

March 2005



CAAC Attack

Summer Dates

- Sun Mar 20th Alloa Half Marathon
- Sat Mar 26th 6 Stage Relay [Livingston]
- Sat Apr 2nd Dunbar 10K
- Sun Apr 17th Central & South Scotland League [Ayr]
- Thu Apr 21st Forth Valley League
- Sun Apr 24th Scottish Athletics League [Grangemouth]
- Sun Apr 24th Scottish Women's League [Scotstoun]
- Sat May 7th Edinburgh to North Berwick
- Sun May 8th Great Caledonian Run [Edinburgh]
- Sat May 14th Penicuik 10K
- Thu May 19th Forth Valley League
- Mon May 23rd Rigg Race
- Sun May 29th Dunfermline Half Marathon
- Fri Jun 3rd Black Rock 5
- Sat Jun 4th Central & South Scotland League [Wishaw]
- Sun Jun 12th Scottish Athletics League [Wishaw]
- Sun Jun 12th Edinburgh Marathon
- Sun Jun 19th Seven Hills of Edinburgh
- Thu Jun 23rd Forth Valley League
- Sun Jul 3rd Scottish Women's League [Aberdeen]
- Sun Jul 10th Central & South Scotland League [Grangemouth]
- Sun Aug 7th Scottish Athletics League [Ayr]
- Sat Aug 6th Forth Valley League
- Sun Aug 7th Scottish Women's League [Grangemouth]
- Sun Aug 14th Central & South Scotland League [Scotstoun]

Your Committee

- | | |
|--------------------------|--------------------|
| Paul O'Brien | chairman |
| John O'Hara | vice chairman |
| Martin Caldwell | secretary |
| Sheena Anderson | treasurer |
| Keith Hood | club captain |
| <i>and</i> | |
| Donald Gorrie MSP | honorary president |

Captain's Comments

TURNING OUT IN NUMBER



It is hard to believe that another Cross Country season is already over, but it has been good to CAAC athletes turning out in number at league meetings over the winter. As usual, there have been many good performances, particularly with the under-11 boys' team finishing in second place. The senior/junior men finished fourth, although within touching distance of second place.

In the National Championships at Irvine, the men's team again finished a creditable fourth, narrowly ahead of City of Edinburgh and Central, who were ahead of us in the league.

As always, it is the combined effort of all athletes over the course of the season which brings these results. This season, as in recent years, it has been clear that we can achieve much as a team.

It was also good to see some of our athletes competing in the Inter District competition at Holyrood Park in January, as this type of event provides valuable experience.

BACK AT THE TRACK

Although it still feels like winter, we are back at the track from next week. Hopefully everyone will be there, looking to build on their hard work over the winter for a successful summer season on the road and track.

Enjoy your running,

Keith Hood - Club Captain

Boys' Tsunami Fund-Raiser

SPONSORED RUN

Junior Club member 11 year old Fearghas Rae has been putting all his training at CAAC to good use! Fearghas and two school friends, having talked about the Tsunami disaster at school, decided they wanted to do something to help. Completely independently, the boys organised a sponsored run.

They ran the distance between the two new Corstorphine signs (located near David Lloyd Centre and the zoo) and back again and managed to raise over £500.

Particularly impressive was that the school lesson which inspired them took place on a Wednesday and by the Friday of that week the boys had done the run and had collected most of their sponsorship money!

Well Done to Fearghas and his two friends, David Ritchie and Thomas Chalmers from Corstorphine Primary. Thanks also to the coaches at CAAC for encouraging Fearghas with his running as he made the distance - no problem!

Marian Rae

Website

Visit our website

www.caac.org.uk

for more events, results and training tips.

The messageboard carries announcements, advice and questions from many members, while the gallery displays pictures taken at many events. Are you there?

Any Comments?

If you have anything to add to the next newsletter in June, please hand it to me, or any committee member, or e-mail it to:

newsletter@caac.org.uk

Martin Caldwell - Editor

Remember - we meet at Saughton Track every Tuesday and Thursday at 7 pm from 22nd March.

Ron Anderson Memorial Cup

The Ron Anderson Memorial Cup is presented each year for the "outstanding performance in endurance competition". Unlike the best athlete shields the award of this cup is based purely on athletic excellence, in events from 800m upwards, reflecting Ron's background in middle distance coaching and competition.

TERRIFIC PERFORMANCES

Competition for this award was strong as usual with some terrific performances throughout the age groups. On the track our athletes gained medals at district and national level with many more reaching finals. On the roads, hills and country there were equally impressive results with a number of athletes gaining top ten finishes at the nationals and several gaining district selection.



Kris Berry †

However, for the third consecutive year, the stand out performer in endurance events was Kris Berry. At the end of last track season Kris had a bit of a slump in form and confessed to me that he felt he had not really reached his potential throughout the summer. Clearly he sets himself high standards these days! Kris finished the season as the top ranked 1500m runner in Scotland (3.45.01) and gained his first senior Scotland vest. At the AAA under 23 championships Kris was runner up in the 1500m, in his first year in that age group. Good form was carried into the cross country season and although Kris' less favoured discipline he still managed a silver medal at the East District Championships and a bronze at the National Championships.

Kris continues to benefit from the support of the East of Scotland Institute of Sport and National Lottery funding. This year Kris will target the European under 23 championships and possibly a Commonwealth Games qualifying time. I have no doubts that Kris is once again a worthy recipient of this award and I hope that his achievements in the sport will inspire other club members.

Volunteers Required

MAKE A DIFFERENCE

Please try to help the smooth operation of the club, even on an occasional basis. A little help from many will reduce the pressure on the few. Assistants in these roles will make a big difference.

Coaching assistants Can you help out, particularly at the start of training, as coaches get organised? Could you help handing out notes? Collecting payments, answering some of the hundreds of general questions asked by kids at the start of the night? If so please let us know.

Coaches All our current coaches have started in the club either as athletes or parents of athletes and have become accomplished coaches with the support of the club. Finding people who are willing to embark on a coach education program is essential to help us maintain our success and keep pace with the ever growing numbers. The role is rewarding and supported by the club and an extensive education program run by S.A.L. The current education program is flexible in line with the coaches ambition, the club has been very supportive of coach education and would give all candidates with a commitment to the club support.

Officials Each track and field meeting requires us to supply officials, preferably "graded" which at the entry level is not difficult or willing helper who would be given full instruction before embarking on any duties e.g. could you rake the sand pit or hold the end of a tape. Supplying these officials at meetings can have a direct bearing on the outcome of the meeting, without enough official it would not be safe to hold certain events which could lead to cancellation, and in some leagues there are points deducted if the club does not provide their quota, negating a lot of the hard earned points of the athletes.

Team co-ordinators/captain Track and field events require the submission of detailed team sheets. This can be a time consuming task as last minute adjustments are made in team selection often due to late notification of athlete availability. Could you help with this admin task and allow the coaches to prepare their athletes?

Fundraisers The annual club ceilidh, Corstorphine Fair, the road race are all existing events which provide funds which enable us to continue to operate, there have been other suggestions too, can you help out? Do you have any fund raising ideas that should be considered? Do you know of any potential sponsor? Please let us know.

Don't Be Scared of the Track

SPECIAL RATE

Now that the Winter Season has ended we will be meeting for the Club Training Nights at Saughton Track every Tuesday & Thursday at 19:00 hrs sharp. Please go straight through the front office without paying anything as the Club has arranged a special rate for the track each night for the season. Your Coach will collect the fees each night.

Last season the track was closed due to refurbishment from June until September and we only just made it for the Club Championships before the Winter training kicked off. This year will be different.

"What will the track do for me?" I hear you say. Well, if you want to get your 10K time down a bit you'll have to do some sort of speed work, whether its on the track or outside (fartlek runs along the canal).

ETIQUETTE

We should all meet inside for a group warm up and, depending on the number of athletes attending, I will tailor the session. On the first evening I will go over some track etiquette especially for the new members.

The number of athletes for the Winter training has increased this year so I'm hopeful that you all turn up for some good fast sessions that should improve your speed.

See you all on Tuesday 22nd March and remember - DON'T BE SCARED OF THE TRACK!

Dave Henderson - Coach, Senior Group

Club Statistics 2004-2005

1100 EVENTS

Over the last 12 months, we have had 133 different people competing on behalf of the club. They have jointly taken part in over 1100 events and have covered every distance from 60 metres in 7.6 seconds to marathons of over 4 hours.

All the field events were also covered, with people jumping anything from 1 metre (High Jump) to 11.3 metres (Triple Jump) and throwing things from 2.5 metres (Shot) to 38 metres (Javelin). Probably the least popular was the 110 metres hurdles and 300 metres hurdles, with only 1 person taking part in each. Once again Cross Country was the most popular with 232 finishers.

PERSONAL LOGS

Personal logs with details of all the events you have taken part in have been handed out at the AGM, so if you have not got your's yet, please ask Bob at training.

Bob Innes

Athletes of the Year 2005

JUNIOR FEMALE



Megan Smith

The Committee had no problem at all identifying the athlete who possesses all of the qualities represented in this award. Probably the most regular member of the Junior Middle Distance squad, she hardly ever misses training and is always the centre of attraction entertaining the squad with the latest gossip. As well as being popular, she has an impressive list of athletic achievements and looks set to build on this in the coming season.

Her impressive performance at cross country last year earned her a first Scottish vest at the Schools Cross Country International at Ayr and she represented her country twice more, at the London Mini Marathon and at the Black Forest Teenager Games in Germany.

In a successful track season, she managed to improve her 1500m time by a second to achieve a new PB of 5m 07.10s. She was disappointed not to improve on her 800m PB of 2m 30.41s (did I mention she had very high standards) but she did suffer a little from injury, and perhaps from missing regular training on the track last season.

Her recent cross-country performances however have been even more impressive. She competed at all three East District League competitions, finishing 3rd, 3rd and 1st. At the East District Championships at Stirling, she finished 2nd winning a silver medal, and so she was selected to represent the East of Scotland at the Inter District Championships in Edinburgh where she finished an individual 6th and formed part of the gold medal winning East of Scotland team. At the National Cross Country Championships at Irvine she finished 6th (bettering last years position by 8 places) once again earning a Scottish vest and being selected to take part in this years London Mini Marathon.

Last weekend, she finished 13th at the Scottish Schools Cross Country Championships at Irvine and she is hopeful of being selected to run for Scotland at the British Schools International Cross Country Match to be held in Wales on 2 April.

The Committee were so impressed with her

achievements that they had no hesitation in selecting Megan Smith as Junior Female Athlete for the second year in a row.

JUNIOR MALE



Stewart Turner

Stewart has been first more times than I can personally remember. Throughout his throwing career with the club, since the tender age of 9 years, he has won just about every event possible in every age group he competed in. This season he has thrown a Javelin over 38 metres, a Discus over 35 metres and a Shot over 13 metres. This means he has thrown further than anyone else in the club in the past 5 years and he currently holds all three club records for these throws at Under15 and Under17 level. He is currently ranked number 2 in Scotland for Shot and Discus.

In May 2004, he went one better than just doing well for his club and represented Edinburgh at an international event in Munich, Germany.

Stewart currently helps out at the club encouraging and guiding the youngsters to become better throwers and, later this year, along with Lewis, he will be undertaking more training in order to qualify us to specialise in teaching throws at the club.

SENIOR FEMALE



Gillian Cockerell †

Gillian joined the Club last summer shortly after our five-mile road race.

A sporty type who is also keen on

kickboxing and snowboarding, it is not surprising that she has settled so quickly into training and competing with us.

Since last summer, she has taken part enthusiastically in a number of cross-country races, run a personal best in the Glasgow half-marathon and won the Ladies' title at the Club Championships in September.

Her positive attitude, friendly nature and willingness to give anything a go have already made her a valuable member of the Club.

SENIOR MALE



Moray Anderson †

This young man has had little chance of escaping his commitment to athletics. In his time with the club had best opportunity when his studies took him away from Edinburgh, but despite enjoying his "student" years and achieving academic success, on his return to Edinburgh he refocused on his athletic career, which has left him currently setting new club records and being an integral member of the club.

His athletic achievements include winning gold as a junior in both district and national cross country team prizes, creating a lot of excitement by being the first club member to run a 2 min 800m and just recently setting a new club record for 10k. His dedication and commitment to his own athletic progress is even more remarkable in that he has studied hard to develop a coaching talent which not only has benefited himself, but has created the strongest middle distance squad in the East of Scotland.

He continues to spend countless hours in furthering his coaching knowledge and being responsible for creating this squad, all huge achievements and that's only the story so far. His contribution as an athlete, coach and committee member greatly enhance the club, he has become recognised and respected by Scottish athletics, and continues to be a great role model and ambassador for the club and sport. He is Moray Anderson.

Welfare Update

POLICIES AND PROCEDURES

Around this time last year, I reported on the Welfare Co-ordinators training session I attended, and produced an article summarising what the implications were for the Club. Since that time I have been looking at the various policies and procedures that need to be in place, and the following is an update.

Welfare Officer

Corstorphine AAC aims to promote the health and welfare of its members by providing opportunities for them to take part in the sport of athletics safely. My role as Welfare Officer is to give out information to members, and to assist in identifying, planning and reviewing action required by the Club to protect children and vulnerable adults in the sport. I should be your first point of contact if you are concerned about any aspect of the protection of children and vulnerable adults within the Club.

Child Protection Policy

The Club now has a Child Protection policy, which closely follows the model published by sportscotland in their document 'Child and Vulnerable Adult Protection' (a copy of the document is available for download on the sportscotland website - follow the link <http://www.sportscotland.org.uk/>)

Code of Conduct

All Corstorphine AAC coaches are UKA registered, and are bound by the Sports CoachUK Code of Conduct. The Club however also now has its own written Code of Conduct, and this will form an important part of the Child Protection Policy mentioned above.

Each member will be required to sign a form confirming that they agree to abide by this code, and that if they fail to do so, they may be subject to certain disciplinary procedures. It is hoped to include a copy of this code on the Club website, and details are available from me, or any Corstorphine AAC Coach.

Anti-Bullying Policy

The Club will not tolerate bullying, and the Child Protection Policy includes specific provision for anti-bullying. Again, details are available from me, or any Corstorphine AAC Coach.

Reporting Concerns

Parents and children should in the first instance report any welfare concerns to the relevant Coach who will in turn report them to the Welfare Officer. Part of the procedure is to review the circumstances of any such report, and decide if it is a matter to be dealt with under the Club's complaints procedure (e.g. matters of misconduct, poaching, bullying, and cheating in competition), or whether it considers an act of abuse or other criminal act may have occurred, in which case it must be referred to the Police and Social Services.

Review of Child Protection Guidelines

It is a key role of the Welfare Officer to assist the Club to monitor and review its child protection guidelines, and it is anticipated that the Child Protection policy will be monitored and reviewed regularly in accordance with changes in legislation and guidance, following any issues or concerns raised, and in all other circumstances, at least annually.

Other Welfare Issues

At certain times of the year, particularly during the summer months when we are back on the track, the number of children turning up for training can be quite considerable. The Club has asked elsewhere in this newsletter for assistance from parents, and it is worth stating again that the success of the Club depends on allowing the Coaches to organise their sessions to ensure that they are safe, as well as rewarding.

MAKE A BIG DIFFERENCE

Some assistance with administrative tasks, such as collecting the money at the start of the night, or preparing and handing out information to members about up and coming competitions, makes a big difference. Please give your name to any of the Coaches or Committee members if you think you may be able to help.

John O'Hara - Junior Middle Distance Coach and Welfare Officer

CAAQUA-Running

MAINTAIN THE HARD WORK

April 2004, in the middle of preparation for the track season I was coming off the back of a cold so went for a cycle to ease me back in to training ... do I wish I never did that!! Somehow I freakishly managed to trap my Achilles tendon between a fast moving pedal and the ground and - well, to cut a long story short - I ended up facing a long period away from running.

My main priority, of course, was to heal the injury, but in the meantime I wanted to maintain all the hard work I'd put into training. As any impact training on my Achilles was a complete no-no I had to find an alternative so I headed to the pool to begin 'Aqua Running'.

ALTERNATIVE TO RUNNING

Aqua running is an ideal alternative to actual running. In fact it is used widely by many athletes in their normal training programs. It offers the chance to use it as a recovery session or as an extra on a day when the legs are struggling and can't take the pounding of a running session. The reason for this being the absence of the concentric muscle movement, coming from the strike phase of running. This leads to adaptations in the kind of sessions possible in the pool. I found that I could, and needed to, train for longer to achieve similar tiredness levels to those resulting from running.

At first the training in the pool was fine. It was highly frustrating but I felt positive about getting out soonish, so I was putting in some hard graft. But days turned to weeks that turned to months and progress on my injury was slow. Inevitably my ambitious (obsessive?!) twice-a-day visits to the pool and the added vice of always training solo took their toll.

BLIP

Come the end of summer I was burnt out and de-motivated. Although holding a good fitness level, I didn't want anything to do with the pool, never mind being around anything to do with running. I needed a rest. This resulted in me having a 'blip' (the technical name for bagging training and living like a normal person for a few weeks). It had the desired effect. I still carried the frustration of injury but I came back re-motivated and ready to work hard.

This time around though I had the company of two other sorry souls, in the shape of Tommy and Ally Hay, who had picked up their own injuries. As unfortunate as it was for them, selfishly I was glad they were there. The positive difference even just having someone keeping you company in the pool has is huge so to have two guys to train with was a godsend. Coincidentally at this time half of Edinburgh based athletes appeared to be on the injury list, resulting in shoals of aqua-runners taking over the commy pool. This situation led to the moniker 'CAAC' (Commonwealth Amateur Aquatic Club).

OUTBOARD MOTORS

Tommy and Ally were good training partners, even though I reckon they had a couple of outboard motors in the pool with them, the speed they were flying up and down! We kept each other going through the human beach-balls, screeching kids, constant chlorine smell and the ridiculous cleanliness to put in some good work.

By the turn of the year they were both making roads back to running and I was still stuck in the bathtub, so I decided to follow. It was a bit of a risk but I had to run. It was an odd but familiar feeling and there was no great reactions to it, bar feeling like I was dragging a tree trunk that was my right leg.

OUTBOARD MOTORS

Since then I've adopted a training program balancing pool and running, steadily increasing the volume and intensity of the running over time.

Just now I'm at the stage where the real benefit of the 'aqua -running' is paying off. I'm not in anyway close to the shape I was in before the injury, but the time spent in the pool has held a great amount of what I had stored. I wouldn't like to think what condition I would be in if I hadn't done it so in the end the hard work was well worth it.

Steven O'Brien

Aqua-Jogging Sessions

FLOTATION BELT

If you ever find yourself on the injury list and want to stay fit, here's a few sessions to keep you going.

Firstly though you need to decide whether you need a flotation belt or you're going to go without. With the belt it is a lot easier and you get a lot closer to an actual running style, without it it's a lot more difficult to keep yourself afloat and it takes a bit of practice to get the technique right but it is a more exhausting workout. I would suggest getting a belt anyway so you've got the choice.

CONTINUOUS RUNNING

This is as it sounds. Just get in the pool and get running. Anything from 10 minutes up to a couple of hours - if you're getting hardcore! Up to you how hard you go but if you're going for a long time being able to keep up a conversation while running is a good pacer.

FARTLEK

Another continuous running session but with a twist. It is a combination of fast and slow efforts, so pick a comfortable pace then in random time throw in some faster pace bursts. You can judge it by time or maybe markings on the pool. An hour plus begins to get really tough but you can work hard in 20 minutes with greater intensity between the bursts.

REPETITIONS

Set(s) of hard efforts of a certain time with a recovery. This is obviously open to infinite possibilities but whatever makes you tired is usually a good one. A few of examples would be:

- run for a minute, recover for a minute
- run for 30 sec, 60 sec, 90 sec, 60 sec, 30 sec, etc. with 45 sec recovery
- run flat out for 30 sec, rest 15 sec, flat out for 15, rest 30 (surprisingly hard)

DRILLS

Involves using differing techniques to train different muscles. The techniques being:

- high knees (driving the knee forward and up while pushing other leg down)
- back kicks (kicking backside from position where thighs are in line with torso)
- max speed (moving legs in small rotations as fast as possible)

TECHNIQUE

All these drills take time to learn and involve a lot of work from the arms and core to keep yourself from bobbing in the water.

Technique is essentially more important than effort when doing these, they are hard. Thirty seconds on each exercise will get you blowing.

Steven O'Brien

International Question Time

ENDURANCE ATHLETES

The Great Edinburgh International cross-country event brought many of the world's greatest endurance athletes to the city during January. Scottish Athletics seized the opportunity to hold a question and answer session with some of these athletes to which Scottish athletes and coaches were invited. John O'Hara, Kris Berry and myself jumped at the chance to hear from Craig Mottram, Benita Johnson and Kathy Butler.

Australian Mottram a 12.55 5000m runner, is second fastest non African of all time in that event and leading non African finisher at the world cross country championships last year. Benita Johnson also Australian is the reigning world cross champion and Great North Run champion. Kathy Butler is Scotland's current athlete of the year, was 12th in the Olympic 10,000m and Britain's leading finisher at the world cross-country championships last year.

Geoff Wightman, chief executive of Scottish Athletics led the question session for well over an hour, considerably longer than had been scheduled allowing us to hear a great deal of interesting information about these elite athletes. They each spoke at length about their development in the sport from their earliest introduction to athletics right up to the present. We heard about their training, how they prepare for races and also about injuries that they have had. Here's a brief overview of some of the most interesting points.

PUNISHMENT

Mottram's first introduction to running was cross-country at school. Often used as a punishment(!) at his boarding school, cross-country runs also took place on Wednesdays throughout the summer. Starting at about 4km at the start of the year reaching 28.8km at the end of the year! A distance I'm sure many of our school children can barely comprehend never mind run.

Although a keen junior triathlete, Mottram did not take up athletics seriously as his main sport until 18 which would of course be considered very late in this country. Similarly Benita Johnson took part in a multitude of sports as a youngster as is encouraged in Australia. At first she excelled at hockey and was in the Olympic squad for the 2000 games in Sydney. At this stage she decided to concentrate on her running, a bold decision as athletics is a minor sport in Australia.

Kathy Butler followed the more conventional route in this country of school and then club athletics and was fairly successful at a young age. All three suggested that you could become an elite athlete without having been a great talent as a junior. Equally, being good as a junior does not exclude you from future senior success.

Mottram and Johnson train in the same squad and so do similar work to each other. They rarely train on a track, Mottram has not

been on a track since the Olympic final. Most of their work is done on trails and paths when in Australia and in parks in London which is their base in Europe during the track season.

STEADY RUNNING

Normally their weekly mileage will hover around 160km (100miles) at this time of year, Johnson may do a little more as she builds towards the London marathon in April. They do a little hill work but Mottram was keen to point out that the bulk of his training is steady running and long repetitions. His opinion was that if you want to get good at running, do a lot of running! By this rationale any weights work was limited to body weight exercises and the use of some machines during rehabilitation from injury. Butler echoed this statement but they were all keen to remind the audience that they are long distance runners and things might be different if they specialised in shorter distance events.

Johnson and Mottram have used altitude training in the past and will continue to although they have experimented with the length of time between coming back from altitude and competing in a race. Johnson had found that she had to leave it a little longer than most before racing again. Butler was due to embark on an altitude trip this year for the first time. Again all three pointed out that this kind of training may not work out for everyone and a failure or inability to train at altitude would not preclude you from international success.

RITUALS

Each athlete gave a rundown of their pre-race rituals or preparations but suggested there was no great secret and just being sensible about what you eat and drink was the most important thing the day or morning before a race. Mottram said he would sometimes listen to music to relax in the holding room immediately prior to a race and amusingly recounted how before the Olympic final he and Alastair Cragg (Ireland) were the only non-Africans in the holding room. At that point when you look around the room all you see are the very best in the world, it becomes very difficult to relax!

Finally they each mentioned a few injuries that they had suffered in their careers. All of them have suffered from fairly serious injuries and illnesses which have stopped them running for several months or more at a time. The main thing they tried to stress here was that it is important to stay positive and focussed and you can come back as good as ever.

The evening finished off with a photo session with the Bank of Scotland talented young athletes squad and the three internationals.

EXTRA SHOUT

It was most encouraging to see athletes of this calibre spending time with an audience the night before a major race. I was definitely inspired to give them an extra shout during the race the next day and also to take their advice into my own training and coaching in the future.

Moray Anderson

Efficient Running - It's a Matter of Style

Everyone's running action is unique, because of variations in body geometry, and it is often possible to recognise a runner a long way away because of their distinctive running action or style.

This article explores ways for the coach to recognise aspects of style and practical ways to correct some problems, without delving into the physiology and hopefully to help the athlete to run faster more safely.

Great care must be exercised by the coach when attempting to change an athlete's style because it is specific to that individual. Changes should only be made after serious consideration, and only to improve running efficiency rather than conformity to a mythical 'textbook' model. Some examples of apparently inefficient running actions among top level athletes which some coaches may have wanted to change (but luckily didn't), are:

- The side to side rolling gait of Mark Rowland,
- The nodding head movements of Paula Radcliffe,
- The head-on-shoulder of Emil Zatopek,

Definition

Running speed depends on two factors only: how fast we can move our legs (leg speed), and stride length. Speed is increased by an improvement of either.

The action of the leg has two main phases, the drive and recovery phases, separated by the support phase. In the drive phase the foot strikes the ground just on or slightly behind the runner's centre of gravity and moves rapidly backwards before pushing off on the toe at the limit of the extended rear leg. The toe leaves the ground, the leg flexes at the hip and the heel rises towards the buttocks. The now shortened leg is pulled through by the hip flexors and the abdominal muscles in the recovery phase. As it swings past the body's centre of gravity the opposite leg supports the body.

The shortened leg now extends, the knee rises to a maximum height and the foot swings forward to strike the ground to begin the stride sequence again. For any individual, stride length is at maximum with the knee high on the forward leg and with a maximum rear leg extension. These two conditions exist for sprinters where they can be maintained for the relatively short duration of the sprint events. In longer races fatigue causes the knees to drop, the rear leg to become more bent, the stride to shorten, and running speed gradually to reduce as the race goes on.

Stride Length and Leg Speed

To combat fatigue and to improve stride length and leg speed the legs should be made faster and stronger without increasing body mass or reducing aerobic running ability. These goals can be achieved by using running drills and power exercises. The objective is to optimise the runner's leg speed and leg strength, not to turn him/her into a sprinter.

With every stride a force of between two and four times body weight pushes into the ground and this force is reflected back up

the skeletal structure across every joint boundary, each of which is a potential injury site. If any joint complex has any weakness or cannot transmit a force correction then injury and consequential inefficiency and loss of training time will occur.

An international 1500m male runner has a stride length of about two metres and in a 1500m race will take about 750 strides in 3min 40sec or over three per second. Women will take more so for all runners any imperfection in any joint complex should be addressed and hopefully cured before heavy training loads are applied. This analysis justifies runners stretching thoroughly during their running career and you can read many texts giving advice, although they disagree on what and when to do them.

Let's consider those major parts of the skeletal structure which are visible to the coach and where attention and possible change can improve performance. In addition lets touch on 'cosmetic' activity, i.e. habits which may detract from running per se and may cause ridicule or adverse comment. The athlete is often unaware that they exist, and the best time to change these habits and also to change the running action is as early as possible in their running career although around the age of 14 is right for boys, probably earlier for girls.

If such changes are left until later in life the habits will be more firmly entrenched and will be much more difficult to correct. This is not to say that things cannot be changed later in the athlete's career, merely that it will be more difficult.

Improvement in forward speed results from elimination of inefficient movements along the line of movement, i.e. forwards. The body's main propulsion units are the legs, counterbalanced by the arms whose function is to eliminate rotations of the trunk, which detract from forward motion. This is particularly significant in hurdling and in the steeplechase, but also applies to running generally. Analysis of the constituent parts of the body are shown below:

The Trunk

The trunk contains the majority of the body mass and organs and should face along the line of running. If turned away across this line the runner invariably slows down.

The Legs

The legs are the main driving levers and are controlled by major muscle groups. They should operate along or slightly to each side of the line of running. On their own, if not accompanied by compensating arm movements they would induce rotations of the body about the horizontal axis through the hips and about the vertical axis through the head. These rotations are balanced in varying degrees by opposite rotations induced by the arms.

The Arms

The arms are used to counter trunk rotations induced by the legs. Normally arm action is involuntary and complements leg movement. At slow speeds arm action is subdued, but as running speed increases arm action becomes more vigorous. Coaches of young athletes should

encourage efficient and symmetrical arm action by the use of running drills and in learning to 'run tall'. But beware changing an action just for the sake of changing it

The Feet

The feet should point slightly outwards across the line of running. Ideally the foot should land on the heel and roll forward across the ball of the foot and push off on the toes. Many track runners run totally on the balls of the feet and their heels never touch the ground, even on the road or cross-country. The way the foot strikes the ground (foot strike) is an automatic (mostly an involuntary) action resulting from body structure-geometry and only limited improvement can be introduced by training. As the runner goes up-distance there is a tendency for him to land more on his heels, while uphill running, faster track running and running drills can move his foot impact point more towards the ball of the foot.

All runners should perform foot and ankle exercises regularly to counter the compressive effects of repeated foot contact with the ground. Runners who do most of their running on the road have a tendency to run on their heels. This effect can be counteracted by running uphill or by track running so that the athlete lands more on the balls of his feet;

The Head

The head contains between 8 and 12% of body weight and is positioned at the end of the neck some distance from the body. Any head movement requires energy to correct and turning the head on the shoulders tends to turn the trunk across the line of running, thus slowing the runner down. Ideally the head should sit evenly on the shoulders and should point straight ahead. The eyes should help this process by being focused at a point directly ahead. The runner should try to avoid looking over his shoulder, particularly in the finishing straight. This is easy to say, but difficult to do because of the fear of being overtaken. If the head turns on the shoulders the trunk tends to turn and the runner tends to slow down.

To counter undue rotation of the trunk in training and to keep the trunk upright one technique is to ask the athlete to run with a handkerchief in each hand but to look straight ahead and just see the white of the handkerchiefs coming into view on each stride. It works well and can help to reduce swinging arms across the body, so tending to increase forward speed.

Summary

To conclude, running action is an area in which significant performance improvements can result, provided it is incorporated at the right time in an athlete's career.

The original version of this article was written by Barry Worrall, a Level 4 Endurance Coach, and appeared in The Coach magazine.