** (new) 3:42.1 / 4:03.21M:
5 WythGP, 2 LoughGP, 3 WatGP, 5 SwinGP, 3 Stret 12/8, 4 BrisGPF;

5 **Turnbull** U20 IRE (new) 3:42.8:
4 WatGP, 3 SwinGP;

6 **Glenton** (new) 3:44.4 / 4:03.50M:
3 LoughGP, dnf Bath, 6 WatGP, 9 SwinGP, 5 BrisGPF;

7 **Skelton** (18=, -) 3:42.8:
6 WythGP, 4 LoughGP, 7 WatGP;

8 **Dullforce** (new) 3:43.8:
10 LoughGP, 1 WatGP;

9 **Barnes** (new) 3:43.9: 7 LoughGP, 2 WatGP;

10 **Comerford** (25, 13) 3:43.4/4:04.9M:
1 Batt 15/6, 5 Bath, 5 Exeter;

11 **Ashe** (2, 6) 3:42.8: 12 LoughGP, 4 SwinGP;

12 **Witchalls** (-,-) 3:45.7 / 4:03.73M:
11 LoughGP, 6 BrisGPF;

13 **Smith** (29, -) 3:43.1: 7 WythGP, 14 LoughGP, 8 WatGP, 5 Stret 12/8;

14 **Poore** (14, -) 3:44.1 / 4:03.4M:
10 WythGP, 4 Bath, 12 SwinGP;

15 **Tulba-Morrison** (-,-) 3:44.5:
9b LoughGP, 5 WatGP;

16 **Swift-Smith** (-,-) 3:45.0:
6 LoughGP, dnf BrisGPF;

17 **Veness** (-,-) 3:47.2 / 4:03.98M:
2b LoughGP, 7 BrisGPF;

18 **Mowbray** (-,-) 3:45.2:
9 LoughGP, 4 Stret 12/8;

19 **Margiotta** (10, 14) 3:46.1:
10 WatGP, 1 Wat 30/7;

20 **Mills** (-,-) 3:45.8: 1re2 Wat 30/4, 4 Batt P, 13 Wat 30/7, 10 SwinGP,

21 **Whalley** (12, -) 3:47.4 / 4:05.1M:
13 LoughGP, 4 Exeter;

22 **Sharpe** (-,-) 3:46.9 / 4:07.78M:
1 Wat 28/5, 5b LoughGP, 5 Batt P, 13 WatGP, 9 BrisGPF, 4 Wat 10/9;

23 **Davies** (17, 18) 3:46.6:
13 WythGP, 6 Wat 30/7;

24 **O'Gara** (-,-) 3:46.2: 4 Wat 20/7, 6 Stret 12/8;

25 **Renfree** (30=,-) 3:48.9 / 4:11.2M:
4b WythGP, 7b LoughGP, 7 Bath, 10 Exeter, 14 SwinGP;

nr: **Whiteman** (nr, -) 3:37.5: 1 SwinGP;
Hough (6, 12) 3:39.1: 1 WythGP;
Zawadzki (26,-) 3:44.2: 1 Wat 10/9;
Davoren (24, 20=) 3:44.4: 8 SwinGP;

BMC Merit Rankings 1997

by Matthew Fraser Moat

Cuddy (new) 3:44.7: 1 Stret 12/8;
Wilson (-, -) 3:44.8: 5 LoughGP;
Barden (18=, 10) 3:45.2: 8 LoughGP;
Openshaw (new) 3:46.0: 1b LoughGP.

A memorable victory at Exeter means that Ian Gillespie regains the top ranking he held for two years in 1993 and 1994, with 2 pbs and a 2-1 record against Neil Caddy, top ranked for 1995 and 1996. However the best performances of the year were by Rob Hough and Anthony Whiteman. Hough ensured a spectacular start to the year at Wythenshawe when he equalled the BMC members' record of 3:39.1. Later in the year Whiteman ran 3:37.5 at Swindon, the fastest 1500m in Britain in 1997, which set him up nicely for his 3:32.34 at Monaco 9 days later. Despite these highlights, the overall standard at this event was down on previous years as the South West and Eastern Region Grand Prix stood down in favour of the Nike Grand Prix and the British Athletics Endurance Initiative, thus reducing the number of competitive opportunities over the Mile.

Men's 3,000m - 10,000m

1 **Whalley** 7:51.4 / 13:41.08:
1 WythGP, 2 Horspath, 2 Stret 22/7, 1 SwinGP, 1 BrisGPF;
2 **Barden** 7:53.2 / 13:51.5:
4 Lough 18/5, 2 SwinGP, 4 BrisGPF;
3 **O'Dowd** 7:55.9 / 13:44.83:
5 Lough 21/5, 5 SwinGP, 3 BrisGPF;
4 **Finnerty IRE** 7:55.0 / 13:45.6:
4 SwinGP, 2 Wat 30/7;
5 **Tromans** 8:00.7 / 13:49.7:
4 WythGP, 3 Lough 18/5, 2 Lough 21/5;
6 **Mowbray** 7:59.5: 3 WythGP, 9 SwinGP;
nr: **Gillespie** 8:34.5M: 1 Millfield;
Pearson 13:42.2: 1 Lough 18/5;
Grime 7:59.7: 1 Lough 21/5.

Rob Whalley became the first person to break his own BMC record at any distance with his 7:51.4 for 3,000m at Swindon, and became BMC Champion over 5,000m. Gillespie's 2 Mile record at Millfield actually led the world rankings for three weeks!

Women's 600m / 800m / 1,000m

1 **Raven** (-,-) 2:03.7:
6 WythGP, 3 WatGP, 2 SwinGP, 1 BrisGPF;
2 **Staines** (new) 1:29.4 / 2:05.7: 1 Batt P 19/4, 3 WythGP, 1 LoughGP, 1 WatGP;
3 **Faherty** (2, 4) 2:05.6 / 2:45.22:
2 WythGP, 1 Lough 18/5;
4 **Gibson** (nr, -) 2:05.6:
2 WatGP, 4 SwinGP, 2 BrisGPF;
5 **Beecroft** (19, new) 2:06.2:
1 Stret 29/4, 4 WythGP, 2 LoughGP, 5 SwinGP, 3 Stret 26/8, 3 BrisGPF;
6 **Davies A** (7, 6) 2:06.5:
3 LoughGP, 4 WatGP;
7 **Jordan-Smith** (5, 19) 1:31.2 / 2:06.7:
2 Batt 19/4, 5 WythGP;
8 **McPherson K** (-,-) 2:06.4 / 2:52.96:
2 Lough 18/5, 5 Stret 22/7, 2 Stret 26/8;
9 **Jones** (17, 14) 2:08.0:
6 WatGP, 4 BrisGPF;
10 **King** (8, 12) 2:07.7:
7 WatGP, 2 Stret 22/7;
11 **Pattinson** (-,-) 2:07.8: 2 Stret 29/4, 4 LoughGP, 3 Stret 22/7, 4 Stret 26/8;
12 **Andrews V** (-,7) 2:09.4:
4 Stret 29/4, 4b WythGP, 2 Stret 17/6, 8 Stret 22/7, 6 Stret 26/8;
13 **Aston** (new) 2:09.44: 9b WythGP, 4 Stret 20/5, 7b Lough GP, 1b Stret 22/7, 6 SwinGP, 8 Stret 26/8, 5 BrisGPF;
14 **Fryer** (10, 16) 2:09.3:
6 WythGP, 1 Stret 17/6;
15 **Brady** (new) 2:09.1:
3b WythGP, 6 Stret 22/7;
16 **Bothams** (-,-) 2:09.7:
3b LoughGP, 7 Stret 22/7;
17 **Parker** (3, 15) 2:10.0:
4 Stret 17/6, 7 Stret 26/8;
18 **Bouchard** (-,-) 2:09.7:
11b WythGP, 1b Stret 26/8;
19 **Harnett** (-,-) 2:09.9:
8 WatGP, 1 Wat 16/7;
20= **Hardy** (new) 2:11.0:
2b LoughGP, 9 WatGP;
20= **Swann** W35 (-,-) 2:11.21:
10 WatGP, 6 BrisGPF;
20= **Wells** (new) 1:37.4 / 2:10.8:
4 Batt 19/4, 12 WatGP, 7 SwinGP;
nr: **Henaghan** (6, new) 2:03.1mx: 1 Jarrow 23/7;
Modahl (new) 2:03.4: 1 SwinGP;
Smith (new) 2:05.2: 1 WythGP;
Davies E U20 (12=, new) 2:06.8: 5 WatGP;
Colleran (-,-) 2:08.7: 5 Stret 26/8;
Ogden U20 (12=, 20) 2:09.0: 1 Millfield;
Pritchard U20 (18, -) 2:09.1: 1b WythGP;
Mersh (new) 2:10.2: 1b LoughGP;
Andrews N (new) 2:10.2: 1 Batt Pk.

By winning the Grand Prix Final, Claire Raven just clinched top ranking from Linda Staines whose three wins had given her the edge over Faherty and Gibson. Faherty was third despite having 1-0 records against both those in front of her. Good breakthroughs by Beecroft and Aston. Swann's time at Bristol was the fastest by a vet in 1997.

Women's 1,500m / Mile

1 **Pavey** (7, -) 4:12.6mx / 4:30.77M:
1re2 Wat 30/4, 1 WythGP, 1 LoughGP, 1mx Barry, 1 Bristol GP;
2 **Faherty** (2, -) 4:15.8:
1re3 Wat 30/4, 2 LoughGP;
3 **Gibson** (1, -) 4:17.7mx:
1re4 Wat 30/4, 1mx Wat 30/7, 1mx Wat 10/9;
4 **Pattinson** (11, 6) 4:20.3 / 4:41.65M:
4 WythGP, 1 WatGP, 3 SwinGP, 2 BrisGPF;
5 **Parkinson** (4, 2) 4:18.6:
3 WythGP, 3 LoughGP;
6 **Jones** (10, -) 4:19.2: 5 LoughGP, 2 SwinGP;
7 **O'Hare** U20 (16, -) 4:21.6:
2re1 Wat 30/4, 2 WatGP;
8 **Pimblett** (6, -) 4:21.8:
5 WythGP, 4 LoughGP, 3 Stret 12/8;
9 **Colleran** (new) 4:24.0 / 4:46.87M:
1 Stret 1/7, 3 BrisGPF;
10 **Thackray** (14, -) 4:22.4 / 4:50.87M:
10 WythGP, 6 LoughGP, 3 WatGP, 7 SwinGP, 4 BrisGPF;
11 **Bothams** (-,-) 4:22.7:
12 WythGP, 6 WatGP, 1 Wat 30/7, 4 SwinGP, 2 Stret 12/8;
12 **Spies** USA (new) 4:23.0:
4 Wat GP, 1mx Tooting 2/7;
13 **Field** (12, -)4:25.0:
6 WythGP, 7 LoughGP, 7 WatGP, 6 SwinGP;
14 **Sterne** (new) 4:24.4:
7 WythGP, 2 Stret 1/7;
15 **Harnett** (12, -)4:27.1:
11 WythGP, 8 SwinGP;
nr: **Davies** (nr, 1) 4:18.5: 1 SwinGP;
Henaghan (new) 4:20.3: 2 WythGP;
Simmons (new) 4:24.6: 5 WatGP;
McPherson K (20,-) 4:24.8: 1 Stret 12/8.

Ranked 7th last year, Joanne Pavey was unbeaten in BMC races, became British Champion, and reached the semi-finals at the world championships having run 14 BMC races in the previous 15 months. On her return from Athens she ran 4.12.6 in a mixed 1,500m and then a 4:30.77 mile at Bristol on August 30th, which was the fastest time in Britain in 1997. Our senior quartet of Doubell, Pavey, Faherty and Gibson set a Commonwealth and European relay record at 4 x 1,500m and our junior quartet set a European junior record at 4 x 1500m and a world junior record at 4 x 1 mile. Pattinson, Thackray, Bothams and Field ensured that against expectations this event was well supported in the BMC NIKE Grand Prix.

Women's 3,000m - 10,000m

1 **Bentley** 9:08.8mx / 16:14.55:
3 Lough 18/5, 1mx Stret 17/6, 1 Horspath, 1 Stret 2/7, 1 SwinGP;
2 **McPherson** V 15:56.8:
2 Lough 18/5, 1mx Lough 11/6;
3 **Heasman** 16:20.58 / 34:44.9:
4 Lough 18/5, 3 Lough 3/6;
4 **Spies** USA 9:29.1 / 16:33.89:
6 Lough 18/5, 2 Horspath;
5 **Joiner** 9:33.0 / 16:21.22:
5 Lough 18/5, 2 SwinGP;
6 **Wannell** 9:35.8 / 17:17.8:
3 Millfield, 1 Exeter, 3 SwinGP;
nr: **Pavey** 9:16.3: 1 Millfield;
Parkinson 9:19.3mx: 1mx Stret 29/4;
Pimblett 9:22.8: 2mx Stret 29/4;

Sarah Bentley broke her own BMC member's record at 3,000m and dominated the BAEI Grand Prix.

Vitamin C

by Frank Horwill

Does Vitamin C Supplementation Improve Physical Performance?

The answer to the question is - YES and NO. A Swiss researcher asked twelve distance runners of equal quality to run at 10mph/16km on a treadmill until they could no longer maintain the speed. For the seven days before this test, six were given a placebo and the rest were given a 1000mg vitamin C capsule daily. All the vitamin C group were able to maintain the required speed longer than the non vitamin group. A blood analysis revealed that the vitamin C group had produced extra hormonal levels which basically had the following effects:

- Reduced blood pressure,
- Made them feel good,
- Pushed back the pain barrier.

Unfortunately this bit of research which was published in a running magazine in 1991, failed to give the name of the researcher and the exact location of the trial, it must therefore be treated with suspicion. But the bit about hormonal levels being altered in the way described has been substantiated since that report. In fact, vitamin C is a pretty powerful agent for altering the status quo in our bodies.

For instance females on the low oestrogen contraceptive pill who take over 500mg of vitamin C daily for a month will notice that they will experience the same effects as if on the high dose pill, thus possibly enhancing the adverse effects. Also, long term-use of vitamin C at 1000mg daily will reduce the availability of certain trace minerals, such as copper and zinc, as well as the amino acids lysine and cysteine.

The first will result in anaemia, among other thing, and the second will undermine the immune system. A lack of lysine usually results in recurrent cold sores and herpes infections, while the degradation of cysteine will lead to further bronchial congestion with those already afflicted with chest infection. And, finally, the excretion of oxalic acid, as well as uric acid, common causes of kidney stones, is increased in certain individuals consuming high doses of the vitamin. A personal or family history of kidney stones is a warning that high doses should be limited to not more than a month at a time.

The great debunker of vitamin C as an aid to physical performance, was M.H. Williams in 1984, who in ten valid studies that he reviewed decided that Vitamin C was not an ergogenic aid. That said, going into competition with reduced blood pressure, feeling good and a greater resistance to pain, as described earlier after taking 1000mg daily for seven days, is not a bad thing!

What is beyond dispute is that inadequate amounts of vitamin C daily will affect performance in sports people. While the RDA in most countries is fixed at 60mg a day, which is easily met by consuming a medium-sized orange or three medium sized potatoes. Is that enough for a person who, after a day's work, does some strenuous training for one to three hours on five days a week?

To answer that question we have to look at another essential food constituent - IRON. According to the Colgan Institute of Sports Nutrition, a serious sportswoman requires 41mg of iron daily, and the sportsman needs 36mg. Both figures are more than treble the RDA figures. Now, for one part of iron to be properly absorbed five parts of vitamin C are required. That puts the vitamin C requirement for a sportswoman at 205mg daily, and for the sportsman at 180mg, and that's just to ensure that iron is fully accommodated by he body. Now those figures are interesting, because Ludwig Prokop, former nutritional adviser to the old East German Olympic teams, advises an intake of 200-240mg daily for all serious sportspeople. The East Germans didn't believe in half measures, their athletes appear in the Top Ten World All-Time Lists in athletics from 100 to 800 metres, men and women, and in all the field-events, and they all passed frequent drug tests!

So, what exactly does vitamin C do? Well, contrary to what is frequently written, some vitamin C IS stored in small amounts in the body, a storehouse has been located in the adrenal medulla (which secretes noradrenaline and adrenaline, required for all physical activity.) and in the eyes. It is water soluble, and easily destroyed by heat and exposure to light. It has a number of important roles, some of which are of major concern to the serious sportsperson. They are:

- Maintenance of healthy connective tissue and bones. It has an affinity for the cartilage of the knee. A chronic knee injury sufferer reported to an athletics magazine that he had received all the orthodox medical treatments for his knee trouble over the course of two years without avail. He visited a naturopath (one who treats most conditions by diet manipulation) who advised him to take 10000mg of vitamin daily! (Equivalent to consuming 142 oranges!) for a week. He was cured. The taking of such an enormous amount was described by the magazine's medical officer in reply, as "lunacy." However, the athlete was cured, and the curative powers of vitamin C have been greatly under estimated. In this particular case it would have been better if the massive dose had been intravenously injected, and in any case it would have been necessary for such an amount to be taken orally at the rate of 1000mg per hour and stopped as soon as "the trots" became apparent.
- Vitamin C is required for the normal metabolism of cholesterol and the production of cortisol by the adrenal gland. Professor Linus Pauling claimed that an intake of 3000mg in one dose dislodged cholesterol from partially blocked arterial walls. Linus Pauling was awarded the 1954 Nobel prize for chemistry and the 1962 Nobel prize for peace.
- It is biochemically active in the production of collagen (found both in skin and bones). Without this "cement" between the injured tissue, not only will the injury take longer to mend, but when seemingly repaired the injury site will rupture again. All sports injuries should be internally treated with 1000mg of vitamin C daily for the first week, with a reduction of 250mg per day for subsequent weeks to a level of 500mg per day. Gradjean reported in 1954 that pigs (which have a similar tissue to man) which had induced muscle tissue damage from pincers, under an anaesthetic, healed three times faster on a high vitamin C diet, compared to pigs on a normal diet.
- It is active in the metabolism of various brain chemicals and hormones as mentioned, which has powerful effects upon pulse rate and blood pressure.
- It is a powerful anti-oxidant and detoxifies the harmful effects of heavy metal poisoning and alcohol.
- Vitamin C encourages the formation of lymphocytes (white blood cells) which fight infections. The author has had spectacular results with athletes who have had severe colds and who were given 1000mg of vitamin C every hour for 10 hours, resulting in a major reduction in the unpleasant aspects of the infection on the following day.

One of the criticisms of using

Vitamin C

by Frank Horwill

megadoses of the vitamin is that the majority of it is passed out in the urine, commonly summed up as "an expensive way to pass urine." However it is the writer's view that the body quickly detects when it is had enough of the vitamin when urgent visits to the WC are made! But in the cases of the aforementioned athletes with severe colds, this did not occur because the vitamin was being extensively burned up in its fight against the infection.

The Colgan Institute of Sports medicine in California, has also reported that various individuals have a vitamin C idiosyncrasy. This was discovered when they routinely measured excretion of vitamin C and its metabolites in athlete's urine. They found that some sports people could take 5000mg of the vitamin and show only a little increase in excretion, in other words, THEIR BODIES NEEDED IT. On the other hand, some showed a large increase in excretion of vitamin C after taking only 1000mg - their bodies didn't need it. They found the biochemical individuality in use of vitamin C is at least 10 fold.

There is an old coaching axiom in sport - KEEPING AN ATHLETE FREE OF INJURY AND SICKNESS IS THE MAIN CHALLENGE. For this, vitamin C should be used wisely and therapeutically. It is known that the vitamin boosts recovery after tough workouts. 24 young physical education students (16 males and 8 females) were randomly divided into three groups. For 21 days, one group ingested 400mg of vitamin C per day, while a second group ingested 400mg of vitamin E and a third group consumed a placebo. Taking extra C raised subject's blood levels of the vitamin by about 50 per cent; adding extra E increased blood -E concentrations by 18 per cent. Both C and E are classified as "anti-oxidants" which may protect muscle integrity during exercise. After the duration of supplementation, all subjects completed a soreness-producing bout of exercise which consisted of stepping up and down from a box for 60 minutes with a frequency of 24 steps per minute. In each case, the box height was adjusted to the level of the subject's kneecaps.

For a week after their pain-producing exertion, the students continued their supplementation while the Birmingham University, England, scientists evaluated their leg muscle strength and fatigue. Intake of extra vitamin C produced two beneficial effects:

- Post exercise recovery of muscle strength was much greater in the C group. Twenty four hours after the gruelling box stepping, C group members recovered 85 per cent of their original muscle strength, while the E and placebo group subjects regained only 75 per cent.
- Muscle fatigue was lower for C takers during the 24 hours after exercise. It was thought that vitamin C de-activates "free radicals"-chemicals which can harm muscle membranes and internal structures after hard work outs. The vitamin may also stabilise an athlete's intrinsic stores of vitamin E, further protecting muscle fibres against stress.

The hoary question of natural versus synthetic vitamin C is one that requires taking in a lot of often overlooked facts. Prokop claims to have proved that vitamin C in the NATURAL form (for example, in fruit juices) is clearly superior to synthetic ascorbic acid. Using standardised stresses, his tests showed a decrease in oxygen debit and lowering of pulse and blood pressure.

The reason for this increased effectiveness of natural vitamin C in fruit juices was because of the presence of vitamin P which stabilised the vitamin C. Vitamin P-complex (rutin, citrin, hesperidin), is used in relatively large amounts by the body, and has a certain direct influence on performance because of its productive effect on vitamin C - as well as possible other water - soluble vitamins. It is often referred to as one of the bioflavonoids, and protects both vitamin C and adrenaline.

When assessing the vitamin C content of vegetables it is wise to remember that if they are placed in cold water in a saucepan and then brought to boil, about two-thirds of the vitamin's strength will be destroyed. If placed in boiling water from the outset, and the water is later used for soup, about two-thirds of the strength will be maintained. The contents of the following vegetables is in milligrams:

- Brussels sprouts 135 (1 cup)
- Cabbage 48 (1 cup),
- Potatoes 22 (1medium sized boiled)
- Lettuce 18 (4 inch diameter)
- Carrots/onions 9 (1 cup)
- Broccoli 162 (1 stalk)

The vitamin C content of other foods is:

- Blackcurrants 1 cup (270)
- Tomatoes - 3 inch diameter (42)
- Oranges - 3 inch diameter (60)
- Apples (3)
- Pears (7)
- Bananas (12)
- Grapefruit - 4 inch diameter (44)
- Grapefruit juice - 1 cup (92)
- Pineapple - cup diced (24).

It will be seen that a glass of one of the pure fruit juices before each meal and immediately after a work-out will account for around 500mg of vitamin C daily, while vitamin C from other sources may well bring the total to 600mg.

The Colgan Institute of Sports Nutrition state, "There are no natural vitamins". By that they mean many supplement makers use the word "natural" in their advertising and product labels. They assert that all vitamins on sale today and predominantly synthetic. That is, they are pure chemicals created out of a food base. Most vitamin C, for example, is made from corn. First, the corn is chemically concerted to sugar (d-glucose) and crystallised then it is chemically converted to pure, synthetic L-ascorbic acid. There is not an atom of the natural corn left.

Another ruse by manufacturers is because rose hips in their natural state contain huge amounts of vitamin C, it is put on the label. But look carefully. If it isn't a come-on, it will state "WITH rose hips" or "WITH acerola vitamin C". The top rose hip powder contains only a few milligrams of vitamin C per ounce. A 1000mg rose hip vitamin C tablet has to be 99 per cent synthetic ascorbic acid, because a 1000mg rose hip vitamin C tablet has to be 99 per cent synthetic ascorbic acid, because a 1000mg pill made of pure rose hip vitamin C would be the size of a cricket ball. The same argument applies to the use of acerola powder.

The Colgan Institute of Sports Nutrition are pro-supplements of the right kind because of the "tampering" involved in its preparation from growth on non organic fields, sprayed with numerous chemicals and devoid of much of its true nutritional value.

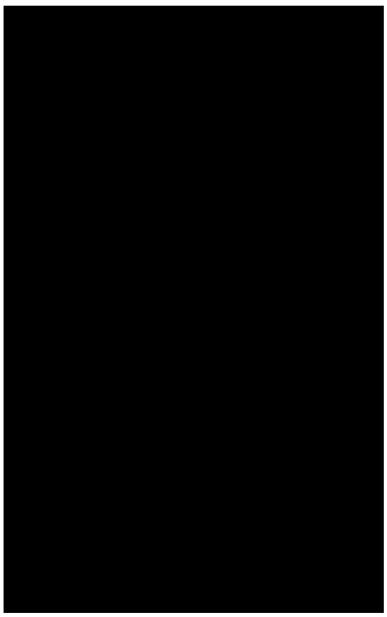
It took 400 years to realise that scurvy in sailors was a vitamin C deficiency cause by lack of fruit on long sea voyages. We are entering the age of optimal nutrition in sport and those who advocated twenty-five years ago that a sportsperson just needed to eat the RDA for all foods for success have been shown to be lacking in foresight.

1997 Photospread

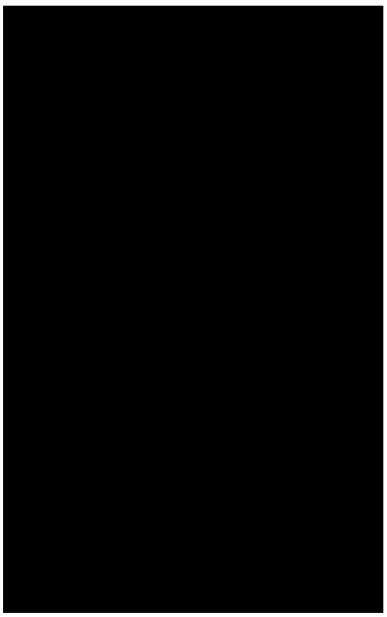
All photos by Mark Shearman

Watford 800, 25th June: Jason Thompson (blue vest), Matt Yates (49), Grant Cuddy (51), Kevin McKay and Robin Hooton (54).

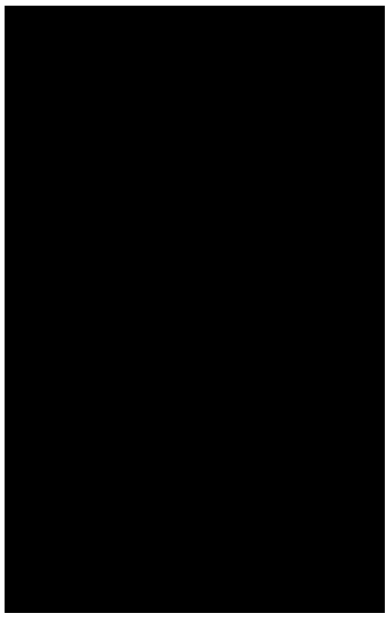
4x1 Mile World Veterans Record Holders Pete Molloy, Keith McLellan, Dave Bedwell and Dave Wilcock.



Tom Mayo striding out.



Anthony Whiteman warming down!



Wythenshawe 1500, 14th May: Joanne Pavey (176), Amanda Parkinson (205) and Caroline Pimblett (204).

4x1 Mile World Junior Record Holders Caroline Walsh, Camilla Waite, Rachael Ogden and Jody Swallow.

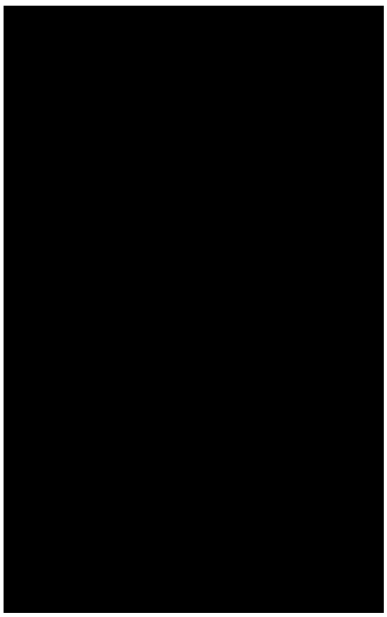
Watford 1500, 25th June: Gareth Turnbull (123), Jason Dullforce (118), Matt Barnes (107), Steve Green (face) and Phillip Tulba-Morrison (113).

1997 Photospread

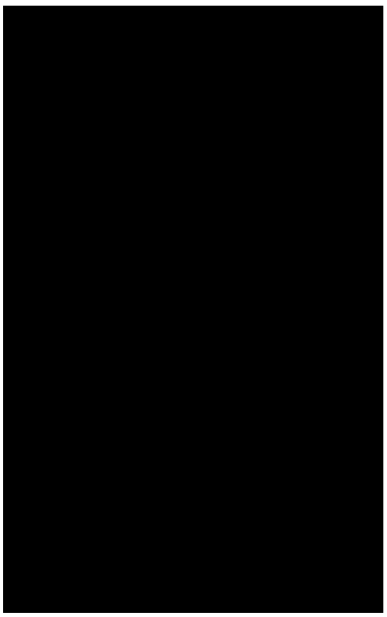
All photos by Mark Shearman

The whole of Steve Green.

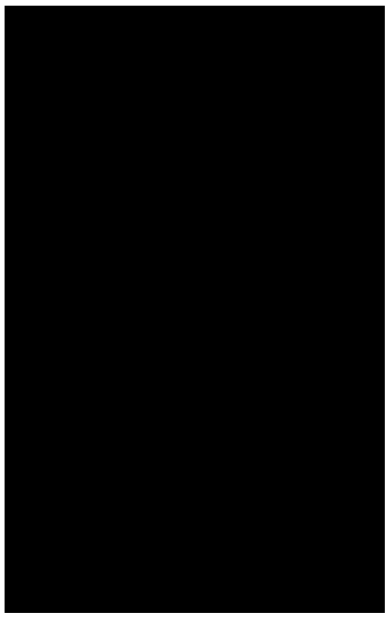
4x1500m European Junior Record Holders Lee Garrett, Richard Vint, Ross Fittall and Neil Speaight.



Wythenshawe 1500, 14th May: Rob Hough (76), Samir Benfares (73) and Andrew Pearson.



Claire Raven deep in concentration.



Dianne Henaghan, fastest performer in a BMC 800 in 1997.

Wythenshawe 800, 14th May: Phylis Smith leads from Rachel Jordan and Michelle Faherty.

Whoever said the BMC entry standards are easy? Mark Richardson and Jon Ridgeon just after achieving them.

On Your Bike

by Ken Maclaren

Some tips on cycling for runners

Why bike if you are a runner?

You don't have too but cycling can help runners of all standards especially if you have certain injury problems caused by the pounding. In a nutshell it is a great way of getting a good training effect without putting the same stresses on your legs.

What to ride?

Mountain bikes are all the rage nowadays however I feel that you will get most benefit as a runner by cycling with a road bike. Compared to running cycling is expensive, (but then running is very cheap compared to most sports). In cycling you can spend as much as you like on equipment but you don't have to buy the most expensive equipment in order to get what you need, but rarely is the cheapest equipment worth getting.

Cycling as a sport is full of people with flashy equipment and thin training diaries. A bottom of the range road bike will set you back about £350 - £500. You can get bikes for less but at this price you can buy a quality machine which if well looked after will last you for years. Many competitive cyclists will train on a bike of this standard. You can pick up good deals from the sales or at the end of range but remember stock is likely to be more limited.

Where to go?

There are plenty of good cycling or triathlon shops around. Make sure that you explain to the staff your reasons for buying a bike i.e. to complement your running training rather than become a good cyclist or triathlete. Most of the cycling magazines have directories of specialist shops.

You can get good second hand bikes although as with cars you have to be very careful and if you do take someone who knows about bikes to check that its all ok. Also the trade in 'hot' bikes is thriving so take the appropriate precautions.

As you are going to spending a lot of money don't bother with anyone who says 'we've got the thing for you', as soon as you walk through the door. Make sure they take the time to ask what you want it for and measure you up properly for correct fitting.

The gears which these bikes are set up with may not be the best suited to your needs. You will want to be riding in lower gears than most cyclists (for a faster cadence) as you are aiming to achieve aerobic fitness rather than powerful cyclists legs. The gears on a road bike are two front chain rings (the 'small' ring and the 'big' ring) and between six and nine sprockets at the rear. My suggestion is that you ask for the minimum gearing to be '39, 24'. Thirty nine being the number of teeth on the small chain ring at the front and twenty four being the number of teeth on the largest sprocket at the back. Don't worry if you don't know what this means, a bike shop will. A good shop will change the bike to include those sprockets if necessary.

Other Cycling Equipment

Helmet

Ninety per cent of all cycling deaths are caused by head injuries. Helmets are now compulsory for road racing, but despite the irrefutable evidence in their favour many cyclists still don't wear them whilst out training. There are some excellent lightweight helmets on the market these days and to be honest you hardly know that you have them on. Ensure you get one that is comfortable and fits snugly and isn't able to slip off your head when the strap is done up. Make sure that you get one that conforms to all the safety standards.

Cycling Shorts

These are not just long lycra shorts but have a pad inside which is reverse stitched. You may have had athletes foot, but bikers bum is much worse. It is worth getting more than one pair as ideally they should be washed after each use.

Track - Mitts

These are the fingerless gloves that cyclists wear. The padding in the palm protects the nerves in the hand from the vibrations through the handlebars. Should you be unfortunate enough to fall off the first thing that you put down is your hands.

Bike Computer

You will also want to get a bike computer. A bike computer will help you get the most from your cross training on the bike. Ask for a bike computer that has a cadence meter. Unless you are technically minded ask the shop to fit it for you.

Cycling Shoes and Pedals

Again cycling shoes aren't essential but they can help you to develop a smooth pedalling style and make spinning easier. A step up from toe clips of ordinary pedals that most entry level bikes come with are the 'click - in' pedal systems. These involve a sprung system on the pedal which attaches directly to the bottom of the shoe. Originally based on ski boot designs you push your foot down to lock in and twist it to get out. They are definitely more comfortable than toe clips and straps and are much easier to use in conditions where you have to stop and start and keep putting your foot down.

Dressing for Cycling

You can ride in your ordinary running clothing but cycling clothing is much better as it is designed for the greater speeds, higher wind chill, and body position that cycling involves.

You should be aware of the wind chill effects even on warm days. Whilst you can get very hot riding up hill, riding down whilst doing nothing can leave you very cold. This is where cycling tops with their improved wind protection come into their own. Even on the hottest day I would suggest two tops. The thin thermal tops are ideal as a bottom layer year round. Unlike cotton they don't absorb any sweat and therefore don't feel cold against your skin when you stop sweating.

Just because it is the sort of weather when you would run in shorts, don't assume that you'll be warm enough for shorts on the bike. In the summer take a waterproof jacket with you. In the winter you will be wearing so many clothes anyway that you stay dry because of the number of layers that you have on. However, in the summer, you can get very cold if you get caught out in the rain with only a couple of layers on.

You can ride in through most of the British winter but it is not always fun and you will need lots and lots of layers of clothing. It is the extremities of your body like your hands, feet, and ears that tend to freeze in cold weather so extra gloves, socks and a headband over the ears will all help. You can get 'over shoes' which are insulating covers that fit over your cycling shoes.

There are no prizes for spending ten minutes trying to unlock your front door

On Your Bike

by Ken Maclaren

with frost-bitten hands. With cycling always overdress if you are unsure.

Turbo Trainers

In addition to buying a bike you will be able to use cycling more regularly and effectively if you also get a turbo trainer (sometimes called a wind trainer).

A turbo trainer is a device on which you place a road bike and can pedal without going anywhere. On most trainers you clamp the turbo trainer to the back wheel, on some you also need to take the front wheel out and attach the bike to it. When you pedal the rear wheel drives a flywheel and fan. Using a bike on a turbo trainer enables you to control precisely what work-out you do and allows you to train virtually anywhere at anytime. Cycling through the British winter isn't much fun and a turbo trainer can give you the benefits of cycling without the drawbacks such as the weather, darkness, traffic etc. Where as it can take you a while to get ready to go out for a ride on the road if you have a turbo trainer set up in your spare room or garage it is very easy and convenient to jump on it for a quick spin.

An option if you feel that you are going to use turbo training more than cycling on the road would be to get an old bike that you leave permanently set up on your turbo trainer.

How to train on a bike

I feel that if you are going to be cycling to help your running (rather than to make yourself a better cyclist or tri / duathlete) then your approach to cycling needs to take that into consideration and be slightly different. To use cycling most effectively to help you running you want to be able to replicate running as much as possible.

Distance running involves moving your legs at a fast rate but without too much power. Cycling involves considerably more power whilst the legs are moved at a slower rate, which is why cyclists have those huge thighs. As you are using cycling to help your running rather than to make you a better cyclist you need to bear this in mind. What you want to aim for is a fast cadence. It may take you a few weeks for your legs to get used to this but your aim should be to do most of your cycling at a cadence of around 100 -120 r.p.m.

The greatest benefit of cross training for runners comes in replacing some of those steady easier runs with non weight bearing work. If instead of running twice a day you decide to replace some of your morning runs with a session on your turbo trainer. Try to mimic the physiological effects that you would have got from the run as closely as possible. For example if the morning run consisted of five miles in thirty five minutes with a heart rate of 130-140 b.p.m. then try thirty five minutes on the turbo trainer with a cadence of 120 r.p.m. in a gear that will give you a heart rate of 130-140 b.p.m.

Many runners go out for an easy run in the evening after a race or after a long Sunday run to clear the legs out. A twenty minute easy spin on the turbo trainer will have the same benefits but without straining the legs. The same applies to warming down after a hard session.

If you want to replace an running quality session with one on the turbo trainer the principals are the same (but if you are not running due to an injury check with your therapist before going ahead - whilst this type of work can help many problems such as stress fractures, others may be compounded).

If your run session was going to be 5 x 5 mins with a 2 min easy jog between then do 5 x 5 mins with 2 mins between on the turbo. If you prefer to do intervals of set distances (which I do because no matter how hard you go with time reps you never get to the end any quicker!) then experience will show you how far on the turbo trainer equates to the same time as you would have taken for your reps. There is no clear figure on this because the resistance of trainers will vary and some are adjustable. For quality work increase the cadence at which you are working as well as the gearing.

Sessions on the road

The key is to spin fast in low gears. This is where the cadence meter on your bike computer is useful. Because of the road surface, weather conditions and undulations you will find it hard to pedal at 120 r.p.m. on the road but don't worry too much. You will get used to conditions which make it harder to spin - headwinds, rough road surfaces and ascents but always change down if you feel yourself grinding away with aching legs.

In general your time commitment on the bike will have to be more; especially if you live in town and need to ride a few miles before you reach the open roads. As a rough guide replace a thirty minute run with an hour's ride. Also it will tend to take you much longer to get ready for a road ride compared to getting on the turbo trainer so it will hardly seem worth it for thirty minutes or so. Because of the varying conditions you will find it harder to keep a consistent effort whilst riding on the road compared to riding on the turbo trainer. Again don't worry too much.

It is very easy when cycling to go out for hours and hours but compared with running you will not be working at such an intensive level. This sort of riding is OK as an aid to recovery, or something to do on a Sunday afternoon, but if you ride all the time like this, you will just tire yourself out rather than getting the required training effect.

As with turbo training you can do more intensive training on a road bike if you need to. The principles are exactly the same and from a cardiovascular point of view the benefits are very similar. The most important thing to remember is that you are doing the work to aid your running training so stay in those low gears.

As with any new type of training it will take your body a few sessions to adapt to the different demands being put upon it (most noticeably saddle soreness). If you have a good saddle and shorts these problems will be minimal and it won't take you too long to adapt. For women if the problems still persist try tipping the front of the saddle down a fraction. Normally its just a matter of the soft tissue adapting - a bit like when you start wearing contact lenses. Initially just do a few ten minute rides until you have no problems.

In conclusion I am convinced that there are considerable benefits that runners can get by introducing some cycling into their programs, particularly for those athletes who struggle with injuries. My own relatively modest pb's for 5 and 10K came several years after I had stopped being a runner and went into triathlons. Finally and perhaps most importantly cycling (especially in the summer) is a lot of fun.

Ken Maclaren is a former county standard runner and international triathlete. He has written a number of training manuals including ***The Heart Rate Monitor Training Guide for Runners.*** ***The Cross Training Guide for Runners*** *will be published in 1998.*

BMC Rankings 1997

Performances set in BMC races - compiled by Matthew Fraser Moat

Men's 600m

1:19.0	Clive Gilby	1	Sutcliffe Park	5	Jul
1:19.0	Rupert Waters	2	Sutcliffe Park	5	Jul
1:19.3	* Babacar Niang SEN	1	Battersea Park	19	Apr
1:20.1	Jason Thompson	2	Battersea Park	19	Apr
1:20.1	Darrell Maynard	3	Battersea Park	19	Apr
1:20.3	Dominic Hall	4	Battersea Park	19	Apr
1:21.2	Jason Dupuy	5	Battersea Park	19	Apr
1:22.4	Andrew Knight	6	Battersea Park	19	Apr
1:22.8	Martin Airey	7	Battersea Park	19	Apr
1:23.0	* G Eisner	8	Battersea Park	19	Apr
1:23.0	Mark Kuklinski U20	9	Battersea Park	19	Apr
1:23.9	Ryan Walker	10	Battersea Park	19	Apr
	7 'gold' performances to 1:22.0 by 7 athletes				
	12 'membership' performances to 1:25.0 by 12 athletes				

Men's 800m

1:45.2	* Patrick Ndururi KEN	1r1	Battersea Park	15	Jun
	(BMC Record)				
1:46.2	* Robert Kibet KEN	2r1	Battersea Park	15	Jun
1:46.4	* Paul Walker	1r1	Stretford	22	Jul
1:46.67	* Bernard Kisilu KEN	1r1	Bristol	30	Aug
	1:46.8	3r1	Battersea Park	15	Jun
1:46.8	Andrew Hart	4r1	Battersea Park	15	Jun
	(BMC Members' Record)				
	1:47.4	1r1	Tooting	20	Aug
	1:48.5	1r1	Wythenshawe	14	May
1:46.87	Kevin McKay	2r1	Bristol	30	Aug
	1:47.2	5r1	Battersea Park	15	Jun
	1:48.2	1r1	Watford	25	Jun
	1:48.7	2r1	Wythenshawe	14	May
	1:49.2	1r1	Loughborough	3	Jun
1:47.2	Grant Cuddy	2r1	Stretford	22	Jul
	1:48.2	2r1	Swindon	7	Aug
	1:48.7	8r1	Battersea Park	15	Jun
	1:49.8	4r1	Wythenshawe	14	May
	1:51.6	9r1	Watford	25	Jun
1:47.7	Anthony Whiteman	6r1	Battersea Park	15	Jun
1:47.9	Justin Swift-Smith	1r1	Swindon	7	Aug
	1:48.4	7r1	Battersea Park	15	Jun
	1:50.8	1r1	Watford	28	May
1:48.3	Tom Lerwill	3r1	Swindon	7	Aug
	1:49.1	9r1	Battersea Park	15	Jun
	1:50.3	4r1	Loughborough	3	Jun
	(10)				
1:48.9	Andrew Knight	4r1	Swindon	7	Aug
	1:49.03	3r1	Bristol	30	Aug
	1:49.2	2r1	Tooting	20	Aug
	1:49.9	2r1	Finsbury Park	5	Aug
	1:50.0	6r1	Watford	25	Jun
	1:51.8	4r1	Watford	16	Jul
1:49.0	Matthew Yates	2r1	Watford	25	Jun
	1:49.5	1r1	Watford	27	Aug
	1:49.6	1	Finsbury Park	1	Jul
1:49.3	* Abraham Chirchir KEN U20				
		10r1	Battersea Park	15	Jun
1:49.3	Bradley Donkin	3r1	Stretford	22	Jul
	1:50.1	6r1	Wythenshawe	14	May
1:49.4	Noel Edwards	5r1	Swindon	7	Aug
	1:49.9	1r2	Watford	25	Jun
	1:51.0	1r1	Stretford	20	May
1:49.5	Eddie King	3r1	Wythenshawe	14	May
	1:49.5	3r1	Watford	25	Jun
1:49.56	Matthew Kloiber	4r1	Bristol	30	Aug
	1:49.8	3r1	Tooting	20	Aug
	1:50.0	1r2	Swindon	7	Aug
	1:50.3	3r2	Battersea Park	15	Jun
	1:51.0	2r2	Loughborough	3	Jun
	1:51.0	8r1	Watford	25	Jun
1:49.7	Andrew Young	2r1	Loughborough	3	Jun
	1:49.82	5r1	Bristol	30	Aug
	1:49.9	11r1	Battersea Park	15	Jun
	1:49.9	5r1	Watford	25	Jun
1:49.7	Richard Girvan	6r1	Swindon	7	Aug
	1:49.95	8r1	Bristol	30	Aug
	1:51.5	1	Londonderry	11	Jun
	1:51.7	2r1	Stretford	20	May
1:49.8	Neil Kirk U20	1r2	Battersea Park	15	Jun
	(20)				
1:49.8	Ben Sutton	4r1	Watford	25	Jun
	1:50.0	3r1	Loughborough	3	Jun
	1:50.7	1r2	Stretford	17	Jun
	1:51.0	1r2	Wythenshawe	14	May
	1:52.1	1	Stretford	29	Apr
1:49.8	Dominic Hall	1r1	Finsbury Park	5	Aug
	1:50.5	4r2	Battersea Park	15	Jun
	1:51.9	1	Finsbury Park	3	Jun
1:49.88	Phillip Tulba-Morrison	6r1	Bristol	30	Aug
	1:49.9	2r1	Watford	27	Aug
	1:50.6	3r3	Swindon	7	Aug
1:49.9	Michael Openshaw	1r1	Jarrow	23	Jul
1:49.94	Richard Ashe	7r1	Bristol	30	Aug
	1:51.5	6r2	Battersea Park	15	Jun
1:50.0	Andrew Graffin	1	Tooting	6	Aug
	1:51.6	2r3	Watford	25	Jun
1:50.1	* Jason Lobo	5r1	Wythenshawe	14	May
	1:50.8	5r1	Loughborough	3	Jun
1:50.1	Luke Veness	2r2	Watford	25	Jun
	1:51.0	3r2	Swindon	7	Aug
1:50.1	Jason Dupuy	1r3	Swindon	7	Aug
	1:50.6	4r1	Finsbury Park	5	Aug
	1:50.79	9r1	Bristol	30	Aug
	1:51.2	2r1	Watford	16	Jul
	1:54.0	1r5	Wythenshawe	14	May
1:50.2	Clive Gilby	7r1	Wythenshawe	14	May
	1:50.5	12r1	Battersea Park	15	Jun
	1:51.1	6r1	Loughborough	3	Jun
	1:52.1	2	Battersea Park	18	Jan
	(30)				
1:50.3	Jason Thompson	2r2	Battersea Park	15	Jun
	1:50.5	4r1	Tooting	20	Aug
	1:50.6	3r1	Finsbury Park	5	Aug
	1:50.7	7r1	Watford	25	Jun
	1:50.9	1r2	Loughborough	3	Jun
	1:50.9	1r1	Watford	16	Jul
	1:51.2	5r3	Swindon	7	Aug
	1:51.8	1	Battersea Park	18	Jan
1:50.3	Vince Wilson	2r1	Jarrow	23	Jul
	1:53.0	8r2	Battersea Park	15	Jun
1:50.36	Chris Moss U20	1r2	Bristol	30	Aug
1:50.4	John Gercs	3r2	Watford	25	Jun
1:50.4	Tony Mate	3r1	Jarrow	23	Jul
	1:51.8	8r1	Loughborough	3	Jun
1:50.4	Robert Scanlon	2r3	Swindon	7	Aug
	1:51.5	4r2	Loughborough	3	Jun
1:50.5	Simon Lees U20	1r1	Stretford	17	Jun
	1:51.2	2r1	Watford	28	May
	1:52.5	4r3	Wythenshawe	14	May
1:50.5	Matthew Morris	2r2	Swindon	7	Aug
	1:51.3	1r2	Stretford	22	Jul
	1:53.3	6r1	Stretford	26	Aug
	1:53.30	4r2	Bristol	30	Aug
	1:53.8	5r3	Stretford	17	Jun

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1:50.6	Terence West	8r1	Wythenshawe	14	May
	1:51.4	5r1	Jarrow	23	Jul
	1:52.2	9r1	Loughborough	3	Jun
1:50.6	Steve Rees-Jones	4r2	Watford	25	Jun
	(40)				
1:50.6	Ryan Davoile U20	1r3	Watford	25	Jun
	1:51.8	4r2	Wythenshawe	14	May
1:50.6	Alasdair Donaldson	7r1	Swindon	7	Aug
	1:51.4	3r2	Wythenshawe	14	May
	1:51.7	7r1	Loughborough	3	Jun
1:50.7	Martin Forder	5r2	Battersea Park	15	Jun
	1:50.7	5r2	Watford	25	Jun
1:50.7	Christopher Elliot	2r1	Stretford	17	Jun
	1:50.7	4r1	Jarrow	23	Jul
1:50.7	Joe Mills	5r1	Finsbury Park	5	Aug
1:50.7	Alex Rosen	6r1	Finsbury Park	5	Aug
1:50.7	Adam Zawadzki	4r3	Swindon	7	Aug
1:50.8	Darrell Maynard	8r1	Swindon	7	Aug
	1:54.1	1r1	Millfield	5	May
1:50.8	Bruno Witchalls	5r1	Tooting	20	Aug
	1:51.2	3r1	Watford	27	Aug
1:51.0	Garth Watson	3r1	Stretford	17	Jun
	1:51.6	2r1	Stretford	26	Aug
	1:52.7	1r3	Loughborough	3	Jun
	(50)				
1:51.0	Sam Boden U20	4r1	Stretford	17	Jun
1:51.0	* Tatum Johnson	7r1	Finsbury Park	5	Aug
	1:52.3	2r2	Watford	16	Jul
	1:52.8	6r1	Watford	27	Aug
	1:53.1	1r2	Tooting	20	Aug
	1:53.5	3	Finsbury Park	1	Jul
1:51.1	Stephen Green	2r2	Stretford	17	Jun
1:51.1	David Locker	6r2	Watford	25	Jun
	1:52.3	8r1	Stretford	17	Jun
1:51.1	Brendan Smith	4r1	Stretford	22	Jul
1:51.1	Stuart Margiotta	4r2	Swindon	7	Aug
1:51.1	Martin Airey	5r2	Swindon	7	Aug
	1:51.5	3r2	Loughborough	3	Jun
	1:51.5	6r1	Tooting	20	Aug
	1:52.9	8r1	Watford	16	Jul
	1:54.7	8r1	Finsbury Park	5	Aug
1:51.3	David Bullock	5r1	Stretford	22	Jul
	1:51.5	8r2	Watford	25	Jun
	1:52.0	5r1	Watford	16	Jul
	1:54.3	7r3	Wythenshawe	14	May
1:51.3	Andrew Walling	1r1	Stretford	26	Aug
	1:51.4	7r2	Watford	25	Jun
	1:51.6	5r1	Stretford	17	Jun
	1:52.0	1r3	Wythenshawe	14	May
	1:52.1	6r2	Swindon	7	Aug
	1:52.1	7r1	Tooting	20	Aug
	1:52.4	4r1	Stretford	20	May
1:51.4	Glen Stewart	2r2	Wythenshawe	14	May
	(60)				
1:51.4	Mark Wiscombe	1r2	Watford	16	Jul
1:51.4	Grant Purves	6r1	Stretford	22	Jul
1:51.48	Robin Hooton	2r2	Bristol	30	Aug
1:51.6	Nick Bentham	9r2	Watford	25	Jun
	1:51.6	3r1	Watford	16	Jul
	1:51.9	2	Finsbury Park	1	Jul
	1:52.7	7r2	Battersea Park	15	Jun
	1:53.3	4r1	Watford	28	May
1:51.6	Aaron Rea	6r3	Swindon	7	Aug
1:51.7	Ben Reese	3r2	Stretford	17	Jun
1:51.7	* Kris Bowditch	4r2	Stretford	17	Jun
1:51.8	Steven Crowe	3r3	Watford	25	Jun
	1:54.6	6	Finsbury Park	1	Jul
	1:55.4	1r3	Battersea Park	15	Jun
1:51.8	James McIlroy	4r3	Watford	25	Jun
1:51.8	Scott Hughes U20	2r2	Stretford	22	Jul
	1:54.6	4r4	Wythenshawe	14	May
	(70)				
1:51.9	Michael Osborne	6r1	Stretford	17	Jun
	1:52.2	2r3	Wythenshawe	14	May
	1:54.2	3r3	Loughborough	3	Jun
1:51.9	Paul Bennett	7r1	Stretford	17	Jun
	1:53.2	9r1	Watford	16	Jul
	1:55.0	1r2	Stretford	20	May
1:52.0	Kheredine Idessane	5r2	Loughborough	3	Jun
	1:52.8	6r2	Wythenshawe	14	May
1:52.0	Steve O'Gara	6r1	Jarrow	23	Jul
1:52.0	* James McCook U20	3r1	Stretford	26	Aug
1:52.0	Gavin MacPherson	4r1	Stretford	26	Aug
	1:52.4	1r3	Stretford	17	Jun
	1:52.5	2	Stretford	29	Apr
	1:53.1	5r1	Stretford	20	May
1:52.0	* Paul Douglas U20	5r1	Stretford	26	Aug
	1:52.3	4r2	Stretford	22	Jul
1:52.1	Steven Baldock	7r3	Swindon	7	Aug
	1:52.3	5r3	Watford	25	Jun
	1:52.5	6r1	Watford	16	Jul
1:52.2	Brett Mate	3r3	Wythenshawe	14	May
	1:53.4	6r2	Loughborough	3	Jun
1:52.2	Karl Wright	7r1	Stretford	22	Jul
	1:53.9	3r4	Wythenshawe	14	May
	1:54.2	1r4	Loughborough	3	Jun
	(80)				
1:52.2	Neil Speaight U20	4r1	Watford	27	Aug
	1:52.6	9r1	Stretford	17	Jun
1:52.3	Tom Cordy	7r2	Swindon	7	Aug
	1:52.9	3	Stretford	29	Apr
1:52.3	Nick Davy	3r2	Watford	16	Jul
	1:53.1	3r1	Watford	28	May
1:52.3	Mark Barrow	3r2	Stretford	22	Jul
	1:55.5	8r1	Stretford	20	May
1:52.4	* Matthew Hibberd	5r2	Wythenshawe	14	May
	1:52.9	7r1	Jarrow	23	Jul
1:52.4	Ian Mitchell	3r1	Stretford	20	May
	1:55.7	10r1	Stretford	17	Jun
1:52.42	David Stanley U20	3r2	Bristol	30	Aug
1:52.5	Paul Morby U20	2r3	Stretford	17	Jun
1:52.5	Adam Mole	8r3	Swindon	7	Aug
	1:52.9	7r1	Watford	16	Jul
	1:54.0	4	Finsbury Park	1	Jul
1:52.6	Dean Clark	5r3	Wythenshawe	14	May
	(90)				
1:52.6	Alex Rosen	2	Finsbury Park	3	Jun
1:52.6	Russell Cartwright	6r3	Watford	25	Jun
1:52.6	Andrew Prophett	5r2	Stretford	22	Jul
	1:55.6	5	Stretford	29	Apr
1:52.7	Steve Turvill	5r1	Watford	27	Aug
1:52.8	Stephen Body	4r2	Watford	16	Jul
1:52.9	Chris Beswick	6r2	Stretford	22	Jul
	1:54.9	8r1	Stretford	26	Aug
	1:56.0	11r3	Stretford	17	Jun
1:53.0	Bradford Glenton	7r1	Watford	27	Aug
1:53.1	David Thornton	1r4	Wythenshawe	14	May
1:53.1	Matt Skelton	1r2	Watford	28	May
1:53.1	Allen Graffin	7r3	Watford	25	Jun
	1:53.5	2	Tooting	6	Aug
	(100)				
1:53.1	Larry Mangleshot	5r2	Watford	16	Jul
	1:53.2	3	Finsbury Park	3	Jun
	1:54.5	1r2	Finsbury Park	5	Aug

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1:53.1	Ken Harker	7r2	Stretford	22	Jul
	1:53.8	6r1	Stretford	20	May
	1:55.5	7r2	Loughborough	3	Jun
1:53.3	Stuart Overthrow	2r4	Wythenshawe	14	May
1:53.3	Stuart Poore	5r1	Watford	28	May
1:53.3	John Moore	6r2	Watford	16	Jul
	1:53.3	8r1	Jarrow	23	Jul
	1:54.1	8r1	Tooting	20	Aug
	1:55.7	6r2	Watford	27	Aug
1:53.3	* Kevin Corr U20	1r2	Jarrow	23	Jul
1:53.36	Huw Evans	1r3	Bristol	30	Aug
	1:54.1	1r4	Swindon	7	Aug
1:53.4	Steve Mosley	8r2	Swindon	7	Aug
	1:54.4	9r1	Watford	27	Aug
1:53.4	Terry Feasey	2r2	Tooting	20	Aug
	1:53.8	8r2	Watford	16	Jul
	1:53.9	2r4	Watford	25	Jun
	1:54.14	5r2	Bristol	30	Aug
1:53.6	Tony Thompson	3r3	Stretford	17	Jun
	(110)				
1:53.6	Richard Cressey	1r4	Watford	25	Jun
	1:54.4	2r4	Loughborough	3	Jun
1:53.6	Christopher Livesey U20	1r3	Stretford	22	Jul
1:53.7	* Simon Curwen U20	4r3	Stretford	17	Jun
1:53.7	Aaron Rea	2r3	Loughborough	3	Jun
	1:55.1	2r5	Wythenshawe	14	May
1:53.7	John Rigg	5r2	Stretford	17	Jun
1:53.7	Jamie McLoughlin	7r2	Watford	16	Jul
	1:54.3	5	Finsbury Park	1	Jul
	1:54.4	2r4	Swindon	7	Aug
	1:55.2	2r2	Finsbury Park	5	Aug
1:53.7	Patrick Chance	8r2	Stretford	22	Jul
1:53.8	Alan Wray	8r1	Watford	27	Aug
	1:54.3	3	Tooting	6	Aug
1:53.9	* Richard Sinclair U20	6r3	Stretford	17	Jun
1:53.9	* Aaron Hargreaves U20	2r3	Stretford	22	Jul
	(120)				
1:53.9	Ivan Hollingsworth	2r2	Jarrow	23	Jul
1:53.9	Dave Reader	7r1	Stretford	26	Aug
	1:54.0	9r2	Stretford	22	Jul
	1:54.35	2r3	Bristol	30	Aug
	1:54.6	3r4	Swindon	7	Aug
	1:55.1	8r3	Stretford	17	Jun
1:54.0	Gregg Taylor	6r3	Wythenshawe	14	May
	1:54.4	7r1	Stretford	20	May
1:54.0	Ryan Walker	6r1	Watford	28	May
	1:55.4	1	Croydon	18	Jun
1:54.0	Danny McCormack	9r2	Watford	16	Jul
1:54.1	Thomas Mayo	7r2	Wythenshawe	14	May
1:54.1	Paul Mullany	6r1	Stretford	17	Jun
	1:55.7	10r2	Stretford	22	Jul
1:54.1	* John Rodgers	1	Antrim	16	Jun
1:54.1	* Wayne Dumpleton	3r4	Watford	25	Jun
1:54.3	James Mayo	7r1	Watford	28	May
	1:54.5	10r2	Watford	25	Jun
	(130)				
1:54.3	William Barry U20	7r3	Stretford	17	Jun
1:54.4	* Steffan North	7r2	Stretford	17	Jun
1:54.4	Roger Morley	8r3	Watford	25	Jun
1:54.4	Rob Simon	1r3	Watford	16	Jul
1:54.4	* James Trapmore	1r2	Watford	27	Aug
1:54.5	Paul Bristow	4r3	Loughborough	3	Jun
	1:55.0	10r2	Watford	16	Jul
	1:55.2	2	Cardiff	31	May
1:54.5	Thomas Yule U20	3r4	Loughborough	3	Jun
	1:55.3	6r4	Wythenshawe	14	May
1:54.5	Marcus Bridges	8r1	Watford	28	May
	1:54.9	4r4	Swindon	7	Aug
	1:55.1	4r4	Loughborough	3	Jun
	1:55.2	3	Cardiff	31	May
1:54.50	Mark Kuklinski U20	3r3	Bristol	30	Aug
	1:55.1	5r4	Swindon	7	Aug
1:54.6	* Stuart Bailey U20	4	Stretford	29	Apr
	(140)				
1:54.6	Tom Cartwright U20	5r4	Wythenshawe	14	May
1:54.6	Christopher Coleman	1	Cardiff	31	May
1:54.6	Matthew Clarke	2r2	Watford	27	Aug
1:54.6	* Jeremy Bridger	3r2	Watford	27	Aug
	1:54.99	4r3	Bristol	30	Aug
1:54.63	Neil A Miller	1r4	Bristol	30	Aug
	1:55.1	3r3	Watford	16	Jul
	1:55.9	2r3	Watford	27	Aug
1:54.7	Jon Ridgeon	3	Battersea Park	18	Jan
1:54.7	* Vince Rose	4	Battersea Park	18	Jan
1:54.7	Ben Walters	8r2	Stretford	17	Jun
1:54.7	* Daniel Flint	3r2	Jarrow	23	Jul
1:54.7	Mark Harris NZL	7	Finsbury Park	1	Jul
	(150)				
1:54.8	Jason Levy	2r2	Watford	28	May
1:54.9	Matthew Davies	10r1	Watford	16	Jul
1:54.9	Charlie MacConnachie	2r3	Watford	16	Jul
1:54.9	* Danny Wing	8	Finsbury Park	1	Jul
	1:55.6	2r4	Watford	16	Jul
1:54.9	John Lawson	4r2	Watford	27	Aug
1:54.94	Allan Caple	2r4	Bristol	30	Aug
1:55.0	Brian Stopher U20	3r2	Watford	28	May
	1:55.9	3r1	Millfield	5	May
	1:56.0	10r1	Watford	27	Aug
1:55.03	Dafydd Solomon U20	1r5	Bristol	30	Aug
1:55.1	* Tim Alexander U20	1r4	Watford	16	Jul
	1:55.8	1r3	Watford	27	Aug
1:55.1	Darren Barton	3r3	Stretford	22	Jul
	(160)				
1:55.2	Ross Fittall U20	2r1	Millfield	5	May
	1:55.82	5r3	Bristol	30	Aug
1:55.2	Michael Morris	9r3	Stretford	17	Jun
	1:55.4	5r2	Jarrow	23	Jul
1:55.2	* James Thie U20	5r2	Watford	27	Aug
1:55.34	* David Goodger	3r4	Bristol	30	Aug
1:55.4	* P Miller	10r3	Stretford	17	Jun
1:55.4	* Peter Saint	6r2	Jarrow	23	Jul
1:55.4	Keith Hatton	4r3	Stretford	22	Jul
1:55.5	Adrian Jones	2r2	Stretford	20	May
1:55.5	Joe Daniels	9	Finsbury Park	1	Jul
	1:55.7	4r3	Watford	16	Jul
	1:55.8	3r2	Finsbury Park	5	Aug
1:55.5	Simon Beardsall	3r2	Tooting	20	Aug
	(170)				
1:55.6	Paul Hamilton	3r2	Stretford	20	May
1:55.6	Mark Best U20	5r3	Stretford	22	Jul
1:55.6	* Alan Thomas	1r5	Swindon	7	Aug
1:55.7	* Lud Ramsey	2r3	Battersea Park	15	Jun
1:55.7	* Hugh Jenkins	1r4	Stretford	17	Jun
1:55.7	* Mark Goodger	2r5	Swindon	7	Aug
1:55.7	Bryce Gibson	1r2	Stretford	26	Aug
	1:55.8	4	Tooting	6	Aug
1:55.8	* Liam Murray	2	Londonderry	11	Jun
1:55.8	* Andrew Clowes	3r5	Swindon	7	Aug
1:55.8	* Mike Gregory	4r5	Swindon	7	Aug
	(180)				
1:55.8	Noel Stoddart	2r2	Stretford	26	Aug
1:55.8	Steve Cooper	7r2	Watford	27	Aug
1:55.9	Mark Richardson	5	Battersea Park	18	Jan
1:55.9	* Andrew Atkinson	4r2	Stretford	20	May

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1:55.9	Ewan Calvert	11r1	Stretford	17	Jun
1:55.9	Jason Beeraje	12r2	Watford	16	Jul
1:55.9	Ian Wetherall	6r3	Stretford	22	Jul
1:56.0	* Mike Roberts	5r3	Watford	16	Jul
1:56.0	* Alan Old U20	7r2	Jarrow	23	Jul
1:56.0	* Rob Harris	6r4	Swindon	7	Aug
	(190)				
1:56.0	* Lee Rodrigues	5r5	Swindon	7	Aug
1:56.0	* C Mulvaney	9r1	Stretford	26	Aug
	158 gold performances to 1:52.0 by 77 athletes				
	371 membership performances to 1:56.0 by 192 athletes				

Additional Age Group

1:56.17	Andrew Fulford U17	4r3	Bristol	30	Aug
	1:56.3	1r6	Swindon	7	Aug
	1:56.9	4r1	Millfield	5	May
1:56.61	* Matt Thompson U17	2r5	Bristol	30	Aug
1:57.19	* Tom Burton U20	3r5	Bristol	30	Aug
1:57.2	* Darren Talbot U20	6r4	Stretford	17	Jun
	1:58.1	2r6	Wythenshawe	14	May
1:57.3	Paul Laslett U20	5r1	Millfield	5	May
1:57.9	* Andrew Ingle U20	1r2	Millfield	5	May
1:57.9	Tom Galpin U20	2r2	Millfield	5	May
1:58.3	* Wayne Abbott U17	2r3	Jarrow	23	Jul
1:58.7	* Lee Salter U20	7r1	Millfield	5	May
1:58.8	* Andrew Shearman U17	2r6	Swindon	7	Aug
	1:59.2	3r2	Millfield	5	May
1:59.1	* Tetan Desai U15	3r3	Jarrow	23	Jul
1:59.28	Carl Morris U20	4r5	Bristol	30	Aug
1:59.5	* G Brownhill U20	1r7	Wythenshawe	14	May
1:59.52	David Bedwell V40	8r3	Bristol	30	Aug
1:59.9	* Oliver Griffin U20	4r2	Millfield	5	May
1:59.9	* Tom Dufton U20	5r2	Millfield	5	May
2:00.0	Ronnie Havill U17	9r4	Watford	16	Jul

Men's 1,000m

2:19.4	Andrew Hart	1	Stretford	22	Jul
	(BMC Record)				
2:22.0	Stephen Green	2	Stretford	22	Jul
2:22.91	Grant Cuddy	1r1	Loughborough	18	May
2:23.7	Andrew Walling	3	Stretford	22	Jul
2:24.0	Bradley Donkin	1	Stretford	29	Apr
2:24.0	* Jason Lobo	2	Stretford	29	Apr
2:24.3	Matt Skelton	1	Sutcliffe Park	3	May
2:24.56	Justin Swift-Smith	2r1	Loughborough	18	May
2:25.07	Jason Thompson	3r1	Loughborough	18	May
2:25.3	* Matthew Dixon U20	3	Stretford	29	Apr
	(10)				
2:26.5	Brendan Smith	4	Stretford	29	Apr
2:26.52	Darrell Maynard	4r1	Loughborough	18	May
2:26.7	Rupert Waters	1	Watford	16	Apr
2:26.9	Eddie King	1	Belfast	19	Apr
2:27.89	Simon Saxby	1r2	Loughborough	18	May
2:27.9	Richard Vint U20	2	Watford	16	Apr
2:28.18	Steve Mosley	5r1	Loughborough	18	May
2:28.2	Neil Speaight U20	3	Watford	16	Apr
2:28.40	Lee Garrett U20	2r2	Loughborough	18	May
2:28.5	Matthew De'Ath U20	4	Watford	16	Apr
	(20)				
2:28.56	Kevin Hayes	3r2	Loughborough	18	May
2:28.6	Clive Gilby	2	Sutcliffe Park	3	May
2:29.44	Michael Wassell	4r2	Loughborough	18	May
2:29.56	Aaron Rea	5r2	Loughborough	18	May
2:29.68	Russell Cartwright	6r2	Loughborough	18	May
2:30.3	Ryan Walker	5	Watford	16	Apr
2:30.6	Richard Simms	2	Belfast	19	Apr
2:30.69	Ross Fittall U20	7r2	Loughborough	18	May
2:30.86	* Dave Smith	8r2	Loughborough	18	May
2:31.29	Andrew Stuckey	9r2	Loughborough	18	May
	(30)				
2:32.0	* Andrew Dunwoody	3	Belfast	19	Apr
	8 'gold' performances to 2:25.0 by 8 athletes				
	31 'membership' performances to 2:32.0 by 31 athletes				

Additional Age Group

2:33.01	Tom Payn U20	10r2	Loughborough	18	May
	2:34.2	7	Watford	16	Apr
2:33.3	* Kevin Corr U20	6	Stretford	29	Apr
2:33.34	Ryan Falkner U20	11r2	Loughborough	18	May
2:37.9	Mark Best U20	8	Watford	16	Apr
2:38.0	* Ed Barrett U20	9	Watford	16	Apr

Men's 1,500m

3:37.5	Anthony Whiteman	1r1	Swindon	7	Aug
	(BMC Record)				
3:39.1	Robert Hough	1r1	Wythenshawe	14	May
	(Equals BMC Members' Record)				
3:39.8	Ian Gillespie	2r1	Swindon	7	Aug
	3:41.2	3r1	Wythenshawe	14	May
3:40.3	Andrew Pearson	2r1	Wythenshawe	14	May
	3:43.8	1r1	Loughborough	3	Jun
3:41.6	Neil Caddy	4r1	Wythenshawe	14	May
	3:46.2R	1re4	Watford	30	Apr
3:42.1	Stephen Green	5r1	Wythenshawe	14	May
	3:43.4	5r1	Swindon	7	Aug
	3:44.0	3r1	Watford	25	Jun
	3:44.1	2r1	Loughborough	3	Jun
	3:45.1	3r1	Stretford	12	Aug
3:42.8	Matt Skelton	6r1	Wythenshawe	14	May
	3:44.6	4r1	Loughborough	3	Jun
	3:45.1	7r1	Watford	25	Jun
3:42.8	Gareth Turnbull IRE U20	3r1	Swindon	7	Aug
	3:44.2	4r1	Watford	25	Jun
3:42.8	Richard Ashe	4r1	Swindon	7	Aug
	3:45.8	12r1	Loughborough	3	Jun
3:43.1	Brendan Smith	7r1	Wythenshawe	14	May
	3:45.2	5r1	Stretford	12	Aug
	3:45.8	8r1	Watford	25	Jun
	3:47.7	14r1	Loughborough	3	Jun
	(10)				
3:43.4	* Craig Winrow	8r1	Wythenshawe	14	May
3:43.4	* Samir Benfares FRA	9r1	Wythenshawe	14	May
3:43.4	Nicholas Comerford	1	Battersea Park	15	Jun
3:43.5	* Matthew Dixon U20	6r1	Swindon	7	Aug
	3:44.9	12r1	Wythenshawe	14	May
	3:48.1	12r1	Watford	25	Jun
3:43.8	Jason Dullforce	1r1	Watford	25	Jun
	3:45.6	10r1	Loughborough	3	Jun
3:43.9	Matthew Barnes	2r1	Watford	25	Jun
	3:45.0	7r1	Loughborough	3	Jun
3:44.1	Stuart Poore	10r1	Wythenshawe	14	May
	3:49.2	12r1	Swindon	7	Aug
3:44.2	* Kris Bowditch	7r1	Swindon	7	Aug
	3:44.7	2r1	Stretford	12	Aug
3:44.2	Adam Zawadzki	1r1	Watford	10	Sep
3:44.4	Bradford Glenton	3r1	Loughborough	3	Jun
	3:44.5	6r1	Watford	25	Jun
	3:45.3	9r1	Swindon	7	Aug
	(20)				
3:44.4	Patrick Davoren	8r1	Swindon	7	Aug
3:44.5	* Adrian Passey	2	Battersea Park	15	Jun
3:44.5	Phillip Tulba-Morrison	5r1	Watford	25	Jun
	3:51.3	9r2	Loughborough	3	Jun

BMC Rankings 1997

Performances set in BMC races - compiled by Matthew Fraser Moat

3:44.7	* Keith Cullen	11r1	Wythenshawe	14	May
	3:46.1	3	Battersea Park	15	Jun
3:44.7	Grant Cuddy	1r1	Stretford	12	Aug
3:44.8	Vince Wilson	5r1	Loughborough	3	Jun
3:45.0	Justin Swift-Smith	6r1	Loughborough	3	Jun
3:45.2	Spencer Barden	8r1	Loughborough	3	Jun
3:45.2	Philip Mowbray	4r1	Stretford	12	Aug
	3:45.4	9r1	Loughborough	3	Jun
3:45.6	* Patrick O'Keefe	1r2	Wythenshawe	14	May
	3:48.2	15r1	Loughborough	3	Jun
	(30)				
3:45.7	Bruno Witchalls	11r1	Loughborough	3	Jun
3:45.8	Joe Mills	10r1	Swindon	7	Aug
	3:46.6	4	Battersea Park	15	Jun
	3:54.0	13r1	Watford	30	Jul
	3:55.8	1re2	Watford	30	Apr
3:46.0	Michael Openshaw	1r2	Loughborough	3	Jun
3:46.0	* Kiram Bouchamia ALG U20				
		2r1	Watford	10	Sep
	3:47.3	3r1	Watford	30	Jul
	3:47.6	8r1	Stretford	12	Aug
3:46.1	Cormac Finnerty IRE	9r1	Watford	25	Jun
3:46.1	Stuart Margiotta	10r1	Watford	25	Jun
	3:46.2	1r1	Watford	30	Jul
3:46.2	Steve O'Gara	6r1	Stretford	12	Aug
	3:47.7	4r1	Watford	30	Jul
3:46.6	Matthew Davies	13r1	Wythenshawe	14	May
	3:48.6	6r1	Watford	30	Jul
3:46.7	* Jason Lobo	7r1	Stretford	12	Aug
3:46.9	Stephen Sharp	5	Battersea Park	15	Jun
	3:47.9	4r1	Watford	10	Sep
	3:48.3	5r2	Loughborough	3	Jun
	3:48.3	13r1	Watford	25	Jun
	3:50.0	1r1	Watford	28	May
	(40)				
3:46.9	Larry Mangleshot	3r1	Watford	10	Sep
3:47.1	Luke Veness	2r2	Loughborough	3	Jun
3:47.2	Matthew O'Dowd	3r2	Loughborough	3	Jun
	3:49.2	5r2	Wythenshawe	14	May
3:47.2	* Julian Wyatt NZ	11r1	Watford	25	Jun
3:47.3	Tony Mate	2r2	Wythenshawe	14	May
3:47.3	Andrew Graffin	2r1	Watford	30	Jul
3:47.4	Rob Whalley	13r1	Loughborough	3	Jun
3:47.6	Julian Moorhouse	9r1	Stretford	12	Aug
3:47.9	Spencer Duval	4r2	Loughborough	3	Jun
3:47.9	* Carl Warren	1r2	Stretford	12	Aug
	3:48.1	1	Stretford	1	Jul
	(50)				
3:48.0	* Jean Verster RSA	6	Battersea Park	15	Jun
3:48.1	David Locker	10r1	Stretford	12	Aug
	3:50.6	5	Stretford	1	Jul
3:48.2	Martin Forder	14r1	Wythenshawe	14	May
	3:48.3	11r1	Swindon	7	Aug
3:48.2	Jason Thompson	5r1	Watford	30	Jul
3:48.3	Ian Mitchell	6r2	Loughborough	3	Jun
	3:48.9	3r2	Wythenshawe	14	May
3:48.4	James Tonner	1r3	Loughborough	3	Jun
3:48.5	* James Thie U20	1r2	Swindon	7	Aug
3:48.5	Terry Feasey	5r1	Watford	10	Sep
	3:50.4	6r2	Swindon	7	Aug
3:48.6	* Hendrick Raamala RSA	7	Battersea Park	15	Jun
3:48.7	Jonathan Wild	14r1	Watford	25	Jun
	(60)				
3:48.8	* Matthew Hibberd	1r2	Watford	25	Jun
3:48.9	Andrew Renfree	4r2	Wythenshawe	14	May
	3:49.5	7r2	Loughborough	3	Jun
	3:51.7	14r1	Swindon	7	Aug
3:49.0	David Robertson	2r2	Watford	25	Jun
3:49.1	Edward Bowen	2r2	Swindon	7	Aug
	3:52.1	9r2	Watford	25	Jun
3:49.1	Cor Datema HOL	3r2	Swindon	7	Aug
3:49.1	* James Trapmore	6r1	Watford	10	Sep
	3:51.5	10r1	Watford	30	Jul
3:49.3	Allen Graffin	7r1	Watford	30	Jul
3:49.4	* James McCook U20	2r2	Stretford	12	Aug
3:49.6	* David Kirk	2	Stretford	1	Jul
	3:50.4	4r2	Watford	25	Jun
	3:50.4	2r2	Watford	30	Jul
3:49.8	Ian Mitchell	3r2	Stretford	12	Aug
	(70)				
3:49.8	Matthew Clarkson	4r2	Stretford	12	Aug
	3:55.7	2r4	Loughborough	3	Jun
3:49.9	Kevin Farrow	2r3	Loughborough	3	Jun
	3:50.2	3r2	Watford	25	Jun
3:49.9	* Sammy Nyamongo KEN	13r1	Swindon	7	Aug
3:49.9	* James Starling	4r2	Swindon	7	Aug
3:49.9	Alasdair Donaldson	5r2	Stretford	12	Aug
3:50.0	Tim Crossland	3	Stretford	1	Jul
	3:50.4	3r3	Loughborough	3	Jun
3:50.0	Mark Wiscombe	7r1	Watford	10	Sep
	3:50.6	5r3	Loughborough	3	Jun
	3:51.3	10r2	Swindon	7	Aug
	3:52.4	10r2	Watford	25	Jun
3:50.1	Paul Drake	8	Battersea Park	15	Jun
3:50.2	Danny McCormack	5r2	Swindon	7	Aug
	3:51.5	6r2	Watford	25	Jun
	3:52.3	6r2	Watford	30	Jul
3:50.2	* Kevin Downie	6r2	Stretford	12	Aug
	(80)				
3:50.3	Andrew Walling	4	Stretford	1	Jul
	3:50.6	4r3	Loughborough	3	Jun
3:50.4	Paul Morby U20	1r2	Watford	30	Jul
	3:56.0	8r3	Loughborough	3	Jun
3:50.4	Garth Watson	7r2	Stretford	12	Aug
3:50.4	Andrew Knight	8r1	Watford	10	Sep
3:50.5	Jason Dupuy	8r1	Watford	30	Jul
3:50.5	Michael Proudlove	1r3	Stretford	12	Aug
3:50.6	Jason Beeraje	9	Battersea Park	15	Jun
	3:54.8	16r2	Watford	25	Jun
3:50.6	Charlie Low	7r2	Swindon	7	Aug
3:50.7	Lee Garrett U20	5r2	Watford	25	Jun
	3:54.1	1r4	Loughborough	3	Jun
	3:55.9	2re4b	Watford	30	Apr
3:50.8	Spencer Newport	8r2	Loughborough	3	Jun
	(90)				
3:50.8	* Danny Gibbons	6	Stretford	1	Jul
3:50.8	Ivan Hollingsworth	8r2	Swindon	7	Aug
	3:51.7	9r2	Stretford	12	Aug
3:50.8	Darren Barton	8r2	Stretford	12	Aug
3:50.9	Thomas Mayo	1re1	Watford	30	Apr
	3:55.4	15r1	Watford	25	Jun
3:50.9	Alex Rosen	3r2	Watford	30	Jul
	3:53.6	5r1	Watford	28	May
3:50.9	Charlie Low	2r1	Watford	28	May
3:51.0	* Andrew Hennessy	9r2	Swindon	7	Aug
3:51.1	Martin Yelling	9r1	Watford	30	Jul
	3:55.2	7r3	Loughborough	3	Jun
3:51.3	David Bullock	3r1	Watford	28	May
	3:51.4	4r2	Watford	30	Jul
3:51.5	Dominic Bannister	1	Jarrow	4	Jun
	(100)				
3:51.6	Alan Tatham	7r2	Watford	25	Jun
3:51.6	Michael Morris	10r2	Loughborough	3	Jun
3:51.7	* Aaron Hargreaves U20	2r3	Stretford	12	Aug

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3:51.8	Michael Wassell	8r2	Watford	25	Jun
3:51.8	* H O'Neill	3r3	Stretford	12	Aug
3:52.0	Rob Simon	10	Battersea Park	15	Jun
3:52.0	Martin Airey	11r1	Watford	30	Jul
	3:53.1	4r1	Watford	28	May
3:52.0	Paul Bennett	10r2	Stretford	12	Aug
	3:52.5	7	Stretford	1	Jul
3:52.1	Simon Lees U20	5r2	Watford	30	Jul
	3:54.7	1re4b	Watford	30	Apr
3:52.2	* Chris Kelong KEN	11	Battersea Park	15	Jun
	(110)				
3:52.4	* Richard Sinclair U20	6r2	Wythenshawe	14	May
	3:53.4	11r2	Watford	30	Jul
3:52.4	Patrick Chance	6	Stretford	1	Jul
	3:53.3	10r2	Watford	30	Jul
	3:54.6	1r3	Wythenshawe	14	May
3:52.4	* Eugene O'Neill IRE	11r2	Swindon	7	Aug
3:52.5	* Colin Johnson	7r2	Watford	30	Jul
3:52.6	David Rankin	8	Stretford	1	Jul
3:52.6	Jason Humm	8r2	Watford	30	Jul
3:52.6	* Paul Douglas U20	4r3	Stretford	12	Aug
3:52.7	Simon Cotton	9r2	Watford	30	Jul
3:52.7	Abdusalam Mohammed	9r1	Watford	10	Sep
3:52.8	Steve Mosley	11r2	Loughborough	3	Jun
	3:53.1	11r2	Watford	25	Jun
	(120)				
3:52.8	Andrew Prophett	6r3	Loughborough	3	Jun
	3:53.1	7r2	Wythenshawe	14	May
3:52.8	Scott Hughes U20	5r3	Stretford	12	Aug
3:52.9	Wayne Speake	12r2	Swindon	7	Aug
3:53.3	Sam Boden U20	12r2	Watford	25	Jun
3:53.6	Andrew Barber	13r2	Watford	25	Jun
3:53.6	Delwyn Bainton	13r2	Swindon	7	Aug
3:53.6	Dominic Hall	12r1	Watford	30	Jul
3:53.6	* Ian Roylance	10r1	Watford	10	Sep
3:53.7	Simon Bell	14r2	Watford	25	Jun
3:53.8	Tim Newbery	12r2	Watford	30	Jul
	3:55.0	14r2	Swindon	7	Aug
	3:55.7	3r3	Watford	25	Jun
	(130)				
3:53.9	* Mike Gregory	1r3	Watford	25	Jun
3:53.9	Steve Turvill	11r1	Watford	10	Sep
3:54.0	Stuart Stokes	6r3	Stretford	12	Aug
	3:55.6	4r3	Wythenshawe	14	May
3:54.3	Colin Palmer	7r3	Stretford	12	Aug
	3:55.8	4r3	Watford	25	Jun
3:54.4	Alan Rowe	6r1	Watford	28	May
3:54.4	* Darren Preston	15r2	Watford	25	Jun
3:54.8	Paul Fisher U20	12r1	Watford	10	Sep
3:55.0	Ken Harker	2r3	Wythenshawe	14	May
3:55.0	John Lawson	7r1	Watford	28	May
	3:55.5	2r3	Watford	25	Jun
3:55.0	Ben Whitby	8r1	Watford	28	May
	(140)				
3:55.1	Matthew Morris	3r3	Wythenshawe	14	May
3:55.1	Richard Girvan	1	Antrim	16	Jun
3:55.2	Tim Hyde	15r2	Swindon	7	Aug
3:55.3	Shane Snow	13r2	Watford	30	Jul
	3:55.6	11r2	Stretford	12	Aug
	3:55.9	12	Battersea Park	15	Jun
3:55.6	Colin Godfrey	9r1	Watford	28	May
3:55.6	Richard Vint U20	1r3	Swindon	7	Aug
3:55.6	* Daniel Getliffe	13r1	Watford	10	Sep
3:55.8	Kim Critchley	1r2	Stretford	1	Jul
3:55.9	John Moore	1r2	Watford	10	Sep

99 gold performances to 3:49.0 by 63 athletes

232 membership performances to 3:56.0 by 149 athletes

Additional Age Group

3:56.6	Jamie Muir U20	7r3	Wythenshawe	14	May
3:56.6	Christopher Livesey U20	2r2	Stretford	1	Jul
3:56.7	Neil Speaight U20	1re2b	Watford	30	Apr
3:58.5	Chris Thompson U17	1	Millfield	5	May
3:58.8	* M Buntin U20	5r2	Stretford	1	Jul
3:59.6	* Simon Curwen U20	7r2	Stretford	1	Jul
3:59.9	* Duncan Walkey U20	2	Millfield	5	May
3:59.9	* Simon Lewis U20	4r3	Swindon	7	Aug
4:00.9	Andrew McKenna U20	2r4	Watford	30	Jul
4:01.9	Paul Laslett U20	8r2	Watford	10	Sep
4:02.0	* Andrew Coles U20	6r3	Swindon	7	Aug
4:02.1	David Bedwell V40	7r3	Swindon	7	Aug
4:02.7	* Daniel Rowen U20	4r4	Watford	30	Jul
4:02.7	Robert Whittle U17	9r2	Watford	10	Sep
4:02.8	Dafydd Solomon U20	10r2	Watford	10	Sep
	4:03.2	3	Millfield	5	May
4:03.0	Daniel Wicks U20	3re1b	Watford	30	Apr
4:03.2	Ross Fittall U20	4re1b	Watford	30	Apr
4:03.2	* Robert Maycock U17	4r4	Wythenshawe	14	May
4:03.2	* Stephen Vernon U17	5r4	Wythenshawe	14	May
	4:04.8	14r2	Stretford	1	Jul
4:03.2	* Oliver Griffin U20	9r3	Swindon	7	Aug
4:03.9	Brian Stopher U20	5re1b	Watford	30	Apr
4:04.1	* Paul Gronow U20	4	Millfield	5	May
4:04.7	* Matt Thompson U17	10r3	Swindon	7	Aug
4:04.8	* Gary Blackman U20	2re3b	Watford	30	Apr

Men's 4 x 1,500m Relay

15:37.2	BMC National Squad	1r1	Watford	30	Apr
15:52.0	BMC National Juniors	1r2	Watford	30	Apr
	(British and Commonwealth Junior Record)				
15:59.2	Ron Allison's Squad	2r1	Watford	30	Apr
16:09.7	Solihull & SH U20s	2r2	Watford	30	Apr
16:31.1	BMC Composite Team	3r2	Watford	30	Apr
16:32.3	BMC National Juniors 'B'	4r2	Watford	30	Apr
16:34.1	Milton Keynes U20 'A'	5r2	Watford	30	Apr
16:38.7	BMC National U18s	6r2	Watford	30	Apr
16:41.1	BMC National Veterans	3r1	Watford	30	Apr
	(World Veterans Record)				
17:30.4	RAF Veterans	4r1	Watford	30	Apr
	(British Club Veterans Record)				
	(10)				
18:17.3	Milton Keynes U20 'B'	7r2	Watford	30	Apr
19:14.3	Milton Keynes U15 'A'	8r2	Watford	30	Apr
20:37.9	Milton Keynes U15 'B'	9r2	Watford	30	Apr
22:01.2	Milton Keynes U13	10r2	Watford	30	Apr
	14 performances by 14 teams				

Men's Mile

3:58.4	Ian Gillespie	1	Exeter	29	Jul
	4:01.37 (fell)	2r1	Bristol	30	Aug
	4:01.7	2	Bath	18	Jun
4:00.04	* Samir Benfares FRA	1r1	Bristol	30	Aug
4:00.9	Neil Caddy	1	Bath	18	Jun
	4:01.1	2	Exeter	29	Jul
4:01.59	* Kipkirui Misoi U20 KEN	3r1	Bristol	30	Aug
4:02.9	* Christian Stephenson	3	Bath	18	Jun
4:03.21	Stephen Green	4r1	Bristol	30	Aug
4:03.4	Stuart Poore	4	Bath	18	Jun
4:03.50	Bradford Glenton	5r1	Bristol	30	Aug
4:03.73	Bruno Witchalls	6r1	Bristol	30	Aug
4:03.8	* Jason Lobo	3	Exeter	29	Jul
	(10)				
4:03.98	Luke Veness	7r1	Bristol	30	Aug

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Performances set in BMC races - compiled by Matthew Fraser Moat

4:04.9	Nicholas Comerford	5	Bath	18	Jun
	4:08.0	5	Exeter	29	Jul
4:05.1	Rob Whalley	4	Exeter	29	Jul
4:07.18	* Andrew Hennessy	8r1	Bristol	30	Aug
4:07.2	Glen Stewart	6	Bath	18	Jun
4:07.78	Stephen Sharp	9r1	Bristol	30	Aug
4:08.8	* Christian Nicholson	6	Exeter	29	Jul
4:10.4	* Colm McClean U20	1	Antrim	24	Jun
4:10.7	Michael Morris	1	Jarrow	9	Aug
4:11.2	Andrew Renfree	7	Bath	18	Jun
	4:25.8	10	Exeter	29	Jul
	(20)				
4:11.6	Rob Simon	8	Bath	18	Jun
4:11.7	* James Thie U20	9	Bath	18	Jun
	4:13.9R	1re3	Watford	11	Jun
4:12.0	Ivan Hollingsworth	2	Jarrow	9	Aug
4:12.55	Richard Vint U20	10r1	Bristol	30	Aug
4:13.2	Dominic Bannister	3	Jarrow	9	Aug
4:13.5	Mark Wiscombe	7	Exeter	29	Jul
	4:15.7	10	Bath	18	Jun
4:14.7	Bobby Farren	2	Antrim	24	Jun
4:15.1	John Moore	4	Jarrow	9	Aug
4:17.2	* Scott Poole	3	Antrim	24	Jun
4:17.2	* John Rodgers	4	Antrim	24	Jun
	(30)				
4:17.5	* Bernard Kisilu KEN	11	Bath	18	Jun
4:17.6	* Daniel Flint	5	Jarrow	9	Aug
4:19.1	* Louis Wells U20	1re1	Watford	11	Jun
4:19.6	Stuart Overthrow	12	Bath	18	Jun
4:20.1	Gavin Pavey	8	Exeter	29	Jul
4:20.3R	Neil Speaight U20	1re4	Watford	11	Jun
4:20.6R	Paul Fisher U20	1re2	Watford	11	Jun
4:22.61	Paul Burnett	1r2	Bristol	30	Aug
4:23.1	* Andrew Ingle U20	9	Exeter	29	Jul
4:26.0	* Andrew Dunwoody	5	Antrim	24	Jun
	(40)				
4:26.0	* C Conway U20	11	Exeter	29	Jul
4:26.1	Carl Morris U20	12	Exeter	29	Jul
4:26.4	David Bedwell V40	13	Exeter	29	Jul
4:26.5	Andrew Thomas U20	14	Exeter	29	Jul
4:26.91	Robert Creed	2r2	Bristol	30	Aug
4:27?	* Glyn Harvey V40	2re1	Watford	11	Jun
4:29.7	Tom Payn U20	3re1	Watford	11	Jun
	21 'gold' performances to 4:10.0 by 17 athletes				
	54 'membership' performances to 4:30.0 by 47 athletes				

Additional Age Group

4:30.5	Peter Molloy V45	4re1	Watford	11	Jun
4:30.66	* Tom Kingsnorth U20	3r2	Bristol	30	Aug
4:30.8	Nicholas Andrews U17	15	Exeter	29	Jul
4:31.5R	David Wilcock V40	2re4	Watford	11	Jun
4:32.81	Tseguy Berhe U17	4r2	Bristol	30	Aug
4:33.43	Phillip O'Dell V40	5r2	Bristol	30	Aug
	4:36.7	18	Exeter	29	Jul
4:34.19	* Mick McGeogh V40	6r2	Bristol	30	Aug
4:34.5	Daniel Carthy U17	16	Exeter	29	Jul
4:35.3	Lee Eastley U17	17	Exeter	29	Jul
4:35.6R	Keith McLellan V40	2re2	Watford	11	Jun

Men's 4 x 1 Mile Relay

17:13.9	BMC National Juniors	1	Watford	11	Jun
18:08.5	BMC National Veterans	2	Watford	11	Jun
	(World Veterans Record)				
18:43.3	BMC National U18s	3	Watford	11	Jun
	3 performances by 3 teams				

Men's 2,000m

5:31.24	Rob Simon	1	Cardiff	31	May
5:33.08	Gavin Pavey	2	Cardiff	31	May
5:33.74	Delwyn Bainton	3	Cardiff	31	May
	0 'gold' performances to 5:20.0 by 0 athletes				
	3 'membership' performances to 5:40.0 by 3 athletes				

Men's 3,000m

7:51.4	Rob Whalley	1r1	Swindon	7	Aug
	(BMC Record)				
	7:57.1	1	Wythenshawe	14	May
	8:10.3	2	Oxford (Hor)	22	Jun
7:53.2	Spencer Barden	2r1	Swindon	7	Aug
7:54.5	* Christian Stephenson	3r1	Swindon	7	Aug
7:55.0	Cormac Finnerty IRE	4r1	Swindon	7	Aug
7:55.9	Matthew O'Dowd	5r1	Swindon	7	Aug
	8:11.5	5	Loughborough	21	May
7:57.7	* Kris Bowditch	2	Wythenshawe	14	May
7:59.5	* Seamus Power IRE	6r1	Swindon	7	Aug
7:59.5	Philip Mowbray	3	Wythenshawe	14	May
	8:04.2	9r1	Swindon	7	Aug
7:59.7	Ian Grime	1	Loughborough	21	May
7:59.9	* Darius Burrows	7r1	Swindon	7	Aug
	8:04.8	3	Loughborough	21	May
	(10)				
8:00.5	* Karl Keska	8r1	Swindon	7	Aug
8:00.7	Glyn Tromans	2	Loughborough	21	May
	8:00.9	4	Wythenshawe	14	May
8:06.1	Spencer Newport	10r1	Swindon	7	Aug
8:06.5	Steve O'Gara	11r1	Swindon	7	Aug
8:07.4	* Julian Wyatt NZ	1	Oxford (Hor)	22	Jun
8:08.9	Bruno Witchalls	4	Loughborough	21	May
8:10.8	Allen Graffin	1	Watford	16	Jul
8:11.1	Andrew Graffin	2	Watford	16	Jul
8:12.5	* David Taylor	3	Oxford (Hor)	22	Jun
8:13.0	Robert Scanlon	6	Loughborough	21	May
	(20)				
8:13.4	Spencer Duval	4	Oxford (Hor)	22	Jun
8:15.5	* Tom Hanlon	5	Wythenshawe	14	May
8:15.6	* Paul Green	1	Stretford	17	Jun
8:16.5	Nicholas Comerford	6	Wythenshawe	14	May
8:17.4	Paul Freary	7	Wythenshawe	14	May
8:18.5	* Mark Beering	1r2	Swindon	7	Aug
8:18.7	* J Woodhouse	1	Watford	27	Aug
8:19.3	* Rob Birchall	8	Wythenshawe	14	May
	8:22.3	14r1	Swindon	7	Aug
8:19.6	Martin Yelling	12r1	Swindon	7	Aug
8:19.8	Andrew Wedlake	2r2	Swindon	7	Aug
	(30)				
8:20.1	* Colin Johnson	3	Watford	16	Jul
8:20.6	* J Clark	4	Watford	16	Jul
8:20.8	Adrian Marriott	3r2	Swindon	7	Aug
8:21.5	Stephen Sharp	13r1	Swindon	7	Aug
8:21.9	Michael Proudlove	2	Stretford	17	Jun
	8:22.9	5	Oxford (Hor)	22	Jun
8:22.6	Andrew Barber	7	Loughborough	21	May
8:22.8	Simon Cotton	5	Watford	16	Jul
	8:23.2	6	Oxford (Hor)	22	Jun
8:23.4	* Andrew Morgan-Lee	4r2	Swindon	7	Aug
8:23.5	David Robertson	8	Loughborough	21	May
8:24.4	* Andy Hawkins	5r2	Swindon	7	Aug
	(40)				
8:24.8	* Danny Gibbons	3	Stretford	17	Jun
8:25.6	* Martin Waldram	6r2	Swindon	7	Aug
8:25.7	* Daniel Getliffe	6	Watford	16	Jul

BMC Rankings 1997

Performances set in BMC races - compiled by Matthew Fraser Moat

8:26.0	* M Jubb	1	Stretford	26	Aug
8:26.2	William Levett	7r2	Swindon	7	Aug
8:26.4	Michael Openshaw	1	Stretford	29	Apr
8:26.7	* Richie Gardiner	8r2	Swindon	7	Aug
8:26.8	* Phil McCartney	7	Watford	16	Jul
8:27.0	Larry Mangleshot	8	Watford	16	Jul
8:27.4	Nigel Stirk	9	Loughborough	21	May
	(50)				
8:27.5	* Kairn Stone	9r2	Swindon	7	Aug
8:27.6	* A Beevers	1	Stretford	1	Jul
8:27.7	* Alan Cross	9	Watford	16	Jul
8:27.8	* Colin Addison	2	Watford	27	Aug
8:28.0	* Danny Duke	10r2	Swindon	7	Aug
8:28.6	Matthew Clarkson	7	Oxford (Hor)	22	Jun
8:28.6	* M Hilton	2	Stretford	1	Jul
8:29.1	Craig Wheeler	1	Stretford	22	Jul
8:29.2	* Neil Sainsbury	8	Oxford (Hor)	22	Jun
8:29.5	Ian Mitchell	2	Stretford	29	Apr
	(60)				
8:29.6	Mark Harris	3	Watford	27	Aug
	20 'gold' performances to 8:10.0 by 16 athletes				
	70 'membership' performances to 8:30.0 by 61 athletes				

Additional Age Group

8:30.2	Jamie Muir U20	2	Stretford	22	Jul
8:38.9	* D Hibberd U20	4	Stretford	22	Jul
8:41.9	* C Shelton U20	8	Stretford	22	Jul
8:41.9	* Stephen Vernon U17	9	Stretford	22	Jul

Men's 2 Mile

8:34.5	Ian Gillespie	1	Millfield	5	May
	(BMC Record)				
8:53.1	David Burke	2	Millfield	5	May
9:07.9	Michael East U20	3	Millfield	5	May
9:10.6	* Svein Risa NOR	4	Millfield	5	May
9:11.1	* Nick Francis	1	Battersea Park	19	Apr
9:12.4	Eddie Richards	5	Millfield	5	May
9:13.6	Nathaniel Lane	6	Millfield	5	May
	1 'gold' performance to 8:50.0 by 1 athlete				
	7 'membership' performances to 9:15.0 by 7 athletes				

Men's 5,000m

13:40.5	* Seamus Power IRE	1	Watford	30	Jul
	(BMC Record)				
13:41.08	Rob Whalley	1	Bristol	30	Aug
	(BMC Members' Record)				
	13:54.2	2	Stretford	22	Jul
13:42.00	* Kris Bowditch	2	Bristol	30	Aug
	13:44.5	2	Loughborough	18	May
	13:47.7	1	Stretford	22	Jul
13:42.2	Andrew Pearson	1	Loughborough	18	May
	(BMC Record)				
13:44.83	Matthew O'Dowd	3	Bristol	30	Aug
13:45.6	Cormac Finnerty IRE	2	Watford	30	Jul
13:49.7	Glyn Tromans	3	Loughborough	18	May
13:51.5	Spencer Barden	4	Loughborough	18	May
	14:02.17	4	Bristol	30	Aug
13:52.8	* Ian Hudspith	5	Loughborough	18	May
13:56.6	Matthew Barnes	6	Loughborough	18	May
	(10)				
13:57.8	Dominic Bannister	7	Loughborough	18	May
13:58.0	* Carl Udall	1	Loughborough	11	Jun
	14:05.9	10	Loughborough	18	May
13:59.6	Rod Finch	8	Loughborough	18	May
13:59.8	Paul Taylor	3	Stretford	22	Jul
14:02.9	* David Taylor	9	Loughborough	18	May
14:06.7	Spencer Newport	11	Loughborough	18	May
14:07.9	Christopher Davies	4	Stretford	22	Jul
14:12.8	* Mark Steinle	12	Loughborough	18	May
14:13.9	David Farrell	1	Glasgow	18	Jun
14:14.6	* Alexander Moss	1	Gateshead	6	Aug
	(20)				
14:14.8	* Robert Quinn	2	Glasgow	18	Jun
14:18.1	* William Coyle	3	Glasgow	18	Jun
	14:32.75	7	Bristol	30	Aug
14:18.9	* Terry Wall	2	Gateshead	6	Aug
14:19.1	Matthew Clarkson	1	Rugby	18	Jun
14:21.3	* Alan Adams	4	Glasgow	18	Jun
14:21.26	Michael Proudlove	5	Bristol	30	Aug
	14:39.6	5	Stretford	22	Jul
14:24.02	* Adrian Callan	6	Bristol	30	Aug
14:27.1	* Matthew Vaux-Harvey	2	Rugby	18	Jun
14:28.4	John Mackay	5	Glasgow	18	Jun
14:28.8	* Neil Sainsbury	3	Watford	30	Jul
	(30)				
14:30.1	* Andrew Morgan-Lee	4	Watford	30	Jul
14:31.5	* Mark Hudspith	13	Loughborough	18	May
14:33.0	* Dale Laughlin	2	Loughborough	11	Jun
14:33.2	* Martin Rush	1	Exeter	29	Jul
14:33.2	* S Hempstead	5	Watford	30	Jul
14:34.1	* Stuart Hall	2	Exeter	29	Jul
14:34.7	Stephen Body	14	Loughborough	18	May
14:35.9	Allen Graffin	15	Loughborough	18	May
14:38.2	Bobby Farren	1	Londonderry	11	Jun
14:40.1	* Daniel Getliffe	6	Watford	30	Jul
	(40)				
14:40.8	* Alan Puckrin	6	Glasgow	18	Jun
14:41.1	* Stuart Major	1	Croydon	18	Jun
14:41.1	* Eric Crowther	7	Watford	30	Jul
14:42.2	Richard Taylor	16	Loughborough	18	May
14:42.5	* Colin Addison	8	Watford	30	Jul
14:43.75	* Graham Whyte	8	Bristol	30	Aug
14:44.1	Rob Holladay	17	Loughborough	18	May
14:44.3	* Andy Hawkins	3	Exeter	29	Jul
	26 'gold' performances to 14:15.0 by 21 athletes				
	55 'membership' performances to 14:45.0 by 48 athletes				

Additional Age Group

15:03.8	* Robert Wise V40	6	Exeter	29	Jul

Men's 10,000m

29:32.8	* David Taylor	1	Watford	30	Apr
	(BMC Record)				
29:32.8	* John Downes	2	Watford	30	Apr
29:34.4	Simon Cotton	3	Watford	30	Apr
31:08.0	* Steve McLoughlin	4	Watford	30	Apr
31:13.7	* Colin Smale	5	Watford	30	Apr
31:43.0	* Gordon Seward V40	6	Watford	30	Apr
	3 'gold' performances to 30:00.0 by 3 athletes				
	6 'membership' performances to 32:00.0 by 6 athletes				

* denotes a non member.

BMC News Index

Long-time member of the BMC, Brendon Byrne has compiled an index of all the articles that have appeared in the *BMC News* over the years. He is willing to supply the index for a nominal fee of £1 to cover printing and postage costs and can be contacted at 12 Amderley Drive, Eaton, Norwich NR4 6HY. Cheques should be made payable to the British Milers' Club.

BMC Rankings 1997

Performances set in BMC races - compiled by Matthew Fraser Moat

Women's 600m

1:29.4	Linda Staines (BMC Record)	1	Battersea Park	19	Apr
1:31.2	Rachel Jordan-Smith	2	Battersea Park	19	Apr
1:35.9	Sarah Simmons	3	Battersea Park	19	Apr
1:37.4	Sarah Wells	4	Battersea Park	19	Apr

3 'gold' performances to 1:37.0 by 3 athletes
4 'membership' performances to 1:42.0 by 4 athletes

Women's 800m

2:03.1x	Dianne Henaghan	1x	Jarrow	23	Jul
2:03.4	Diane Modahl	1r1	Swindon	7	Aug
2:03.7	Claire Raven	2r1	Swindon	7	Aug
	2:05.43	1	Bristol	30	Aug
	2:06.1	3	Watford	25	Jun
	2:08.1	6r1	Wythenshawe	14	May
2:04.1mx	* Victoria Lawrence	1mx	Stretford	12	Aug
	2:04.1mx	1mx	Stretford	26	Aug
	2:05.0mx	1mx	Stretford	22	Jul
2:04.2	* Amanda Crowe	3r1	Swindon	7	Aug
2:05.0	* Sinead Delahunty IRE	1r1	Stretford	26	Aug
	2:05.6	1r1	Stretford	22	Jul
2:05.2	Phylis Smith	1r1	Wythenshawe	14	May
2:05.6	Michelle Faherty	2r1	Wythenshawe	14	May
2:05.6	Lynn Gibson	4r1	Swindon	7	Aug
	2:05.68	2	Bristol	30	Aug
	2:06.0	2	Watford	25	Jun
2:05.7	Linda Staines	1	Watford	25	Jun
	2:05.9	3r1	Wythenshawe	14	May
	2:06.3	1r1	Loughborough	3	Jun
	(10)				
2:06.2	Alice Beecroft	4r1	Wythenshawe	14	May
	2:06.26	3	Bristol	30	Aug
	2:06.6	3r1	Stretford	26	Aug
	2:07.6	2r1	Loughborough	3	Jun
	2:07.9	1	Stretford	29	Apr
	2:10.0	5r1	Swindon	7	Aug
2:06.4	Karen McPherson	2r1	Stretford	26	Aug
	2:08.5	5r1	Stretford	22	Jul
2:06.5	Angela Davies	4	Watford	25	Jun
	2:08.0	3r1	Loughborough	3	Jun
2:06.7	Rachel Jordan-Smith	5r1	Wythenshawe	14	May
2:06.8	* Emma Davies U20	5	Watford	25	Jun
2:07.7	Sharon King	2r1	Stretford	22	Jul
	2:09.1	7	Watford	25	Jun
2:07.8	Helen Pattinson	3r1	Stretford	22	Jul
	2:08.2	4r1	Loughborough	3	Jun
	2:08.3	4r1	Stretford	26	Aug
	2:10.5	2	Stretford	29	Apr
2:08.0	Jillian Jones	6	Watford	25	Jun
	2:08.62	4	Bristol	30	Aug
2:08.1	* Rachel Newcombe	4r1	Stretford	22	Jul
	2:10.5	3	Stretford	17	Jun
	2:10.9	3	Stretford	29	Apr
2:08.7	Joanne Colleran	5r1	Stretford	26	Aug
	(20)				
2:09.0	Rachael Ogden U20	1	Millfield	5	May
2:09.1	Amanda Pritchard U20	1r2	Wythenshawe	14	May
2:09.1	Emma Brady	6r1	Stretford	22	Jul
	2:11.3	3r2	Wythenshawe	14	May
2:09.3	Paula Fryer	6r1	Wythenshawe	14	May
	2:09.5	1	Stretford	17	Jun
2:09.4	Vicki Andrews	6r1	Stretford	26	Aug
	2:10.1	2	Stretford	17	Jun
	2:11.7	4r2	Wythenshawe	14	May
	2:12.6	8r1	Stretford	22	Jul
	2:12.7	4	Stretford	29	Apr
2:09.44	Faith Aston	5	Bristol	30	Aug
	2:10.2	1r2	Stretford	22	Jul
	2:10.2	6r1	Swindon	7	Aug
	2:10.9	8r1	Stretford	26	Aug
	2:13.5	4	Stretford	20	May
	2:14.3	9r2	Wythenshawe	14	May
	2:14.3	7r2	Loughborough	3	Jun
2:09.7	Valerie Bothams	7r1	Stretford	22	Jul
	2:11.2	3r2	Loughborough	3	Jun
2:09.7	Sarah Bouchard	1r2	Stretford	26	Aug
	2:16.5	11r2	Wythenshawe	14	May
2:09.9	Jenny Harnett	8	Watford	25	Jun
	2:11.4	1	Watford	16	Jul
2:10.0	Susan Parker	7r1	Stretford	26	Aug
	2:10.6	4	Stretford	17	Jun
	(30)				
2:10.2	Joanne Mersh	1r2	Loughborough	3	Jun
2:10.2	Nicola Andrews	1	Battersea Park	15	Jun
2:10.5	Philippa McCrea U20	2x	Jarrow	23	Jul
2:10.6	Amanda Parkinson	5	Stretford	17	Jun
2:10.8	Sarah Wells	7r1	Swindon	7	Aug
	2:13.8	12	Watford	25	Jun
2:11.0	Simone Hardy	2r2	Loughborough	3	Jun
	2:11.1	9	Watford	25	Jun
2:11.1	Carolyn May	8r1	Swindon	7	Aug
2:11.21	Julie Swann W35	6	Bristol	30	Aug
	2:12.4	10	Watford	25	Jun
2:11.3	Kelly Brownhill U20	2r2	Wythenshawe	14	May
	2:15.7	8	Stretford	29	Apr
2:11.5	* Alta Verster RSA	2	Battersea Park	15	Jun
	(40)				
2:11.9	* Dawn Hargan	1	Londonderry	11	Jun
2:12.4	Kerry Smithson	5r2	Wythenshawe	14	May
	2:13.3	3	Stretford	20	May
	2:13.8	6r2	Loughborough	3	Jun
2:12.5	* Alex Ercolani	4r2	Loughborough	3	Jun
2:12.6	* Debra France	6r2	Wythenshawe	14	May
	2:12.9	5	Stretford	29	Apr
2:12.7	* Wendy Marshall	11	Watford	25	Jun
2:12.7	* Emma Ford	2r2	Stretford	22	Jul
2:12.8	Zoe Peatfield	1	Stretford	20	May
	2:13.0	7r2	Wythenshawe	14	May
	2:13.3	3r2	Stretford	22	Jul
	2:17.5	9r2	Loughborough	3	Jun
2:13.0	Catherine Riley U17	2	Stretford	20	May
	2:13.4	7	Stretford	29	Apr
	2:14.1	7	Stretford	17	Jun
	2:14.2	2r2	Stretford	26	Aug
2:13.2	* Michelle Mann	6	Stretford	29	Apr
2:13.2	Jane Horner	2	Watford	16	Jul
	(50)				
2:13.3	* Jane Groves	6	Stretford	17	Jun
2:13.5	* Laura McCabe U20	8r2	Wythenshawe	14	May
2:13.5	Wendy Farrow	5r2	Loughborough	3	Jun
	2:15.6	9	Stretford	17	Jun
2:14.0	* Lesley Morrison RSA	5	Stretford	20	May
2:14.0	Modupe Cole	3	Watford	16	Jul
	2:18.7	3mx	Watford	27	Aug
2:14.5	Ceri Thomas	8r2	Loughborough	3	Jun
2:14.7	Jennifer Mockler U17	4r2	Stretford	22	Jul
2:14.7	* Linda Gabriel	3r2	Stretford	26	Aug
2:14.8	* Kate Doherty U20	1r2	Swindon	7	Aug
2:14.9	Adele Rankin	6	Stretford	20	May
	(60)				
2:15.0	Jacqueline Kind	4r2	Stretford	26	Aug
2:15.0	* Kerrie Nott	3	Battersea Park	15	Jun

BMC Rankings 1997

Performances set in BMC races - compiled by Matthew Fraser Moat

2:15.1	Rebecca Williams U17	2	Millfield	5 May
2:15.4	Claire Entwistle	8	Stretford	17 Jun
2:15.7	Charlotte Goff	4	Watford	16 Jul
	2:16.6	1mx	Watford	27 Aug
2:15.8	Georgina Parnell U17	1	Cardiff	31 May
	2:17.1	1r2	Millfield	5 May
2:16.1	Helen Bebbington U17	3r1	Millfield	5 May
2:16.1	Louise Edwards-Insley	10r2	Wythenshawe	14 May
2:16.3	Rebecca Lovett U20	5	Watford	16 Jul
	2:16.8	2mx	Watford	27 Aug
2:16.4	* Caroline Swinbank	2r2	Swindon	7 Aug
	(70)			
2:16.9	Sarah Mead U20	4r1	Millfield	5 May
2:17.0	* Jo Kilminster	2	Cardiff	31 May
	2:17.90	7	Bristol	30 Aug
2:17.2	* Maria Skelton	2	Londonderry	11 Jun
2:17.3	Deborah Howard W35	3r2	Swindon	7 Aug
2:18.2	Barbara Dix U17	5r2	Stretford	22 Jul
2:18.3	Noeleen Murrin U20	10	Stretford	17 Jun
2:18.3	* J Leonard	5r2	Stretford	26 Aug
2:18.5	Elizabeth Crawford	10r2	Loughborough	3 Jun
2:18.6	* Sarah Herbert	5r2	Swindon	7 Aug
2:18.7	* Jo Glossop U17	5r1	Millfield	5 May
	(80)			
2:18.8	* Ceri Rees	3	Cardiff	31 May
2:19.5	* A Fox	6r2	Stretford	26 Aug
2:19.6	Catherine Dugdale	4	Cardiff	31 May
2:19.9	Francesca Green U20	6r1	Millfield	5 May
2:19.9	Teresa Penhorwood U17	2r2	Millfield	5 May

76 gold performances to 2:12.0 by 41 athletes
144 membership performances to 2:20.0 by 85 athletes

Additional Age Group

2:21.7	Amanda Child U17	3r2	Millfield	5 May
2:22.7	* Emma Turner U17	6	Cardiff	31 May
2:23.3	* Nicola Knapp U20	7	Cardiff	31 May
2:23.4	* Carly Austin U15	4r2	Millfield	5 May
2:24.1	* Catherine Jones U15	5r2	Millfield	5 May
2:24.1	* Edwina Carter U20	6r2	Millfield	5 May
2:24.1	Jade Clark U15	6	Watford	16 Jul
2:24.7	* Jo Knapman U17	7r2	Millfield	5 May

'mx' denotes mixed race, 'x' denotes male pacemaker

Women's 1,000m

2:45.22	Michelle Faherty	1	Loughborough	18 May
2:51.8	Pauline Quinn	1	Belfast	19 Apr
2:52.96	Karen McPherson	2	Loughborough	18 May
2:53.20	Jilly Ingman U20	3	Loughborough	18 May
3:03.3	* Wendy Davis U20	2	Belfast	19 Apr

1 'gold' performance to 2:50.0 by 1 athlete
5 'membership' performances to 3:10.0 by 5 athletes

Additional Age Group

3:11.7	* Catriona McCorkell U17	3	Belfast	19 Apr

Women's 1,500m

4:12.6mx	Joanne Pavey	1mx	Barry	27 Aug
	4:15.2	1	Loughborough	3 Jun
	4:18.7	1r1	Wythenshawe	14 May
	4:24.5R	1re2	Watford	30 Apr
4:15.8	Michelle Faherty	2	Loughborough	3 Jun
	4:22.3R	1re3	Watford	30 Apr
4:17.7mx	Lynn Gibson	1mx	Watford	10 Sep
	4:19.5mx	1mx	Watford	30 Jul
	4:21.2R	1re4	Watford	30 Apr
4:18.5	Angela Davies	1	Swindon	7 Aug
4:18.6	Amanda Parkinson	3	Loughborough	3 Jun
	4:20.6	3r1	Wythenshawe	14 May
4:19.2	Jillian Jones	2	Swindon	7 Aug
	4:28.5	5	Loughborough	3 Jun
4:20.3	Dianne Henaghan	2r1	Wythenshawe	14 May
4:20.3	Helen Pattinson	1	Watford	25 Jun
	4:20.4	3	Swindon	7 Aug
	4:21.2	4r1	Wythenshawe	14 May
4:21.6	Ellen O'Hare U20	2	Watford	25 Jun
	4:37.3	2re1	Watford	30 Apr
4:21.8	Caroline Pimblett	4	Loughborough	3 Jun
	4:24.2	5r1	Wythenshawe	14 May
	4:30.1	3	Stretford	12 Aug
	(10)			
4:22.4	Penny Thackray	3	Watford	25 Jun
	4:26.6	10r1	Wythenshawe	14 May
	4:28.4	7	Swindon	7 Aug
	4:29.8	6	Loughborough	3 Jun
4:22.7	Valerie Bothams	4	Swindon	7 Aug
	4:24.9	2	Stretford	12 Aug
	4:25.1	1	Watford	30 Jul
	4:25.2	6	Watford	25 Jun
	4:27.6	12r1	Wythenshawe	14 May
4:23.0	Rebecca Spies USA	4	Watford	25 Jun
	4:23.8	1mx	Tooting Bec	2 Jul
4:24.0	Joanne Colleran	1	Stretford	1 Jul
4:24.4	Victoria Sterne	2	Stretford	1 Jul
	4:25.1	7r1	Wythenshawe	14 May
4:24.5	* Anne Hare NZ	2mx	Tooting Bec	2 Jul
4:24.6	Sarah Simmons	5	Watford	25 Jun
4:24.8	Karen McPherson	1	Stretford	12 Aug
4:25.0	Lucy Field	6r1	Wythenshawe	14 May
	4:26.0	6	Swindon	7 Aug
	4:30.2	7	Loughborough	3 Jun
	4:38.8	7	Watford	25 Jun
4:25.4	Sarah Bull	5	Swindon	7 Aug
	(20)			
4:25.6	Sarah Bentley	8r1	Wythenshawe	14 May
4:26.2	Pauline Quinn	9r1	Wythenshawe	14 May
4:27.1	Jenny Harnett	11r1	Wythenshawe	14 May
	4:33.2	8	Swindon	7 Aug
4:27.7	* Michelle Mann	13r1	Wythenshawe	14 May
	4:31.3	8r1	Loughborough	3 Jun
4:28.6	* Alexandra Carter U20	1r2	Wythenshawe	14 May
4:30.0	Susan Scott	2r2	Wythenshawe	14 May
4:30.8	Ceri Thomas	14r1	Wythenshawe	14 May
4:30.9	* Emma Ford	3	Stretford	1 Jul
	4:32.6	9	Loughborough	3 Jun
	4:36.1	6	Stretford	12 Aug
4:31.0	Jennifer Mockler U17	4	Stretford	1 Jul
4:31.3	Shiela Fairweather	3r2	Wythenshawe	14 May
	(30)			
4:32.3	* Lesley Morrison RSA	4r2	Wythenshawe	14 May
4:32.5	* Dawn Hargan	1	Antrim	16 Jun
4:33.0	Elinor Doubell	1re1	Watford	30 Apr
4:33.0x	Phillipa McCrea U20	1x	Jarrow	4 Jun
4:33.0	Zahara Hyde	3mx	Tooting Bec	2 Jul
4:33.4	Alice Beecroft	4	Stretford	12 Aug
4:34.1R	Jody Swallow U17	2re4	Watford	30 Apr
	4:35.3	2mx	Watford	10 Sep
4:35.1	Claire Entwistle	5	Stretford	12 Aug
4:35.2	* Thomasin Kemp U20	1	Millfield	5 May
4:35.3	Kerry Smithson	5	Stretford	1 Jul
	(40)			
4:35.3	Julie Swann W35	9	Swindon	7 Aug
4:35.6	* Clare Thomas	10	Swindon	7 Aug

BMC Rankings 1997

Performances set in BMC races - compiled by Matthew Fraser Moat

4:35.9	* Andrea Kershaw U20	5r2	Wythenshawe	14 May
4:36.0	* Kate Abbitt	11	Swindon	7 Aug
	4:43.7	4	Watford	30 Jul
4:36.1	Catherine Dugdale	6r2	Wythenshawe	14 May
4:36.2	* Jo Dering	12	Swindon	7 Aug
4:37.7	Charlotte Goff	1x	Watford	28 May
4:38.3	* Nicola Knapp U20	13	Swindon	7 Aug
4:38.6	Caroline Thomas	14	Swindon	7 Aug
4:38.9	Jacqueline Kind	6	Stretford	1 Jul
	4:43.4	7	Stretford	12 Aug
	(50)			
4:38.9	Jessica Woolley U20	15	Swindon	7 Aug
4:39.3	Hayley Mittelberger	16	Swindon	7 Aug
4:39.6	Caroline Slimin	17	Swindon	7 Aug
4:39.7	Sarah Salmon	2	Watford	30 Jul
4:40.0	* Louise Whittaker U17	7r2	Wythenshawe	14 May
4:40.4	Jenny Brown	4mx	Tooting Bec	2 Jul
4:40.8	Rebecca Lovett U20	3	Watford	30 Jul
4:41.4	Helen Pearson U17	7	Stretford	1 Jul
4:41.8	* Julie Keen U17	8r2	Wythenshawe	14 May
4:41.9	Jane Horner	2x	Watford	28 May
	(60)			
4:42.0	* C Cresswell	8	Stretford	1 Jul
4:42.4	* Margaret Boleman W35	9r2	Wythenshawe	14 May
4:42.6	* Maria Skelton	10r2	Wythenshawe	14 May
4:42.8	* Anne Keeley IRE	8	Watford	25 Jun
4:43.1R	Camilla Waite U20	2re2	Watford	30 Apr
	4:43.2	2	Millfield	5 May
4:43.5R	Rachael Ogden U20	2re3	Watford	30 Apr
4:44.0	* Leanne Appleton U17	18	Swindon	7 Aug
4:44.2	Paula Gowing U20	11r2	Wythenshawe	14 May
4:44.6	Deborah Howard W35	12r2	Wythenshawe	14 May
4:44.8	Rosanna Iannone U20	3	Millfield	5 May
	47 gold performances to 4:30.0 by 26 athletes			
	102 membership performances to 4:45.0 by 70 athletes			

Additional Age Group

4:45.4	* Charlotte Coffey U20	13r2	Wythenshawe	14 May
	4:53.1	5re1	Watford	30 Apr
4:45.6	Emma Deakin U20	9	Stretford	1 Jul
4:45.7R	Carley Wilson U17	3re2	Watford	30 Apr
4:47.8R	Sharon Whitby U17	3re4	Watford	30 Apr
4:48.3R	* Pat Gallagher W50	4re2	Watford	30 Apr
4:48.2	Charlotte Moore U13	6	Millfield	5 May
4:48.5	Louise Damen U15	7	Millfield	5 May
4:49.7R	Helen Bebbington U17	4re3	Watford	30 Apr
4:51.2	Donna Brown U17	9	Stretford	12 Aug
4:56.0	* Sarah Willimott U17	16r2	Wythenshawe	14 May
4:57.6	* Michelle Cummings U17	8	Millfield	5 May
4:59.2R	* Kim Davison W35	5re3	Watford	30 Apr
	'mx' denotes mixed race, 'x' denotes male pacemaker			

Women's 4 x 1,500m Relay

17:41.0	BMC National Squad	1	Watford	30 Apr
	(Commonwealth, National and All-Comers Record)			
18:38.0	BMC Junior Squad	2	Watford	30 Apr
	(European Junior Record)			
19:12.9	BMC National U17s	3	Watford	30 Apr
	(British U17 Record)			
19:35.1	Bristol AC U20	4	Watford	30 Apr
	(British U20 Club Record)			
20:13.0	BMC National Veterans	5	Watford	30 Apr
	(World Veterans Record)			
22:52.5	Milton Keynes AC U15	6	Watford	30 Apr
	(British U15 Club Record)			
	6 performances by 6 teams			

Women's Mile

4:30.77	Joanne Pavey	1	Bristol	30 Aug
	(BMC Record)			
4:41.65	Helen Pattinson	2	Bristol	30 Aug
4:46.87	Joanne Colleran	3	Bristol	30 Aug
4:50.87	Penny Thackray	4	Bristol	30 Aug
4:56.96	Amber Gascoigne U20	5	Bristol	30 Aug
4:57.4R	Jody Swallow U17	1re4	Watford	11 Jun
5:00.2R	Rachael Ogden U20	1re3	Watford	11 Jun
5:05.5R	Camilla Waite U20	1re2	Watford	11 Jun
5:05.63	* Amy Stiles	6	Bristol	30 Aug
5:09.94	* Rebecca Wade U20	7	Bristol	30 Aug
	(10)			
5:13.1	Caroline Walsh U20	1re1	Watford	11 Jun
	3 'gold' performances to 4:50.0 by 3 athletes			
	11 'membership' performances to 5:15.0 by 11 athletes			

Additional Age Group

5:28.1	* Ann Jeeves W40	2re1	Watford	11 Jun
	'mx' denotes mixed race, 'x' denotes male pacemaker			

Women's 4 x 1 Mile Relay

20:16.2	BMC Junior Squad	1	Watford	11 Jun
	(World Junior Record)			
22:51.0	Shaftesbury Barnet	2	Watford	11 Jun
	(British Club Record)			
26:10.9	Metros Vets	3	Watford	11 Jun
	(British Club Vets Record)			
	3 performances by 3 teams			

Women's 3,000m

9:08.8mx	Sarah Bentley	1mx	Stretford	17 Jun
	(BMC Members' Record)			
	9:22.2	1	Oxford (Hor)	22 Jun
	9:23.1mx	1mx	Stretford	1 Jul
	9:23.1	1	Swindon	7 Aug
9:16.3	Joanne Pavey	1	Millfield	5 May
9:19.2	* Lucy Elliott	2	Millfield	5 May
9:19.3mx	Amanda Parkinson	1mx	Stretford	29 Apr
9:22.8mx	Caroline Pimblett	2mx	Stretford	29 Apr
9:25.1mx	* Sarah Young	2mx	Stretford	1 Jul
9:29.1	Rebecca Spies USA	2	Oxford (Hor)	22 Jun
9:33.0	Angela Joiner	2	Swindon	7 Aug
9:34.9	* Dawn James	3	Oxford (Hor)	22 Jun
9:35.8	Michelle Wannell	3	Millfield	5 May
	9:44.2	3	Swindon	7 Aug
	(10)			
9:37.1	Lucy Field	4	Millfield	5 May
9:39.4	* Jo Thompson W35	5	Millfield	5 May
	9:43.1	4	Oxford (Hor)	22 Jun
9:45.6mx	Sharon King	3mx	Stretford	29 Apr
9:48.2	Jilly Ingman U20	5	Oxford (Hor)	22 Jun
9:51.7	* Rita Quill	4	Swindon	7 Aug
9:52.9mx	Caroline Thomas	1mx	Loughborough	21 May
	9:59.2	7	Millfield	5 May
9:53.0	* Amy Stiles	5	Swindon	7 Aug
9:54.6	Catherine Dugdale	6	Millfield	5 May
	9:59.5	7	Swindon	7 Aug
9:55.3	Amber Gascoigne U20	6	Swindon	7 Aug
	10:02.7	9	Millfield	5 May
9:57.7	* Jo Dering	6	Oxford (Hor)	22 Jun
9:58.8	* Sandra Green	7	Oxford (Hor)	22 Jun
	(20)			
9:59.8	Ceri Thomas	8	Millfield	5 May
10:03.9mx	Valerie Bothams	2mx	Loughborough	21 May

BMC Rankings 1997

Performances set in BMC races - compiled by Matthew Fraser Moat

10:06.0	Amy Waterlow U20	1mx	Stretford	22	Jul
10:06.3mx	* Andrea Kershaw U20	2mx	Stretford	17	Jun
10:06.8	* Emma Turner U17	8	Swindon	7	Aug
10:08.1	Paula Gowing U20	10	Millfield	5	May
10:08.8	* J Newton	3mx	Stretford	1	Jul
10:11.5	* Charlotte Coffey U20	9	Swindon	7	Aug
10:14.7	* Rebecca Wade U20	11	Millfield	5	May
	17 'gold' performances to 9:45.0 by 12 athletes				
	38 'membership' performances to 10:15.0 by 29 athletes				

Additional Age Group

10:16.9	Deborah Howard W35	12	Millfield	5	May
	10:29.5	9	Oxford (Hor)	22	Jun
10:28.2	* Leanne Appleton U17	13	Millfield	5	May
10:28.4	* Kim Davison W35	14	Millfield	5	May

'mx' denotes mixed race, 'x' denotes male pacemaker

Women's 5,000m

15:51.7	* Lynne MacDougall (Scottish Native Record)	1	Glasgow	18	Jun
15:55.83	* Lucy Elliott	1	Loughborough	18	May
15:56.8	Vicki McPherson (BMC Members' Record)	1mx	Loughborough	11	Jun
	16:09.23	2	Loughborough	18	May
16:14.55	Sarah Bentley	3	Loughborough	18	May
16:20.58	Heather Heasman	4	Loughborough	18	May
16:25.22	Angela Joiner	5	Loughborough	18	May
16:28.5	* Sarah Young	2mx	Loughborough	11	Jun
16:31.5	* Jo Thompson W35	1	Cwmbran	11	Jun
16:33.89	Rebecca Spies USA	6	Loughborough	18	May
16:40.6	* Lindsay Cairns (10)	2	Glasgow	18	Jun
16:45.9	* Angharad Mair	2	Cwmbran	11	Jun
16:54.81	Penny Thackray	7	Loughborough	18	May
16:55.83	Ann MacPhail	8	Loughborough	18	May
17:00.2	* Amy Stiles	1	Watford	30	Jul
17:04.7	Ann Taswell	3	Cwmbran	11	Jun
	17:38.53	9	Loughborough	18	May
17:04.8	* Jill Harrison W35	4	Cwmbran	11	Jun
17:13.6	Lisa Hollick	2	Watford	30	Jul
	17:55.94	10	Loughborough	18	May
17:17.5	* Rita Quill	3	Watford	30	Jul
17:17.8	Michelle Wannell	1	Exeter	29	Jul
17:21.1	* Caroline Pauzers (20)	1	Croydon	18	Jun
17:21.5	* Nicky Haines-Jones	5	Cwmbran	11	Jun
17:27.5	* Jo Hargeaves	3	Glasgow	18	Jun
17:37.7	Paula Gowing U20	2	Exeter	29	Jul
17:43.2	Amber Gascoigne U20	6	Cwmbran	11	Jun
17:59.3	* Charlotte Coffey U20	3	Exeter	29	Jul
18:00.66	* Louise Brown U20	11	Loughborough	18	May
18:09.9	* Diane Cheverton	4	Exeter	29	Jul
18:15.4	* Kim Davison W35	7	Cwmbran	11	Jun
18:33.4	* Lisa Leggett	2	Croydon	18	Jun
18:46.0	* Nicky Fox (30)	5	Exeter	29	Jul
18:47.9	* Jane Griffiths W35	6	Exeter	29	Jul
18:54.4	* Eleanor Robinson W45	4	Glasgow	18	Jun
	14 'gold' performances to 17:00.0 by 13 athletes				
	35 'membership' performances to 19:00.0 by 32 athletes				

Additional Age Group

19:01.9	* Stella Harrod U20	7	Exeter	29	Jul

Women's 10,000m

33:33.7	* Theresa Duffy IRE (BMC Record)	1	Loughborough	3	Jun
33:49.1	* Jo Thompson W35	2	Loughborough	3	Jun
34:25.1	* Carol Galea MAL (BMC Record)	1	Watford	30	Apr
34:44.9	Heather Heasman (BMC Members' Record)	3	Loughborough	3	Jun
36:00.0	* Tracy Swindell	4	Loughborough	3	Jun
36:10.6	* Alison Fletcher	5	Loughborough	3	Jun
	4 'gold' performances to 35:00.0 by 4 athletes				
	6 'membership' performances to 40:00.0 by 6 athletes				

* denotes a non member.

1997 BMC Athletes

Most Membership Times: 11 Jason Thompson, 10 Andrew Walling, 8 Andrew Knight, Helen Pattinson, Martin Airey, Stephen Green and Valerie Bothams, 7 Alice Beecroft, Faith Aston, Grant Cuddy, Jason Dupuy, Mark Wiscombe, Rob Whalley, Stephen Sharp and *Kris Bowditch.

Most Gold Standard Times: 10 Jason Thompson, 8 Helen Pattinson and Stephen Green, 7 Grant Cuddy, Valerie Bothams and *Kris Bowditch, 6 Alice Beecroft, Andy Knight, Ian Gillespie, Joanne Pavey, Lynn Gibson, Matthew Kloiber, Rob Whalley and Sarah Bentley, 5 Andrew Walling, Brendan Smith, Bruno Witchalls, Jason Dupuy, Justin Swift-Smith, Kevin McKay, Penny Thackray, Stephen Sharp and *Jason Lobo.

Most Victories: 6 Joanne Pavey, 4 Sarah Bentley, 3 Andy Hart, Ben Sutton, Jason Thompson, Lynn Gibson, Linda Staines, Michael Openshaw, Rob Whalley and *Victoria Lawrence.

1997 BMC Meetings

Most Membership Times: 128 Swindon GP, 107 Wythenshawe GP, 88 Loughborough GP, 85 Watford GP, 57 Bristol GP, 47 Stretford 22/7, 46 Stretford 17/6, 45 Loughborough 18/5, 42 Watford 16/7 and 30/7, 37 Battersea Park 15/6, 36 Stretford 12/8, 31 Millfield.

Most Gold Standard Times: 61 Wythenshawe GP, 60 Swindon GP, 53 Watford GP, 51 Loughborough GP, 33 Bristol GPF, 27 Battersea Park 15/6, 24 Stretford 22/7, 23 Loughborough 18/5.

Most "Elite" Times: 22 Swindon GP, 13 Wythenshawe GP, 10 Battersea Park 15/6, 9 Loughborough 18/5, 8 Bristol GPF, 7 Stretford 22/7, 4 Loughborough GP, 3 Watford GP, Watford 30/7 & Millfield.

1997 BMC Venues

Membership Times: 267 Watford, 219 Stretford, 148 Loughborough, 128 Swindon, 107 Wythenshawe, 57 Bristol & Battersea Park, 31 Millfield, 23 Exeter, Finsbury Park & Jarrow, 19 Tooting, 15 Oxford (Hor), 12 Bath, 10 Cardiff & Glasgow, 8 Antrim, 7 Cwmbran, 5 Belfast & Londonderry, 4 Croydon & Sutcliffe Park, 2 Gateshead & Rugby, 1 Barry.

Gold Standard Times: 89 Watford, 84 Stretford, 81 Loughborough, 61 Wythenshawe, 60 Swindon, 36 Battersea Park, 33 Bristol, 10 Finsbury Park, 9 Tooting, 8 Jarrow, 7 Millfield, 6 Bath & Exeter, 5 Oxford (Hor), 4 Glasgow, 3 Sutcliffe Park, 2 Londonderry & Cwmbran, 1 Gateshead & Barry.

1997 BMC Events

Membership Times: 371 M800, 232 M1500, 144 W800, 103 W1500, 70 M3000, 55 M5000, 54 MMile, 38 W3000, 35 W5000, 31 M1000, 12 M600, 11 WMile, 7 M2Mile, 6 M10000 and W10000, 5 W1000, 4 W600, 3 M2000.
(Total 1187, Men 841, Women 346)

Gold Standard Times: 158 M800, 99 M1500, 76 W800, 47 W1500, 26 M5000, 21 MMile, 20 M3000, 17 W3000, 14 W5000, 8 M1000, 7 M600, 4 W1000, 3 M10000, W600 & WMile, 1 M2Mile & W1000.
(Total 508 - Men 343, Women 165).

Menstrual Cycle

by Frank Horwill

The Nutritional Approach To The Menstrual Cycle And Sports Performance

A number of Old Wives' Tales have percolated down the years on this subject: "My Mother says I mustn't have a bath or go swimming while I'm like it", and another is "My mother says I mustn't wash my hair during a period." Even the great physiologist Olaf Astrand wrote "Women should not swim during menstruation because of the possibility of infection." This is not very encouraging news to an Olympic swimmer who qualifies in the heats for an Olympic final which coincides with the "curse".

The exact timing of the menarche is affected by genetic, racial, socio-economic and climatic factors. At the menarche, the duration of blood loss may be two to nine days, but limited. The duration gradually decreases until by the age of 16 years, it lasts for an average of six days. The normal adult menstrual cycle varies from 21 to 35 days and is rarely the oft-quoted 28 days. In fact, 20 per cent of 16 year olds still have cycles exceeding 40 days. Stress can either shorten or lengthen the cycle. All sport is a stress and usually lengthens it. Females who go to altitude to compete or train, have an added stress due to the lack of oxygen which usually shortens the cycle. It is important for a sportswoman and her advisers to know what is going on in her body and at what stage the cycle is at.

An ovum (egg) is released each month from one or other ovary (ovulation) and finds its way to the adjacent fallopian tube. The ovum ripens before release in a sort of shell, the Graafian follicle. The ovum is released leaving the follicle remains behind in the ovary and grows into a small endocrine gland, a corpus luteum. This produces a hormone, progesterone, that stimulates the uterus lining to form a thick layer with additional blood supply ready to receive an embryo if the ovum becomes fertilised. If the ovum is not fertilised, the corpus luteum withers in two weeks and the uterus, deprived of progesterone sheds its lining (period). The average loss is about two ounces (60cc). As soon as this ceases, the uterine lining regenerates and some two weeks later the cycle begins again with the release of another ovum. The interval between ovulation and the period i.e. the life-span of the corpus luteum - if there is no pregnancy - is nearly always two weeks. But the interval between the period and the next ovulation varies individually, and also from month to month in the same individual. The whole cycle may last from three to five weeks or more.

The concentration of hormones in the body during this cycle affects sportswomen differently. The follicle stimulating hormone rises gradually from the first day after the cessation of the period to a peak around the 14^{th} day in tandem with the luteinising hormone. But the oestrogen hormonal rise precedes this by 2 days and tapers off for 2 days only to slightly rise again 5 days later the 22^{nd} day of the cycle, then declines. Progesterone climbs steadily after ovulation on the 15^{th} day and reaches a peak on the 21^{st} day and declines rapidly thereafter.

Oestrogen and progesterone are steroids. If it is the pre-menstrual fall in these that in some women cause the phenomena of pre-menstrual tension (PMT). However, while both decline to the 14^{th} day, progesterone climbs to a peak on the 20^{th} day and it is thought that this hormone is the major cause for PMT. The sportswoman and her coach have for many years searched for the ideal time in the menstrual cycle when performance will be at its peak. And, have also searched for NATURAL ways of neutralising any psychological and physical handicaps caused by PMT and the actual period.

> "The mid-luteal phase of the cycle (i.e. a week before actual menstruation) turned out to be a time when exercise became more difficult and psychological health took a nose dive."

Some research in 1993 ("Menstrual Cycle Phase and Running Economy", "Medicine and Science in Sports and Exercise, vol. 25(5), p.574, 1993.) goes some way towards solving part of the equation. Eight fit, normally menstruating females were asked to run at intensities of 55 and 80 per cent VO_2 max during different stages of their menstrual cycles. This intensity approximates to 70 and 88 per cent of the maximal heart rate, respectively. The mid-luteal phase of the cycle (about a week after ovulation, i.e. a week before actual menstruation) turned out to be a time when exercise became more difficult and psychological health took a nose dive (Depression, fatigue, and confusion increased while feelings of vigour declines). However, the lactate threshold - the exercise intensity above which large amounts of lactate begin to accumulate in the blood - was not influenced by the menstrual cycle phase.

In further research at Springfield College, Massachusetts, eight female distance runners were asked to run at close-to-top speeds for short periods of time and also ran as far as possible at an intensity of 85 per cent VO_2 max, about 90 per cent of maximal heart rate. None of the variables measured, i.e. VO_2 max, blood lactate threshold, maximal heart rate, and fat oxidation - were different at any stage of the menstrual cycle.

> "However, the lactate threshold - the exercise intensity above which large amounts of lactate begin to accumulate in the blood - was not influenced by the menstrual cycle phase."

For unknown reasons, the mid-luteal phase is a potentially low-performance time for female competitors. But, there is a bonus side to this phase - IT IS A POTENT TIME FOR MUSCLE GLYCOGEN STORAGE IN THE LEGS. Recent research reveals that glycogen storage is 22 per cent higher in the leg muscles of females in the mid-luteal phase, compared to before ovulation, and total endurance performance - measured as the ability to continue pedalling a bicycle at an intensity of 70 per cent VO_2 max (marathon pace) - tended to be about 10 per cent greater! This suggests that female marathoners should seek a marathon race during this phase because the added glycogen store in the legs could lead to increased speed over the final 6 miles (10k).

But, the exact opposite is the case if a speedy activity is contemplated, such as a swimming, cycling or running sprint event. The ideal time for these is the two weeks before ovulation, when economy and mood

Menstrual Cycle

by Frank Horwill

"Female sports competitors are encouraged to train normally through all phases of their menstrual cycle. The exception being with weight-training."

are better and ventilation isn't so expensive.

However, non-menstruating sports women and those who are taking oral contraceptives, which usually provide low, steady doses of progesterone, DON'T HAVE A NORMAL MID-LUTEAL PHASE, and therefore do not have to worry about negative psychological and physical changes.

Suslov, the former national coach for distance running in the former USSR wrote in TRACK TECHNIQUE ANNUAL, 1981, "Female sports competitors are encouraged to train normally through all phases of their menstrual cycle. The exception being with weight-training, where heavy weights were substituted for lighter weights with many repetitions. Our experience is that in the 4 days before and after a period there is a higher incidence of injury when using heavy weights."

Generally speaking, a girl's body fat content has to reach about 17 per cent before menstruation will begin. Rumanian gymnasts are kept at half this percentage and either do not start their periods or cease them once the required weight is reached. The medical profession are divided over this condition - on the one hand, one school of thought forecasts infertility if this is prolonged. On the other hand, another view is that it is Nature's way of telling the female she is too thin to have children. But the non-appearance of menstruation has been strongly linked with osteoporosis (weakening of the bones) and possible chronic undermining of bone structure. A high calcium intake is recommended in such cases of around 1200mg daily. Good dietary sources are: milk, cheese, broccoli, legumes, green leafy vegetables, nuts, seeds, peas, beans, and lentils.

Because milk is associated with many allergic reactions with some people, it should not be relied upon as the main calcium source. A new finding is that an obscure mineral - BORAN , found in fruits and nuts, if lacking in the diet will hamper calcium metabolism. Also implicated in calcium absorption is the mineral manganese, a glass of pineapple juice two or three times a week will suffice. It should be noted that nuts provide all the three minerals (calcium, boron, and manganese).

There is little doubt that taking the contraceptive pill not only eradicates or alleviates many of the unwelcome incidents of PMT, but can be used to manipulate the menstrual cycle so that a period does not occur at the same time as a major sporting event. However, where endurance events are concerned its major drawback is weight gain, fluid retention and a major cancelling out of the entire vitamin B complex. The first two are unwanted handicaps in any activity that continues for more than an hour. The last will affect carbohydrate absorption which is the main fuel for physical activity. A diminution of vitamin B 12's role will reduce the manufacture of new red blood cells. None of these is a happy state of affairs for the keen sportswoman.

While there are some drugs available to alleviate PMT and also a painful period, many of them also affect performance by interfering with the Krebs Cycle (The conversion of energy into oxygen), in particular, the barbiturates. Research suggests that PMT sufferers cannot efficiently metabolise the essential fatty acid, linoleic acid - which is mainly found in good quality vegetable oils - into its normal by - products, possibly because of the subtle interaction between derivatives of linoleic acid and certain menstrual hormones. This "barrier" could occur because of dietary deficiencies of nutrients essential for its conversion which include: vitamin B6, magnesium, zinc, vitamin C, vitamin B3 and chromium. Research has shown that countries that have a high intake of fruit and vegetables produce tend to have a lower incidence of PMT.

Poor blood sugar control (Chromium helps with this) is often a problem in women with PMT. Many notice an increase in appetite and/or food or sugar craving in the week or so before the period, and this may contribute to their weight gain and fluid retention.

The following treatments are either proven or accepted by a significant number of medical experts:

- Limit the consumption of refined sugar, salt, red meat and alcohol.
- Eat fish, poultry, whole grains and legumes as major sources of protein, and rely less on red meat and dairy produce.
- No smoking.
- Minimal amounts only of coffee, tea, chocolate, and cola-based drinks.
- Avoid saturated fats (animal fats, fried food, butter).
- Eat plenty of complex carbohydrates (fruit, all kinds of vegetables)
- Train in the morning in order to keep weight down.
- If sugar and food craving is experienced, eat every 4 hours on the dot only, nuts, seeds, peas, beans and lentils, fish and eggs. (All high quality protein foods).
- Take a multivitamin supplement providing the RDA of all the vitamins and most of the minerals, especially magnesium.
- Evening primrose oil - 500mg capsules, 4 - 8 per day, taken during the two weeks before the period is due, but if not effective it should be tried throughout the month.

WARNING: If symptoms do not improve or are very severe, a doctor must be consulted. Some hormonal problems can have similar symptoms to those of PMT yet require medical or surgical treatment.

James G Penland PhD a psychologist at the US Department of Agriculture, carried out research on a group of females with severe PMT and menstruation problems. Half were given 600mg of calcium for six months, the rest were given 1,300 mg a day. Those on the low dose suffered as before. The others on the high dose had reduced mood swings, less physical pain before and during their period. Calcium deficiency has long been linked to muscular cramps.

"One study of 80 females in the l964 Tokyo Olympics revealed that gold medals were won during all phases of the menstrual cycle."

It is utterly illogical that a sports person who has trained for moths or even years for the greatest moment in her sporting life, such as for the Olympics or commonwealth Games, and possibly her one and only opportunity to do so, should have that occasion marred by possible PMT and or menstrual problems. However, one study of 80 females in the l964 Tokyo Olympics revealed that gold medals were won during all phases of the menstrual cycle.

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