BMC NEWS

Official Journal of the British Milers' Club

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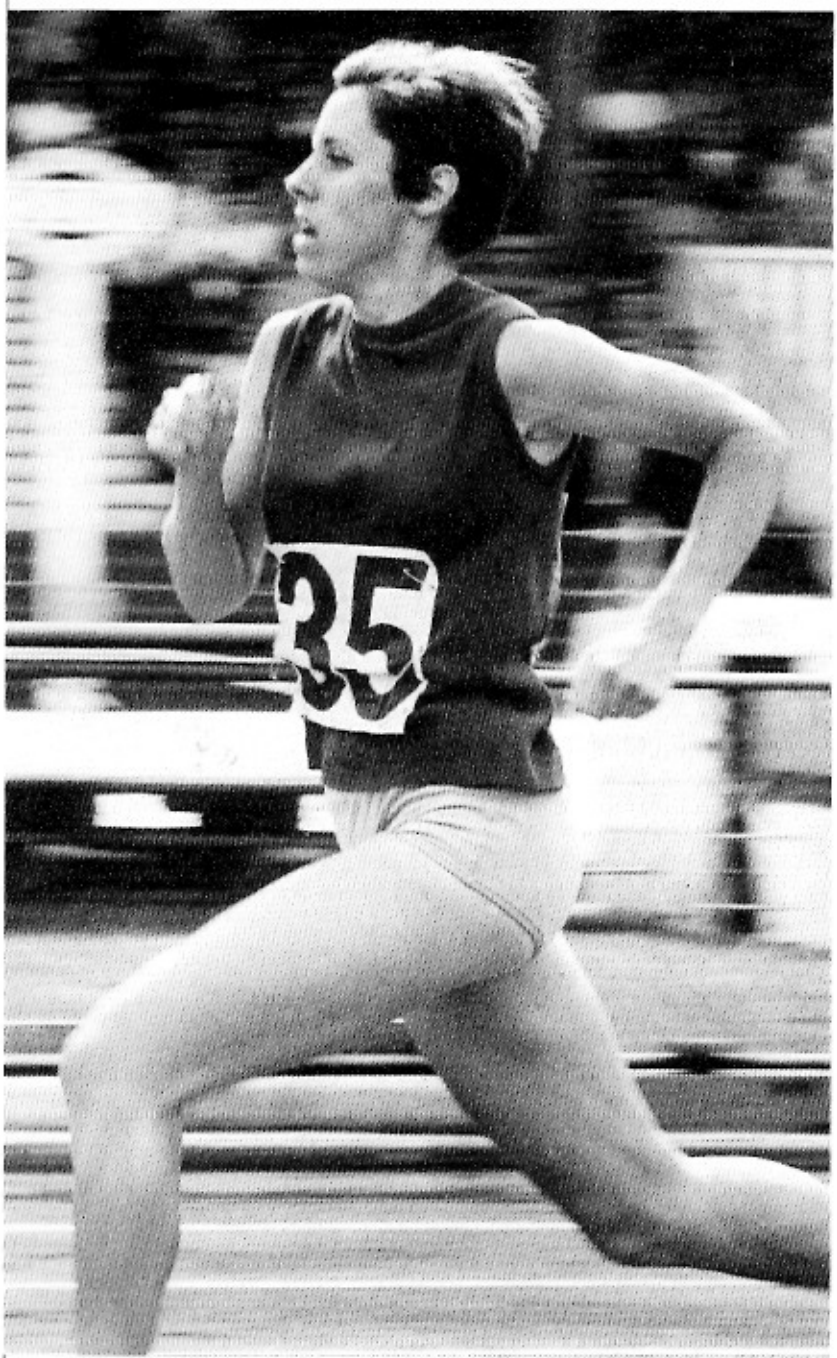

Photo by Mark Shearman

Anne Smith 1941 - 1993

The British Milers' Club

Founded 1963

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BMC News is published twice yearly in March and October by the British Milers' Club. *BMC News* is distributed free to all members. Non members can subscribe for £10 per annum.

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MEMBERSHIP

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

Members receive the *BMC News* free twice a year. They are eligible for reduced entry fees to BMC Races and Courses, as well as receiving travelling expenses to some sponsored BMC Races.

Annual subscriptions of £8 are due 1st January each year. All applications to join the BMC should be sent to the Membership Secretary enclosing a large SAE.

MERCHANDISE

BMC Vests (S/M/L/XL - £8), BMC Ties (£5) are available from Runnersworld, 333 Rayners Lane, Pinner, Middlesex (Tel 081 868 6997). Please make all cheques payable to 'Runnersworld'

Back issues of *BMC News* (£1 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 a large SAE.

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BMC QUALIFYING TIMES

(from 1st February 1994)

	800m	1,500m	3,000m	5,000m	10,000m
Senior Men	1:52.0	3:49.0	8:12.0	14:15.0	30:15.0
Under 20	1:55.0	4:00.0	8:40.0	15:30.0	
Under 17	2:02.0	4:15.0	9:30.0		
Under 15	2:10.0	4:30.0	10:10.0		
Veterans	TBA	TBA	TBA	TBA	TBA
Senior Women	2:12.0	4:30.0	9:35.0	17:30.0	37:00.0
Under 20	2:16.0	4:45.0	10:10.0		
Under 17	2:23.0	5:00.0	11:00.0		
Under 15	2:27.0	5:10.0			
Veterans	TBA	TBA	TBA	TBA	TBA

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BMC / REEBOK / BAF PERFORMANCE PROGRAMME

With the reduction in international competition this summer, we are delighted to announce that the BMC, together with the Reebok Challenge and BAF National Event Coaches, have arranged the following 'National Squad' meetings to enable athletes to achieve fast times :

Wednesday 18th May	Manchester
Sunday 29th May	Crawley
Saturday 23rd July	Oxford
Sunday 21st August	Solihull
Sunday 11th September	Loughborough

All meetings will have top class 800m and 1,500m races, which will be paced to the following 'top-twelve' standards : mens 800m - 1:47.2; mens 1,500m - 3:39.5; womens 800m - 2:04.0; womens 1,500m - 4:14.0. Limited expenses and prizes will be available to those athletes competing, provided race organisers receive three weeks notice of athletes' intentions to run. Please register with Matthew Fraser Moat on (0304) 379777.

There will also be races at longer distances, see the fixture list on page 30 for full details. The Oxford meeting will be a relay meeting where we shall be attempting to improve on the world records set last year.

BMC EARLY SEASON RACES

As there is a distinct shortage of domestic competition early next season, the BMC has provisionally arranged to stage races at the following open meetings :

Wednesday 23rd March	Portsmouth
Wednesday 6th April	West London
Tuesday 26th April	Stretford
Monday 2nd May	Welwyn

The purpose of these meetings is to increase the number of early-season competition opportunities, as part of the build-up to the AAA's on June 11th - 12th.

Subject to demand, these meetings will have 800m and 1,500m races, and will be paced at national 'top-fifty' standards. Again subject to demand, there will be a 5,000m race at West London and a 10,000m at Welwyn.

Race programmes will be decided two weeks before each meeting, based on feedback from athletes. If you wish to run at any of these meetings, please contact Matthew Fraser Moat on (0304) 379777, or the relevant regional secretary.

POST-AAA's BMC RACES

After the trials there are always a number of disappointed athletes - we plan to have 'consolation meetings' on Wednesday June 15th at Ealing in the south, and on Tuesday June 21st at Stretford in the north. The national event coaches are trying to get 'B Races' into the programmes at Edinburgh on Thursday 7th July, Crystal Palace on Friday 15th July and Gateshead on Wednesday 20th July.

BMC POST OFFICE COUNTERS SOUTH - WEST GRAND PRIX

This traditional end of season series gets better and better. Last year three athletes broke or equalled four minutes for the mile. This year's series commences on August 27th at Salisbury - for further details please contact Mike Down on (0272) 733407.

BMC REGIONAL GRAND PRIX

As an experiment for 1994, our regional races will be run as grand prix series for both men and women. The aim of BMC regional races is to encourage athletes to run fast times, and this is reflected in the grand prix scoring system.

Each athlete who achieves the BMC qualifying standard in a BMC Regional Race will receive 10pts. There will also be place points (10,9,8,7,6,5,4,3,2,1) for the first ten finishers. To encourage athletes to volunteer as pacemakers, a pacemaker who leads at the bell will also receive 10pts. Points will be accumulated in each region for mens and womens races throughout the season, and to reward loyalty, there is no restriction on the number of scoring opportunities that an athlete can have throughout the season.

Photo by MFM

Steve Cram examining the 'Steve Cram' Blackpool Rock at the 1993 National Endurance Weekend at Loughborough.

Double place points will be awarded at the final meeting in each region.

At the time of writing sponsorship is still being sought - it is hoped to offer equipment vouchers of £150, £75, £40, £25 and £10 to the first five in each of the regional grand prix. A total of only £2,500 would be required to sponsor all of these Grand Prix to this level.

SPORTS AID FOUNDATION JUNIOR RACES

We are still awaiting news as to whether we have been successful in our application for funding in 1994. If the SAF continue their support, U18 races for both men and women will be included alongside all BMC national senior races - for further details please contact David Iszatt on (021) 471 4080.

BMC RELAY MEETING OXFORD - SATURDAY 23rd JULY

We are holding another relay meeting at Oxford on Saturday 23rd July. The afternoon will comprise opening junior races, a 10,000m, a 4 x 800m relay open to club teams, a 4 x 1 mile relay in which BMC national and regional squads will be attempting to break the records set last year, and, as a conclusion, another mixed handicap mile.

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GOODWIN SANDS MILE
THURSDAY 23rd JUNE

We have been invited by Bill Bennett of Deal Striders to assist with the 'Cliff Temple Memorial Mile' on the Goodwin Sands next July. Travelling expenses will be met and prize money is offered. All proceeds to go to the Julie Rose Appeal. For further details contact Bill Bennett on (0304) 362366.

1994 NATIONAL TRAINING DAY

This is being held at Gosling Sports Park, Stanbourgh Road, Welwyn Garden City, Herts on Saturday 22nd October. This is located just off junction 4 of the A1(M), taking the A6129 into Welwyn Garden City, it is off the second roundabout. It is hoped this will be more accessible for northern athletes. Cost to members is £10 including lunch buffet. For further details contact Ian Chalk on (0582) 769336.

NATIONAL ENDURANCE WEEKEND

Norman Poole is holding the second National Endurance Weekend, probably at Loughborough, in November. For further details please contact Norman Poole on (061) 945 2221.

BMC QUALIFYING TIMES

We have regrettably had to reduce our standards, particularly at junior level, as a result of falling national standards. The new standards are published on page 2.

VETERANS STANDARDS

At the last AGM it was decided to establish veteran athlete qualifying standards - subsequent discussions have been unable to determine a suitable level. Veteran athletes are therefore invited to write in with suggestions for discussion at the AGM.

BMC COACHES' NEWSLETTER

Because of increased postage costs, this publication will henceforth be incorporated into the *BMC News*.

SIR ROGER BANNISTER'S
FORTIETH ANNIVERSARY DINNER

This dinner is being organised by the British Athletic Federation on Friday 6th May at the Grosvenor House Hotel, London to commemorate Sir Roger Bannister's first four minute mile at Oxford on 6th May 1954. The tickets cost £75. We are organising a BMC table - if you wish to attend please contact Matthew Fraser Moat.

BMC VESTS

All BMC kit is sold via mail order at Runnersworld, 333 Rayners Lane, Pinner, Middlesex (Tel 081 868 6997). Vests (S/M/L/XL) are available for £8. Please make cheques payable to 'Runnersworld'.

1994 SUBSCRIPTIONS

1994 subscriptions became due on January 1st. If you have not already paid, please could you send your cheque, made payable to the BMC, to the Treasurer, Pat Fitzgerald. Please could you notify any change of address.

At the 1994 Annual General Meeting, there will be a proposal to increase the annual membership fees to £10 per annum, the first increase for three years. It is also proposed to increase overseas subscriptions to £15 to cover postage costs.

If you have any views on these proposals and are unable to attend the AGM, please write to the National Secretary, Mike Rezin.

COMMITTEE MEETINGS

The dates of the next meetings are : 10th April, 5th June, 23rd July, 4th September and 2nd October. All meetings except July 23rd will take place on Sundays at 2:30pm in the Club House, Linford Christie Stadium (formerly West London Stadium), London W12. The meeting on July 23rd will take place at 12pm at Iffley Road, Oxford.

NEXT ISSUE

It is planned to publish the next issue in October 1994. All members who wish to contribute articles should send them to the editor by 31st August 1994. The editor would greatly appreciate offers of assistance in typing, proof-reading etc next September.

OBITUARY - ANNE SMITH
by David Cocksedge

BMC Life Vice President Anne Smith, one of the pioneers of women's distance running in the UK, died of cerebral haemorrhage in London on 9th November 1993, aged just 52. She was the last British female to hold the world mile record, and represented the UK in the 1964 Olympics at 800m. She also gained an 880 yards bronze medal in English colours at the 1966 Commonwealth Games in Kingston, Jamaica.

Born in Amersham on 31st August 1941, Anne moved to Streatham, South London in 1954 and joined Mitcham AC, starting athletic life as a sprinter under Ted Cunningham. When it became obvious that she was better suited to longer events, she came under the guidance of Gordon Pirie and her career blossomed. A fearless front runner, Smith won her first WAAA 880yd title in 1963, gained international

NEW MEMBERS

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

2372	Jean-Bruno Witchalls	Mole Valley	2379	Alastair Donaldson	Babcock Thorne Pitreavie
2373	Michael Carding	Leicester Coritanian	2380	Claire Swift	Liverpool Harriers
2374	Val Brandon	Bournemouth AC	2381	Marcus Harding	Haringey AC
2375	Matthew Townend	Haringey AC	2382	Anthony Fern	Southampton AC
2376	Roger Clark	Torbay AC	2383	Carol Sharp	City of Glasgow
2377	Alex Oldfield	Kettering Town	2384	Martin Airey	Brighton & Hove AC
2378	Matthew Davies	Cambridge & Coleridge	2385	Christopher Blount	Newport Harriers

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vests against Hungary, West Germany and USSR, and went on to reach the 1964 Tokyo Olympic 800m final. However, in the excitement of Ann Packer's world record win in 2:01.1, Smith's 8th place (2:05.8) was largely overlooked.

After a bronze medal at the 1966 Commonwealth Games, Smith was favoured to do well at the following European Championships; but she was sent home from Budapest by British team management after a row over accommodation. The whole incident seems trivial in these days of superstar athletes, but when Smith found the athletes' village too noisy she moved into a hotel at her own expense. Smith was sent home in disgrace by team manager Marea Hartman, as well as being suspended for three months. One leading newspaper correspondent wrote : "We hope the persecution of Anne Smith is not linked to the BAAB's known opposition to Gordon Pirie."

Smith set the first of her world records by winning the Surrey mile title in 4:39.2 at Wimbledon Park on a blustery day on 13th May 1967. That cut 2.2 secs off Marise Chamberlain's 1962 record. Three weeks later at the Southern Championships at Chiswick, Anne improved again to 4:37.0, passing 1,500m metres in 4:17.3, also a world record.

Partly because relations with the BAAB had not improved, Anne emigrated to New Zealand in 1968 and raced in NZ's all-black colours at the 1970 Edinburgh Commonwealths - the first 'metric' Games. Formerly a redhead, but now an ash blonde, she was obviously not at full fitness as she reached the 800m semi-finals in an event finally won by Scotland's Rosemary Stirling-Wright.

Smith continued to run daily on her return to England in 1986, and occasionally raced for Bromley Veterans up until her untimely death. She taught history, religious studies and PE at Queen's College and had been teaching all day last November when she suffered a cerebral haemorrhage from which she never regained consciousness. Her best marks : 56.0 (440yd); 2:04.2 (880yd); 4:17.3 (1,500m); 4:37.0 (mile).

OBITUARY - GEORGE SHEEHAN
by Frank Horwill

The death of Dr. George Sheehan in November 1993 was mourned throughout the running world. He was a diamond amongst a beach of pebbles. He was a cardiac specialist by profession but extended his skill to a re-examination of the then current methods of treating injuries in the 1970s. He dismissed the use of drugs and physiotherapy gadgetry plus cortisone injections as short-lived remedies, and discovered that most injuries were due to muscle imbalance and / or structural faults, which could be tolerated by the pedestrian but not the runner.

At the age of forty-five he claimed he was born again when he took up running after a break of 25 years. For twenty years as a doctor he had known only disease, not health, and running taught him about total health and fitness.

He soon came to some firm conclusions : "Weight is the key factor in distance running, especially among masters." He was philosophical about topics which made some fanatics : "I have long since learned that it is folly to discuss a man's religious beliefs, his politics and his diet." He was opposed to stereotyping runners and constantly reminded his patients that "You are an experiment of one".

As a master, he won the USA over-fifty mile title, and raced numerous marathons and 10k road races. His analysis of how his body reacted to different routines provided invaluable help to British veterans throughout the world.

In 1968 he became a columnist in *Runner's World*, in which he answered medical questions peculiar to running. No puzzle seemed insoluble to him. His first book *Dr. Sheehan on Running* was published in 1975, and his second *Running and Believing* in 1978. The books revealed an evangelical belief that running could solve most of man's problems.

He was concerned less about producing champions in running than about those who championed running. He had just turned 75 years of age when he ran his last race against cancer.

OBITUARY - BERT NELSON
by Mel Watman

The death of Bert Nelson, co-founder, with his brother Cordner, of *Track and Field News* in 1948, came as sad news to athletics enthusiasts not only in the United States but all over the world. His vision, knowledge, drive and enthusiasm ensured that the American monthly magazine became one of the most respected of all athletics publications and required reading of the true enthusiast.

Bert, born in San Diego, California on November 21st 1921, fell in love with athletics from an early age and was a half miler in high school and cross-country runner at college. Following war service as a naval officer in the Pacific he first started a small newspaper in California and then switched to producing *Track and Field News* just months before the first post-war Olympics were staged in London.

Track and Field News documented the sport as never before in the USA, and, having never missed an issue in over forty years, I can testify to the sustained excellence of its coverage. The American track scene, particularly in the fifties before Europe began its virtual monopoly of big meetings, exuded glamour, and athletes like Mal Whitfield, Wes Santee and Jim Ryun became heroic figures to European as well as American fans.

Bert Nelson was for many years *Track and Field News*' editor and publisher, and for nearly forty years he expressed his pungent views on a variety of topics in what should have been called 'Nelson's Column' but was instead labelled *Of People and Things*.

His crucial contribution to our sport was honoured in 1991 when he became only the third journalist (brother Cordner having been the second) to be elected to the USA's National Track and Field Hall of Fame. For the past six years he had fought against Parkinson's disease, and on Jan 9th he died, aged 72.

A tribute to Cliff Temple from Randall Northam appears on page 21.

BMC *Junior Development...*

This discussion paper has been written by BMC Chairman David Iszatt and endorsed by BMC Development Officer Matthew Fraser Moat as a basis for Junior Athlete Development.

Overcoming the Middle-Distance Crisis

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

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

The Crisis at Junior Level

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

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

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

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

As with seniors, juniors who do not routinely train at a pace designed to keep them on the path to success will find that success eludes them. Those who do not realise that European and World Junior Championships qualifying times sit neatly on the path to World Championship qualifying times, and accept what that implies, had better put aside dreams of competing on the world stage as seniors.

Remedial Action

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

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

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

Fig 1 : Development of Elite Athletes

Performances expressed as a proportion of eventual pb

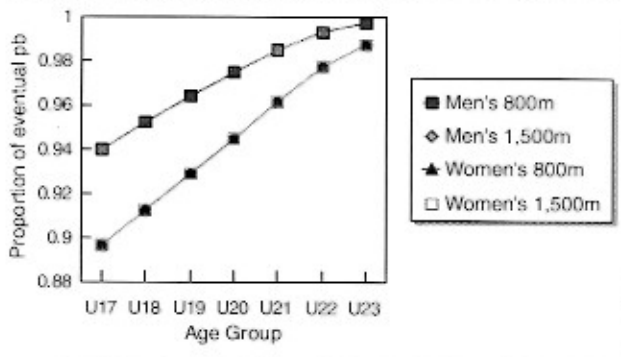

Fig 2 : Pace Development Plans to achieve :

a) World Championship qualifying times
b) AAA's qualifying times

		U17	U18	U19	U20	U21	U22	U23
Men's 800m	a)	1:53.2	1:51.2	1:49.9	1:48.6	1:47.1	1:46.5	1:46.0
	b)	1:55.8	1:54.1	1:52.5	1:51.1	1:50.1	1:49.5	1:49.0
Men's 1,500m	a)	3:58.5	3:54.3	3:50.0	3:46.1	3:42.4	3:38.7	3:36.5
	b)	4:06.8	4:02.4	3:58.0	3:54.0	3:50.1	3:46.3	3:44.0
Women's 800m	a)	2:13.6	2:11.3	2:08.9	2:06.7	2:04.6	2:02.5	2:01.3
	b)	2:19.9	2:17.4	2:14.9	2:12.6	2:10.4	2:08.3	2:07.3
Women's 1,500m	a)	4:35.6	4:30.8	4:25.8	4:21.3	4:17.0	4:12.8	4:10.2
	b)	4:44.5	4:42.5	4:37.3	4:32.6	4:28.1	4:23.7	4:21.0

BMC *Junior Development...*

Race Programmes

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

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

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

Competition Opportunities

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

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

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

Our Contribution

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

Fig 3 : Proposed Entry Standards for BMC Junior Development Races

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

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

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

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

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

Assembling Age-Group Fields

Over the last three years our entry standards have excluded all but the most outstanding juniors from joining the BMC; we have therefore 'missed a generation', and had little direct contact with the current crop of age-group athletes. We will therefore need to seek the active support of National and Area Event Coaches in building up lists of athletes to whom invitations to compete can be sent - our five BMC National Squad Meetings in 1994 would appear to be the ideal opportunity to begin the long road back.

Planning your 1994 Season

by Peter Coe

This year has two major titles to aim for, so the first question is: "Which one - or both?" The European Championships may be considered the all-round major title but for middle-distance runners the Commonwealth Games will probably offer the greater challenge.

The coming track season is one which is more crowded than ever with championships, but unfortunately without enough suitable races to allow for the ideal progressive development that the build-up to the first major peak requires.

But that is not the only problem that contenders for team selection have to face; there is a much harder one : how to peak twice when peaking once is far better. Apart from questioning the relevance of an early trial, to argue that eight or ten weeks between selection and the major titles is time enough to recover and prepare properly is to ignore the problems created by trying to peak in June.

The first problem is that the weather is notoriously fickle in Spring; also the weather around the meadows of the South is a lot kinder than around Meadowbank in Edinburgh. Secondly, students who have been under pressure from swotting and taking finals are usually too tired and short of the basic work to peak properly. Anyone coping with the long hours of medical training may not obtain enough time to prepare once that early, never mind twice. Thirdly, an eight or ten week delay between trials and competition increases the chances of athletes becoming injured and some going to the major games hiding a lack of fitness.

It would be unwise to make any assumptions about the selection process; the goal-posts have been moved on past occasions. Don't think of there being a certain place for the winner and maybe selection for the other two, that's a gamble. Just think only of winning.

A top class international when not quite at his best might be successful in the trials but other quite good athletes will not have any leeway at all - they will have to be at their very best to have a chance. Furthermore, this year there may not be any obvious 'bankers', making the free-for-all that much more intense.

But obstacles are there to be overcome not given in to, so is there a solution, even an imperfect one? Perhaps the following scenario may provide a guide.

Any athletes experienced and good enough to go for selection should have discovered their minimum number of races at the correct levels to bring them to their best racing fitness. In the build-up to the first peak select your races carefully so that they provide the progression you need. Normally I would say do not exceed this minimum - if for your confidence you feel you must, then only by one more, although finding suitable races pre-June will not be easy, they may not even exist.

In 1984, although for different reasons, a similar situation existed for Seb Coe, who went to the Olympic Games considerably under-raced. This problem was not completely resolved but it was greatly eased by the sessions we used that closely simulated actual racing conditions; much credit for this went to John Hovell and his squad at Haringey.

These sessions had a twofold effect : firstly they provided hard speed endurance runs over varying distances, all with relatively short recoveries, often exceeding race pace; secondly these runs were performed by Seb Coe under great pressure.

John Hovell knew the capabilities of all those in the squad, and while Coe had to complete a full set of runs (for example 1 x 1,200m, 1 x 800m, 1 x 600m, and 2 x 400m), the rest of the squad contributed as much as they could at the very fast paces employed. Thus every run had relatively fresh runners joining in to maintain the challenge. This produced a crowded field always challenging Seb, who naturally responded to every new face that came alongside. This arrangement allowed me to position myself high in the main stand from where I could see every 100m mark and so monitor a variety of split times noting, any variations in pace when under pressure. The payoff for this was seen in the 1,500m final in Los Angeles, when he was never off the pace and met every fresh challenge. If the races aren't there - try and press your club into service - be innovative!

Cramming in as much work as the body can stand, especially early in the season, is not the way. The art is in achieving the right peak on the smallest amount of work that will do the job. Do not allow anxiety and any tales of 'wonder' training sessions by other contenders make you flirt with over-training, with its almost certain result of staleness and / or a viral infection.

Having the means of producing good performances is one thing, delivering them is quite another; having genuine confidence in your ability to do it is the key. I believe that this is based on total body conditioning because among other psychological reasons it can give a real sense of great ease in handling hard schedules. This is a real confidence builder. Throughout all the training, particularly early in the year when some forms of training may be restricted, spend plenty of time in circuit and weight training. If you have not had experience of this kind of work, get guidance from someone who has, and don't start weight training for the first time without first having got fit enough via circuit training. Likewise plyometric work is great for dynamic strength but first timers must treat this training with the utmost care and respect.

In keeping with my dictum that "if speed is the name of the game then don't get too far from it", I cannot too strongly recommend that the old BMC method of multi-pace training is followed. It will not only minimise the risk of injury when going through a transition from distance to speedwork but, in terms of mileage and general wear and tear, it is the quickest and most cost-effective method to produce an all-round racing capability. This is a key consideration when planning to peak again eight or ten weeks later. If the second peak is to be maximised, it is important that the athlete starts from as fresh as base as possible.

Assuming that you have been selected, or that you believe that you will be, do not try to maintain this first peak for eight or ten weeks but maintain the strength

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training until the tapering off commences for the championship. The following are important points to remember when planning your training and the tapering off period. Once you have achieved the desired level of strength it is possible to maintain that level with less work than it took to acquire it. Depending upon the nature of the rest of the training the estimates vary between 65% and 75% of the original loading. Using this knowledge will enable you to reduce the total load and stay fresh for the final.

Middle-distance racing is an endurance-based event even though world-class 800m racing is now an extended sprint. Major championships are wars of attrition because there can be as many as three rounds before a final. A season in which close-up double peaking is required makes it imperative to consider carefully a middle-distance athlete's VO_2max. This is important to endurance. It is mainly enhanced by high-mileage, the 'wear-and-tear route'. Middle distance racing, particularly the 800m, is highly anaerobic, and success depends so much on the ability to buffer high levels of acidosis. Ignoring questions of efficiency, how much importance should one give to having a high VO_2max for events lasting only, say, 1:44 and 3:33? Any middle-distance athlete should have a VO_2max of around 75ml/kg/min which should be quite adequate.

In pre-race training, including the countdown, the easiest qualities to lose and the most important to preserve are speed and speed endurance. This is a good time to remember that multi-pace training plus specific speed drills will take care of maintaining these vital qualities. Better to attend to these in the limited time available than to go chasing mileage.

In a short article one cannot write all the possible scenarios for those who get selected, but were I coaching someone who had won their trial I would proceed along the following lines. Throughout the build up to the chosen championship make every seventh day a rest day, unless prior to a serious race when it should be included in the tapering down to hard competition. The first week after the trial should be an easy and restful one in which the athlete just ticks over on easy striding while maintaining strength training. The mileage to be around one quarter to one third of the maximum reached during the first peak, say 20-25 miles.

Weeks two and three should see a steady increase in mileage and pace so that during the fourth week about 50 to 55 miles at mainly 5:30 mile pace is achieved. If multi-pace training is maintained the transition to faster track work will be easy.

By week five it will be safe enough to start the really hard speed and speed-endurance work once more. By having eased off as suggested after the trials the athlete will be fresh and strong enough to peak again without going stale. The introduction of hard sessions of repeat runs over 200m, 300m 400m and 800m, all with short recoveries will, if carefully mixed in with pure speed work, start the final phase of the second peak. If the highest weekly mileage during the first peak was 70-80 miles, then a maximum of 60 miles for two weeks before the final tapering should maintain a good aerobic condition.

Week six is the consolidation of work done in week five, week seven is for reduced mileage and concentration and any tidying up of minor problems. Week eight is travel and countdown - those concentrating on the Commonwealths have another vital two weeks of preparation, possibly making this a greater attraction.

All athletes are different, so this is only an outline of the principles I would apply. However, what is certain is that during the hardest part of the final build-up to the championship final, the coach must be a close and sensitive observer. Some runners can soak up hard speed work, others can't, and that ability changes with age.

During the period leading up to the second peak there will be more races available for use in your build-up, but beware of the pressure of promotion - its interests may not be the same as yours. Resist any demands for appearances that do not enhance your training and racing programme. Think carefully over all the pros and cons of the situation. If unsuccessful in the trials you may want to stake your claim via good results during the interim before the major titles, but in so doing remember that you will not be the only one and it is better to have one or two outstanding performances than several near misses. More than ever in the year of a major championship you must not run for money but only for excellence.

For a major title don't panic and leave only a couple of days for the final tapering off. Two weeks of carefully prepared countdown in which volume is steadily reduced and quality maintained will leave the athlete fresher and more keen to compete.

Travel thoughtfully whenever possible. Acclimatisation takes time and the adjustment is more than just to time zones. Notwithstanding the risks, learn to train after warm-ups that have been allowed to cool down somewhat. It is quite likely that competitors will be summoned well before the event and held somewhere where they cannot stay warm and loose. Choose your room-mates carefully, or even have an amicable change around if habits differ. In Moscow, Allan Wells liked the sound of bagpipes and Seb Coe liked serious jazz. What a potentially combustible mixture!

Finally, there must be much that is left unwritten because not all eventualities can be covered and all runners are different. I can only wish all aspirants all the luck in the world. However, I am lucky in that it is not my problem and I feel rather like the old countryman who was upbraided by some tourists for not knowing the way. His response was that he wouldn't start from here anyway!

BRITISH MILERS CLUB

Preparing for the AAA's

by Matthew Fraser Moat

The biggest single influence on the 1994 athletics season is the World Cup football tournament. The number of domestic international - standard competition opportunities is halved. the AAA's / UK Trials are to be held in June, and the UK championships disappear entirely from the calendar.

Athletes are therefore presented with the problem of peaking for the major national championship a month earlier than is usual. in a year when the cross-country season finishes three weeks later. Those seeking selection for the European Championships and Commonwealth Games have the additional problem of designing a season that will bring them to peak performance 8 - 10 weeks after the trials. Peter Coe has sound advice for the small but very select second group (pages 8 - 9); here we will try to advise those who, whilst not realistically seeking international selection, none the less wish to focus their season to produce a lifetime best at the AAA's.

For many athletes the first hurdle for the AAA's is actually getting one's entry accepted. Whilst entry standards are rarely enforced, the best way to ensure your appearance at Sheffield is to achieve the entry standard well before the closing date. In 1993 the entry standards were : mens 800m - 1:49.0, mens 1,500m - 3:44.0, womens 800m - 2:07.0, womens 1,500m - 4:21.0.

In recent years, the trials have been held in July, allowing athletes a four month build-up. This year athletes only really have about twelve weeks to attain their peak. This is difficult, but certainly possible. However, more difficult will be finding races - athletes typically require five to seven fast races at their specialist event to reach a peak. This is the need that the BMC hope to fill with their early season races. The races will be there if athletes so ask.

This article explains how athletes in conjunction with their coaches can build schedules making the best use of the time and races available. It must be stated that *summer schedules are not meant to be easy*, and implicitly assume that the athlete's winter training has been solid and progressive. A full training schedule should encompass nine months or more - this article therefore commences with the necessary preparation that needs to be done in the winter, so that the athlete can commence summer schedules, properly prepared, in March.

[Ed : It is recognised that most people will read this article in March. The winter and spring training in this article is included for completeness, even if new readers only use it next winter. Regular readers of the *BMC News* will of course realise that the winter schedules included here are in fact compilations of those which have appeared in previous issues.]

SET YOUR TARGET

However, before even starting to construct a schedule, the very first thing you must do is set your target. This should be done in October, and should be specific. It is not enough to say "I want to represent my country in the Commonwealth Games". You must then say something like :"This means I must finish in the first two at the AAA's, which means I've got to beat all these people (give names) who were beating me last season." Whilst there are a few, very few, talented, athletes who can say : "All I have to do is be on their shoulder at the final bend", most athletes need the confidence boost from knowing *in advance* that they can run significantly faster than their opponents on the day of the race.

Pin your target time up in a place where you can see it every day. Work out what that time means on a lap-by-lap basis. For example, if you are female hoping to run 4:07 for 1,500m, your target is 66 secs per lap, i.e. 66 - 66 - 66 - 49. Live, work and dream 66 secs per lap!

TEST YOURSELF

Before starting, it is important to set yourself some benchmarks with which to assess your endurance and your speed. These test should be carried out before you commence the programme. If you do not do these tests, how are you going to assess your progress?

We suggest that you complete the following every twelve weeks, ie 1st December, 1st March and 1st June.

1. **Test how far you can run in 15 minutes (Balke Test).**
   The target is 5,000m plus for men, 4,600m plus for women. This is a good predictor of your VO$_2$max.

2. **Test your speed over 40 yds (36.6m) and 400m.**

   The goal is sub 4.5 secs / sub 52 secs for men, sub 5 secs / sub 56 secs for women. This tests your natural speed.

3. **Count how many hops you need to take to hop 25m .**

   Men need to do 9 hops on each leg, women 10. This tests your leg strength.

4. **Test how many press-ups, squat thrusts and bent-knee abdominals can you do in 1 min per exercise.**

   Men should aim for 60 of each, women for 40 of each. This tests your all-round body strength.

INTERPRETING RESULTS

We were recently asked to devise a schedule for a female international for 1994. She had the following test results : 15 min run - 4,400m; 400m - 58 secs; 40 yds - 5.2 secs; hops - 11 left and right; exercises - 60 sit-ups, 50 press-ups, 43 full-squats. This was very interesting. Here was a proven international whose test results indicated she was weak on three out of four areas. She was weak on endurance, weak on speed and weak on leg-strength, albeit not by very much. The saving grace was her general muscular strength. which apparently compensates for her weaknesses elsewhere. Who says strength training doesn't work?

Having got your results, you should analyse them to calculate *your* strengths and weaknesses, and devise your winter schedule accordingly. If an athlete can achieve all these targets, he / she is clearly of international standard. It goes without

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saying, however, that there is always room for further improvement.

Before describing the winter schedules, it is helpful to understand how they are derived and how they apply to the athlete. To be a successful middle-distance runner, you have to have what is known as 'speed-endurance'. This is the ability to run very fast for two, three or four minutes. As the name suggests, to get speed-endurance, you have to have both speed and endurance. Endurance is the result of hard training. Speed tends to be god-given, but can be worked upon. Speed ultimately depends on how strong you are. Have you ever seen a 400m runner who is weak?

ENDURANCE

The principle behind increasing your endurance is complicated, but can be somewhat oversimplified to that of increasing what is known as VO_2max. Every athlete has heard of VO_2max, but few actually know what it means. It is worth a brief explanation, although a full treatment would take up many pages.

A muscle needs oxygen to exercise. As a muscle works harder, it requires more oxygen. There is an effective limit on how much oxygen your body can absorb. This limit is known as VO_2max and is a measure of your body's ability to absorb oxygen. VO_2max is a major factor in your performance, particularly for runners racing distances of 10k or more. Although some people are simply born with higher values of VO_2max, training can increase your VO_2max by up to 15%.

Recent studies have shown that one of the most effective ways of increasing VO_2max is by training and racing at 5,000m pace.

The aim of the winter work is to raise your endurance to a high level. This level must be high enough to allow you to compete for the whole of the track season without losing form. Unfortunately, the very nature of a track season is that of races, rest days, travelling, and speed sessions, all of which erode your endurance. This means that your endurance must be at its highest possible level before the racing season begins. This could be simplified to stating that a middle-distance athlete needs to be able to set something like a personal best over 5,000m in March.

SPEED

As stated earlier, the complete athlete has both speed and endurance. The aim of the summer work is to add speed whilst maintaining your endurance. Given any athlete, one can devise a training programme to make him / her sprint faster. There is, however, a limit to how fast he / she can get in any one season.

However, if that athlete goes away one winter and does specific strength training, the following season that athlete will be able to sprint somewhat faster, other factors being equal. Maybe the improvement will only be a couple of tenths of a second per 100m, but it will be an improvement nonetheless, and may reduce the athlete's 400m time by up to a second.

WINTER TRAINING

When devising your own schedule, keep the following in mind :

i) Once a week have a long slow run. This should last well over an hour.

ii) Every other week test yourself at distance of 5k or 10k. This could take the form of cross-country, road-races, indoor races, a time-trial or even a repeat of the Balke Test. This test should be preceded by rest or easy days - experiment with the amount of rest you need for optimum results. Monitor your progress.

iii) Every other week do a half-hour hill run and some hill sprints.

With this basic foundation, you should incorporate the following schedules based on your test results. If you have fallen short in any one of the tests, give extra weight to the relevant section:

1. ***Training based on the results of 15 minute run (Balke Test).***

i) Twice a week run double the distance done in the test in 33 mins; aim to get it down to 30 mins in twelve weeks. This is a lactate-response run at about 10,000m pace.

ii) Once a week run half the distance done in the test three times in $7^1/_2$ mins with 1 min rest; aim to get down to 7 mins in twelve weeks. This is approx. 3,000m pace.

iii) Once a week do a track session at 1,500m pace, calculated as follows : take the time per lap in the 15 min test, halve it and take off 8 secs (e.g. test run of 4,000m is 90 secs per lap : halve it and subtract 8 is 37 secs). Run a series of 200m runs at this pace with decreasing rest starting with 90 secs, decreasing by 15 secs after each 200m until you have only 15 secs rest before the next 200m, then go back to 90 secs again. Keep on until you cannot record the necessary time.

2. ***Training based on your speed over 40 yds / 400m.***

You must include sprint work in your training every other day:

i) One session needs to be short, say 20m run up, 30m full out plus 5m at a time up to 80m - 30m, 35m, 40m etc.

ii) One session should be longer, say 4 x 200m full out with 3 mins rest. These should be 2 secs faster than your 400m test run, e.g. test run 54 secs therefore 200m in 27 secs minus 2 secs = 25 secs.
When these can be done to schedule, reduce the rest time by 15 secs per session until you can do all four on time with $1^1/_2$ mins rest. Then go back to 4 x 200m in 24 secs with 3 mins rest and repeat the process.

iii) Get your technique right - run tall, arms going forwards and backwards vigorously in a straight line, elbows in, angle of 90 degrees between forearm and upper arm.

3. ***Training based on your 25m hops.***

If you cannot do this you must strengthen your legs by hopping 25m twice on each leg up a gradient each day. Poor leg strength is strongly associated with poor basic speed. Aim high when you hop and you will go further.

4. ***Training based on your 1 minute tests for press-ups, squat thrusts and bent-knee abdominals.***

If you fail to record this you must do one exercise in turn each day (try first

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thing in the morning) as follows : exercise to maximum (not 1 min), take 1 min rest, repeat, 1 min rest, repeat. Next day choose another exercise.

The coach can now devise a winter schedule for his athlete, based on these principles. You must remember that the *whole purpose of the winter* is to provide the best possible base for the summer training which commences in March. The athlete is therefore very reliant on self-discipline. It may help not to have a strict weekly cycle - vary the days on which the sessions occur.

Do not be afraid to miss a day or two if you have a cold - a couple of missed days do not undo many weeks of good work. If you suffer regularly from colds, consider a vitamin C tablet such as *Redoxan* which is available at most chemists.

TEST YOURSELF AGAIN

Your winter training should finish about twelve weeks before your intended peak, but some athletes need a longer time, some a shorter time to reach their peak.

Having performed your winter training diligently, you should perform the tests again. You should see a considerable improvement in all areas, but at this stage the most important test is the Balke Test - if you have trained diligently, you should see an improvement of about 400m.

Before commencing your track preparations in earnest, do try to get a couple of races at 5,000m. Take the distance men on at their events - you should be able to set a personal best in March, and you will be surprised at who you beat!

SUMMER TRAINING - THE FIVE-PACE THEORY

BMC summer schedules are based on the five-pace theory, first proposed by BMC founder Frank Horwill. In the early 1970s Frank investigated the relationship between athletes' potential times at different distances. He was alerted to the fact that some of our 400m specialists were recording excellent 800m times, while some three-mile (5k) men were recording some notable victories over the mile. Here is a summary of Frank's observations :

1. ***When middle-distance runners move up to a longer event, what they do in the longer event can be predicted by a simple formula, the* 'four-second rule'.**

2. ***When long-distance runners move down a distance, the same rules apply.***

Remembering that a runner is not normally competitive over more than two or three distances, this requires some explanation; consider the following sequence of marks for world class 1,500m/ 3,000m runners:

Men 800m in 1:44 is 52 sec per lap
1,500m in 3:30 is 56 sec per lap
3,000m in 7:30 is 60 sec per lap
5,000m in 13:20 is 64 sec per lap

Women 800m in 2:00 is 60 sec per lap
1,500m in 4:00 is 64 sec per lap
3,000m in 8:30 is 68 sec per lap
5,000m in 15:00 is 72 sec per lap

We would expect a fairly good runner who does 3k in the time stated to be able to achieve all of the above times. Note that whilst these rules are typical for most endurance-based world-class athletes, they do not apply to 400m sprinters attempting to move up to 800m, when a 'six-second' or even a 'seven-second rule' applies. It doesn't work if you try to extrapolate it more than twice, but the rule is simple to remember - as you double the distance, you add four secs per lap to your times.

It appears, however, appear that British women need a 'five-second' rule. The BMC has long been urging Sally Gunnell to try to convert her 51 sec 400m into a 1:52 800m!

These rules can be used to pinpoint weaknesses that may not otherwise be apparent. Take, for example, a female 800m runner who runs 54 secs for 400m and 2:02 for 800m (61 secs / 400m) but only 4:18 (69 secs / 400m) for 1,500m - it would appear that her endurance is poor.

The training implications from Frank's theory are as follows : specific training at 1,500m pace to bring her 1,500m time towards 4:04 (65 secs / 400m) will surely result in a 800m time closer to the predicted 1:58.

But then again, if this lady athlete can run 2:00 for 800m with a 55 sec 400m, how much faster could she run 800m if she could run 53 secs for 400m? 1:56 (58 secs / 400m)? Is it therefore not logical to do specific work to improve her 400m time?

So, on one hand, we have one way to improve your 800m time by improving your 1,500m time, and, on the other hand we have another way to improve your 800m time by improving your 400m time.

By the same principle, to improve your 400m you have to work on your 200m time, and to improve your 1,500m you have to improve your 3,000m time.

Frank suggested that for optimum results at his / her specialist distance, the athlete should do specific training at five different paces, i.e. the pace of your specialist distance and the two distances above and below.

THE EVIDENCE

You might ask how the BMC is so sure that the five-pace theory is correct for you. The answer is simple - every athlete who has followed the training diligently has shown a dramatic improvement. This is not to say that other coaching methods do not work, but that *this* is a method that *does* work.

Peter Coe states once again in this issue "I cannot too strongly recommend that the BMC method of multi-pace training be followed" and has regularly stated that he adapted the five-pace system of training to Seb Coe's needs. In his foreword to Frank's book, *Obsession for Running*, he writes "Seb's Olympic Golds, Olympic and world records, offer adequate testimony to these principles being correct".

This has been proved time and time again, and was demonstrated once more in 1993 when several BMC members (and a few non-members coached by member

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coaches!) broke through to national and international prominence.

DEVISING THE PLAN

We will take the specific example of the international 1,500m lady who came to us for a schedule last autumn. We agreed with her that what she really wants to do next season is run 4:07 on June 12th. All other considerations are secondary. 4:07 for 1,500m is 66 secs per 400m. She should, by the five-second rule for British females, therefore aim to race 800m at 61 secs per lap (2:02), and 3,000m at 71 secs per lap (8:52).

We learnt from the tests that this lady appears to be relatively weak over 400m. Her exercise results indicate a much faster time is possible - we consider that she should, as a secondary goal, aim to lower her 400m time to 54 secs!

This lady is particularly fortunate to be doing warm-weather training in March. This allows her to make the ideal transition from winter to summer work whilst minimising the risk of injury. From her return to the UK, she has twelve weeks to achieve her peak.

The following factors were considered in devising her schedule :

TRAINING

1. **As you race over and under your specialist distance, you must train at those speeds on a regular basis.**
   You must also use a different recovery period for each speed. Here is a guide :
   i) 400m full out speed sessions - jog double the rep distance.
   ii) 800m pace - jog the rep distance.
   iii) 1,500m pace - jog half the rep distance.
   iv) 3,000m pace - jog a quarter of the rep distance.
   v) 5,000m pace - jog an eighth the rep distance.
   vi) 10,000m pace - jog a sixteenth the rep distance.

   When working in sets of reps equal to the distance of the race, you can halve the above recovery jogs, and then rest 5 mins between sets.

2. **Get your jogs done in these times : 400m - 3 mins; 200m - 90 secs; 100m - 45 secs.**
   Do not take longer. If you are too tired, stop, and take a timed rest of the same duration as the jog. The length of recovery is very important.

3. **Do not always divide race-pace sessions into quarters.**
   Choose instead one-third and two-thirds. For example, one-third of 800m is 267m, two-thirds is 534m. A third of 10,000m is 2 miles, two-thirds is 4 miles.

4. **Make the total of your repetitions equal to the length of the race.**
   Then work up to double the distance, i.e. 3 x 267m = 800m; aim for 6 x 267m. 3 x 2 miles = 10,000m (approx); work towards 6 x 2 miles.

5. **Use straight-through reps one week and sets the next.**
   e.g. 6 x 500m = 3,000m, twice the 1,500m distance. 2 x 3 x 500m with 250m jog after 500m runs and 5 mins rest before the next set. The straight-through sessions give endurance, the sets give speed-endurance.

6. **Avoid doing the same pace session and same distance reps in succession.**
   If you do 800m runs at 5,000m pace on Sunday, do 400m runs at 3,000m pace on Tuesday, 200m runs at 1,500m pace on Thursday and 100m runs full out on Saturday.

7. **Avoid training at the same pace as you raced the day before.**
   If you raced 800m on Saturday, do either a 400m sprint session or a 1,500m pace session on the Sunday. If you raced 10,000m on Saturday, train at 800m or 3,000m pace on the Sunday.

8. **Devote a part of one session per week to tactical training.**
   For example, when doing 3 x 1,000m at 1,500m pace, make the last 200m of one rep much faster than the others, say 2 mins at 800m then 28 secs for the next 200m.

9. **Keep a training diary.**
   You should record the times of all your long runs and track sessions. You should weigh yourself each day, measure your resting pulse first thing in the morning, and record the number of hours sleep you have. After each session, write down your perceived effort for that session on a scale of 1 to 20.

BUILD UP RACES

10. **Work out the number of races at your specialist distance *you* need to reach your peak.**
    Usually between five and seven; aim to run the 5th and 7th races in the major championships.

11. **Work out the number of over- and under-distance races *you* require.**
    This is usually four of each. Use club matches, league matches and 4 x 400m relays. Experiment with the number of rest days before each race.

12. **Plan your over- and under-distance races to occur before your specialist distance.**
    For example, sequences of :
    i) 1,500m, 400m, 800m for an 800m specialist;
    ii) 3,000m, 800m, 1,500m for a 1,500m specialist;
    iii) 5,000m, 1,500m, 3,000m for a 3,000m specialist;
    iv) 10,000m, 3,000 / 1,500m, 5,000m for a 5,000m specialist;
    v) 10 miles, 3,000m / 5,000m, 10,000m for a 10,000m specialist.
    Try to keep to this pattern throughout the season.

13. **Make use of league matches.**
    They give you the opportunity to experiment with other distances, as well as building up goodwill within your club. Always try to get a 4 x 400m relay leg. Treat them as high-quality training sessions.

14. **Use time trials before major races to assess your fitness.**
    For 1,500m runners, a modification of the 1,500m Kosmin Test has proved simple to administer and easy to interpret. Run 4 x 400m, with

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decreasing recovery (3 min, 2 min, 1 min) and aggregate your times (e.g. 61-63-63-60 = 4:07). Rest 10 mins and repeat. Average your two readings. This figure is a good approximation of your current 1,500m potential, and the test could, if races are scarce, be a good substitute for a race.

15. **Don't always race the same way.**
Early season should be the time for experiments. Lead the whole way in one race, take the lead at the halfway mark in another. Stay behind until the home straight in another. See which gets the best time and the best results. Do not become an open book for your opponents.

16. **Have a simple plan for all races and a secondary one in case the first goes wrong.**
If you plan to run 1,500m level pace (66-66-66-49) and the first lap is 70 secs, you must take the lead to restore the race to your plan, i.e. 70-65-64-48.

17. **Your last track session before a race should be at a pace faster than the race.**
If racing 800m, do a 400m session flat out. If racing 10,000m, do a 1,500m flat out.

18. **Experiment with recovery before races.**
A day off before a major race may not be enough for you; you may require two days off.

GENERAL

19. **Make your schedule out for 21 days or even 28.**
Avoid doing the same thing each week. It get boring and repetitive.

20. **Do not train on the track every day.**
Every other day is adequate. Too much work on the track increases the risk of injury for some runners.

21. **Do not neglect steady running and hill running.**
They bind the speed sessions together, they are the cement between the bricks. By all means run 3-4 miles each morning or lunch-time, but not at the expense of quality sessions. *We are aiming to maximise the return from the minimum amount of work.*

22. **Ensure that you eat correctly at all times, stay healthy, and avoid stress.**
In the final four weeks, when you are training at levels higher than you have previously attained, pay extra attention to your general health, diet and sleep patterns. Get into the habit of checking your resting pulse each morning before you get up. Take the necessary action several months before to avoid potential sources of stress (home, work etc.) occurring at the time when you least need it.

THE CHAMPIONSHIPS

23. **The final week ...**
Your final session should be of very high quality at faster than race pace. 1,500m runners should do the 800m Kosmin Test (60 secs flat out, 3 mins rest, 60 secs flat out). 800m runners should do a 400m time trial or similar speed session. Do not train after Tuesday 7th June - you have done enough. Nothing you can do now can improve your performance except rest and flexibility exercises. Rest three complete days, and try to travel to Sheffield the day before your race. Get an early night if you can.

24. **Ensure that you qualify in the heats...**
If you are one of those athletes who can realistically expect to make the final, make sure you give the heats enough respect. Remember that for two-thirds of the field, the heat is their 'final', and they want to run their best times. You just want to qualify with the minimum of effort. Ensure, therefore, that you are always in a qualifying position. In the 800m, this means being in the first one or two throughout the heat!

25. **If you suffer from nerves ...**
Treat the race as a time trial with no-one else in it; concentrate on your pace, your target; think only of your lap times, your time trial. Often by doing this you will find that your best time will be the winning time.

26. **The Final...**
This is what you have geared your whole season towards. Make sure that you run the time that you planned. If you finish out of the places in a slow tactical time, you will have wasted your opportunity. If you achieve your target, remember us in the TV interview!

If you run your target time of 4:07, but finish out of the places, you can console yourself in the knowledge that you could have done no more, and that British middle-distance running is returning to greatness!

CONCLUSION

The schedule on page 15 is what we devised for this female 1,500m runner. *It is meant to be severe - it is not meant to be easy.* However, it gives you an indication of the work required to be successful at international level - knowing your own strengths and weaknesses it should be possible for the reader to devise a similar schedule.

If you have more modest aspirations, or you do not have the necessary winter background, replace one or two sessions a week with long steady runs. You can still benefit from the schedule.

The most important thing is *not* to do every session religiously, just because is was suggested in the *BMC News*, but to understand the principles behind the schedules, so that you can modify them to suit your own requirements. Coaching will always be an art, not a science. Experiment with the schedule - as Frank says, "he who trains the same, remains the same" - but stick to the principle of training at five different paces, always remembering to adjust the length of the jog depending on the speed of the rep.

Good luck to you all at the AAA's - but anyone who has followed 85% of this schedule won't need any!

The Summer Schedule

This female international ran 4,400m on the 15 min test run, 5.2 secs on the short sprint test and 58 secs for the 400m test. She can hop 11 times on each leg for 25m but can easily do 45+ on each of the exercises. She has a best time of 4:14 for 1,500m, and aims to reduce this to 4:07. Her training paces are : 400m pace (56 / 400); 800m pace (61 / 400); 1,500m pace (66 / 400); 3,000m pace (71 / 400), 5,000m pace (76 / 400). Calculate your training paces and adjust the times of the reps accordingly. It is only to be expected that initially the athlete will not be able to record the times of the reps - do *not* increase the recovery time. Simply note the average and aim to do better next time round.

Easy runs of 4-6 miles each morning are suggested, but not at the expense of the quality sessions. Always take a day off before a race, possibly two. The standard schedule assumes that races / time-trials will take place on Saturdays. When they fall on other days, the schedule is reworked to include the days missed whilst maintaining the overall balance of training, at each of your five paces, each week.

FIRST CYCLE

Mar 21. **1,500m pace.** 6 x 500m in 83 secs with 250m jog (112 secs). 5 mins rest. **400m pace.** 4 x 200m in 28 secs with 3 mins rest. 5 mins rest. Hop 25m each leg. One exercise to a maximum of three times with 1 min rest.

Mar 22. **Lactate response run.** Run 8,800m ($5^1/_2$ miles) in 33 mins or less. 10 mins rest. 20m run up, 30m sprint full out adding 5m a time to 80m. 5 mins rest. Hop 25m on each leg up a gradient. 5 mins rest. An exercise to max three times.

Mar 23. **3,000m pace on grass.** Run 3 x 2,200m ($1^3/_4$ mile) in $7^1/_2$ mins or less with 1 min rest. 25m hop. An exercise to max three times.

Mar 24. **800m pace.** 6 x 267m in 41 secs with 2 mins rest. 5 mins rest. 20m run up. 30m sprint full out plus 10m per run, i.e. 30-40-50 to 80m. 25m hop. An exercise to max three times.

Mar 25. **Rest.**

Mar 26. **Modified 1,500m Kosmin Test.** 4 x 400m with decreasing rest, 3 min, 2 min, 1 min. Note times throughout. Full recovery (15 mins) and repeat.

Mar 27. **Long run.** 1 hour slow run on grass. 25m hop. An exercise to max. three times.

Mar 28. **1,500m pace.** 400m in 66 secs, 45 secs rest, 800m in 2:12, 90 secs rest, 300m in 49 secs, 5 mins rest and repeat set. **400m pace.** 4 x 200m in 28 secs with 3 mins rest. 25m hop. An exercise to max three times.

Mar 29. **5,000m pace.** 6 x 800m on grass in 2:32 with 100m jog recovery. 5 mins rest and repeat. 6 x 60m sprints. 25m hop. An exercise to max three times.

Mar 30. **3,000m pace on grass.** As Mar 23.

Mar 31. **800m pace.** 534m in 81 secs, 2 mins rest, 267m in 41 secs. 5 mins rest. 2 x 400m in 61 secs with 90 secs rest. 5 mins rest. 4 x 200m in 30 secs with 45 secs rest. 5 mins rest. 6 x 150m full out. 25m hop. An exercise to max three times.

Apr 1. **Rest.**

Apr 2. **Gerschler fartlek.** 15 mins jog, stride hard 30 secs, decreasing rest, 90-75-60 down to 15 secs, repeated three times.

Apr 3. **Long run.** As Mar 27.

Apr 4. **1,500m pace.** 1 x 1,000m, 1 x 800m, 1 x 600m, 1 x 400m, 1 x 200m. All at $16^1/_2$ secs per 100m with 500m jog, 400m jog, 300m jog, 200m jog, respectively. 5 mins rest. 6 x 100m from standing start full out. 25m hop. An exercise to max three times.

Apr 5. **Lactate response run.** As Mar 22.

Apr 6. **Hill Session / 3,000m pace.** Run up and down a long hill where the ascents total 2 miles, e.g. 800m hill x 4 or 400m hill x 8. 25m hop. An exercise to max three times.

Apr 7. **800m pace.** 600m, 500m, 400m, 300m, 200m, 100m at 15 secs per 100m and jogs of 600m, 500m, 400m, 300m, 200m, 100m respectively. 5 mins rest. **400m pace.** 350m, 300m, 250m, full out with full recovery. 25m hop. An exercise to max three times.

Apr 8. **Rest.**

Apr 9. **Modified Kosmin Test.** As Mar 26.

SECOND CYCLE

Apr 10. **Long run.** As Mar 27.

Apr 11. **1,500m pace.** 200m reps in 33 secs with decreasing rest, say 90-75-60 down to 15 secs, then start with 90 secs again and repeat until 200m reps not done on time. 25m hop. An exercise to max three times.

Apr 12. **Lactate response run.** As Mar 22.

Apr 13. **3,000m pace on grass.** As Mar 23.

Apr 14. **800m pace.** As Mar 24.

Apr 15. **Rest.**

Apr 16. **400m pace.** 5 x 300m in 42 secs with 4 mins recovery. 5 mins rest. 10 x 150m in 21 secs with 2 mins recovery and repeat. 25m hop. An exercise to max. three times.

Apr 17. **Long run.** As Mar 27.

Apr 18. **1,500m pace.** As Mar 28

Apr 19. **Lactate response run.** As Mar 22.

Apr 20. **3,000m pace on grass.** As Mar 23.

Apr 21. **1,500m pace.** As Apr 5

Apr 22. **Long run.** As Mar 27.

Apr 23. **800m pace.** As Mar 31.

Apr 24. **Rest.**

Apr 25. **Rest.**

Apr 26. **BMC 1,500m at Stretford.** 4:12.0

Apr 27. **Hill Session / 3,000m pace.** As Apr 6.

Apr 28. **800m pace.** As Apr 7.

Apr 29. **Rest.**

Apr 30. **Modified Kosmin Test.** As Mar 26.

THIRD CYCLE

May 1. **Long run.** As Mar 27.

May 2. **BMC 3,000m at Welwyn.** 9:00.0.

May 3. **Lactate response run.** As Mar 22.

May 4. **800m pace.** As Mar 24.

May 5. **3,000m pace on grass.** As Mar 23.

May 6. **Rest.**

May 7. **1,500m pace.** As Mar 26.

May 8. **Long run.** As Mar 27.

May 9. **5,000m pace on track.** As Mar 29.

May 10. **Lactate response run.** As Mar 22.

May 11. **3,000m pace on grass.** As Mar 23.

May 12. **800m pace.** As Mar 31.

May 13. **Long Run.** As Mar 27.

May 14. **Hill Session / 3,000m pace.** As Apr 6.

May 15 **400m pace.** As Apr 16.

May 16. **'Easy' Gerschler Fartlek.**

May 17. **Rest.**

May 18. **BMC 1,500m at Wythenshawe.** 4:10.0.

May 19. **Modified Kosmin Test.** As Mar 26. To simulate heats and final.

May 20. **Rest.**

May 21. **Modified Kosmin Test.** As Mar 26. To test recovery from above

May 22. **Long run.** As Mar 27.

FINAL CYCLE

May 23. **1,500m pace.** As Mar 21.

May 24. **Lactate response run.** As Mar 22.

May 25. **3,000m pace on grass.** As Mar 23.

May 26. **800m pace.** As Mar 24.

May 27. **400m pace.** As Apr 16.

May 28. **Rest.**

May 29. **BMC 800m at Loughborough.** 2:04.0

May 30. **Long run.** As Mar 27.

May 31. **Balke Tests.** As a confidence boost and act as benchmark for next year.

Jun 1. **3,000m pace on grass.** As Mar 23.

Jun 2. **800m pace.** As Apr 7.

Jun 3. **Rest.**

Jun 4. **Modified Kosmin Test.** As Mar 26.

Jun 5 **Long run.** As Mar 27.

Jun 6. **Lactate response run.** As Mar 21.

Jun 7. **400m pace.** As Apr 16.

Jun 8. **Rest.**

Jun 9. **Rest.**

Jun 10. **Rest & travel.**

Jun 11. **AAA's Heats.** 4:15.0.

Jun 12. **AAA's Final.** 4:07.0.

Achilles Writes ....

The most influential column in Athletics

Eamonn Coghlan

It was wonderful to hear of Eamonn Coghlan's 3:58.15 indoors at the age of 41. It was the one piece of good news in a winter full of sadness, in which we lost Anne Smith, George Sheehan, Bert Nelson and Cliff Temple, all before their time.

British Athletic Federation

What credibility BAF ever had has now been destroyed. In the last issue, we hoped that we could give them the benefit of the doubt, but after ten months without a Chief Executive, and after their failure to appoint a Director of Development, we can conclude that the new regime is no better than the old.

Andy Norman

The Cliff Temple affair has acted as a catalyst. Suddenly everybody has a story to tell about Andy Norman. Never have 'secrets' been so open and yet not published. Achilles has no proof of any of the stories - and let us state for the record that the BMC has always had good dealings with Andy Norman - but surely these stories can't all be fabricated?

Torvill and Dean

Torvill and Dean's narrow defeat in the Winter Olympics brought two clear messages to athletes : i) age is not necessarily a limiting factor in performance at the highest level; and ii) at least in athletics there are no judges, and the spectators know who has won!

Oxford 1993

Brian Boulton has provided us with an interesting postscript to our efforts at Oxford last year. Having analysed all the intermediate times, he comes up with splits for the fastest athletes on the day, Ian Gillespie (55.3, 61.7, 63.3, 61.4) and Michelle Faherty (66.7, 69.1, 71.5, 77.3). Andy Hart's final lap was 56.9 - proof that fortune favours the bold!

Morceli (again)

The 40 years of world rankings on page 32 show a very interesting fact. Noureddine Morceli has been ranked number one for four consecutive years - a feat never previously achieved, not even by Herb Elliott. Does this mean that Morceli is the greatest miler ever, or just that we have had a dearth of new talent at a world level over the last few years. In 1983, Seb Coe had a very restricted season, and his 3:52.93 mile only ranked him 22nd. In 1993, Steve Cram ranked 3rd with 3:52.17. 1994 clearly is wide open for a new talent to dominate.

The 3-second rule?

Qu Yunxia is the first lady to demonstrate a '3 second rule'. Last year she ran a 2:24:32 marathon in April, won the 3,000m world championship, and then ran the following times in the Chinese Championships:

Sept 9th 800m in 1:56.24 (58.1 / 400)
Sept 11th 1,500m in 3:50.46 (61.5 / 400)
Sept 13th 3,000m in 8:12.18 (65.6 / 400)

She ran heats of 2:00.82, 3:59.38 and 8:12.27 - six races in six days!

Returning to Glory

An aspiring young talent has announced to his coach that he wishes to break the world mile record. The coach, well known for his straight-forward plain speaking approach, responded "Run four quarters in 56 secs and the record is yours!" So once each week, before one of his steady runs, the athlete was set the task of running four 56 secs laps with 400m jog recovery. Only when those laps were routinely run in 56 secs - not faster, not slower - was the recovery to be reduced.

Whether he makes it or not, one thing is sure ; only if he can consistently run four quarters in 56 secs with minimal recovery will he be able to race four 56 secs splits without recoveries. We will then have an athlete to inherit the mantle of Coe, Ovett, Cram and Elliott.

Who is the Judas Coach?

Frank Horwill's latest book *Running - the Inner Game for Coach and Athlete*, was accepted by the editor of Human Kinetic Publications (USA); a formality was that the editor's recommendation should be approved by the board of directors.

However, when the Board met, one of the directors announced that he had phoned one of his coaching contacts in England and been advised that "this man is a controversial and unsavoury character", and that Human Kinetics would be unwise to print anything written by him. The editor tried hard to persuade the board otherwise, "controversial people sell books", but without success.

On that very same day, Frank received a personal note from Peter Radford, newly-appointed Chief Executive of BAF, thanking him for his efforts in the sport over the last thirty years. Frank Dick, UK Coaching Director, on hearing the news about the book, said, "Tell them to write to me. Frank and I have had our differences, but no one is better qualified to write on the subject chosen. I'll even write a foreword to the book."

So, who is the coach whose opinion matters so much to the board of directors at Human Kinetic Publications? The publishers refuse to name him. What exactly did he say about Frank? Why didn't the publishers ask the two top men in British Athletics? Help us to find out who this Judas coach is. Perhaps the British Athletics Writer's Association would like to mount a campaign to correct this slander?

Fears Confirmed

Two subjects are perennial favourites amongst athletes; i) BAF incompetence, ii) mistakes in *Athletics Weekly*. The issue of 16th February confirmed all our fears. BAF placed an advertisement in *Athletics Weekly* for the Grosvenor House Dinner "to honour Sir Roger Bannister on the 40th Anniversary of his sub *3* minute mile". What possible excuse can they offer? What can one say?

A Brief History Lesson ....

It must be incredibly difficult for our current wave of middle-distance runners, being continually compared to our great runners of the last two decades - but it is important that the gains made in coaching knowledge during that period are not lost. We still get promising runners coming through making the most elementary of mistakes with their training and racing schedules.

Lessons learnt from coaching our golden four of Steve Ovett, Seb Coe, Steve Cram and Peter Elliott must not be forgotten. Their coaches - Harry Wilson, Peter Coe, Jimmy Hedley and Wilf Paish - were pioneers. No athletes had ever trained at that level before. How did they achieve this? Through the *BMC News*! All four coaches were then, and are still, BMC members, and the knowledge they acquired has become part of the BMC training methodology.

Incredibly, there are still coaches and athletes who believe that BMC training is too difficult and too severe. We marvel at these coaches, who, even in 1994, can ignore 'five-pace' training to follow their own 'sub-optimal' methods.

It is results that count - let us therefore document the annual progressions that four of these great athletes achieved, standards that which set the world alight then, and are still beyond those of our current athletes. Now who says our training is too difficult?

STEVE OVETT, born 9th October 1955, Brighton

	Age	800m		1,500m		1 Mile	
1970	14	2:00.0		4:10.7			
1971	15	1:55.3					
1972	16	1:52.5		4:01.4			
1973	17	1:47.34	(52)	3:44.8		4:00.0	(40)
1974	18	1:45.76	(10)	3:46.2		3:59.4	(38)
1975	19	1:46.09	(15)	3:39.5	(33)	3:57.00	(16)
1976	20	1:45.44	(9)	3:37.89	(25)		
1977	21	1:48.31		3:34.45	(2)	3:54.69	(5)
1978	22	1:44.09	(3)	3:35.59	(2)	3:52.8	(3)
1979	23	1:44.91	(7)	3:32.11	(2)	3:49.57	(2)
1980	24	1:45.40	(6)	3:31.36	(1)	3:48.8	(1)
1981	25	1:46.40	(31)	3:31.57	(1)	3:48.40	(2)
1982	26	1:46.08	(34)	3:38.48	(41)		
1983	27	1:45.25	(24)	3:30.77	(1)	3:50.49	(5)
1984	28	1:44.81	(20)	3:34.50	(13)		
1985	29			3:37.34	(41)	3:55.01	(17)
1986	30			3:33.78	(9)	3:52.99	(10)
1987	31			3:36.43	(38)	3:57.03	(37)
1988	32	1:48.88		3:36.90	(43)		
1989	33			3:37.40	(44)	3:59.66	(58)
1990	34			3:45.33			

SEBASTIAN COE, born 29th September 1956, Chiswick, London

	Age	800m		1,500m		1 Mile	
1970	13			4:31.8			
1971	14	2:08.4		4:08.0			
1972	15	1:59.9		4:05.9			
1973	16	1:56.0		3:55.0			
1974	17	stress fracture					
1975	18	1:53.8		3:45.2			
1976	19	1:47.7	(73)	3:42.67		3:58.35	(28)
1977	20	1:44.95	(4)			3:57.67	(24)
1978	21	1:43.97	(2)			4:02.17	
1979	22	1:42.33	(1)	3:32.03	(1)	3:48.95	(1)
1980	23	1:44.7	(2)	3:32.19	(4)		
1981	24	1:41.73	(1)	3:31.95	(2)	3:47.33	(1)
1982	25	1:44.48	(2)	3:39.1	(58)	3:59.5	
1983	26	1:43.80	(3)	3:35.17	(19)	3:52.93	(22)
1984	27	1:43.64	(5)	3:32.39	(2)	3:54.6	(20)
1985	28	1:43.07	(4)	3:32.13	(8)	3:49.22	(4)
1986	29	1:44.10	(7)	3:29.77	(1)		
1987	30	1:46.18	(41)				
1988	31	1:43.93	(7)	3:35.72	(20)		
1989	32	1:43.38	(2)	3:34.05	(7)		
1990	33	1:47.24	(95)				

STEVE CRAM, born 14th October 1960, Gateshead

	Age	800m		1,500m		1 Mile	
1973	12			4:31.5			
1974	13	2:11.0		4:22.3			
1975	14	2:07.1		4:13.9			
1976	15	1:59.7		4:07.1			
1977	16	1:56.3		3:47.7			
1978	17	1:53.5		3:40.09	(69)	3:57.43	(18)
1979	18	1:48.5		3:42.5		3:57.03	(27)
1980	19	1:48.41		3:34.74	(11)	3:53.8	(6)
1981	20	1:46.29	(30)	3:34.81	(9)	3:49.95	(7)
1982	21	1:44.45	(1)	3:33.66	(6)	3:49.90	(6)
1983	22	1:43.61	(1)	3:31.66	(3)	3:52.56	(18)
1984	23	1:46.0	(47)	3:33.13	(3)	3:49.65	(2)
1985	24	1:42.88	(3)	3:29.67	(2)	3:46.32	(1)
1986	25	1:43.19	(1)	3:30.15	(2)	3:48.31	(1)
1987	26	1:45.31	(22)	3:31.43	(2)	3:50.08	(2)
1988	27	1:43.42	(3)	3:30.95	(1)	3:48.85	(1)
1989	28	1:46.37	(51)	3:35.3	(17)	3:51.58	(6)
1990	29			3:33.03	(5)	3:53.99	(13)
1991	30			3:34.18	(12)	3:52.11	(14)
1992	31	1:51.1		3:42.24		3:58.7	
1993	32			3:35.63	(20)	3:52.17	(3)

PETER ELLIOTT, born 9th October 1962

	Age	800m		1,500m		1 Mile	
1978	15	1:52.05					
1979	16	1:50.7					
1980	17	1:51.3					
1981	18	1:47.35	(75)			4:07.4	
1982	19	1:45.61	(35)	3:49.1			
1983	20	1:43.98	(4)				
1984	21	1:45.49	(33)	3:36.97	(43)	3:55.71	(29)
1985	22			3:39.79	(75)		
1986	23	1:44.06	(6)	3:35.62	(24)	3:54.22	(17)
1987	24	1:43.41	(2)	3:33.23	(5)	3:56.40	(33)
1988	25	1:44.12	(11)	3:32.94	(4)	3:49.20	(2)
1989	26	1:47.10	(95)	3:37.6	(47)	3:52.93	(11)
1990	27	1:42.97	(1)	3:32.69	(2)	3:49.76	(2)
1991	28	1:44.27	(10)	3:32.94	(4)	3:49.46	(2)
1992	29	1:46.52	(73)			3:54.62	(13)
1993	30	missed season through injury					

(figures in brackets indicate position in year-end top 100 world lists)

1993 UK Merit Rankings

by Peter Matthews

This is the 26th successive year that I have compiled annual merit rankings of British Athletes based on an assessment of form during the outdoor season. The major factors by which the rankings are determined are win-loss record, performances in the major meetings, and sequence of marks. I endeavour to be as objective as possible, but form can often provide conflicting evidence, or perhaps an athlete may not have shown good enough results against leading rivals, or in very important competitions, to justify a ranking which his or her ability might otherwise warrant.

I can only rank athletes on that they have actually achieved. Much depends on having appropriate opportunities. It is obviously harder for an athlete living in a remote part of the UK than for one who is close to the major centres of competition, and it may be hard to break into the élite who get the invitations for the prestige meetings. Difficulties also arise when athletes reach peak form at the different parts of the season or, through injury, miss significant competition.

Once again it should be pointed out that the rankings are by no means necessarily the order in which I think the athletes would have finished in an idealised contest, but simply my attempt to assess what has actually happened in 1993. I hope that I have not missed many performances, but I would be very pleased to receive any missing results at 10 Madgeways Close, Great Amwell, Herts SG12 9RU. Rankings for all events can be obtained for £1.50.

For each event the top 12 are ranked. On the first line is shown the athlete's name, then their date of birth followed by the number of years ranked in the top ten (including 1993) and their ranking in 1992, and finally their best mark prior to 1993. The following lines include their best six performances of the year (followed, for completeness, by significant indoor marks indicated by 'i', although indoor form, the subject of a separate assessment, is not considered in the rankings). Then follow placings at major meetings, providing a summary of the athlete's year at the event.

Men's 800m

1. **Curtis Robb** 7.6.72 (3y, 2) 1:45.16 '93
   1:44.92, 1:44.96, 1:45.54, 1:45.56, 1:46.51, 1:47.38;
   9 Hangelo, 4 TSB, 1 Vaux, 10 Zürich, 4 WCh, 4 Berlin, 8 McD, 10 Brussels.
2. **Martin Steele** 30.9.62 (5y, 6) 1:46.26 '92
   1:43.84, 1:45.28, 1:45.72, 1:46.24, 1:46.34 1:46.47;
   1 UK, 1 Belfast, 2 v USA, 1 Lough 29/6, 1 Oslo, 1 AAA, 2 TSB, 2 Vaux, 7s1 WCh, 4 McD, 2 Thurrock.
3. **Tom McKean** 27.10.63 (9y, 3) 1:43.88 '89
   1:45.64, 1:46.17, 1:46.17, 1:46.44, 1:46.83, 1:47.67; 1:46.86i;
   3 ECup, 4 Belfast, 1 v USA, 7 Stockholm, 8 Olso, 3 AAA, 6 Vaux, 8 WCh, 9 McD.
4. **Matthew Yates** 4.2.69 (5y, 10) 1:45.05 '92
   1:46.00, 1:47.25, 1:48.44;
   2 Lapinlahti, 3 v USA, 3 Vaux.
5. **David Sharpe** 8.7.67 (8y, 1) 1:43.98 '92
   1:46.09, 1:47.12, 1:47.32, 1:48.23, 1:48.76, 1:49.19, 1:46.92i, 1:47.76i;
   2 UK, 4 x USA, 4B Oslo, 6 AAA, 7 TSB, 4 Vaux.
6. **Andrew Lill** 9.8.71 (3y, 8) 1:46.37 '92
   1:46.62, 1:47.11, 1:47.12, 1:47.89, 1:48.20, 1:48.42;
   1 CAU, 4 UK, 1B Belfast, 5sf WSG, 1B Vaux, 1 U23 v FIS, 5 McD, 4 Thurrock, 1 Jersey.
7. **Gary Brown** 21.7.67 (1y, 12) 1:47.17 '93
   1:47.15, 1:47.72, 1:48.0, 1:48.12, 1:48.47, 1:48.72;
   1 Sc v W v Isr, 6B Belfast, 4 Lough 29/6, 8 v USA, 3h2 AAA, 3B Vaux, 1 Wrexham, 2 Belgian Champs.
8. **Steve Heard** 29.4.62 (6y, 4) 1:44.65 '92
   1:47.74, 1:47.96, 1:49.32, 1:49.98;
   5 UK, 5 Belfast, 2h1 AAA.
9. **Michael Guegan** 19.9.66 (1y,-) 1:47.90 '92
   1:48.71, 1:48.82, 1:49.12, 1:49.28, 1:49.85, 1:50.37;
   2 CAU, 7 UK, 2 South, 1 Cork, 1 Small Island G, 5 AAA.
10. **Clive Gilby** 24.2.66 (1y, -) 1:47.90 '92
    1:48.46, 1:48.58, 1:48.7, 1:48.83, 11:48.87, 1:49.83;
    9 UK, 1 South, 6 Lough, 29/6, 7 AAA, 2 Bedford, 7B Vaux, 1 E v UKR, 7 Thurrock, 2 Jersey, BL3, 2,1,1,1B.
11. **Craig Winrow** 22.12.71 (1y, 7) 1:47.5 '92
    1:48.77, 1:48.83, 1:49.14, 1:49.2, 1:49.37, 1:49.62;
    8 UK, 1 AAA v I.C, 3 Cork, 3h2 AAA, 1 U23 v GDR, 9B Vaux, 4 U23 v FIS.
12= **Kevin McKay** 9.2.69 (4y, 9) 1:45.35 '92
    1:47.67, 1:48.9, 1:49.3, 1:50.24;
    2 BMC Wyth, 2 AAA, 4h WSG, BL3: 2,1,-,-.
12= **Paul Walker** 2.12.73 (0y, -) 1:49.9 '93
    1:47.55, 1:49.87, 1:50.63, 1:50.8;
    8 BMC Wyth, 3 UK, 4h WSG, BL3: 2,1,-,-.

Robb produced his best when it mattered although far from full health at times. Steele could not quite maintain the form that brought him both national titles and a world best time in Oslo, but it was a great breakthrough year for him, and both the top two made it into the world top ten. Although he qualified for the World Championships final, McKean's form was a little disappointing after his World Indoor title. Yates ran the 800m only three times, but he beat Sharpe twice. The standard in depth was down considerably from our usual high levels, with the UK ranking tenth best being 1:47.59, much the worst since 1985, with the record level being 1:46.13 in 1988.

Men's 1,500m / 1 Mile

1. **Matthew Yates** 4.2.69 (4y, 4) 3:34.00 '91 / 3:57.33M '92
   3:35.04, 3:52.75M (3:36.66), 3:35.83, 3:53.29M (3:37.82), 3:37.04, 3:54.89M, 3:37.61;
   5 Stockholm, 5 Dream M, 1 AAA, 1 TSB, 6 WCh, 7 Berlin, 1 McD, 4 Brussels, 3 GPF.
2. **Steve Cram** 14.10.60 (15y, -) 3:29.67 / 3:46.32M '85
   3:52.17M (3:36.93), 3:35.63, 3:56.30M, 3:38.98, 3:40.27, 3:40.44;
   2 Belfast, 3 v USA, 3 Dream M, 4 AAA, 5 Köln, 13s2 WCh, 9 McD, 8 Brussels.
3. **John Mayock** 26.10.70 (3y, 6) 3:37.76 '92
   3:56.90M '91
   3:36.45, 3:38.58, 3:57.30M, 3:57.67M, 3:42.41, 3:44.62, 3:56.89iM (3:40.71);
   3 E Carr, 15 Stockholm, 8 AAA, 8 Rieti, 2 McD, 11 Brussels.
4. **Curtis Robb** 7.6.72 (1y, -) 3:46.9 '90
   3:38.56, 3:39.58, 3:43.14;
   5 ECup, 1 UK.
5. **Robert Denmark** 23.11.68 (2y, 10) 3:38.34 '92 / 3:55.38M '90
   3:39.62, 3:59.60M, 3:47.02;
   2 Belfast, 2 AAA.
6. **Matt Barnes** 12.1.68 (1y, 0) 3:43.38 / 4:03.24M '92
   3:38.31, 3:40.06, 3:44.12, 3:47.86; 3:45.32i;
   2 South, 3 AAA, 6 TSB, 2 E v Ukr.
7. **Simon Fairbrother** 28.3.68 (3y, 3) 3:38.64 '92 / 3:56.83M '90
   3:38.66, 3:39.64, 3:41.47, 3:41.70, 3:41.95, 4:01.10M;
   2 UK, 4 v USA, 5 AAA, 7 TSB, 9 Vaux, 10 McD, 2 GRE.
8. **Matthew de Freitas** 19.9.68 (1y, -) 3:40.84 / 4:02.3M '92
   3:39.66, 3:58.48M, 3:58.70M, 3:41.2, 3:41.29, 3:41.52;
   5 E Carr, 4 UK, 1 AAA v I.C, 1 South, 4 Cork, 6 AAA, 4 Bedford, 8 Vaux, 20 McD, 2 BMC Salisbury, 4 BMC So'ton, 4 BMC Swindon.
9. **Kevin McKay** 9.2.69 (3y, 1) 3:35.94 '92
   3:54.45M, 3:57.26M, 3:41.05, 3:47.03, 3:43.54i, 4:01.70iM;
   1 BL1(2), 2 E Carr, 12 Rome, 3 Lucerne, dnf Stockholm, 13 Köln.

1993 UK Merit Rankings (2)

10. **David Strang** 13.12.68 (1y, -) 3:44.01 '89
3:59.40iM '92
3:56.86M, 3:57.31M (3:39.72), 3:40.28, 3:56.10M, 3:42.57, 4:02.04M, 3:57.57iM, 3:40.7i;
2 New York, 3 Eugene, 1 v USA, 13 Dream M, 11 AAA, 10 TSB.

11. **Paul Larkins** 19.5.63 (3, 7)
3:35.94 / 3:56.65M '87
3:58.11M, 3:42.77, 4:00.57M, 3:43.10, 4:01.82M, 3:44.07;
4 E Carr, 5 UK, 5 Belfast, 7 AAA, 2 Bedford.

12= **Rod Finch** 5.8.67 (0y, -) 3:43.1 / 4:02.51M '91
3:37.97, 4:00.0M, 4:00.1M, 4:00.19M, 3:42.95, 4:00.9M;
1 CAU, 10 E Carr, 8 UK, 1 IS, 3h 1 AAA, 3 WG, 5 Vaux, 4 E v Ukr, 1 BMC Exeter, 3 BMC Salisbury, 1 BMC So'ton, 5 BMC Swindon.

12= **Gary Lough** 6.7.70 (0y, -) 3:40.86 / 4:01.54iM / 4:02.14 '92
3:40.48, 3:41.10, 3:42.34, 3:44.30, 3:44.76, 3:44.8;
1 Lough 19/5, 3 UK, 12 Lough 29/6, WSG, 11 Vaux, 15 McD.

nr **Andrew Keith** 25.12.71 (0y, -) 3:39.85 / 3:58.79iM / 4:03.57M '92
3:39.06, 3:40.60, 3:40.6, 3:41.01, 3:44.25, 3:45.76, 3:57.7iM, 4:00.07iM, 4:00.27iM;
2 IC4A, 2 NCAA, 1 Mid, 9 WSG.

M = 1 mile time. Equivalents: 3:35.0m = 3:52.0M, 3:38.0m = 3:55.3M, 3:41.0m = 3:58.6M, 3:44.0m = 4:01.8M. Times in brackets are 1,500m en route to 1 mile.

Yates achieved his first number one ranking and established himself in the world top ten. Cram, after a year out, returns to second place, his 13th year in the top three and he ties with Seb Coe (at 800m) for a record 15 years ranked at one event by a male track athlete.

Mayock is third, after 9th in 1991 and 6th in 1992. With only two races each, Robb and Denmark are hard to rank: the former ran in the European Cup and won the UK title and the latter lost only to Yates and Cram.

Barnes is the best newcomer and although he raced rarely did well each time and was 2-0 up on Fairbrother, who in turn beat de Freitas 3-1. Strang and McKay are particularly hard to rank, the former had a fine win against the USA after good times over there, and the latter ran well in the Emsley Carr mile, but otherwise showed little form.

The changing times at the event are indicated by the fact that six of the 13 listed are newcomers to the rankings.

Men's 5,000m

1. **Rob Denmark** 23.11.68 (3y, 1) 13:13.01 '91
13:16.48, 13:23.52, 13:27.09, 13:30.02, 13:41.55, 13:47.11;
1 Seville, 1 ECup, 6 TSB, 9 WCh, 19 Brussels.

2. **Jon Brown** 27.2.71 (3y, 6) 13:24.84 '92
13:19.78, 13:35.67, 13:39.68, 13:46.20;
1 UK, 12 Lille, 1 AAA, 7h2 WCh.

3. **Gary Staines** 3.7.63 (6y, -) 13:14.28 '90
13:33.42, 13:35.22, 13:37.08, 13:42.65, 13:48.32;
1 Gävle, 2 AAA, 11 TSB, dnf Rieti, 8 GPF.

4. **John Nuttall** 11.1.67 (3y, 5) 13:24.26 '92
13:29.85, 13:38.17, 13:46.10, 14:11.30;
8 Seville, 3 AAA, 10h3 WCh, 18 Brussels.

5. **Richard Nerurkar** 6.1.64 (4y, 10) 13:23.36 '90
13:30.06, 13:37.10, 13:50.4+.
2 Arhus, 17 Zürich.

6. **Paul Evans** 13.4.61 (2y, 7) 13:30.83 '92
13:40.63, 13:57+, 13:56.92, 13:11.31;
4E Clubs, 4 AAA.

7. **Jon Solly** 28.6.63 (3y, -) 13:22.29 '86
13:39.2, 13:50.0; 1 Eugene, 2 Seattle.

8. **John Mayock** 26.10.70 (3y, 4) 13:26.97 '92
13:40.47; 14 TSB.

9. **Billy Dee** 18.12.61 (3y, 9) 13:27.41 '92
13:49.06, 13:57.73; 1 CAU, 6 AAA.

10 **Andrew Bristow** 2.9.61 (1y, 11) 13:34.60 '92
13:47.78, 13:50.78, 14:04.41; 2 South, 7 AAA, 18 TSB.

11= **Steve Cram** 14.10.60 (1y, -) 13:28.58 '89
13:48.20; 2 UK, dnf Gävle.

11= **Paul Taylor** 9.1.66 (0y, -) 13:45.31 '89
13:48.15, 13:51.36, 13:59.24, 14:05.58, 14:09.04;
1 North, 8 AAA, 19 TSB, 2 Wrexham, 1 E v Ukr.

11= **Jon Dennis** 25.6.70 (0y, -) 13:46.33 '92
13:48.28, 13:59.00;
1 Madison, 1 NCAA.

Andrew Pearson 14.9.71 (0y, -) 13:56.94 '92
13:44.3, 14:06.37, 14:10.58;
1 AAA v LC, 21 AAA, 2 E v Ukr.

Denmark started 1993 in great style, with wins in Seville and European Cup, the former in fast time. Sadly he lost form towards the end of the season, but clearly made it three successive years at the top.

Missing were Ian Hamer and Jack Buckner, who had both run under 13:11 in 1992. Then nine men bettered 13:30 whereas only three did so in 1993. Even worse, only nine bettered 13:45, the lowest total for over 20 years.

Brown achieved a notable double by winning both UK and AAA titles and leaps up to 2nd. Staines, much the most experienced man in the lists, made a welcome return, although unable to run the world qualifying time, and Nuttall made further progress, although with slower times than last year.

Men's 10,000m

1. **Paul Evans** 13.4.61 (2y, 1) 27:48.32 '92
27:47.79, 28:11.53, 28:17.49; 1 AAA, 4 Stockholm, 12 Brussels.

2. **Richard Nerurkar** 6.1.64 (6y, 2) 27:57.14 '91
27:40.03; 4 Oslo

3. **Gary Staines** 3.7.63 (5y, -) 27:45.73 '92
28:02.24; dnf AAA, 2 Zatopek 10k.

4= **Paul Dugdale** 13.5.65 (1y, -) 28:55.43 '92
28:22.48, 28:35.98; 4 AAA, 9 Oslo.

4= **David Lewis** 15.10.61 (4y, 4) 28:08.44 '88
28:32.00; 2 AAA, dnf Oslo.

6= **Jon Solly** 28.6.63 (5y, -) 27:51.76 '86
28:32.19; 4 Jerome.

6= **Billy Dee** 18.12.61 (3y, 7) 28:00.64 '91
28:33.75; 3 AAA.

8. **Andrew Pearson** 14.9.71 (1y, -) 29:01.38 '92
28:40.49; 5 AAA.

9. **Andrew Bristow** 2.9.61 (5y, 8) 29:04.04 '90
28:45.95; 16 Brussels.

10. **Sam Carey** 25.12.64 (1y, -) 29:44.97 '89
28:53.07; 6 AAA.

11. **Martin Jones** 21.4.67 (1y, -) 29:04.82 '92
28:57.23, 28:58.87; 7 AAA, 9 WSG.

12. **Carl Udall** 13.7.66 (1y, 10) 28:48.18 '92
29:02.33; 8 AAA.

Evans and Nerurkar maintain their 1992 placings and were more than half a lap ahead of the rest. Staines did not finish at the AAA's but ran the season's third fastest time in an important race in Melbourne in December.

Just one race was contested by most of our best - a contributory factor to our distance running decline, and there is a crying need for a race in April in which athletes, fit from cross-country and road racing, can post fast track times to secure qualifying times and to carry them into a track season.

Only in 1985 has there been a lower standard in depth in the last 25 years at this event.

[Ed : The BMC plan to hold two 10,000m races in 1994 - one at Welwyn on Monday May 2nd and one at Oxford on Saturday July 23rd. Let's see who turns up!]

1993 UK Merit Rankings (3)

Women's 800m

1. **Diane Modahl** 17.6.66 (10y, 1) 1:58.65 '90
1:59.00, 1:59.12, 1:59.17, 1:59.42, 1:59.58, 2:00.2e, 2:00.35;
1 BMC Wyth 17/5, 4 New York, 4 Rome, 4 Hengelo, 5 ECup, 4 Oslo, 6 Zürich, 4 WCh, 4 Berlin, 7 Brussels, 7 GPF.
2. **Kelly Holmes** 19.4.70 (2y, 8) 2:03.94 '92
1:58.65, 1:59.13, 1:59.16, 2:00.45, 2:00.94, 2:00.86;
1 UK, 1 Stockholm, 2 Oslo, 1 IS, 1 AAA, 1 TSB, 8 Zürich, 5s2 WCh, 11 Brussels.
3. **Linda Keough** 26.12.63 (1y, -) 2:03.97 '91
2:01.82, 2:01.84, 2:01.99, 2:02.32, 2:03.93, 2:06.40, 2:05.22i; 2 UK, 2 v USA, 2 AAA, 2 TSB, 8 Köln, 5b Zürich.
4. **Jo Latimer** 30.1.71 (1y, -) 2:07.62 '91
2:03.65, 2:04.38, 2:04.81, 2:05.23, 2:05.56, 2:05.99; 3 BMC Wyth 17/5, 3 West A, 3 UK, 5 v USA, 5 WSG, 2 U23 v GR, 2 U23 v FIS, 1 GRE.
5. **Lynn Gibson** 6.7.69 (1y, 12) 2:02.34 '92
2:03.66, 2:04.38, 2:04.92, 2:05.01, 2:05.88, 2:06.15, 2:04.75i, 2:05.15i; 7 UK, 1 Cork, 3 AAA, 6 TSB, 1 Solihull.
6. **Teena Colebrook** 18.12.56 (9y, 11) 2:01.65 '84
2:04.17, 2:04.31, 2:05.43, 2:05.60, 2:05.70, 2:05.75;
dnr UK, 4 AAA, 4 TSB, 4 Vaux, 3 Solihull.
7. **Paula Fryer** 14.7.69 (4y, 2) 1:59.76 '91
2:04.0mx, 3:04.62, 2:05.08, 2:05.3, 2:05.6mx, 2:07.66, 2:05.00i; 4 UK, 1 AAA v LC, 3h WSG, dnf TSB.
8. **Dawn Gandy** 28.7.65 (4y, 6) 2:01.87 '88
2:04.70, 2:04.83, 2:05.12, 2:05.89, 2:06.6, 2:06.62;
5 UK, 5 AAA, 6 TSB, 3 WG, 4 Andover.
9. **Yvonne Murray** 4.10.64 (5y, -) 2:00.80 '87
2:02.84; 2 Vaux.
10. **Cathy White** 9.3.66 (1y, -) 2:05.88 '92
2:03.55, 2:05.99, 2:07.10, 2:07.24, 2:07.86, 2:08.33; 1 Welsh, 7 AAA, 1 W v Hun, 1 WG, 3 Vaux, 1 Wrexham.
11. **Jillian Jones** 23.12.69 (0y, -) 2:07.9 '92
2:04.97, 2:05.46, 2:05.72, 2:06.98, 2:07.2, 2:07.40;
6 UK, 1 South, 6 v USA, 3 Cork, 2h3 AAA, 2 Andover, 7 Solihull, 3 E v Ukr.
12. **Debbie Gunning** 31.8.65 (0y, -) 2:06.28 '90
2:05.65, 2:05.85, 2:07.8, 2:09.2;
3 Andover, 4 Solihull, 1 Jersey.

Modahl (née Edwards) is top for the sixth time in seven years with a magnificent fourth place in the World Championships. She has a 2-1 advantage over Holmes, who ran a great series of races in her first international season and ran successive pbs in winning the UK title and Stockholm Grand Prix, then was 2nd in Oslo and ran the year's best by a UK athlete in narrowly failing to make the World final.

Keough was a solid third, although she had an unavailing search for the World qualifying standard of 2:01.4. There was then a huge gap, with Latimer making a breakthrough to take 4th ranking. There was very little to choose between those in the middle rankings. Missing were the 1992 third and fourth, Lorraine Baker and Kirsty Wade.

Women's 1,500m

1. **Alison Wyeth** 26.5.64 (7y, 5) 4:05.52 '92
4:24.87M '91
4:03.17, 4:05.31, 4:06.22, 4:10.93, 4:11.03, 4:31.81M;
1 IA, 2 v USA, 1 AAA, 5 Nice, 5 M Carlo, 2 Rieti, 8 GPF.
2. **Yvonne Murray** 4.10.64 (10y, 1) 4:01.20 '87 / 4:23.08M '86
4:08.63, 4:12.37, 4:34.7+estM, 4:36.0+estM, 4:36.52M, 4:17.51, 4:32.00iM (4:13.2i), 4:32.4+iestM;
1 Ports, 1 Belfast, 3 ECup, 1 v USA.
3. **Paula Radcliffe** 17.12.73 (1y, -) 4:16.82 '92
4:11.6, 4:12.62, 4:14.53, 4:36.4+estM, 4:25.3;
2 Granada, 1 AAA v LC, 5 v USA.
4. **Sonia McGeorge** 2.11.64 (2y, -) 4:10.75 '90 / 4:35.7M '89
4:11.89, 4:12.93, 4:13.0, 4:13.60, 4:14.13, 4:18.61;
2 Lough 19/5, 3 AAA v LC, 2 Copenhagen, 3 AAA, 1 Vaux, 9h1 WCh.
5. **Lynne Robinson** 21.6.69 (2y, 11) 4:13.22 / 4:32.91M '92
4:12.03, 4:13.8, 4:16.23, 4:16.56, 4:25.17, 4:44.45iM; 5 IA, 4 UK, 4 AAA v LC, 1 WSG, 7 Vaux.
6. **Lynn Gibson** 6.7.69 (1y, 12) 4:14.4 '92
4:12.12, 4:16.10, 4:21.35, 4:22.37, 4:23.84, 4:25.60i;
3 IA, 1 South, 2 Vaux, 6 Grossetto.
7. **Susan Parker** 24.3.70 (1y, -) 4:17.91 '91
4:12.3, 4:13.39, 4:16.54, 4:19.4, 4:19.51, 4:20.57; 2 AAA v LC, 9 AAA, 3 Vaux, 7 Grossetto, 3 Solihull, Bl.1: 1,-,1.
8. **Jayne Spark** 16.9.70 (1y, -) 4:22.85 / 4:41.0M '92
4:13.62, 4:14.66, 4:16.02, 4:16.7, 4:19.68, 4:23.02; 1 UAU, 4 IA, 7 Ports, 1 UK, 7 AAA v LC, 7 WSG, 4 Vaux.
9. **Debbie Gunning** 31.8.65 (2y, -) 14:12.69 '90, 4:32.32M '91
4:14.33, 4:14.42, 4:14.94, 4:15.29, 4:38.81M, 4:19.80;
2 Ports, 2 UK, 3 Belfast, 4 AAA, 5 Vaux.
10. **Michelle Faherty** 10.8.68 (1y, -) 4:24.9 '87 / 4:44.76M '92
4:15.37, 4:15.57, 4:15.89, 4:20.04, 4:20.27, 4:41.69M;
12 IA, 3 Ports, 3 UK, 5 Belfast, 6 AAA, 9 Vaux, 3 E v Ukr.
11. **Angela Davies** 21.10.70 (0y, -) 4:22.4 '92
4:15.35, 4:16.3, 4:17.61, 4:18.62, 4:18.63, 4:21.41; 1 UAU, 1 Lough 19/5, 5 UK, 6 AAA v LC, 2 South, 8 AAA, 6 Vaux, 2 E v Ukr.
12. **Jillian Jones** 23.12.69 (0y, -) 4:33/4 '92
4:16.0, 4:16.72, 4:19.10, 4:26.95, 4:27.02;
2 Haringey, 5 Ports, 5 AAA v LC, 3 Mid, 8 Vaux.

Bev Hartigan 10.6.67 (6y, 3) 4:05.66 '90
4:26.52M '92
4:16.19, 4:38.60M, 4:19.67, 4:24.1, 4:34.44iM, 4:16.10i;
5 Granada, 2 Belfast, 2 Solihull.

M = 1 mile time. Equivalents: 4:05.0m = 4:24.6M, 4:10.0m = 4:30.1M, 4:15.0m = 4:35.5M, 4:20.0m = 4:41.0M

The underrated Wyeth achieves her first UK number one ranking, from a previous best at 1,500m of 4th in 1989. She lost once to Murray but ran far better times. In an unprecedented turnover, these two are the only ones from the 1992 top ten to retain their place in the list, although three others have ranked before. Robinson, 11th in 1991, is the most difficult to place, but her splendid World Student Games victory gives her precedence over other women who beat her in domestic races. Just ten British women under 4:15 is the lowest figure since 1983.

Women's 3,000m

1. **Yvonne Murray** 4.10.64 (12y, 1) 8:29.02 '88
8:30.30, 8:32.43, 8:32.62, 8:41.99, 8:43.46, 8:51.30, 8:50.55i;
1 UK, 2 Oslo, 1 TSB, 9 WCh, 2 Brussels, 2 GPF.
2. **Alison Wyeth** 26.5.64 (5y, 3) 8:43.93 '92
8:38.42, 8:38.79, 8:38.79, 4:47.96, 8:51.89, 8:52.98;
3 Seville, 2 UK, 3 ECup, 3 TSB, 5 WCh, 3 Brussels, 3 GPF.
3. **Paula Radcliffe** 17.12.73 (2y, 5) 8:51.78 '92
8:40.40, 8:44.34, 8:52.62, 9:02.42;
4 UK, 6 Oslo, 7 WCh.
4. **Sonia McGeorge** 2.11.64 (6y, 7) 8:51.33 '90
9:01.65, 9:04.35, 9:11.2, 9:20.22;
3 UK, 1 v USA, 7 TSB.
5. **Jayne Spark** 16.9.70 (1y, -) 9:26.3 '91
9:06.7mx, 9:22.5, 9:24.77, 9:24.99, 9:26.6;
5 v USA, 1 Nth IC, 1 E v Ukr.

1993 UK Merit Rankings (4)

6. **Zahara Hyde** 12.1.63 (2y, -) 9:05.49 '91
9:08.61, 9:32.97, 9:33.97, 9:21.60i, 9:31.68i, 9:42.97i;
5 UK, 6 v USA, dnf TSB, 2 E v Ukr.
7. **Suzanne Rigg** 29.11.63 (1y, 12=) 9:08.96 '92
9:07.3; 1 Stretford.
8. **Susan Parker** 24.3.70 (1y, -) 9:06.2 '92
9:14.53, 9:22.23;
6 UK, 1 GRE.
9. **Jo Thompson** 30.10.58 (1y, -) 9:35.50, '92
9:15.54, 9:24.9, 9:32.3, 9:32.13i, 9:33.52i;
1 Lough 29/6.
10. **Teresa Dyer** 29.9.59 (1y, -) 9:15.0 '92
9:15.08, 9:27.2, 9:30.33, 9:39.4, 9:42.26, 9:46.3;
1 South, 7 Cork.
11. **Heidi Moulder** 16.1.76 (0y, -) 9:48.53 '92
9:18.07, 9:27.07, 9:32.26, 9:33.90, 9:44.04;
1 Mid-J, 1 AAA-J, 1 ESch, 4 FJ, 2 JI v LII.
12. **Kate Ramsey** 17.5.68 (0y, -)
9:16.24, 9:34.68, 9:39.7, 9:47.1;
2 Lough 29/6, 1 Mid.
Debbie Gunning 31.8.65 (0y, -) 9:26.2 '91
9:16.94, 9:13.21i, 9:15.80i, 9:27.65i, 9:30.16i;
8 TSB.

nr **Kate McCandless** USA 22:6.70, 9:19.45 '92
8:56.00, 9:03.57, 9:10.11, 9:10.13, 9:11.76;
10 US Champs, 11 Nice, 5 Köln, 12h1 WCh, 20 Brussels.

Although she disappointed in Stuttgart, Murray ran her best ever series of fast times and of course also won the World Indoor title. She is top ranked for the sixth time at 3,000m. Wyeth consolidated a position amongst the world's best, taking five seconds off her best and twice running under 8:40, and Radcliffe maintained her promise and progress with over 11 seconds off her best. These three, all in the top ten in Stuttgart, were a class ahead of the rest, with McGeorge an isolated 4th, and there was a considerable decline in depth, not helped by a scarcity of competition. Compared to 1992 there was a 10 second drop in the 10th best standard, and this level is the worst since 1980.

Women's 5,000m

(not ranked this year)

Suzanne Rigg 29.11.63 (9) 16:19.4 '92
15:57.67; 1 AAA
Teresa Dyer 29.9.59 (-) 16:28.19 '92
15:58.8, 16:33.75;
1 Sheffield, 4 AAA
Alison Barnes 6.11.69 (-) 16:27.00 '92
16:12.73; 3 AAA.

nr **Kate McCandless** (USA) 22.6.70
15:34.93, 15:38.28;
9 Stockholm, 15 Berlin.

nr **Lesley Morton** (NZ) 25.12.63 15:52.2 '92
15:52.4mx, 16:00.20;
1 BMC Cheltenham, 2 AAA.

Women's 10,000m

1. **Vikki McPherson** 1.6.71 (2y, 9) 33:27.55 '92
32:32.42, 33:49.29, 33:49.51;
1 AAA, 4 WSG, 17h WCh.
2. **Suzanne Rigg** 29.11.63 (2y, 5)
32:44.06, 32:59.31; 7 Hengelo, 4 ECup.
3. **Jenny Clague** 6.8.73 (1y, -)
32:41.29; 5 Hengelo
4. **Laura Adam** 28.2.65 (1y, -) 0
34:00.12; 2 AAA.
5. **Alison Rose** 27.9.67 (1y, -) 34:39.16 '92
34:35.73; 3 AAA.

nr **Lesley Morton** (NZ) 25.12.63 32:20.5 '91
33:54.39; 16 WCh.

No McColgan, no Hunter, no Wallace - and very few races. There is just not the depth to rank a full dozen, or indeed more than five.

Rigg ran the finest race, with a most determined 4th place in the European Cup, just a week after failing to achieve a World qualifying time and with a midweek road race after that. However, McPherson takes the top ranking, with the AAA title in warm weather and the year's best by a British athlete when 4th at the World Student Games.

Cliff Temple 1947 - 1994

"Mummy!" cried the little girl, rushing indoors from the front garden. "There are a lot of men outside taking their trousers off in the middle of the road!"

"It's all right dear," reassured her mother, as she surveyed the scene from her front door. "They're not men. They're runners."

There is only one British athletics writer who would have opened a chapter of a book on running with a joke like that, and now he's gone. That example of wry humour starts Chapter 3 of *Cross Country & Road Running* by Cliff Temple, who tragically took his own life in January 1994.

As I write his death is set to have far reaching consequences on British Athletics, but these should not concern us here. We should remember Cliff as arguably the best, certainly the funniest, writer on our sport and a coach of great ability. He had been the *Sunday Times* athletics correspondent for 25 years, even though he was only 46 when he died.

Most of his coaching was to do with marathon running, at both ends of the talent scale. He coached Mike Gratton to a Commonwealth bronze medal and victory in the London Marathon, and Sarah Rowell to the British record, and through the pages of *Running Magazine* and later *Athletics Today*, Cliff coached thousands of ordinary runners who were tempted to take up the challenge of the marathon and the Sunday Times Fun Run.

On the track he coached Shireen Bailey to an Olympic final and that was probably his outstanding achievement as a coach - how monstrous that Shireen's name should have been linked with Cliff in such a grotesque way by BAF promotions officer Andy Norman.

It is rare to find a journalist who is both respected and liked by his peers and the community which he reports upon. Cliff was one such and we will all miss him dreadfully.

Randall Northam

Summer Preparation for Athletes aged 16-17

by David Iszatt

The summer track season is the prime interest of most young 'milers', but the winter preparation is the basis on which the summer's races depend. I see a year's training for athletes of this age falling into the following phases:-

Phase 1 - Oct / Dec : Basic conditioning, i.e. building up overall endurance.

Phase 2 - Jan / Feb : Introduction of quality work, i.e. building up speed-endurance.

Phase 3 - Mar / May : Increasing on work specific to chosen event.

Phase 4 -Jun / Aug : Outdoor track season.

One implication of this phasing is that County Championships can only be regarded as part of the build-up to area and national Championships - if one gets County medals they are a bonus not an objective.

Phases 1 & 2 - Winter preparation

Work over the winter will have built a sound aerobic foundation, all-round strength and, in particular at this age, improved leg strength - for details see Sean Kyle's article in the last *BMC News*.

Phase 3 - Build-up to competition

Phase 3 is the most physically and mentally demanding, since mileage is kept high whilst quality is significantly improved. This improvement is achieved by increasing the pace of continuous runs, by the introduction of 'extensive intervals' (many slowish runs with short recoveries) designed to improve specific aspects of 800m performance, since at this age the development of speed and speed endurance must take precedence over long pace endurance.

Races will serve as time trials to check progress and even County Championships must not be seen as ends in themselves.

Training is best based on three week cycles of medium, high and low intensity (precede races with a low week) with increasing emphasis on anaerobic work. In May mileage reduces slightly to permit more track work. In April and May, leg strength exercises should be increased to prepare for sheer speed work in June. Sample weekly schedules are built up as per Table 1.

Table 1 : Summer schedule for athletes aged 16-17

Week 3	
Sun	4 x 700m diffs (5 min reps) + 2 x 6 x 150m diffs (50m walk / 5 min)
Mon	2 x 5 x 30 secs hills (fast jog back) (1 mile jog between sets) + 5 miles very easy
Tue	2 x 5 x 200m (30 secs / 10 mins) + 6 x 90m change of pace (walk back).
Wed	8 miles fast back or minor race.
Thurs	2 x 5 x 150m (50m walk / 5 mins) + 6 x 60m back to back.
Fri	5 miles steady (NB 20 min jog if major race next day).
Sat	Minor Race or 4 x 1 mile (6½ min repeats).
Week 2	
Mon	4 x 600m diffs (5 mins repeats) & 6 x 90m change of pace.
Tue	Hills & 3 miles very easy.
Wed	2 x 5 x 200m (200m jog / 10 mins) & 2 x 6 x 60m back to back.
Thurs	5 miles fastback or minor race.
Fri	2 x 3 x 300m (100 walk / 10 min) & 6 x 150m diffs (250 jog). 5 miles steady.
Sat	Minor race or 4 x 1 mile (7 min reps).
Week 1	
Mon	2 x 5 x 200m (200m jog) & 6 x 60m acceleration runs
Tue	8 - 10 miles steady.
Wed	2 x 3 x 150m diffs (250m jog / 5 min) & 2 x 3 x 60m back to back
Thur	Minor race or 800m simulators.
Fri	2 x 3 x 150m strides (250m jog / 5 min) 3 - 5 miles easy.

Phase 4 - Competition

Early season races will have shown up weaknesses which will have to be put right if top quality results are to be achieved.

Phase 4 has to be a compromise between racing and speed work; only certain races are really important and individual schedules have to be arranged around these. As far as practical a three week count-down cycle should be followed.

Week 3 Endurance work by long runs, short fast runs and short recovery intervals.

Week 2 Race pace or faster by short fast runs, short intervals and sprinting.

Week 1 Recovery week by sprinting, short intervals and short easy runs.

The actual weekly schedules themselves are built up as follows as per Table 1. Few athletes of this age can cope with major competitions closer together than 14 days. When this occurs Week 2 should be omitted rather than Week 3. If there is a single week between major competitions, however, Week 3 is to be preferred to Week 1.

An athlete following this schedule in 1983 recorded times that 10 years later would have ranked him 2nd in the UK at 800m, top of the 1,500m rankings by a margin of 6 secs and top of the 3,000m list by no less than 16.9 secs! An indication of the current decline in standards is that he was considered to be good, but not exceptional. He went on to be a successful junior international and on a similar schedule placed in the top 50 of the Senior National Cross Country Championships. He is still a member of the British Milers' Club.

Less talented athletes, and those with inadequate foundations to withstand the stresses that such an approach imposes, may require two or more years steady build-up before they can cope with and benefit from it. The adage 'make haste slowly' must be heeded; the alternatives are injury and disappointment.

How Hezekiel Sepeng trains ...

by J P van der Merwe

The world's fastest junior over 800m in 1993, Hezekiel Sepeng placed only just behind Curtis Robb in the world championships at Stuttgart.

Andrew Bell from Cape Town sends us this illuminating article from Hezekiel's coach.

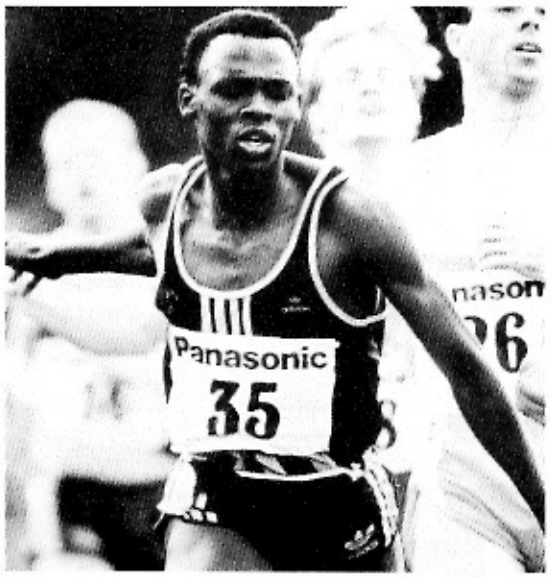

Photo by Shearman

I am 33 years old, I was born and raised in Krugersdorp, Transvaal. I matriculated in 1978. I did various sports during school but was never above average in any one.

In 1979 I studied to become a PE teacher at the Goudstad Teachers Training College, majoring in Physical Education. I completed by diploma in 1982, and after two years of military service I started teaching at Queens High School in Johannesburg.

This was my first encounter with formal coaching. I did various courses eg sprints, middle-distance, long jump, hurdles and even throwing events.

My first provincial sportsmen were biathlon athletes. My first provincial athlete was Robert McCullum, an U19 boy who jumped a pb of 6:79m. I moved over to middle-distance training and at Hoerskool Piet Potgieter in the far northern Transvaal I coached my first two provincial middle distance athletes :

Riaan Hamilton	U17	800m	1:54
Janine Albertyn	U19	800m	1:52.8

Since then I coached various Provincial athletes of whom :

Dion Harper	U17	800m	1:52.7
	U17	400m	48.2
Clyde Colenso	U13	1,200m	3:22
Adrian Cardan	U19	LJ	7.52m

were the ones who achieved greatest.

Also in schools cross-country meetings my athletes seemed to do well, winning various regional titles. In 1972 I started teaching at Potchefstroom Boys High after being promoted.

This school is very keen on cricket and rugby and had never done serious athletics before my arrival. Opening their doors to all races allowed black boys to enter if they could meet the required academic standard. This is where I met Hezekiel Sepeng and various other athletes. From the start the talent was quite obvious and a number of boys started to do well just because there was a structured programme:

Hezekiel ran his first 800m in 1:58 - within 2 weeks he improved to 1:56, and at the end of February he ran 1:53 - in middle March he ran 1:50 and in April he ran 1:49.8.

He was not initially selected to go to the World Junior Championships, but when the national selectors phoned us stating that he could go if he could raise his own funds, we jumped to the opportunity. The school raised the funds. He then went overseas for the first time. He reached the finals with a new RSA record of 1:47.5, placing fifth.

In February of this year he came down to a time of 1:45.98 - and was selected to go to the World Indoor Championships. I believe his lack of experience caused him to be outrun in the heats.

Returning to South Africa, Hezekiel won the RSA Junior Championships - the 800m in 1:46.3, 1,500m in 3:53. He improved his 1,500m time later in the season to 3:43.08.

His pbs are : 100m - 10.7, 200m 21.67, 400m - 46.75, 800m - 1:45.56, 1,500m - 3:43.08, 3,000m 8:29. He also won the senior 800m during the South African championships with a time of 1:46.00.

Our inter-school cross-country season started after April. Hezekiel did very well in this field as well. He won all his races and his best time over 8k (24:20) formed the basis for our preparation for Stuttgart, where he reached the final, and ran a pb in the semi-final of 1:45.46.

Returning to South Africa, he ran the SA Junior Cross Country Championships. Although he could only manage 4th place, I believe it to be excellent as he didn't train for it specifically.

At present we are doing pre-season training which includes : morning runs - 6km+; afternoon - intervals, power, muscle endurance etc.

He works very hard academically and will be writing his matric next year.

I am also fortunate to coach various other athletes who do well - the most prominent are :

Arnoldo Sepakwe	U19	800m	1:50.5
		1,500m	3:46.2
		3,000m	8:12.6
		5,000m	14:22
Ian Philips	U18	100m	10.7
		200m	21.69
		400m	48.2
Sean Wessels	U15	1,500	4:17
Zach v der Merwe	U14	800m	2:10
Ross Boyd	U17	1,500m	4:15.5
Brian Mills	U18	3,000Sc	9:38

I believe in preparing all my athletes to run over and under distances. We do not train in gymnasiums as these are only school boys. We do specific power work, hill-running, arm drills etc.

I believe athletes may never be pushed. Self motivation is the most important factor determining an athletes success. If an athlete doesn't want to train, if he is tired, he may at any time stop.

Twelve Things You Should Know About ...

by Frank Horwill

Twelve things you should know about ...

Repetition Running

1) It is not really known who invented repetition running. W. G. George, the world mile professional and amateur record holder in the 1890s, was said to be seen "running fast and slow" on the track. However, in 1939, Dr. Woldemar Gerschler, of Freiburg Human Research Laboratory, was ordered by Hitler to find a way of getting soldiers fit quickly. He decided that steady running was too slow and wasteful. A soldier could get reasonably fit in three months by running 5 minutes a day in the first week and adding 5 minutes per week thereafter, making a total of one hour running at the end of that period.

Gerschler noted that the pulse rate during these runs hovered around 130 beats a minute. He also noted that the stroke volume of the heart, (the amount of blood pumped out per beat), was a fifth more at the end of the 3 months with consequent reduction of the resting heartbeat from an average of 75 bpm to 65 bpm. He decided that if the heart were subjected to repeated rises of the pulse rate to 160 bpm the same effect could be obtained in six weeks.

Gerschler selected three distances :- 100m, 200m and 600m. These were to be run 3 secs, 6 secs and 18 secs respectively slower than the subject's best time for these distances. Thus, 12 secs best for 100m - run 100s in 15 secs; 28 secs best for 200m - run 34 secs per 200m; 105 secs best 600m - run 123 secs per 600m. The schedule was - day 1 Run 100s; day 2, run 600s; day 3 run 200s, and repeat the cycle. He noted that during the rest after each run the amount of blood running through the heart valves *increased*, the pulse rate *decreased*.

He decided that this increase in flow strengthened the heart walls. He came up with the revolutionary notion that the benefit of this type of running, which he called *Interval Training*, was obtained during the *rest period*. He also found that this increased flow of blood was only effective to a maximum of 90 secs rest. If the pulse failed to recover to 120 beats a minute in 90 seconds (10 secs / 20 beats), the distances were being run too fast. That was not good for the acquisition of stamina.

2) In 1945, Franz Stampfl popularised repetition running. His method was to take a section of the distance to be raced and to have it repeatedly run at a race pace with equal distance jog. Thus, 440yds was a quarter of a mile, followed by 440yds jog x 8; or 4 x 880yds with 880yds jog; or 3 x 1,320yds with 1,320yds jog. It will be noted that the total distance of the repetitions totalled twice the distance of the race. Some athletes went further, e.g. Zatopek ran 60 x 400m, three and a half times, his main distance of 5,000m, for 10 consecutive days! No athlete has equalled his feat of winning the 5k, 10k and marathon in one Olympic Games.

3) In 1976, the physiologist Edward Fox gave scientific reasons for repetition running. If an athlete can run a mile in 4:40, that is 70 secs per quarter mile (440yds). If he ran 4 x 440yds in 68 secs each with 2 minutes rest he has run a mile in total in 4:32, faster than his best, but with one advantage - the lactic acid build up is far less. Therefore, he could run 8 x 440yds and still keep within maximum lactic acid build up. He called this 'vaccination against race pace'.

4) In 1960, the Hungarian coach Mihaly Igloi decided that jogging the same distance run as recovery was too long a rest, he *halved* it, e.g. 16 x 200m, jog 100m. or 8 x 400m, jog 200m. His method brought his athletes great success.

5) In 1974, the physiologist Ekberg calculated that all distance runners should only jog a *quarter* of the distance run, e.g. 3 x 1 mile, jog 440 yds.

6) In 1972, the British coach Frank Horwill introduced the first rationalisation of recovery jogs for different paces. His view was that an athlete doing 4 x 400m at 800m pace must have more rest than another athlete doing 8 x 400m at 1,500m pace. His table of 200m repetitions is:-

400m pace (full out), jog *twice* the distance of the rep - 400m.

800m pace - jog the *same* distance as the rep - 200m.

1,500m pace - jog *half* the distance of the rep - 100m.

3k pace - jog a *quarter* the distance of the rep - 50m.

5k pace - jog an *eighth* the distance of the rep - 25m.

10k pace - jog a *sixteenth* of the rep -12m.

It will be seen that the 10k runner has hardly any recovery at all when doing 200s at 10k pace, so the distance is not relevant to race experience and the reps should be from 800m to 1 mile, e.g. 13 x 800m, jog 50m, or 6 x 1 mile, jog 100m.

7) There are fast and slow joggers, therefore a maximum time should be stipulated to jog a distance, i.e. 400m in 3 minutes, 300m in 2¼ minutes, 200m in 90 secs, 100m in 45 secs. If the distance cannot be covered within this time, the athlete can opt to walk a shorter distance, e.g. instead of jogging 200m in 90 secs, he can walk 100m in 90 secs, or, he can take a stationary rest equivalent to the maximum jogging time. For example, walk around the same spot for 3 mins instead of jogging 400m.

8) Lactic acid is dispersed more quickly by jogging, less by walking and even less by standing still.

9) There are basically two types of repetition running :- straight-through reps, and sets. A straight-through session is where the total distance of the reps is twice the distance of the race or one-and-a-half times the distance of the race. For example, 6 x 500m at 1,500m pace with 250m jog (112 secs). A session done in sets usually equals the distance of the race with half the rest of the straight-through method and double the rest between sets, e.g. 2 x 3 x 500 at 1,500m pace with 125m jog (56 secs) after

Twelve Things You Should Know About ... (2)

the 500s and 3 mins 44 secs (4 x 56 secs) after the first set is completed.

10) An acceleration session is where the repetitions increase in speed and number, e.g.
1 x 1,600m in 4:40 (17.5 secs / 100m), jog 200m throughout:
2 x 800m in 2:16 (17 secs / 100m);
4 x 400m in 66 secs (16.5 secs / 100m);
8 x 200m at 32 secs (16 secs / 100m);

The benefit of this session is that the athlete has to run faster while getting more tired. If reversed, e.g. the 8 x 200 first and the 1 x 1,600m last, it has a greater endurance role.

11) Vladimir Kuts, 1956 Olympic 10k champion, was the first runner to *decrease* the rest times during reps. 16 x 400m, would have 400m jog for the first four, 300m jog for the second four, 200m jog for the third four and 100m jog for the last four. The times of the 400s remained constant. This has the benefit of getting the athlete used to holding his pace while getting tired. If reversed, it aids getting used to a fast start in a race. There is a growing opinion that the first repetitions of any work should have less recovery than later reps because the athlete is fresh.

12) An interesting experiment performed by the Russian on female runners which lasted three months comprised two groups of women of equal ability having to run 10 x 400m in 80 secs, one group jogging 400m in 3 mins and the other group jogging 200m in 90 secs. The first group began to run their 400s faster after a month, the second group did not run their 400s faster until the end of the second month, by which time the first group were running faster still.

At the end of the experiment which involved four sessions per week of 10 x 400, the second group with only 90 seconds rest as against three minutes rest of the first group, improved their 'oxygen uptake by greater levels. The final view was that recovery times in repetition running play a significant part in an athlete's acquisition of fitness. Too long a rest aids speed, too short a rest denies speed but gains endurance. Perhaps there is a place for both in equal amounts.

Twelve things you should know about ...

Sprinting

1. The British Milers' Club uses two tests to assess sprinting ability on athletes who attend their training courses.

a) The 40yds (36.6m) sprint from a standing or crouch start. The energy system involved in this run is ATP-PC (Adenosine Triphosphate Phosphate Creatine). Times are rated as follows:-

40yd test results	Men	Women
Poor	>5.5	>6.0
Below average	5.3 - 5.5	5.8 - 6.0
Average	5.1 - 5.3	5.6 - 5.8
Above average	4.9 - 5.1	5.4 - 5.6
Good	4.5 - 4.9	5.0 - 5.4
International class	<4.5	< 5.0

b) The 400m dash. This tests the body's glycolytic energy system (burning of sugar). Times are rated as follows:-

400m test results	Men	Women
Poor	>62	>68
Below average	59 - 62	59 - 62
Average	56 - 59	62 - 65
Above average	53 - 56	59 - 62
Good	47 - 53	55 - 59
International class	<47	< 55

2. Once the tests results are known further tests are necessary to pinpoint the fundamental causes of weakness. These include:- a) Flexibility tests. b) Muscular endurance tests. c) Power related to weight tests. d) Leg strength tests. The main flexibility test is to stand on a chair edge and see how far you can reach down *beyond* your toes (bare footed) with straight legs. Four inches beyond is good, anything less than two inches is poor. The second test calls for balance - stand straight, raise the knee to the chest and grasp it with both hands. Come up on the toes of the other leg and fall forward - holding the knee for as long as possible. The distance between the two feet is measured. Anything less than three feet (92 cm) shows poor hip flexibility. The muscular endurance tests are related to speed of movement (press ups, bent-knee abdominals, squat-thrusts), outlined in the BMC pamphlet *Twelve Things You Should Know about Strength Training*. The main leg strength test is the 25 cm hop. Power related to body-weight is also outlined in that pamphlet.

3. There is often an air of defeatism about not being a good sprinter. It is true that some athletes are born with more fast-twitch muscles than others; however, it is now known that some muscle fibres in our body are neutral, neither slow twitch or fast twitch, and these can be trained to be fast-twitch. One thing is definite, sprinting is a reflex action and *all* reflexes can be improved by regular use. In the case of sprinting this is every other day. Two famous physiologists - Karpovitch writing in *The Physiology of Muscular Activity* and Cooper writing in *Aerobics* agree that speed is affected if no specific work is done for as little time as 72 hours. They also stated that after 5 days' rest endurance begins to decline. One of the problems with speed acquisition is that improvement is measured in only 1 or 2 seconds at 400 metres and less in the 100 and 200m, unlike middle-distance events where a runner can reduce times often as much as a minute over 10k, and 30 secs in a 5k, 15 secs in a 3k and 5 secs in a 1,500m. But, the ability to sprint at the end of any distance race is a vital weapon often making the difference between gold and bronze, or neither. So, we have a golden rule - *do some sprint training every other day*. The sprint specialist will sprint every day.

We now come to an important question. Should middle-distance runners sprint before or after their main MD sessions? Steve Ovett's coach, Harry Wilson, believes that MD runners should sprint after their sessions because this is when an MD runner has to spring, at the end of a race when tired. However, maximum speed will not be achieved when muscles are tired and if maximum speed is the goal, e.g. lowering one's 400m time, it

Twelve Things You Should Know About ... (3)

must be done when fresh. The writer believes in sprinting before and after MD sessions.

4. Human research laboratories have proved conclusively that a warm muscle performs more efficiently than a cold one. It takes 10 minutes of jogging to heat the core temperature by 1 degree F. A common error is to jog and get warm and then not put on extra clothing while doing suppling and stretching exercises, this particularly applies to winter training. *The muscles must be warm* before sprint work. A useful mixture to get made up by a chemist which will aid warmth is 45% Arnica, 45% Witch-hazel, 10% Meth Sal. Rub this on the legs and thighs. *Do not drink it!* A good warm-up consists of:- 10 mins jog, 10 mins suppling (mainly arm work), 10 mins stretching (mainly hamstrings), 3-4 strides of 150m, accelerating every 50m. Stretching involves holding the fully-stretched position for 10 seconds or more.

5. A good introductory session to sprinting comes from Russia - it is called *pure speed*. This is a slight contradiction in terms because it involves running up to a marker 20m away and then sprinting 30m. That is 20m run-up and 30m sprint. It is not possible to reach maximum speed in 30m, but the leg speed is at maximum during this session. After 30m the stride-length increases and full speed is reached at 60m. A good session is 10 x 30m with 20m run up. Walking back provides recovery.

6. Technique is vitally important. The most important thing to remember is that the elbows should go back forcefully way past the hips until the upper arm is parallel to the ground. If this is done the arm will automatically go forwards and upwards (Newton's law of action and reaction). Many coaches are hooked on the arm being at right-angles in the forward movement with the hand level to the shoulder; this is useless if the elbow does not go *backwards* vigorously in the first instance. If the angle between forearm and upper arm is less than a right-angle in the forward motion, it will give the appearance of the runner punching himself on the jaw, and, not surprisingly, his head will jerk repeatedly. The left thumb is aimed over the left ear, not the right ear! The elbows are kept close to the body, those who allow the elbow to go out markedly are knows as 'flappers'. Those who sprint with their arms neither going backwards nor going past the mid-riff are dubbed 'dairy maids' since they give the impression of milking a cow. Some sprinters believe that a good lean forwards will get them to the tape faster; this is possible in the last 2 metres but if done right from the gun it will affect stride-length. If this is not believed, try sprinting 30m with an exaggerated lean and it will be noticed that the knee cannot come up to its full height. Hence the expression, 'run tall'.

7. Speed is equal to rate of stride x length of stride. Both can be improved. Ozolin of the Soviet Union found from his research that if sprinters spent one week sprinting up a 1 in 20 hill, then one week sprinting down it, then a week on the track, their speed improved. Borzov (Olympic gold medallist at 100m) claimed that he was a good sprinter made into a great sprinter by increasing his stride-length from increased power in the legs. In particular Russian physiologists discovered that the thrust from the blocks drives mainly from the soleus muscle (just below the calf) and Borzov was given heel-raising on a block of wood 4 inches high. On his shoulders he held a barbell loaded to *twice* his body-weight. He did six raises with the feet pointing straight ahead, six with them pointing outwards and six pointing inwards. He also did the bouncing split squat. A barbell with body-weight was held across his shoulders, he then leapt into the air, at the same time splitting the legs forwards and backwards and landing with the hip as low as possible. From there he leapt into the air again and reversed the legs. Caution - do not do this with body-weight on your own, start off with light weights and get the action right first.

8. The energy system (chemical) used in our body for sprinting 100m is ATP-PC. For the 200m it is ATP-PC-LA (lactic acid). For the 400m it is 80% ATP-PC-LA and 15% LA-O_2. LA-O_2 work is fast running from 1½ to 3 minutes' duration, e.g. 600 to 800m. ATP-PC work is sprinting from 50 to 100m. ATP-PC-LA is sprinting or fast running from 200 to 400m. Recent research has shown that 100m and 300m sprints are the best work for improving 400m times with one session in seven devoted to 800m reps 15 secs per 400m slower than one's best 400m time, e.g. best 400 = 60 secs, 4 x 800 in two sets of 2 x 800 in 2:30 with 2½ mins rest and 5 mins between sets. An athlete with a time of 44 secs / 400m would do 4 x 800 in 1:58 with 1:58 rest!

9. Work done by the British Association of Sport and Medicine tends to show that above average intake of vitamin B complex improves reaction time to the gun and therefore may improve the reflexes for sprinting. Dupain also calculated that full time sprinters required more protein intake than non-sprinters, about 125 grams daily (dried egg, dried skim milk, peanuts, cheese, corned beef).

10. A good start in a sprint is obviously a key factor, even in the 400m a bad start can mean half a second lost. There are two types of start:- 1) the 'bullet' or 'bunch' start; 2) the 'square' start. In the first, the blocks are close together, and in the second they are wider apart (from 6 to 12 inches wider). A.D. Dickinson's research from 832 starts using bunch, medium and elongated starts showed that the bunch start was the fastest timed at 7½ inches. However, Franklin Henry, who researched 500 starts, accepted that the 11 inch bunch start got the athlete away faster, but found there was less velocity than was secured from medium stances, with significantly slower at 10m and 50m. He favoured 16 inch spacing (40cm). J. Kenneth Doherty states the back block should be between 28 to 40 inches (70 and 94cms). The front block will be between 12 and 24 inches (30 and 60cm).

11. When the "on your marks" command is given and the athlete is ensconced in the blocks the shoulders should be as high as possible by having the arms at full length, shoulder-width apart. *Head down.* On the "set" command there are some golden rules to remember:- a) The shorter the longitudinal spacing, the higher the hips are elevated. b) If the hips are elevated too high to the point where the rear leg is almost straight, research at Birmingham University reveals that the time at 60

Twelve Things You Should Know About ... (4)

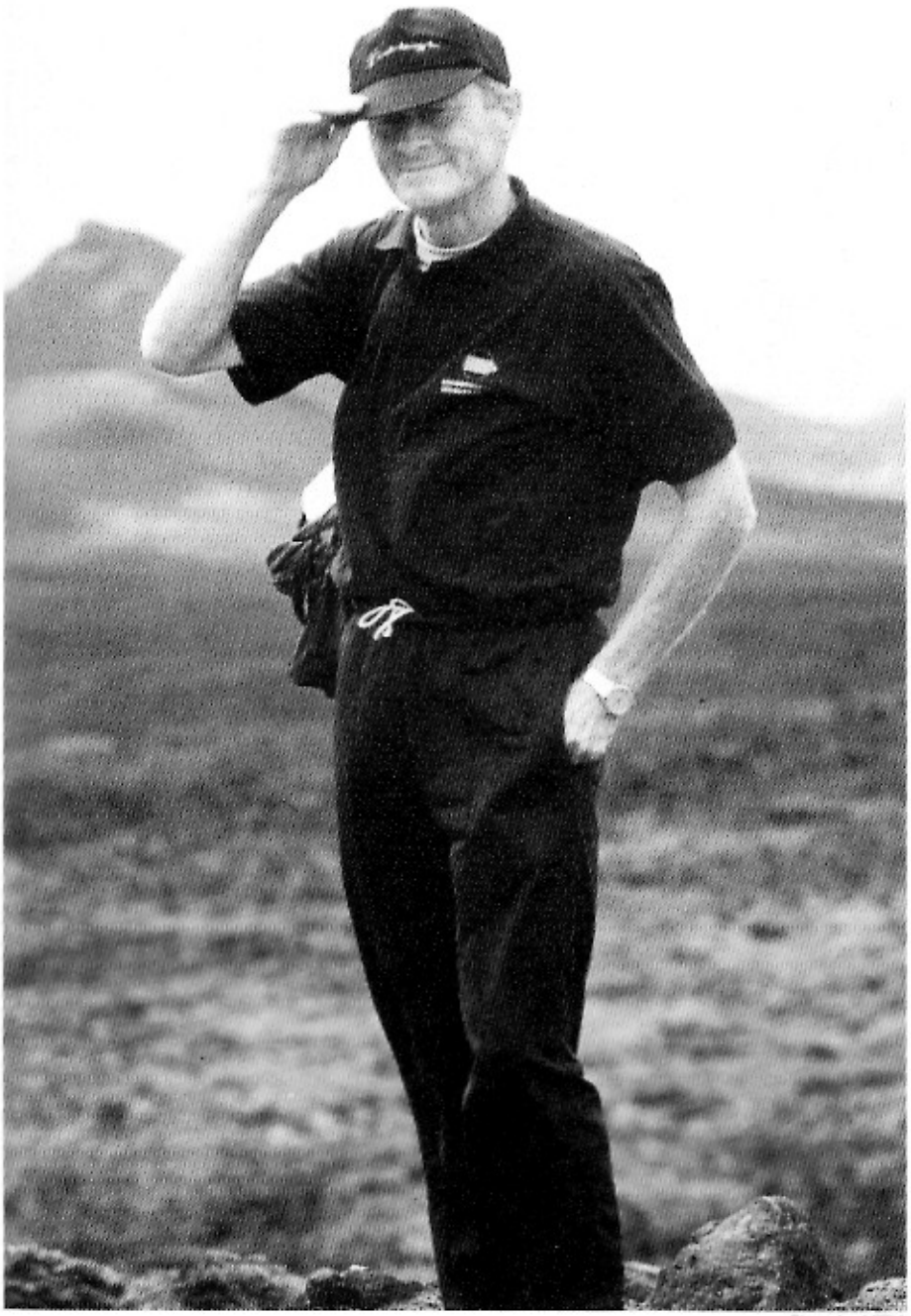

Photo by MFM

metres will be considerably slower than if the rear leg is bent to a shade more than a right-angle. *Look down* on the "set" at a point just beyond the line. When the gun goes, *keep low during the pick up stage*. Rapid movement of the elbows out of the blocks is paramount. Some sprinters time the starter's sequence of orders from the "set" onwards when waiting for their heat. Usually the starter will fire his gun 2 seconds after the "set" order, mean a wait of 4 seconds. While it is not the intention of the writer to encourage cheating, if a starter's time sequence is constant the athlete can anticipate the gun by counting mentally, "One thousand, two thousand, Go!".

12. The winter time is an opportunity to make a long haul to sprint improvement. Top priority should go to the acquisition of good leg strength by hopping, quadricep and hamstring work on a machine or with a partner providing resistance over the edge of a table. General all-round strength should be built up and especially in the shoulders and arms.

Sprint training should be done regularly. Here is a schedule for sprint improvement:-

Day 1 Hop 25m twice on each leg. Each month extend the distance by 5 metres and aim to reduce the number of hops for the distance by the end of the month. Follow with horizontal leaping for 25m. To do this properly imagine you are jumping over a series of puddles one yard long. Then jump with the knees raised high; finally, jump, knees up, *push off hard* with the rear leg each time. Extend 5m a month. Hot bricks running. Imagine you are running on red hot bricks in bare feet, this is a violently fast rate of stride (short) with equally vigorous arm action, for 25m. Add 5m a month. Sprint 50m x 6 pulling a car or tractor behind.

Day 2 Circuit training.

Day 3 Uphill sprinting 100m x 8

Day 4 Weight training - heavy weights

Day 5 Back lying starts (lie on back with head in direction of run). When the signal (whistle) is given, get up and sprint 60m x 10. This is a favourite of East German female sprinters, putting great strain on the thighs - it also mimics coming out of the start blocks.

Day 6 Weight training - light weights, many reps.

Day 7 If training for 400 metres, 45 minutes fartlek (15 mins. jog, stride for 30 secs duration, jog 45 secs x 10).

Day 8 Rest

Day 9 Start with Day 1 again.

Twelve Things You Should Know About ... (5)

Twelve things you should know about ...

Asthma

1. Asthma is a condition of the respiratory system which results primarily in heavy or difficult breathing. The flow of air through the bronchii (small branches of the air tubes in the lungs) is restricted by involuntary muscle spasm (causing narrowing of the tubes), swelling of the linings of the tubes, or blockage by thick plugs of mucus. The effect is partly counteracted by breathing in as this creates a partial vacuum and pulls the tubes open; but breathing out raises the pressure and hence increases constriction.

2. Asthma tends either to start in childhood (early onset asthma) or in middle-age (late onset asthma). Early onset asthma tends to occur slightly more commonly in boys and is usually an atopic or allergic disease. There is often a family history of asthma or related diseases such as eczema and allergic rhinitis. Late onset asthma tends to be unrelated to allergic reactions.

3. There are two main lines of treatment for asthma; broncho-dilators which act rapidly to reverse the muscle spasm of the airways, and cortico-steroids which work over a longer period of time to prevent muscle spasm. By international convention, broncho-dilators are produced in blue containers (eg aerosol inhalers, disc-halers and rotacaps) and cortico-steroids in brown containers. The most commonly used bronchodilators are *Ventolin*, *Salbutamol* and *Bricanyl*. All diagnosed asthmatics should carry their blue broncho-dilater on them at all times, whereas the cortico-steroid may not be needed that frequently.

4. A typical asthmatic attack will occur suddenly, however the sufferer may have a preceding feeling of tightness in the chest. The main difficulty is in breathing out which becomes a conscious and exhausting effort, in contrast to breathing in which is short and gasping. Wheezing, mainly when breathing out, may also be heard.

5. During an acute attack of asthma, the initial first aid measure is to ensure that the patient uses their broncho-dilater (ie their blue device). If this produces no relief immediate medical help should be sought.

6. It should be noted that although cortico-steroids are not listed as banned substances when used in the inhaled form, it would be sensible for top-level athletes to notify the governing body of their use.

7. The causes of asthma have been narrowed down to three main ones : allergy, infection and emotional disturbance. The writer knows of one female runner who had severe asthmatic attacks when her parents violently quarrelled.

Allergic reaction may come from pollen or food to which the subject is sensitive. Although house dust is blamed, only two of the hundred types of such dust are known to cause attacks: fluff from a pillow and spores from mould on a damp walls. The faeces of the house dust mite triggers some asthmatic attacks. The risk can be reduced if the mattress is vacuumed twice weekly, and the whole bedroom weekly. The use of synthetic filled rather than feather filled pillows and duvets is also recommended. Barrier mattresses and pillow covers are also available.

Asthma as a result of anxiety in children may be caused by one of three things : too much attention, expecting too much, arguing between the parents. Often attacks disappear when the child's environment alters, e.g. going to boarding school. Attacks resume when the child returns home. Sudden cold weather is known to bring about attacks as is a sudden decline in room temperature. The asthmatically prone should live in a house where all rooms are at a minimum room temperature of 60 degrees F. (15 degrees C.) and should take care not to get chilled during training.

8. Time is the friend of the asthmatic child; well over three-quarters of those affected while young grow out of it once they say good-bye to teenage life. Be that as it may, attacks must be dealt with, since they can last minutes, hours or even days.

9. The late Dr G Sheehan, an accepted authority on health and disease in runners, stated in *Runner's World* that he advocates running as a sport for asthmatics since it tents to prevent mucus from accumulating. However, he stresses that work loads should be increased *very gradually*. It should be mentioned here that Jim Ryun, who broke 4 minutes for the mile when 17, and went on to break the mile, 1,500m, half-mile and 800m world records, was asthmatic throughout his running career.

10. Dr. S. Davies and Dr A. Stewart, in their book *Nutritional Medicine*, have thrown a new light on asthma and its causes. They list the following as triggering attacks:-

a) inhaled allergens - house-dust mite, animal danders, pollens, particularly grass, mould spores;
b) irritant gases - including cigarette smoke;
c) ingested allergens e.g. foods, drugs (aspirin, coloured medicines, pills, capsules, syrups, food additives, yeast and moulds on foods);
d) infecting organisms, either due to the infection itself or an allergy to the organism;
e) temperature changes - especially cold air;
f) changes in the weather;
g) unaccustomed exercise;
h) emotional stress - of which bereavement brings about the worst attacks;
i) hormones;
j) certain chemicals in the workplace.

11. While the recommended daily allowance of vitamin C is fixed at 70mg for the non active person and 250mg a day for the runner (training 5 days a week for 1 hour and racing once a week), it is suggested that runners who suffer from asthma require 750mg a day. 2 pints of pure orange juice, and potatoes and greens will provide this.

12. Severe asthma levels maybe reduced by taking the supplement vitamin B6 - 50mg a day. Do not exceed this amount unless prescribed by a doctor.

Medical Matters

by Hippocrates

I have heard that it is a waste of time doing fast 200 metre runs as training for the 400 metres. Is there any physiological reason for this? BS - Antrim.

I would not say it was a waste of time doing fast 200m as training for the 400m, no running should be classed as useless, it has its place in the scheme of things. However, it has recently been discovered (12 months ago) that the energy system used in the first 100m of a 400m race is *phosphocreatine*, and not much more is used to run 200m. After approximately 27 seconds of running, the main energy system used is *glycolysis* (burning of sugar) and this reaches its peak around 300 to 350 metres. Therefore, full out 100 and full out 300s are more beneficial to 400m than 200s. But, if you cannot run 200m inside 27 seconds, you will start using glycolysis over that time, for example, if your best 200m is 32 seconds.

Recently, a road-running friend of mine was diagnosed as being 'magnesium deficient'. As I do about the same mileage as him all the year round is there a possibility that I could get the same condition? IH - Torquay.

It has to be remembered that we lose a lot of minerals via sweat; these includes iron, zinc, salt, potassium and magnesium. The hotter the weather, the greater the sweating and loss. If these are not adequately replaced in the diet a deficiency will occur. For some unknown reason Costill discovered that marathoners lose more magnesium after a marathon via their faeces. It has to be remembered that this mineral is laxative (Epsom Salts are magnesium sulphate). We have about 40,000mg of magnesium in our body and it is the second most abundant mineral *inside* cells after potassium. It is closely linked with calcium and phosphorous metabolism. The daily intake should be around 600g, but this should increase if the diet is high-protein, high calcium, high phosphorous or high-vitamin D. We are leaning towards high phosphorous diets because all soft-drinks contain this mineral, which renders calcium unavailable. Regular bran-eaters are often magnesium deficient because the bran makes the mineral less easily absorbed. Deficiency symptoms are:- loss of appetite, muscle cramps, particularly of the feet and hands, uncontrollable flicking of the eyes, weakness and tiredness. Good food sources are green, leafy vegetables, nuts (which also contain zinc) - tap-water in hard water areas is also an important source of magnesium.

We hear a lot about illegal aids to performance, but are there any legal aids? If there are why don't we hear about them? It is because they are harmful or is it because they work on some people and not on others? I would like your views. RL - Ruislip, Middx.

There are numerous alleged aids to performance. The problem is that when one gets publicised there is always some obscure physiologist who comes along and says it's injurious. For example, early in 1993 when phosphocreatine boosting was announced after considerable research, a Dr. Sewell of Warwick University wrote to the athletic and national papers stating that there would be dire consequences to anyone who took it. However, the substance is now regularly advertised in the athletics press and we have not heard of anyone dying! I list legal aids to performance as far as is known, but no doubt this Dr. Sewell will have something to say about them! Rest assured that no one has died using them.

a) Training using the predominant energy systems for your event. For example, the 10k is 90% aerobic and 10% anaerobic. Aerobic running is jogging, marathon pace, half marathon pace, 10k pace, 5k pace and 3k pace. Anaerobic running includes all paces upto 1,500m.

b) Altitude training increases the haemoglobin levels and red cell count and theoretically, when you come down to sea level you have more oxygen-carrying blood. However, two or three visits a year of a month's duration are advised.

c) Food eaten every 4 hours on the dot gives a greater physical output than food eaten at irregular intervals.

d) One thousand milligrams of vitamin C per day taken 7 days before competition releases hormones likely to aid performance. Those hormones lower blood pressure, make you feel good and raise the pain-barrier.

e) Black, unsweetened coffee drunk before a marathon will cause the sympathetic nervous system to burn fatty acids preferentially and saves valuable glycogen until later. The difference is that without coffee 19% of fatty acids are used, with coffee up to 40% are used. It should not be used on hot days or if you weigh less than 100lbs. It also appears to assist 1,500m runners.

f) A 15 mile run on a Sunday, followed by a 24-hour fast (water only), then the consumption of 700g of carbohydrate per day for the rest of the week, with training reduced to a third of the normal, will boost the glycogen reserve for a marathon on the following Sunday (7 days from the 15 mile run). Liquid carbo-loader up to 200g a day can form part of the 700g.

g) The ingestion of an alkaline drink every 4 hours for two days before races of a high lactic acid nature (800m/1,500m) will delay lactic acid formation and possibly improve performance. The final drink is taken 5 hours before competition. The alkaline drink consists of sodium citrate - 5.0mg, sodium bicarbonate - 3.5mg, potassium citrate - 1.5mg. It can be made up by a chemist in a Winchester bottle. Half a wine-glass is taken per dose. Ref. Dennig, 1937. Germany.

h) The installation of an ioniser in a room in which you sleep or work will increase your capacity to do more work with less fatigue, in particular circuit training. Ref. A.A. Minkh, 1963. Russia.

i) A cold bath or shower immediately before races above 10k causes constriction of skin blood vessels and a reflex dilation of muscle blood vessels, thus providing more blood for the working muscle. Ref. H.B. Falls - 1980. USA.

j) Phosphocreatine boosting 7 days before competition. This involves up to 30 grams daily taken in six doses of 5 grams each. That is once every 2 hours. Normal daily maintenance doses are 4 grams.

British Milers' Club - 1994 Race Fixtures

All races will be paced and there will be separate races for men and women unless stated.

BMC National Squad Races

Sponsored by the Reebok Challenge

Matthew Fraser Moat : 0304 379777

Arranged by the National Event Coaches
Phil Banning, Malcolm Brown,
George Gandy and Norman Poole

18th May	Wythenshawe	19:00	800m
		19:00	1,500m
29th May	Crawley	14:30	800m
(or 28th)		15:00	1,500m
		15:30	3,000m M
		16:00	5,000m W
23rd July	Oxford	13:45	1,000m
		14:00	4 x 800m
		14:30	3,000m W
		15:00	10000m M
		16:00	4 x 1 Mile
21st Aug	Solihull	14:00	800m
		14:30	1,500m
		15:00	5,000m M
		15:30	3,000m W
11th Sept	Loughborough	14:00	800m
		14:30	1,500m
		15:00	10000m W
		15:30	5,000m M

BMC Early Season Races

Matthew Fraser Moat : 0304 379777
(or relevant regional secretary)

23rd Mar	Portsmouth	19:30	800m
		20:00	1,500m
6th Apr	West London	19:45	800m
		20:00	5,000m
26th Apr	Stretford	19:30	800m
		20:00	1,500m
2nd May	Welwyn	13:00	10,000m
		15:00	800m
		15:30	1,500m

BMC Junior (U18) Races

David Iszatt : 021 471 4080

Subject to sponsorship from
the Sports Aid Foundation

18th May	Wythenshawe	18:00	800m
29th May	Loughborough	14:00	1,500m
23rd July	Oxford	13:30	1 Mile
21st Aug	Solihull	15:30	800m
11th Sept	Loughborough	15:30	1,500m

South West Grand Prix

Sponsored by Post Office Counters

Mike Down : 0272 733407
(provisional dates)

27th Aug	Salisbury	19:00	1,500m
29th Aug	Bath	19:00	Mile
3rd Sept	Exeter	19:00	Mile
4th Sept	Southampton	19:00	1,500m
7th Sept	Swindon	19:00	1,500m
10th Sept	Cardiff	19:00	1,500m
14th Sept	Newport	19:00	1,500m
18th Sept	Bristol	14:00	Road Mile

BMC Regional Races

The following entry standards apply :
Men : 800m - 1:54.0 : 1,500m - 3:55.0
Women : 800m - 2:20.0 : 1,500m - 4:40.0

BMC North

Mike Harris : 061 499 1901

26th Apr	Stretford	19:30	800m
		20:00	1,500m
10th May	Stretford	20:00	1,500m
30th May	Stretford	13:00	5,000m
31st May	Stretford	20:00	800m
21st June	Stretford	19:30	1,500m
		20:00	800m
12th July	Stretford	20:00	800m
2nd Aug	Stretford	20:00	1,500m
14th Aug	Stretford	13:00	5,000m
23rd Aug	Stretford	20:00	800m

BMC East

Ian Chalk : 0582 769336

2nd May	Welwyn	13:00	10,000m
		15:00	800m
		15:30	1,500m
29th Aug	Welwyn	16:15	1,500m

BMC Midlands

David Iszatt : 021 471 4080

4th May	Warley	20:00	800m
1st June	Solihull	20:00	1,500m
6th July	Solihull	20:00	800m
23rd Aug	Warley	20:00	1,500m

BMC South

Peter Thompson : 0403 823645

23rd Mar	Portsmouth	19:30	800m
		20:00	1,500m
6th Apr	West London	19:45	800m
		20:00	5,000m
4th May	West London	20:00	1,500m
3rd June	West London	20:00	800m
5th July	West London	20:00	Mile
3rd Aug	West London	20:00	5,000m
7th Sept	West London	20:00	800m

Alan Turner : 081 998 9335

20th Apr	Ealing	19:30	1,500m
18th May	Ealing	19:30	5,000m
15th June	Ealing	19:30	800m
		20:00	1,500m
13th July	Ealing	19:30	800m
17th Aug	Ealing	19:30	1,500m
14th Sept	Ealing	19:30	Mile

BMC Northern Ireland

Malcolm McCausland : 0504 42583

18th May	Antrim Forum	20:00	1,500m
21st June	Antrim Forum	20:00	800m
16th July	Antrim Forum	20:00	3,000m

BMC South West

Mike Down : 0272 733407

2nd May	Yate	13:30	1,000m
		14:30	2,000m
20th July	Cheltenham	19:00	800m
		19:30	3,000m

BMC Devon & Cornwall

Barbara Lock : 05035 673

27th Apr	Plymouth	19:30	800m
		20:00	3,000m
15th June	Plymouth	19:30	1,500m
		20:00	5,000m
13th July	Plymouth	19:30	800m
		20:00	3,000m
3rd Aug	Plymouth	19:30	Mile
		20:00	5,000m

The times of the races must be regarded as provisional, so you are advised to check with the Regional Secretary seven days before the meeting. Members must wear BMC, County or National vests. Non-members and members without vests must pay £2 to run.

BMC Membership is limited to those athletes who have achieved the required qualifying times, and to Senior BAF Coaches. All applications to join the BMC should be sent to the Membership Secretary, Andy Anderson, 75 Chichester Road, North End, Portsmouth, Hampshire PO2 0AB, enclosing a large SAE.

BMC Coaches Newsletter

IMPROVING THE OXYGEN UPTAKE
The oxygen uptake (VO_2max) is measured in millilitres per kilogram per minute, either on a treadmill or as predicted in the Balke Test (distance covered in a 15 minute run around the track). In spite of recent criticism the oxygen uptake figure is 75% accurate in predicting a runner's potential track times. Recent research tells us that :- 1) if a runner increases his mileage from 30mpw to 60mpw in stages the oxygen uptake will improve 10% even if all the running is steady; 2) if the mileage is improved from 60mpw to 75mpw of just steady running, it will improve a further 5%; it will not improve beyond this quantity with steady running alone; 3) The greatest improver of the oxygen uptake is doing a 5k pace session (at 95% VO_2max) once a week .

MARATHON BREAKTHROUGH
Good results are reported from the USA, where marathoners do a session of 400s where one lap is at estimated 5k pace and the next lap is at target marathon pace, non-stop until the times cannot be recorded. Thus a runner with a best time of 15 mins for 5k would run 400m in 72 secs and then run the next 400m in 90 secs (2:37:12 for marathon). Thus, 72 - 90 - 72 - 90 - 72 - 90, non-stop; a good session is to run 10k in this manner.

LACTATE RESPONSE RUNS
These are the in thing and are a substitute for those who get injured easily doing fast track reps or who just cannot get to a track. Opinions differ as to their best frequency, from every other day to only once a week. The distance run rarely exceeds 4 miles after a 10 minute warm up jog. The speed of these runs is dependant on your best 3k time. Here is a guide in 30 second increases :- best 3k time = 7:30 - 4:16 per mile; 8:00 / 3k - 4:35 per mile; 8:30 / 3k - 4:55 per mile; 9:00 / 3k - 5:15 per mile; 9:30 / 3k - 5:35 per mile; 10:00 / 3k - 5:55 a mile.

INJURY PREVENTION
Runners naturally spend all their time running forwards. However, recent work reveals that running *backwards* has two beneficial effects:- 1) It rectifies a muscle imbalance (shin trouble, hamstring weakness). 2) For the distance covered there is a higher pulse rate even though the speed per 10 metres may be half of that going forwards. The reason is that running backwards is hard work. Start with 100m walk backwards, then 100m slow run, pick up speed every 100m. Use the outside lane unless you have the track to yourself.

PHIL BANNING
National Event Coach for Women's Middle Distance - aged 43, but looks 33, former British Junior Mile Champion, sub 4 minute miler and 3:39 / 1,500m, was a great believer in visual psyche. He used to pin the word YES on his bedroom wall. Behind that word was a specific declaration of intent, "I'm breaking 4 minutes for the mile this season." When he achieved it he made the YES bigger!

SEB COE
"I was 15 years old with a best of 4:25 for 1,500m when I ran in my first BMC Boy's / Youth's race at Copthall Stadium, Barnet. It was an 800m race. As we came round to complete the first lap, a chap stepped out in the fourth lane and yelled, "If you can't do better than this STEP OFF THE TRACK". His voice electrified us and we ran the next lap flat out. I broke 2 minutes for the first time." The voice was that of Frank Horwill, BMC founder.

THE MENSTRUAL CYCLE
Physiologists are agreed that a female runner is at her physical best eight days after the cessation of her period. This is obviously the time to look out for a fast race. Physiologists have also discovered that many female distance runners only have three periods a year compared to the average thirteen.

SENIOR BAF EXAM
Did you know that the MD exam paper is not set by the National MD Coach - Norman Poole? Did you know that the MD exam paper is not marked by him? Did you know that it is marked by the National BAF Coach for the North East - National Event Coach for the HAMMER! This can only happen in Britain!

THE UNSOLVED 800m PUZZLE
Runners with exceptional speed at 400m (sub 46 secs men / sub 52 secs women), cannot get much beyond 6-8 seconds differential in their 400m times in an 800m race, e.g. best 400m = 46 + 6 x 2 = 1:44; or 46 + 8 x 2 = 1:48; or 52 + 6 x 2 = 1:56; or 52 + 8 x 2 = 2:00. Runners with moderate speed at 400m (48 secs men and 55 secs women), often get 4-6 seconds differential, e.g. Coe - 47 + 4 x 2 = 1:41.7; 48 + 4 x 2 = 1.44; or 55 + 4 x 2 = 1:58. The puzzle is how can we get the very fast 400m runner to increase endurance without losing speed, and how can we get the very fast 400m runner to increase speed without losing speed, and how can we get the moderate 400m runner to increase speed without losing endurance. Many 400/800 specialists never race 1,500m. Does this mean they never train at 1,500m pace? Many 800/1,500 specialists never race 400m. Does this mean they never train at 400m pace (Full out sprinting beyond 250m)? Is the answer that the 400/800 specialist should do two 1,500m pace sessions a week to four anaerobic ones? Should the 800/1,500 specialist do every other day sprint sessions before or after normal distance work? Once this puzzle is solved the 43 secs / 400m runner may come up with 43 + 4 x 2 = 1:34!

A CHAT WITH A KENYAN
"I think I must get big stamina for the 10k, so I run three times the distance (30k) non stop twice within a few days." I reply "Good idea." "Then, I want faster stamina, so I run twice the distance of 10k (20k) twice in a few days." I observe "Splendid stuff". "But, I must have speed, so I run 10,000m all at 5k speed." I query, "What form does that take?" "Ah, very tough, 6 x 1 mile in 4:18 with 200 jog." "Terrific!" "Ah, ah I not finish yet. I need more speed, so I run 10,000m at 3k speed." I ask, "Such as?" "Twenty-five 400s in 62 secs with 100m jog."

Getting more fascinated, I ask, "What decides the recovery?" With a big smile he prods me in the chest, "You did. I read your recovery table". There is a pause while I take it all in. "Just a minute - there is no specific 10k pace session." His head wobbled from side to side, "No need. I run 10k at near 5k pace in a race." I do some quick calculations : "That would be well inside 27 minutes for 10k - that would smash the world record!". He nods his head enthusiastically, "Yes, I break it this year." He did, on 10th July 1993.

40 Years of Merit Rankings

Since Sir Roger Bannister's first four minute mile (3:59.4) at Oxford on 6th May 1954, there has been much debate as to which male athlete is the best miler of all time. We list here those athletes who have been ranked in the world top three on merit, and leave it up to the reader to decide!

1954	Bannister (GB)	3:58.8M	Landy (Aus)	3:57.9M	Santee (US)	4:00.6M
1955	Tabori (Hun)	3:40.8	Iharos (Hun)	3:40.8	Rozsavolgyi (Hun)	3:41.2
1956	Delany (Eire)	3:59.0M	Landy (Aus)	3:58.6M	Bailey (Aus)	3:58.6M
1957	Ibbotson (GB)	3:57.2M	Delany (Eire)	3:58.8M	Jungwirth (Czech)	3:38.1
1958	Elliott (Aus)	3:36.0 / 3:54.5	Lincoln (Aus)	3:55.9M	Halberg (NZ)	3:57.5M
1959	Rozsavolgyi (Hun)	3:38.9	Waern (Swe)	3:40.7	Valentin (Ger)	3:56.5M
1960	Elliott (Aus)	3:35.6	Jazy (Fra)	3:38.4	Waern (Swe)	3:38.6M
1961	Burleson (US)	3:57.6M	Beatty (US)	3:40.2	Waern (Swe)	3:58.9M
1962	Snell (NZ)	3:54.4M	Beatty (US)	3:56.3M	Jazy (Fra)	3:38.3
1963	Snell (NZ)	3:54.9M	Burleson (US)	3:55.6M	Jazy (Fra)	3:37.8
1964	Snell (NZ)	3:54.1M	Odlozil (Czech)	3:56.4M	Davies (NZ)	3:56.8M
1965	May (EG)	3:36.4	Keino (Ken)	3:54.2M	Jazy (Fra)	3:53.6M
1966	Ryun (US)	3:51.3M	Keino (Ken)	3:53.4M	Tummler (WG)	3:39.1
1967	Ryun (US)	3:33.1 / 3:51.1	Keino (Ken)	3:53.4M	de Hertoghe (Bel)	3:57.3M
1968	Keino (Ken)	3:34.9	Ryun (US)	3:37.8	Tummler (WG)	3:53.8M
1969	Liquori (US)	3:37.2	Keino (Ken)	3:37.3	Szordykowski (Pol)	3:38.2
1970	Keino (Ken)	3:36.6	Arese (It)	3:38.7	Szordykowski (Pol)	3:38.8
1971	Liquori (US)	3:36.0	Keino (Ken)	3:36.8	Jipcho (Ken)	3:56.4M
1972	Vasala (Fin)	3:36.3	Keino (Ken)	3:36.8	Dixon (NZ)	3:37.5
1973	Jipcho (Ken)	3:52.17M	Bayi (Tanz)	3:34.6	Dixon (NZ)	3:37.3
1974	Walker (NZ)	3:32.52	Bayi (Tanz)	3:32.16	Jipcho (Ken)	3:33.16
1975	Walker (NZ)	3:32.4 / 3:49.4	Bayi (Tanz)	3:51.0M	Dixon (NZ)	3:37.45
1976	Walker (NZ)	3:34.19	Wessinghage (WG)	3:34.77	Malan (SA)	3:35.98
1977	Ovett (GB)	3:34.46	Wessinghage (WG)	3:35.98	Walker (NZ)	3:32.72
1978	Ovett (GB)	3:35.59	Coghlan (Ire)	3:36.57	Moorcroft (GB)	3:35.48
1979	Coe (GB)	3:32.03 / 3:48.95	Ovett (GB)	3:32.11	Scott (US)	3:51.11M
1980	Coe (GB)	3:32.19	Ovett (GB)	3:31.36 / 3:48.8	Wessinghage (WG)	3:31.58
1981	Coe (GB)	3:31.95 / 3:47.33	Ovett (GB)	3:31.57 / 3:48.4	Boit (Ken)	3:49.45M
1982	Cram (GB)	3:33.66	Scott (US)	3:32.33 / 3:47.69	Maree (US)	3:32.12 / 3:48.85
1983	Cram (GB)	3:31.66	Ovett (GB)	3:30.77	Scott (US)	3:32.71
1984	Coe (GB)	3:32.39	Cram (GB)	3:33.13	Aouita (Mor)	3:31.54
1985	Cram (GB)	3:29.67 / 3:46.32	Aouita (Mor)	3:29.46 / 3:46.92	Gonzalez (Spa)	3:30.92 / 3:47.79
1986	Cram (GB)	3:30.15	Coe (GB)	2:29.77	Scott (US)	3:48.73M
1987	Aouita (Mor)	3:30.69 / 3:46.76	Bile (Som)	3:31.71	Cram (GB)	3:31.43
1988	Cram (GB)	3:30.95	Aouita (Mor)	3:32.69	Elliott (GB)	3:32.94
1989	Bile (Som)	3:30.55	Aouita (Mor)	3:30.63	Kirochi (Ken)	3:32.57
1990	Morceli (Alg)	3:32.60	Elliott (GB)	3:32.69	Herold (Ger)	3:50.59M
1991	Morceli (Alg)	3:31.00	Kirochi (Ken)	3:49.77M	Elliott (GB)	3:32.94
1992	Morceli (Alg)	3:28.86	Cacho (Spa)	3:32.69	Kemei (Ken)	3:48.80M
1993	Morceli (Alg)	3:29.20 / 3:44.39	Cacho (Spa)	3:32.01	Bile (Som)	3:32.83

M = Mile Time

Most number one rankings : Cram 5, Coe 4, Morceli 4, Snell 3, Walker 3.
Consecutive top three rankings : Keino 65 - 72, Cram 82 - 88.
Greatest longevity : Keino 65 - 72, Coe 79 - 86, Scott 79 - 86. (Note : Coe placed 4th in 1989).

Possible overall scoring (based on 3pts for 1st, 2pts for 2nd and 1pt for 3rd) :
Cram 18, Keino 18, Ovett 14, Coe 13, Morceli 12, Aouita 10, Walker 10, Snell 9, Ryun 7.

Notes : Walker and Scott would rate higher if yearly top ten rankings taken into account.
No place for Herb Elliott - never defeated, but only really contested two full seasons.