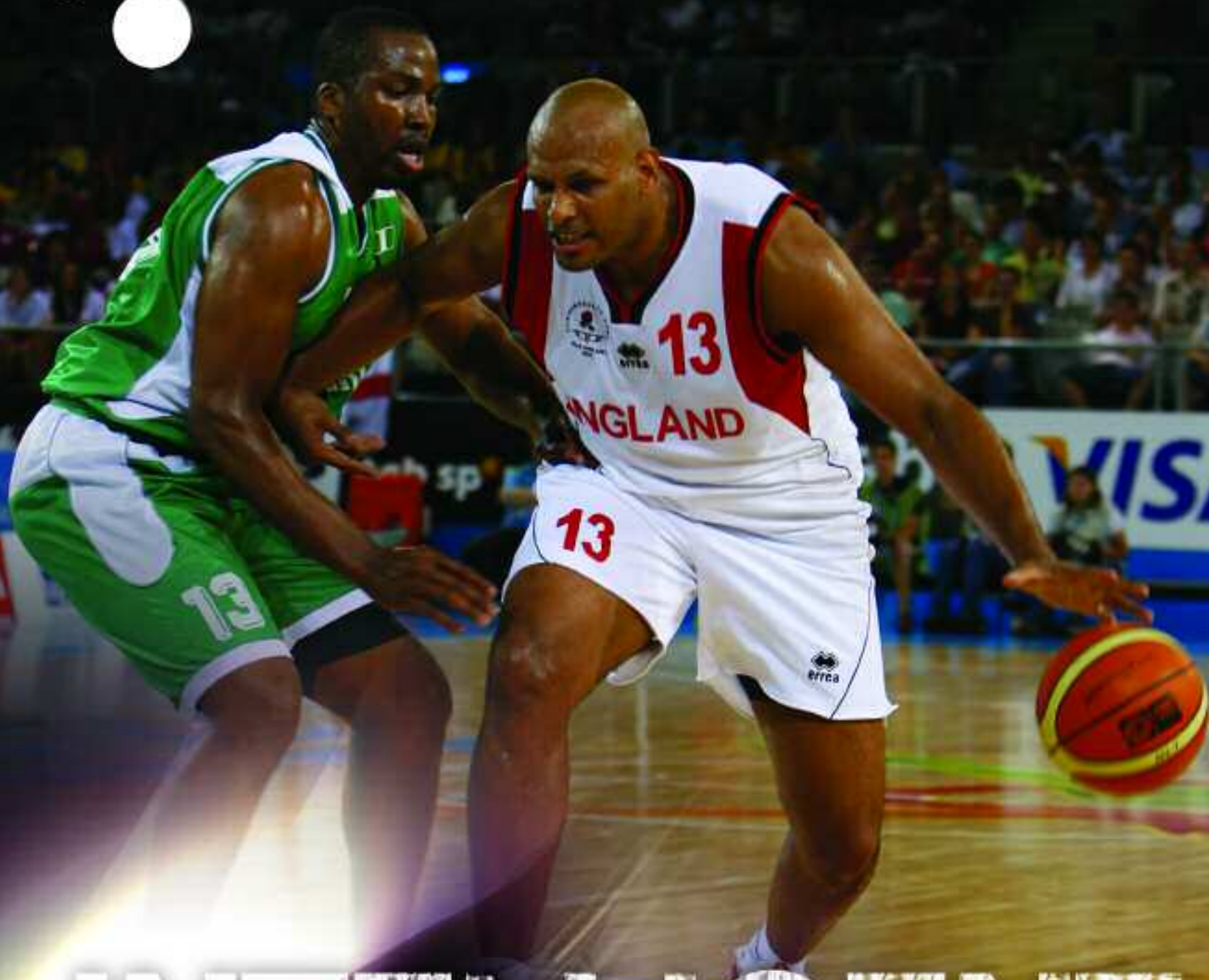


# BALLS

THE SPORTS MAGAZINE FOR EDUCATION



# INTELLIGENT SPORT

COVER IMAGE : David Wearn

BALLS SPORTS MAGAZINE  
ISSUE01 : SEPTEMBER 2006  
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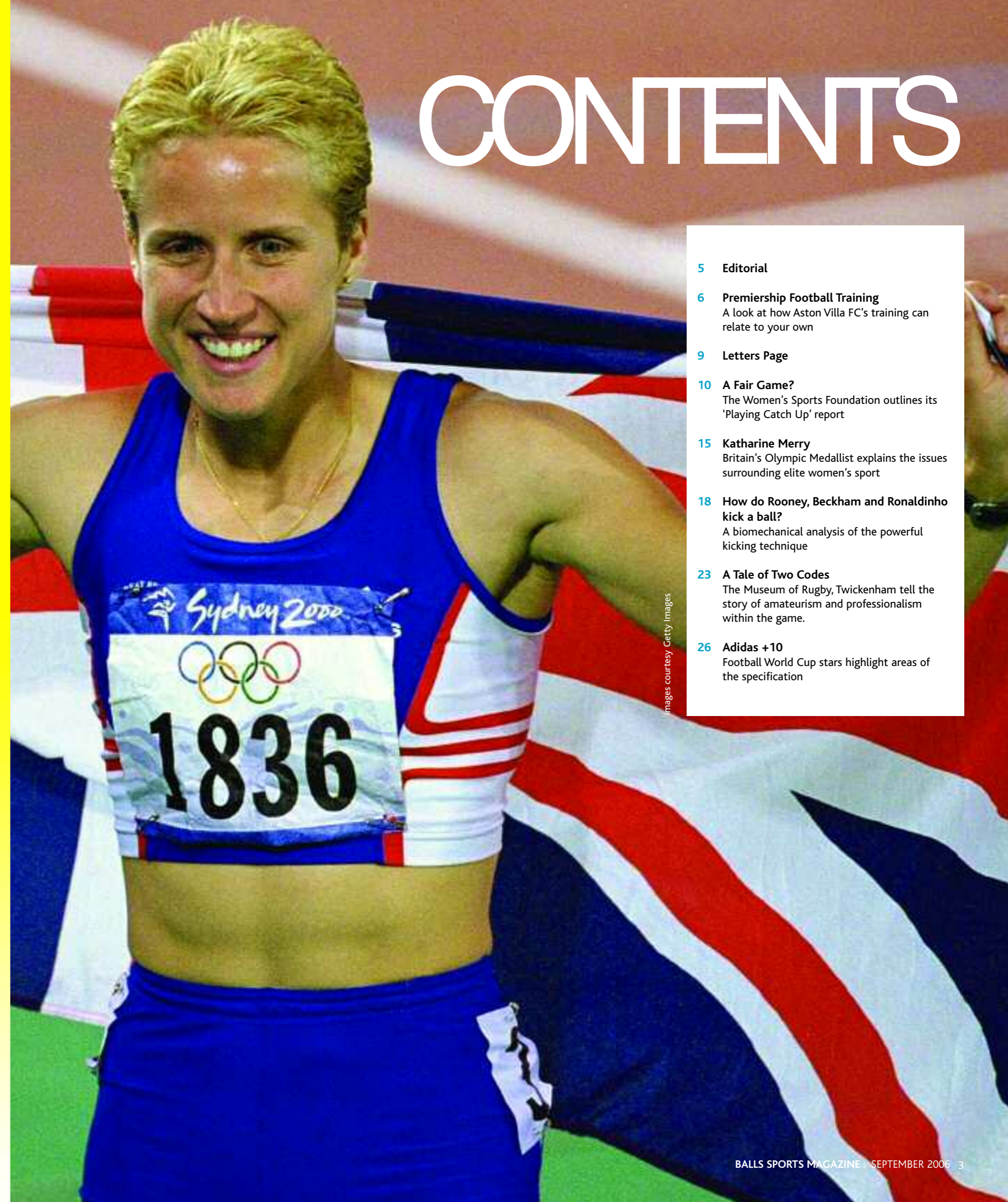
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images courtesy Getty Images



# BALLS SPORTS MAGAZINE: EDITORIAL

## Welcome to the first ever issue of Balls Sports Magazine; the sports magazine for examination physical education.

Like you we love sport and physical education. We also believe that sport and physical education have the power to inspire and motivate. You can undoubtedly learn from those individuals and teams who have performed at the very highest level, those that have stood on podiums with medals around their necks and from those who have performed amidst the pressure of a nation's dreams. Wouldn't it be great to have these performers directly in your classrooms! We can do the next best thing. Balls Sports Magazine relates their insight, thoughts and experiences to the specifications that you study.

New starts are never easy; many of you will just be beginning your examination PE course whilst some of you will be entering your final year before your exams. We hope that we will help you along the way by providing up to date and fascinating articles, interviews and features that will increase your enjoyment and understanding of an amazingly varied and stimulating subject. Your examinations are like sport; it is important to start well and finish even stronger! Balls Sports Magazine wishes you every success along the way.

We hope you will join us in achieving our motto of:

## INTELLIGENT SPORT

**Acknowledgements.**  
Balls would like to thank all the sports performers featured in this edition for giving up their time to help develop learning. Additionally Balls would like to acknowledge the role played by the following people in the completion of issue one; Laura Kettle (The Professional Sports Group), Layla Smith (Nuff Respect), Claire Huggins (Aston Villa FC), Dominic Apenteng (Amaechibasketball.com), Dave Williams (Big Bug Sports), Matthew Gentry (Hill and Knowlton UK Ltd), Alex Russell (Women's Sports Foundation), Zoe Adams (Museum of Rugby, Twickenham), Jamie Stewart (Human Kinetics) Ian Turp (Getty Images) Yvonne Boyd (Research Factor).

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Images courtesy Getty Images

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# PREMIERSHIP FOOTBALL TRAINING PROGRAMMES

Ever wondered how John Terry outmuscles the strikers? How does Frank Lampard run from penalty box to penalty box for ninety minutes? How has Steven Gerrard got such a powerful shot? What do premier ship footballers actually do in their training to improve their fitness?

Images courtesy Neville Williams

## Key Terms

- Training/Personal Exercise Programme
- Principles of Training • Specificity • Progression
- Overload • Reversibility • Type • Frequency
- Intensity • Time • Fitness Testing • Periodisation
- Meso/Micro-Cycles.

Match analysis has shown that elite footballers need to be physically fit. Footballers cover between 10-12 km within the ninety minutes, working on an average of 75% of their maximum endurance capacity. Additionally, around 11% of this distance is covered by sprinting (usually in bursts of less than seven seconds).

Dr. Steve McGregor is the man responsible for ensuring that the Aston Villa FC players such as Gareth Barry, Lee Hendrie and Steven Davis are physically ready for the demands of the premier ship season, cup games and international competitions. As Head of Sports Science at the club Steve's main responsibilities include the co-ordination of all areas outside the technical and tactical aspects of football. This covers conditioning, nutrition and match analysis.

Balls Sports Magazine asked Steve for his expertise on how to design and carry out a fitness training programme successfully.

When reading this article imagine you are in charge of your favourite football club's training programme and complete as many of the tasks as you feel will help you prepare for designing your own training/personal exercise programme.

A premier ship football club's training programme, or one designed for yourself, will share several principles;

### Specificity.

*'Although the players spend a large proportion of their time performing group training sessions each player has an individual training programme that is periodised for the season'*

Football is a team game but the individuals within the team will be different and will therefore have very different needs. Goalkeeper Thomas Sorenson's fitness demands will vary from those of central midfielder Gavin McCann. A player returning from an injury may also require a specific programme set, as might Milan Baros and Olof Mellberg who have had an extended season representing their country in the World Cup.

**Task 1: List the components of fitness (in order of priority) for a goalkeeper of your choice and then for a central midfielder. How could you use match analysis to help you with this?**

However, are there certain components of fitness or skill that are particularly specific to premier ship footballers?

*'Speed - ...speed is probably the most discussed element in terms of importance by the coaching staff.'*

So if you want the success of Thierry Henry,

Michael Owen or Theo Walcott you will need to include the development of speed in your Training Programme!

### Progressive Overload

*'The difficulty with the long season associated with Premier League Football is continually trying to improve a player's fitness...'*

Pre season football training is partly designed to prepare footballers physically for the long season ahead. It can be hard work! This period of the season raises the level of exercise (overload) through the increased frequency, intensity and time

(from the F.I.T.T. principle) of training. Therefore to avoid injury this needs to be done gradually.

**A player returning from an injury may also require a specific programme set, as might Milan Baros and Olof Mellberg who have had an extended season representing their country in the World Cup.**

*'...while at the same time recover between the large number of games.'*

The design of a training programme may



also be influenced by the time of the season in which it is planned for (periodisation).

*‘Not only do phases of training vary as the season continues but individual programmes will also vary...in general we begin to taper training from March.’*

**Task 2: Outline a yearly cycle using the headings ‘preparation period’ (off season and pre season) and ‘competition period’ (the football season). Which fitness would you want to develop in each period and what types of training would you include in each phase to achieve this? You could even separate up your yearly cycle into Meso and Micro-cycles.**

At the end of the season players take a much deserved rest and a chance to recover but they also need to be wary to ensure that a loss of fitness (reversibility) does not occur.

#### How do Aston Villa FC prepare for match day?

9.00am	Breakfast
11.30am	Pre Match Meal
14.20 - 14.50pm	Warm Up
15.00pm	Kick Off

#### Type

So if you spent time training with a premiership football club, what would you actually do to help improve your fitness?

*‘The conditioning of players occurs through a combination of specific football drills and practices on the training pitch and functional work in the gym.’*

**Task 3: Design your own (or adapt a) football drill/practice that develops aerobic endurance. Decide which weight training exercises are best suited to a footballer.**

*‘Training elements such as speed (power) interval work will be dependant on team/individual strengths and weaknesses.’*

But how does Steve know that his training programmes are working?

*‘Fitness testing plays an important role in the objective assessment of our work. Various tests are employed throughout the season to monitor constantly the effectiveness of our year plan. Assessments range from digital tracking of players during each game to assessments of speed, strength and power during each training cycle.’*

**Task 4: Which fitness tests would you use to assess and monitor a footballer’s speed, strength and power?**

**Task 5: How can you adapt one of these tests to make it more specific to football?**

#### How did Steve become the Head of Sports Science at a Premiership Football Club?

- 3 A-Levels
- BSc (Hons) Sports Science
- MSc Sports Science
- PhD Physiology

**BALLS**

“ **Fitness testing plays an important role in the objective assessment of our work. Various tests are employed throughout the season.** ”

# LETTERS PAGE



Dear Reader,

## We would like you to join our team!

From the next issue this page will be your page; your views, your questions, your ideas.

- Got a sporting question that you need answering?
- Do you have a sport-related quiz question or puzzle that you don’t think anyone will be able to solve?
- Heard a funny sports story or joke that you would like to share?
- Like to share an opinion on a sporting topic or Balls Sports Magazine?

If so; please email [info@balls-sportsmagazine.co.uk](mailto:info@balls-sportsmagazine.co.uk) (Subject: Letters)

## We would also value your contributions to future issues.

Fancy seeing your writing and name in print? Do you know someone who has achieved sporting success? Why not interview them on a specific area of their sporting life. If you have a good idea for an article you would like to write then please send it to [info@balls-sportsmagazine.co.uk](mailto:info@balls-sportsmagazine.co.uk) (Subject: Contributions)

**Balls Sports Magazine.**



Images courtesy Getty Images except Clare Connor with award courtesy of Women's Sports Foundation

# FAIR GAME?

Helen Donohoe, Head of Policy from the Women's Sports Foundation examines the issues surrounding media coverage of women's sport.

In November of 2003 the Women's Sports Foundation embarked on a precarious journey. We were warned by many not to go there. Others smiled but expected very little. For any organisation to question and seek to change the media representation of women in any context would be a challenge and it could be argued that in the world of sport it is the greatest challenge of all. The evidence was and remains overwhelming, an estimated 5% of sports coverage dedicated to women's sport.

In response the Women's Sports Foundation launched the Campaign for Coverage and published the report **Britain's Best Kept Secrets** that became the bedrock of evidence upon which the subsequent two years of campaigning was based.

Those two years of campaigning saw our work focus on three main areas: BBC Sports, results and reporting for women's football, cricket and rugby union and our determination to ensure that Women's UEFA 2005 was broadcast live in terrestrial television across UK homes.

So where did it lead us and can we honestly say that anything has changed?

In conducting an evaluation of the Campaign for Coverage we sought to use the evidence base line established through **Britain's Best Kept Secrets**. We therefore repeated the literature review, the analysis of BBC online and our study of a cross section of print media. We also carried out discussions with leading media and sports professionals to gauge their sense of progress and future priorities. The result is a new report titled **Playing Catch Up**.

"An editor may want to reduce his football coverage and make space for other sports but he knows he will lose readers and viewers. It's that clear cut".

BBC editor, March 2006

## A success?

Success in a campaign of this nature is notoriously difficult to quantify. However it can be said that as an initiative the Campaign for Coverage prompted and provoked a whole series of outcomes that not only raised the profile of media coverage but raised the profile of the Women's Sports Foundation and the wider issues of women's and girls participation in sport and physical activity. There is no doubt that the campaign provoked thought and stirred discussion; from the meeting rooms of the BBC to individual members of the public.

The campaign also generated its own media interest and across the print media discussions took place about the relative merits of our arguments. Not all of the commentary was positive but to achieve the extent of media introspection that we did was an achievement in itself.

Overall, the evidence from our evaluation suggests mixed results. For example, while the England Women's Ashes team won some coverage for their efforts in 2005 is Clare Connor any more a household name than Rachael Heyhoe-Flint who became England captain thirty years earlier? As outlined above our instinct is that the situation has on the whole improved and outside of elite professional men's football we have witnessed an increased will to give more coverage to a wider variety of sports, including women's sport. Ultimately with Women's Euro 2005 being broadcast live through terrestrial television to record audiences and with unprecedented

marketing we can feel proud that at least one of our major objectives was achieved. We recognise that we did not achieve these improvements on our own, however without the Campaign for Coverage there is a chance that they would not have happened.

There is a delicate balance to be struck here between remaining determined and ambitious while not being unrealistic, negative or naïve about the coverage of women's sport. Changes in media coverage will simply not happen for reasons of equity or the ethics of equality alone. It will happen because there is an

overwhelming business case, because it is easy for media professionals to deliver and because women's sport eventually catches up with men's in terms of the investment, development and ultimately the respect that it receives. Sustainable change always takes time. However the first two years of the Campaign for Coverage have made a real difference. We will now go on to further build the evidence based case for improved media coverage of women's sport. Our work in synchronizing the media, sportswomen and sports institutions will step up a gear and as ever our work to dispel misconceptions of women and girl's sport goes on. We look forward to reporting on further success in 2009.

'...Up in the mountains, though the Athletes Village is a romance-free zone. With the women's downhill imminent, canoodling was not on the cards. As Britain's most talented skier, the pulchritudinous Chemmy Alcott, put it: "No boys in my room tonight. I need to stay focused." Sigh.'

Andrew Baker, The Daily Telegraph, 15th February 2006.



## In focus – Women's Euro 2005

As the Campaign for Coverage became more and more concentrated the focus became the BBC and one of the key symbols of success became the live, terrestrial broadcasting of Women's Euro 2005.

The success of the coverage of that tournament provided a watershed in coverage of women's football. We were clear from the outset that the marketing and branding of the tournament was critical. With investment in the build up to the tournament, the showcasing of the England team's leading players and the sort of hype that surrounds men's football we felt sure that the television and radio coverage of Women's Euro 2005 would be an unprecedented success.

Our influencing work was matched by that of the Football Association who employed an expanded team focussing on women's

football and Women's Euro 2005 in particular.

The tournament was a media success. England versus Finland attracted a peak audience of 2.9 million (as many as those that watched the Derby on BBC television the day before) and nearly 9 million watched England across the duration of the tournament. The BBC coverage brought women's football into homes and work place discussions like never before and along with the work of the FA, the marketing of the team and players meant that names like Karen Carney, Rachel Yankey and so on became topics of everyday football chat.

Furthermore the FA investment in media liaison meant that the tournament was covered by every English national daily on at least one occasion - unprecedented for women's football.

Not only were all England games shown live on the BBC the pre-tournament build up was unprecedented, including two Football Focus features, trails on football programmes and Hope Powell as a guest match summariser on Final Score.

The appeal of Women's Euro 2005 has helped cement further coverage of women's football throughout the season on the BBC. Premiership results are now announced on Radio Five Live. Live pitch side reports from major games are now common place and the England versus France and Hungary World Cup Qualifiers in 2006 were broadcast live on BBC 3.

### The recipe for successful media coverage of a women's sport:

- ensure no premiership or international football is taking place anywhere
- include your sport in a major international event
- make sure there will be British success
- an individual sportswoman is preferable to a team
- match up your women's event with the male equivalent and hope that they win too their event too
- encourage your sportswomen to have something to say – the cheekier the better

**BALLS**

For more details on this report go to [www.wsf.org.uk](http://www.wsf.org.uk)



# Women's Sports Foundation Products

## Product List:

**NEW PRODUCT – AVAILABLE NOW FOR ONLY £25 REDUCED FROM £35**  
**Schools Pack** Includes the new poster set and the support pack.

**NEW PRODUCT AVAILABLE NOW FOR ONLY £25 REDUCED FROM £35**  
**Club Pack** Includes the new poster set, new essential guide to funding for women and girl's sports projects and barriers to participation fact files.

**NEW PRODUCT AVAILABLE NOW**  
**Single-Sex Sports Provision Guide**



A must for all Leisure and Community Centres. The guide includes the latest information about how to encourage more women into the clubs and centres within the law.

**NEW PRODUCT AVAILABLE NOW**  
**Funding Pack**



Includes a section on how to find funding, signposting to potential funders, advice on approaching funders and best practice examples. Ideal for clubs, community groups and schools.

## NEW PRODUCT AVAILABLE NOW

### Poster Set



Includes four A2 size images of girls and women participating in physical activity, with witty captions to capture the imagination of women and girls. As well as five A1 size posters of elite athletes competing at international events. Perfect for schools, community centres, clubhouses, health centres and GP surgeries.

### Olympic and Paralympic Pack



This is our most dynamic and fun pack. It is interactive, action packed and informative. The Olympic Pack provides information and motivation to help you achieve targets set for girls' participation and includes:  
■ **Two A2 size POSTERS** of Britain's female sports super stars, aimed to encourage and motivate young girls to engage in physical activity.  
■ **A detailed HISTORY OF WOMEN AT THE OLYMPICS** with supplement educational teaching notes, a must for teachers and students researching women in sport.  
■ **An interactive 2004 OLYMPIC CHART**

## Support Pack: Putting Women in the Picture



This pack offers you the chance to mix and match the detailed information about women and girls in sport. The pack provides information in the following areas:  
■ **History** - The emergence of women in sport: a retrospective overview  
■ **Body Matters** - Women's body matters: health, fitness and

physical activity  
■ **Barriers** - Barriers to women's sport: social, cultural and physical factors  
■ **Sponsorship** - Sports sponsorship: enabling women to fulfil their potential

### Media Research Report



This report gives you the latest information, facts, stats and analysis of the state of the coverage for women in sport in the media. This report is a must for all those researching women in sport in the media. Extracts include:  
■ Up to the date research on women's sport in the media  
■ Top journalist discussion points  
■ Reviews  
■ Analysis of the situation.

Whether you are looking for resources to help with your dissertation and research or materials to encourage women and girls to participate in physical activity or if you wish to motivate and encourage girls who already participate we have products for you!! WSF provide a range of products that reflect the diverse needs of women and girls involved in physical activity.

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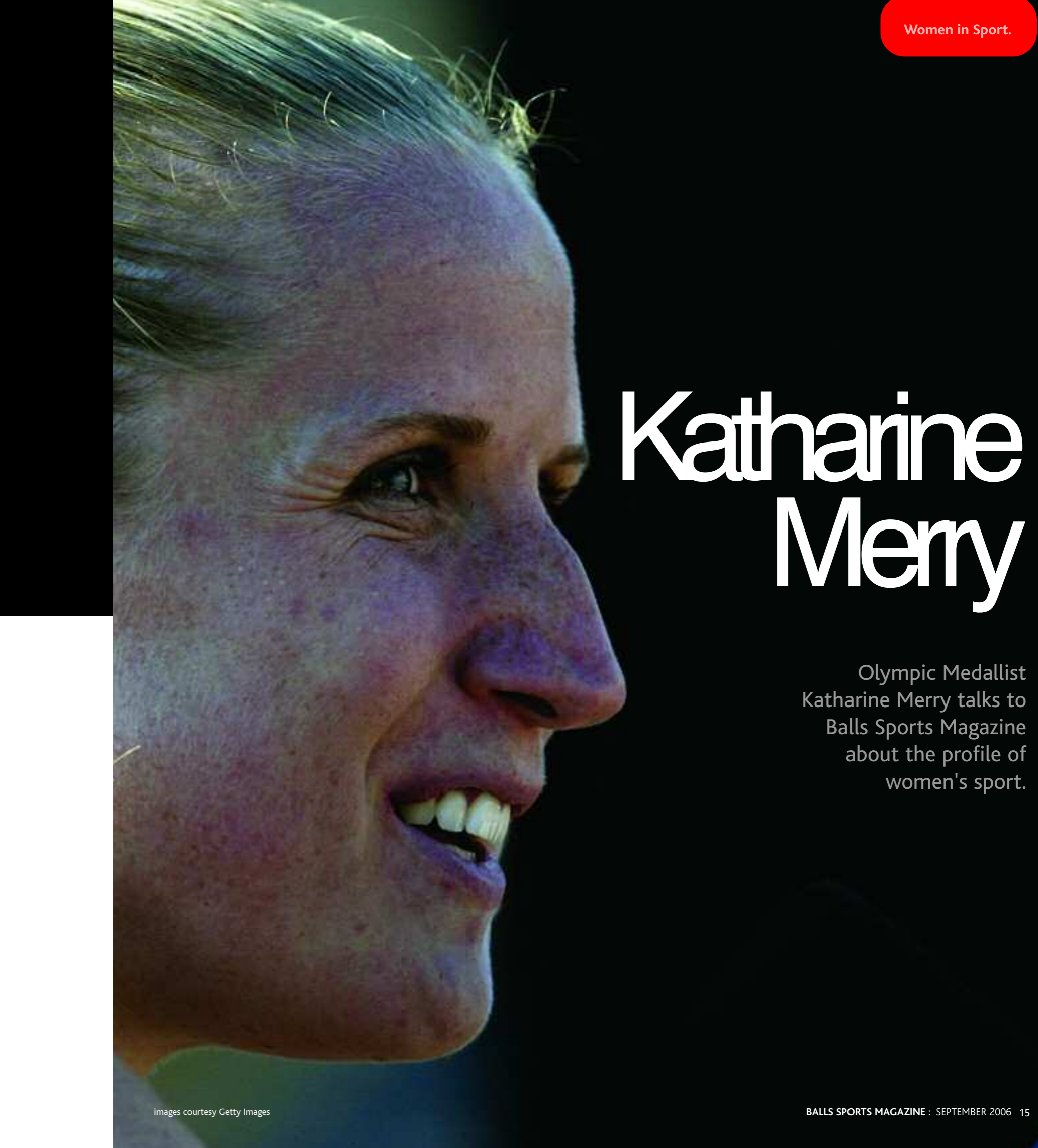
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Funding Pack	£10		£
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Media Research	£7	£
Olympic Pack	£10 - buy 1 get 1 FREE	£
Support Pack: ■ History ■ Body Matters ■ Sponsorship ■ Barriers	£15 - Whole Pack	£
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# Katharine Merry

Olympic Medallist  
Katharine Merry talks to  
Balls Sports Magazine  
about the profile of  
women's sport.



**After you got the bronze in the Sydney Olympics how did life change for you as an athlete?**

It changed completely...everything from the media profile and the opportunities...money as well changes...I'd get more to appear in races, run in races. Also from the sponsorship side of things as once you get a medal and are one of the best at what you do, this all changes.

**So you got more media coverage as well?**

Yes, I mean I had a unique experience anyway. I started running at 10 and competed internationally for GB at 13 so I always had a lot of media attention anyway but I would say that after Sydney it was different because of the profile of the Olympic Games and the coverage the BBC do of it.

**Did your change to the 400m have anything to do with your early success? Did you need a new challenge or did you want to get away from your early media coverage?**

No the change was totally from an athletics/injury point of view. I had always had lots of injuries and the short sprints weren't helping my knees. I had got used to it (media coverage) by the time I was 16

and in school, I had done TV and documents so I was quite used to it. And to be honest it never really bothered me at all and as an athlete you try and channel those things out anyway because you have to. You learn pretty quickly that if you are good you will get attention and a lot of plaudits and if you are poor you'll still get the attention but not the plaudits.

**The books say that there is a difference between media coverage of women and men in terms of style, content and quantity. Is this something you found?**

I can see it and I would agree with that but individually myself I would say I have been reasonably lucky, in the respect that I have never got my kit off like some of my fellow track and field ladies have, for whatever reason, which goes to not helping the fact that the coverage between men and women is completely different. I have always been of the opinion of 'that's the way it is, it's never going to change'. I have never banged on about having the hardship "because I was a women I never got the coverage of the men" and I honestly do not agree with that because if someone does something in this country and is successful at doing it, if they are in one of the mainstream sports then they will get the coverage for it. The press do emphasise men and male sports but it has always been like that and always will be.

**Do you feel the same in terms of sponsorship and the financial rewards to say turn up at a race and run?**

Again I might surprise you but in my sport of track and field, the major difference is in terms of the event, there is a big discrepancy between track athletes and field athletes. Field athletes think they are really hard done by and normally get less TV attention and media coverage then the track athletes do and that is true unless you are Jonathan Edwards or Steve Backley but I can't remember the last time they focussed on the womens' discus or javelin.



So I think the imbalance is between track and field athletes rather than men and women because I know that the top men and women (depending on events) do get paid very similarly, 5 or 6 years ago you couldn't have paid Marilyn Jones less than say Maurice Green to come to London. OK maybe there would have been a slight

discrepancy but in athletics a name is a name. So in athletics I wouldn't say it's a major difference Paula Radcliffe would command more than anybody, Kelly Holmes would command more than anybody.

In my sport it is if you deliver not like in Tennis now where the French Open have gone equal pay for men and women and it's only Wimbledon left that haven't done it. Some people say "well they play less tennis they should get less" which I actually agree with I don't see why women should play less and get as much money as the men, you can't have it both. If I was in that sport I'd think you can't expect to play less tennis and be on court for less time and still get paid the same as men who go to five sets, but there is a compromise somewhere.

Half the world in most sports in the world now would give the men a real run for their money... But in track and field it is definitely performance based and event based, so is more equal, whereas say football, women's football is not anywhere near and never will be, end of story. Generally I would say that athletics is much more on a par then any other sport, although Swimming in Australia seems to be equal in terms of money. It's all about 'bums on seats' I could perhaps command more money than say a male shot putter... it's about 'if you can deliver' and in athletics you either win or you don't and that's what's good about it. Obviously it becomes more technical when you bring in the marketability of an athlete, was Jonathan Edwards more marketable than Denise Lewis? Was Steve Backley more than me? Or Kelly Holmes.

**Are you talking about the 'Anna Kournakova' effect? (where an athlete may get more money due to 'marketability' rather than results)**

Exactly yeah but to be honest athletics isn't like that at all because you have won what you have won and if you haven't no one really cares. That's not meant harshly but its good like that its really clear cut. So athletics does stand on its own from many sports as being actually good like that.

**What about beyond competing? Are there opportunities to go into coaching? Or Broadcasting? Does the equality stay after the athletes career?**

I think it does, yeah. Obviously the better you do the higher your profile is so the more opportunities...but I would say it is completely fair I really would. It might be a bit harder but not massively so.

**In terms of coaching, studies have shown that there are less female coaches. Is that irrelevant to a female athlete? For example do you think it is important to have female coaches for female athletes?**

...I didn't grow up thinking " oh I wish a women could do this, or a women could coach me" its just the way it is. I am not saying that it shouldn't change, I am all for encouraging more women into coaching but I wouldn't have preferred a man or a woman I just wanted the best person. I have only been coached by a man, but Kelly Holmes for instance was coached most of her career by a guy then for the last 4 years of her career went with a lady, her coach in South Africa was Maria Mutola's coach. It's different overseas...in the USA, in the universities you'll find that the coach of a women's track team will be a women. It is different wherever you go in the world.

**Any reason why?**

I haven't got a clue. It probably boils down to opportunities...because women could do that here but it's not really seen like that here. We visit Australia, America and different places in Europe and it is different and again I don't know why. In athletics in has got better in the last 5 years with regards to agents of athletes as it used to be all blokes...now I can think of an equal amount of women agents as I can men. I think it needs a lot of high profile women to go into coaching...I am getting into mentoring and stuff with UK Athletics. Its about women getting out there and filling those positions, Kelly (Holmes) does a lot

now and is getting into coaching, she has taken a handful of promising girls and is mentoring them and giving them advice. We need to develop better coaches any way men or women I always said I'd never do it but I also say never say never. Coaching wise it's just not the norm with women, I can't think of one track and field women coach in the UK just off the top of my head, I am sure if I sat down and thought about it, I can actually think of only one.

**Did you have any roles models that inspired you to take up athletics?**

I respected and admired Kathy Cook rather than kind of wanted to be like her, throughout my career I was generally inspired by people doing good and wasn't men or women, it didn't have to be a women that made me think wow.

**Statistics show that many girls drop out of sport between the ages of 13-16, are you able to pinpoint how come you didn't?**

I think it was because I was good at it and it was nice to get time off and an excuse to do poorly in exams! All my friends thought it was cool. That was not why I did it but it was the perks. When you're 12 and you hold a record that no one has run fastest you think 'oh well I must be quite good at this'.

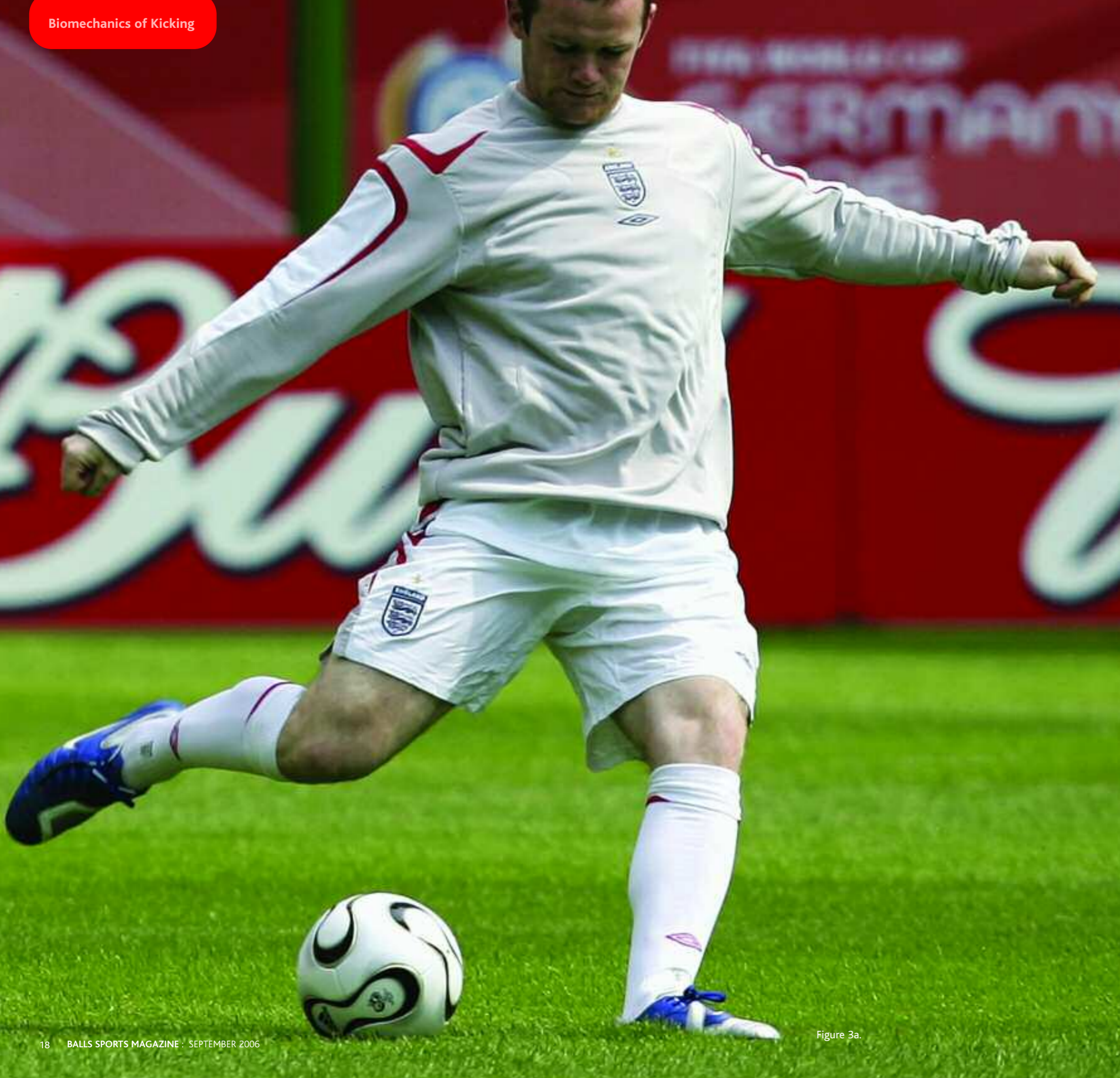
**In terms of the 2012 Olympics do you have any idea of the impact upon women's sport?**

I hope it will be a good thing and it will be a good thing if women do well. In Athens Kelly Sotherton and Kelly Holmes did well...and if women do well in variety of sports and if women are up there on the rostrum, getting interviewed by the BBC it will be a good thing for women and women's sport. Hopefully we can get women on an equal footing in 2008 (Beijing).

**BALLS**



**“The press do emphasise men and male sports but it has always been like that and always will be.”**



images courtesy Getty Images

# The Powerful Soccer Kick

Adrian Lees (Ph.D. Professor of Biomechanics, Liverpool John Moores University) analyses the biomechanics of the football kicking technique.

Soccer is without doubt the most popular sport in the world and as such there is a great interest in the scientific analysis of the skills of the game. Kicking is the defining action of soccer, so it is natural that there has been much interest in this one skill.

There are many variants of the kicking skill ranging from a soft pass made with a moving ball to the maximal velocity kick with a stationary ball, represented by the penalty kick, but it is the latter which has received most attention by researchers. The reason is the importance of this type of kick in the game and the fascination players and spectators have with high powered goal scoring shots that we have become used to seeing from players like Wayne Rooney and David Beckham. The highest speeds recorded for a maximal velocity kick are in excess of 30 m/s. In order to achieve these speeds contact with the ball must be made with the instep of the foot.

The instep is the part of the foot where the laces are normally located and should be distinguished from the side step kick where contact is made close to the arch of the foot, and usually used to place the ball for accuracy.



Figure 5.

The maximal instep soccer kick can be analysed biomechanically. There are two types of biomechanical analysis methods that can be used, quantitative and qualitative. The former refers to the making of measurements on a skill, while the latter refers to a more general interpretation based on principles of movement. A typical quantitative analysis would require the kick to be videoed and then each point of interest (for example the hip, knee and ankle joints) measured from each frame of the recording. A typical single image is given in Figure 1 but remember that there may be 40 to 50 frames to measure so this is a very time consuming task. From the position of the joint in each frame the velocity of each joint can be calculated and plotted on a graph (Figure 2) which shows how the speed of approach of about 5 m/s (represented by the hip velocity) is translated into a high foot velocity of about 20 m/s. Foot velocity is the greatest factor influencing ball speed but it is interesting to note that the ball leaves the foot at a velocity of about 20% greater than the foot velocity. This is due to the mechanics of impact between the foot and ball and can be analysed using the conservation of momentum principle, although that's not something we can do in this article. The sequential increase in velocity from hip to knee to foot is referred to as a proximal-to-distal sequence and describes the way the energy flows from the muscles around the hip through the knee to the ankle to increase the speed of the foot.

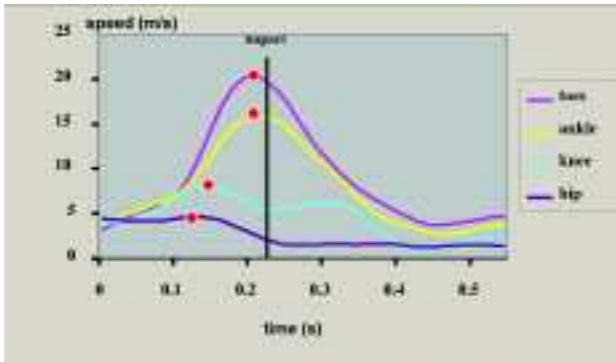


Figure 2. Velocity of joints during kick

In performing the maximal instep kick there are several mechanical principles used which are best appreciated from a qualitative analysis. A qualitative analysis requires observation of the skill and an identification of the mechanical principles which underpin it. Good observation can be helped by using a slow motion or stop frame playback of the skill, for example



Figure 1. Image of a soccer kick

using a video device or appropriate software if the recording is computer based. Observations can also be made from still images. In Figure 3a, we see a typical pose of Wayne Rooney just before he kicks the ball. There are two main observations in this image. One is the extent to which he retracts his kicking leg. This is achieved by withdrawing the kicking leg but also rotating the pelvis backwards. This motion is enhanced by lengthening the last stride, i.e. the stride made by the support leg. In other words a more powerful kick is produced with a long last stride. The principle involved here is 'range of motion' which means the muscles can work through a greater distance and so produce more energy to accelerate the leg, thus increasing its velocity at impact. A second observation in Figure 3a is the flexion of the knee.

Careful observation of the full kicking motion shows that as the thigh is brought forwards the knee flexes so that the shank is taken backwards. This is called the leg-cocking phase and has the function of reducing the moment of inertia of the leg as it rotates around the hip joint. The force applied by the hip flexor muscles in bringing the hip forwards can then accelerate the leg more easily. This is a demonstration of Newton's Second Law where the applied force produces a greater acceleration if the resistance to motion (the inertia) is reduced. Incidentally, this is also observed in sprinters and it enables them to run faster. Once the thigh has a high velocity the knee joint extends to make contact with the ball (Figure 3b). This increases the velocity of

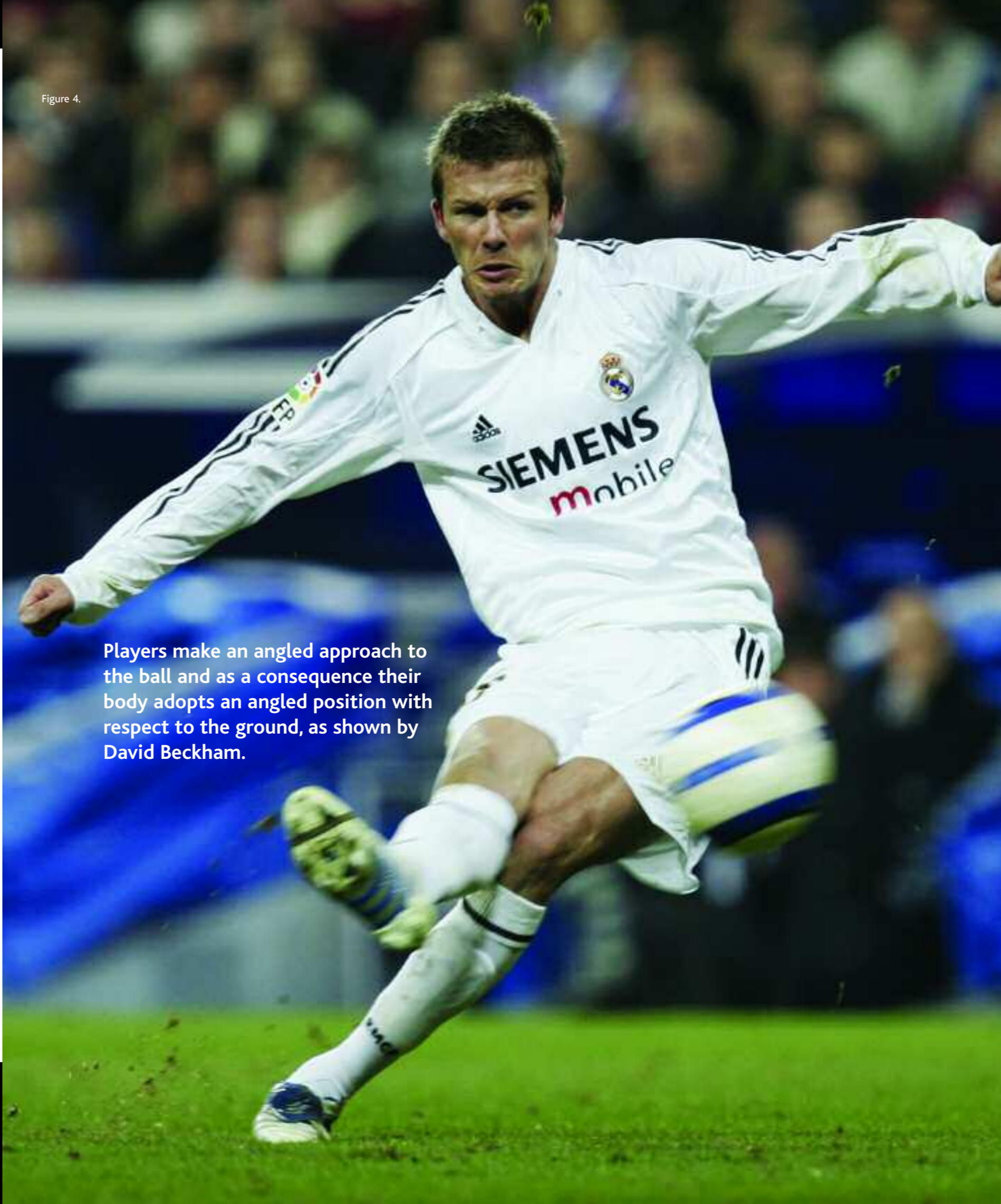


Figure 4.

Players make an angled approach to the ball and as a consequence their body adopts an angled position with respect to the ground, as shown by David Beckham.



Figure 3b.

through and is almost parallel to the leg. This is an important demonstration of Newton's Third Law, the 'action-reaction' principle. In fact, this starts at the early stages of the kick (see figure 3a) where both kicking leg and opposing arm are withdrawn. The 'action' of the arm backwards causes a 'reaction' on the leg helping it to retract more, thus increasing its range of motion. As the kick progresses both the kicking leg and opposite arm are brought forwards together, with the action of the arm assisting the speed of the kick through 'reaction'. Thus, a powerful kick is one in which the arms are used not only to balance the body during the kick but also to assist the generation of high foot speed. Figure 3c is a Wayne Rooney trademark position, and while all players use the same principle, Rooney has learnt to maximise this which in turn is one of the factors that helps him achieve a very powerful kick.

**TASK (Qualitative Analysis):**

Using a table that you have designed analyse your own or someone else's soccer kick. Comment on the hip, knee and ankle joints noting:

- a) the joint action
- b) the muscles involved (both prime movers and antagonist)
- c) the type of contraction seen
- d) you may also include the class of lever each joint produces.

Other observations of the kicking skill can be made. Players make an angled approach to the ball and as a consequence their body adopts an angled position with respect to the ground, as shown by David Beckham in Figure 4. What advantage does this angled position have?

One of the main benefits is that it serves to tilt the body to enable the kicking leg to clear the ground. Note that the support leg is flexed at contact and the kicking leg is straight, so without a lean the kicking foot would stub the ground. It is also a position in which the forces applied during the kick can be controlled so a stable base allows for greater precision of the kick. Another advantage is that the foot can also be placed across the ball. This gives much more

scope for the foot to apply spin to the ball which is needed for those swerving free kicks Beckham is renowned for. In Figure 4 it can also be seen that Beckham uses his opposing arm in a similar way to Rooney, enabling the kick to be fast and powerful as well. Players sometimes have to modify their kicks for the situation. In figure 5 we see Ronaldinho with an out turned foot. The

## A successful kick requires speed and accuracy but to achieve that a stable position is required.

position of the foot tells us that this was a less powerful side foot kick. That his opposing arm is not as strongly used as we have seen by Wayne Rooney in Figure 3, confirms that this kick was not intended to be a powerful one.

So what makes a great kicker? Certainly there are many physiological and psychological factors which are important, but in this article we have explored factors

relating to technique. We have seen that a fast powerful kick can only be performed if the correct mechanical technique is used. This technique requires appropriate preparation during the last stride as well as during the kick and follow through. All parts of the body are involved including the very important hips and upper body. A successful kick requires speed and accuracy but to achieve that a stable position is

required. The angled approach provides that stability while at the same time enabling the foot to be positioned on the ball for the particular type of kick required. The technique described for the kick is based on sound mechanical principles and we have seen that these can be adjusted to vary the type of performance required by the game. Biomechanics gives us the means for analysing skills, and in this article has helped to uncover some of the secrets of the powerful soccer kick.

**TASK: (Quantitative Analysis – Facts & Figures)**

1. Using cones, a football, tape measure / trundle wheel, ball pump and pressure gauge and a video camera plan and carry out and practical test on your whole PE group.
2. Remember to allow for reliability and validity. Using the cones mark out a kicking area where the ball should be placed. Stand the video camera on a tripod in line with the ball so you get a side on view of the action.
3. Get each member of your PE group to strike the ball in turn and measure the distance travelled with the tape measure / trundle wheel.
4. You could analyse the results by comparing males and females, why not measure each student's maximum leg strength and see if there is a relationship between leg strength and the distance the ball travelled.

### BALLS

Figure 3c.



Image Copyright, Museum of Rugby, Twickenham (Wales v England 1924)

# A TALE OF TWO CODES

The Museum of Rugby, Twickenham explores the historical development of Rugby Union and the issues surrounding amateurism and professionalism.

### RUGBY AMATEURISM AND PROFESSIONALISM

By the 1880s rugby football had become extremely popular in the North of England, but the Rugby Football Union (RFU) had cause for concern. It was thought that some of the dominant northern clubs were moving slowly towards professionalism, as had already happened in soccer, and the RFU could think of nothing worse than betraying their game's amateur ideals.

Northern rugby was passionately territorial, the success of clubs being closely allied to the success of their towns. Winning was everything and the prestigious Yorkshire Cup, which was played for from 1877 onwards, attracted crowds in the tens of thousands, with the finals a bigger draw than any international rugby match or soccer's FA Cup final.

When Wakefield Trinity won the cup in 1879, the whole city celebrated:



“the Parish Church bells began to ring in honour of the event. On the arrival at Wakefield of the special train, the victors were met by the Church band and an immense concourse of people, and marched from the station to the Woolpacks Inn, the cheering in the streets being again and again renewed.”

The County Championship, the only nationwide rugby competition of the day, was dominated by the northern counties, Yorkshire winning the inaugural Championship in 1889 and taking the title again in 1890, 1892, 1893, 1894, 1895 and 1896. Only Lancashire interrupted their reign by winning the competition in 1891. Following the northern clubs split with the RFU in 1895, Yorkshire would lose their best players to the Northern Union (later to become Rugby League) and the county would not win the County Championship again until 1926. Lancashire suffered the same fate and wouldn't take the title again until 1935.

By 1892 the northern clubs had **started organising league competitions** and in the 1890s the England team was dominated by their players. No less than 11 of the team which defeated Scotland in 1892 were from the northern clubs and during the whole of that season England did not concede a single point.

With the increasing popularity of local cup and league competitions came mounting pressure to run clubs as a professional concern and to pay the players. **The amateur ethos** so beloved of the RFU **conflicted** with the requirements of the game in the north, where **working-class players needed to be paid** for taking time off work to play.

In 1893 James Miller and Mark Newsome proposed that the RFU legalise these **'broken-time payments'** but they were voted down.

James Miller argued: "It could not be denied that football was no longer the pastime of the public schools and the leisured classes alone; it had become the sport of the masses - of the wage-earning classes in our great manufacturing centres. ... It was unreasonable to expect the same 'amateurism' from the wage-earning classes as from public school men. It was unfair to expect working men to break time [from work] to play football without their being remunerated."

**The middle classes**, with their **public school ideals**, expected the working class players to copy their amateur values – but playing sport for money was normal in pub life. The working class did not expect to play

an **increasingly popular spectator sport** for nothing. Northern clubs were not keen on full professionalism but wanted to pay money for loss of earnings

('broken time'). This found no favour with the RFU – how would a London team attracting far fewer supporters afford to pay the lost wages of 15 solicitors?

Rugby reached a state of all-out war. Certain northern clubs, faced with the threat of measures against them, met on 29th August 1885 at the George Hotel in Huddersfield. There, 21 of the leading clubs from Yorkshire, Lancashire and Cheshire voted to leave the RFU and form their own Northern Union. Other northern clubs opted out of the RFU over subsequent years and by 1903 almost 250 clubs, half the total 1893 membership, had left the Union. It took the RFU 30 years to get back to their earlier membership numbers.

The exodus of the northern clubs left the England team devastated. The mounting troubles had already begun to have an effect before the 1895 schism with fewer and fewer northern players involved with the team as the 'broken time' dispute raged.



England had won 34 of their 54 matches since 1871. Between 1896 and 1909, however, lacking the great northern players, they won only ten out of 49 matches. On five occasions in those 14 bleak seasons they finished bottom of the **International Championship Table** with three defeats in three games – an unheard of event prior to the 1895 split. It was not until the move to Twickenham in 1910 that England's fortunes began to improve.

Initially the Northern Union still played by

**RFU rules but these were gradually changed** and adapted over the years to try to create a **faster and simpler game**.

In 1897 the line out was abolished, in 1902 direct kicking into touch was penalized, full professionalism arrived in 1905 and teams of 13-a-side were introduced the following year. Finally came the **change of name to Rugby League** in 1922.



In total some 230 international rugby union players from the British Isles turned professional and moved over to the Northern Union / rugby league whilst rugby

in Huddersfield to legalise payments to their players.

Since the **union game went professional** in 1995 it has evolved into an increasingly successful game from the grass roots through to the elite. The IRB's move to professionalism was a natural development that reflected the improving status of the game on and off the field around the world and especially in England.

For the first time since the 1920s England were consistently successful in the Five Nations Championship - winning a 'Grand Slam' three times in the 90s and the first ever Six Nations Championship in 2000.

The early years of Union's professionalism witnessed the **first reverse movement of players from league to union**. Barrie Jon Mather gained an England union cap in 1999 while playing for Sale Sharks and Paul Sampson moved first from union's London Wasps to league and then back again to the London club.

However, the most notable move occurred in 2000 when the Wigan Warriors and Great Britain league player Jason Robinson joined union's Sale Sharks and was capped for the first time as a replacement against Italy in 2001. It was perhaps appropriate that he scored the only England try when the World Cup was won in 2003.

**TASKS:**  
**1. Using the highlighted words as 'prompts' can you tell a classmate the story of the development of Rugby and why both Rugby Union and Rugby League exist? Use these 'prompts' as headings when you write up your notes.**

**2. Research how other National Governing Bodies of the time (the FA, the ARA and the AAA) dealt with the issues of amateurism and professionalism. How have their views changed now?**

**3. What do the terms 'Shamateurism' and 'Stamateurism' mean? Do these terms have any relevance to contemporary sport?**

**BALLS**

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Images courtesy Getty Images

“However, the most notable move occurred in 2000 when the Wigan Warriors and Great Britain league player Jason Robinson joined union’s Sale Sharks and was capped for the first time as a replacement against Italy in 2001”



The adidas +10 initiative reflects adidas theme for the 2006 World Cup year – Team. Although teams need heroes, heroes fundamentally need teams and without the team spirit you will fail in achieving the ultimate goal of success. Some of Adidas' World Cup Stars Beckham, Riquelme, Kaka, Viera and Ballack explain their views on teamwork and other areas of the specifications.



## On 'The Team';

**Beckham;**  
**Whats the secret to a winning team?**

My secret to a winning team is passion, spirit and the belief to win.

**What does the word "TEAM" mean for you?**

Team is what you have when you've got a great spirit between your team and that's one of the most important things that make you believe that you can win anything against anyone.

**What would be a good moto for David Beckhams team?**

One word: belief.

**Riquelme;**  
**What is your secret to a winning team?**

My secret is always to be happy, I think if you're happy you do things well.

**What are the traits of a winning team?**

I think that without trusting each other you can't have a good team.

**Viera**  
**Who taught you the value of team work?**

When I was growing up, I was lucky enough to meet a coach who believed in me and my abilities to lead a team. It was very important to be a captain in a team. I'm lucky because I've met people who have allowed me to progress in that direction.

## On Psychology;

**Beckham**  
**Do you have any special rituals before a game?**

No I don't. Unlike a lot of footballers that have got superstitions that they've got to go through each game but thankfully I've got none.

**Riquelme;**  
**Are you nervous before you take to the pitch?**

No, before a game I think that I'm going to have a great time. As I have said before, my parents told me that it was a game and I tried to enjoy it.

**Kaka;**  
**What is the last thing you would say to your team before getting on the pitch?**

The last thing I would say before getting on the field would be that we strived so much for this moment to arrive when the

moment comes we must make the most of it.

**Viera;**  
**Do you have any rituals before 'Game Day'?**

My routine before matches is mainly about food, we have quite a lot of pasta and we go to bed around 10.30 – 11 o'clock.

**At the beginning of a game, what goes through your mind?**

Every time I come on the pitch I think about playing well of course. And as captain I try and encourage the team to play its best football. And to use every chance to help us win the game.

**Ballack;**  
**How can a good player strive to becoming great?**

I think that there are a lot of things in life that you can work on to improve yourself. If you are already good then you may have to strive to be better. Concentration is important and so is your stamina and your strength. A decisive moment requires the highest concentration and we practice that. There it may work but on the pitch it's a whole different ball game.

## On Role Models;

**Beckham;**  
**Who did you look up to the most when growing up and how did they inspire you?**

Bobby Charlton, I always looked up to players like Bobby Charlton, Bryan Robson was my hero. I wanted to emulate everything that Bryan Robson had done, I wanted to play for Manchester United and when I was seven I wanted to play for England and captain wearing the number 7. Luckily enough I've done all that.

**Riquelme;**  
**Either playing with or against, who is the person you've learnt most from?**

I always try to learn, I think there are many things which can teach me things, there are many players that can teach me things, I look a lot to Zidane because he does new things in every match.

**Kaka;**  
**Who taught you the most in life?**

The person who taught me most was my father in all aspects. Both in the field and outside I feel my father was a great example.

**Viera;**  
**Which football player has impressed you the most?**

The player I like a lot and have a lot of admiration for is Zinedine Zidane because he's a great champion on the pitch and a great man in real life.

**Ballack;**  
**Do you have any sports person you look up to?**

Tiger Woods, who has been playing at the highest level for years. He is one of the best sportsmen in the world and I'm always impressed when people make it that far. He managed to stay on top because that's the most difficult thing after you've achieved getting there, I've always admired that.

**BALLS**

For more information go to [www.adidas.com/football](http://www.adidas.com/football)

# How important is establishing a routine to a successful performance?

When playing sport we use of a number of established routines e.g. a penalty kick, a tennis serve and a basketball free throw.

As a relatively 'closed' skill sports performers need to establish a successful routine (motor programme) to ensure they achieve their goal.

Balls Sports Magazine asked three members of the bronze medal winning England Commonwealth Basketball team how important it was to establish a set routine for performing a free throw in a competitive match.



Name: John Amaechi  
Clubs: Cleveland Cavaliers  
Orlando Magic  
England Appearances: I've lost count!

## Key Terms

- Motor Programmes • Schema Theory
- Selective Attention • Routines • Self- Confidence
- Self-Efficacy • Anxiety • Imagery



Name: Steven Bucknall  
Clubs: LA Lakers  
Leicester Riders  
England Appearances: 100

Name: Julius Joseph  
Clubs: Scottish Rocks  
Manchester Giants  
England Appearances: 54

Can you explain any mental preparation/imagery that you may go through before you take a free throw?

JOHN: I relax and release my body to act instinctively and repeat the muscle memory of several million practiced shots before this one. The major flaw I have is to sometimes count the number of made free throws and worry about whether it's 'time to miss one'. If anything there is an absence of thought in my successful shots.

STEVEN: I use the same routine each time I shoot a free throw.

JULIUS: I picture the ball going through the net, while I'm looking at the back of the rim.

Can you explain any physical routine that you go through before you take a free throw?

JOHN: I control when I get the ball by not looking at the referee until I want it

- I pass the ball back if the referee passes it early (they rarely do)
- I step to the line
- Look at the referee
- Receive the ball and look at the rim
- Dribble the ball once looking down
- Once looking at the hoop 'set myself' with a breath in and out
- Then shoot

STEVEN: My routine is always deep breaths, two bounces of the ball, bend knees and shoot.

- JULIUS: My physical routine consists of,
- Lining my feet towards the basket next to the line, shoulder width apart
  - Bounce the ball 3 times and then pick it up
  - Spin it in my hands
  - 1 more bounce
  - Then shoot

Do you ever change these routines if you have missed a few in a row?

JOHN: NO – CARDINAL SIN – NEVER. If the routine is simple, short and not distracting it is a matter of repetition, precise, perfect practice.

STEVEN: Never

JULIUS: I never ever change my routine. I'm confident in it.

Is your percentage of free throws better on your home court?

JOHN: No, I play better away, nearly always.

STEVEN: No

JULIUS: My percentage is definitely better at home just because when you play away the rim height varies, balls vary, temperature varies.

Can you explain the effects that your routines may have on you and your performance?

JOHN: They give me confidence and my team mates reassurance, because they and I know the routine and the practice and experience behind it will carry us over the course of a game, a season and a career.

STEVEN: Mentally I feel confident that my routine works under any circumstance.

I relax and release my body to act instinctively and repeat the muscle memory of several million practiced shots before this one.

JULIUS: I been consistent from the line for 5 pro years and 4 college years.

## Tasks

Motor Programmes  
1. The free throw is stored in the long term memory as a motor programme. Explain the terms 'executive programme' and 'subroutines' in the context of a basketball free throw.

2. Draw the hierarchical structure of the basketball free throw

3. Explain the importance of 'practice' for developing this motor programme using the terms 'memory trace' and 'perceptual trace'

Anxiety  
1. Explain the 'cognitive techniques' John, Steven and Julius use to ensure a successful free throw

2. Explain the term 'flow' and its importance to success

3. What possible reasons can you suggest as to why John's percentage of successful free throws is better away than at home and why Julius' is better at home?

Practical Task  
With a partner practice the basketball free throw and establish a successful routine.

Did you use mental rehearsal during your routine?

Describe the routine you established and the benefits it offered your performance.

As a class have a free throw competition. Use your routine during the competition. How did it stand up in competition?

Discuss your findings as a class.

## BALLS



England Rugby International Dan Luger and Strength and Conditioning Coach Paul Pook analyse the components of fitness required for elite rugby players.

# Fitness Demands for Rugby

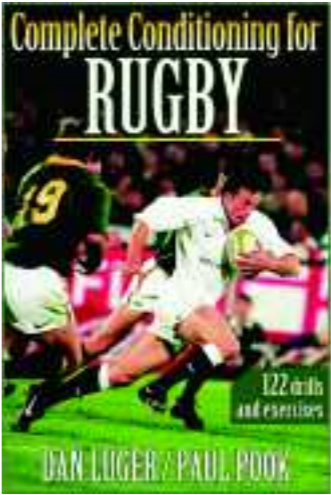
When we watch a rugby match, the efforts and skills of the players impress us, but we tend to focus on how many tries are scored and the result of the match. Most of us agree that we could never equal the 100-meter or marathon records set by elite athletes, but do we appreciate the challenges that face the rugby athlete. In the space of an 80-minute game, an international flanker may make 25 tackles, hit 46 rucks, push during 22 scrums, and lift during 24 lineouts. Players typically cover distances of six to eight kilometers at varying running speeds separated into over 200 intervals of varying distances. This requires strength, power, speed, agility, and an ability to repeat and recover from movements for the duration of the game.

Obviously, elite rugby players face unique conditioning challenges. By analyzing competitive rugby, we can qualify and quantify the typical movement patterns that players engage in. This crucial information, presented in this chapter, allows us to predict the energy demands of the sport and assess the specific strength and power activities used, as well as their frequency. Knowledge of these facts is essential to designing effective conditioning programs for players.

Analyzing the movements of rugby helps to illustrate the varying demands placed on rugby players. We will now summarize how these demands make specific elements of conditioning necessary and provide a path way for designing playing-position-specific conditioning programs.

Rugby can be broken down into a series of movement patterns separated by intervals of running at varying speeds, including walking, jogging, half- and three-quarters-

pace running, and maximal sprinting. Conditioning programs for contemporary rugby players have to address these and other factors so that players can meet the demands of the sport and avoid injury.



These movement patterns include:

- making and breaking tackles;
- scrummaging;
- jumping in a lineout;
- lifting in a lineout;

- driving a maul;
- passing and catching;
- kicking out of hand;
- kicking for a goal;
- hitting rucks;
- ripping the ball;
- off-loading in contact;
- getting up from the ground; and
- accelerating, decelerating, and quickly changing direction.

Statistics clearly show that distinctive demands are placed on team members according to their playing positions. For example, the prop's role in a game is vastly different from that of a winger. During the 2003

international match outlined in table 1.3, the prop was involved in 40 energy-sapping rucks and made 15 tackles, whereas the winger—the author of this book—only hit 16 rucks and made 9 tackles, which was significantly less than my teammates in

other positions. However, I reached sprinting speed for a total of 31 seconds over 12 intervals, the highest figure for the team.

Of key importance in determining conditioning needs are the work rates (represented by the number of tackles, rucks, and set piece plays a player participates in) of forwards and backs. These figures demonstrate that wingers need to concentrate their training on developing speed and speed endurance, whereas forwards should focus on aerobic fitness and fuel mix conditioning. The elevated work rates of props, hookers, and second- and back-row forwards make it necessary for them to engage in more fuel mix conditioning than is required for backs. Forwards must also have good strength and stability to meet the demands of frequent scrummaging, mauling, rucking, and tackling.

From 'Complete Conditioning for Rugby' by Dan Luger and Paul Pook, (pages 1-7, table 1.3, figures 1.1 and 1.2) Copyright 2004. Reprinted with permission from Human Kinetics [www.humankinetics.com](http://www.humankinetics.com). Available by calling 0113 2555665 or order online at [www.humankinetics.com](http://www.humankinetics.com)

Rugby can be broken down into a series of movement patterns separated by intervals of running at varying speeds, including walking, jogging, half- and three-quarters-pace running, and maximal sprinting.



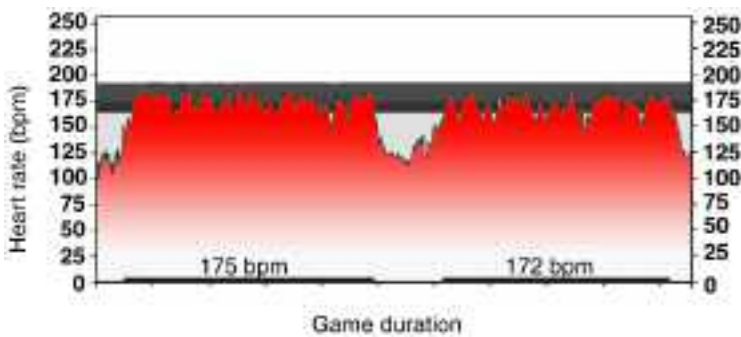
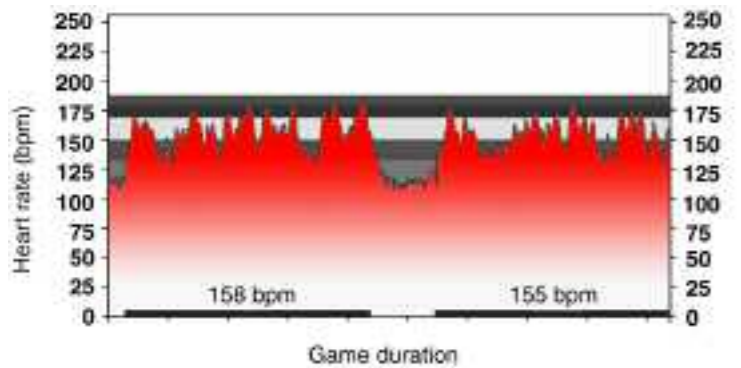
Fitness Demands for Rugby Worksheet.

Table 1.3 Varying Running Intensities by Position and Tackle and Ruck Counts During a 2003 International Rugby Match

	Prop	Flanker	Fly half	Center	Wing
Sprinting (min.'s.)	0:00	0:03	0:27	0:19	0:31
High-speed running (min.'s)	0:27	1:08	2:36	1:25	1:44
Running (min.'s.)	5:35	5:56	5:10	3:36	3:42
Jogging (min.'s.)	16:06	13:36	14:34	14:45	12:42
Walking (min.'s.)	56:38	51:10	47:21	54:45	57:01
Tackles	15	25	15	12	9
Rucks	40	46	22	22	16

Courtesy of RFU, 2003.

Task; Use Table 1.3 to help design a training session for a centre. How and why would your adapt the session for some of the other positions?



Task:By using Figure1.1 and 1.2 what comments can you make about Rugby Union? What can you tell about the differences between the two positions shown? (see Paul Pook's interview for help!)

Balls Sports Magazine talks to Strength and Conditioning Coach and Co-author of 'Complete Conditioning for Rugby' Paul Pook.

In your opinion which component of fitness, and why, is the most important for the modern international rugby player?

I believe that strength is the most important component because strength enhances speed and endurance, it also improves skills that require strength such as tackling, and it helps to protect you against injury.

Which fitness tests do you think are most relevant for a winger in rugby?

10m, 30m and 60m sprint tests, vertical jump, plus a repeated interval test. Plus a leg and upper body strength test e.g. squat and bench press

What methods of training are most used at different parts of the season?

Off season – depends largely on a player's needs – if he or she needs size and strength the first phase may focus on weight training. On the other hand, if a player lacks endurance and is over-fat, that player needs to focus on endurance fitness, but not necessarily constant (steady state) exercise. Generally, the volume of weight training and interval work in the off season is far greater than in-season. The in-season principle is to be 'sharp' for matches so short speed endurance sessions plus power and speed agility drills are more prevalent.

What are the major differences in fitness requirements and training programmes between a forward and a back?

The main difference is that the forwards require a higher level of endurance fitness to sustain their constant involvement in play. If you look at a forward's heart rate for a match it stays higher for longer compared to that of a back because they are always on

the move, whereas the outside backs often have more opportunities to rest. However, inside backs, particularly the scrum half, require high levels of endurance similar to the forwards.

If you could build the perfect rugby player (in terms of fitness) which players would you select?

I'd select the agility of Jason Robinson, the endurance of Pat Sanderson, the strength of Andy Sheridan, the speed of Brian O'Driscoll and the durability of Jason Leonard.

I'd select the agility of Jason Robinson, the endurance of Pat Sanderson, the strength of Andy Sheridan, the speed of Brian O'Driscoll and the durability of Jason Leonard.

Win a copy of Dan Luger's and Paul Pook's book! (5 to giveaway)

You have read who Paul thinks would make the perfect rugby player; what do you think? Send your answer to info@balls-sportsmagazine.co.uk (subject; Rugby Book Competition), your answer should include at least 5 players and components of fitness and should explain your choices. Remember to include your name and postal address.



Get a 10% discount off 'Complete Conditioning of Rugby' (normal price £13.99; ISBN 0736052100) visit www.humankinetics.com quoting mail code R423 at the top of the shopping cart page or ring order hotline 0113 255 5665 or email hk@hkeurope.com.



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# SHOW ME THE MONEY!

## Where is the money in sport?

Jim Reid works in the City of London as a Strategist for Deutsche Bank. After living with future PE teachers at university and lending them money he never got back, he is keen to ensure that the next generation has an insight into the increasingly close relationship between money and sport!

- Take a highlighter pen, speed read the article below and highlight any positive aspects for sport and sporting performers.
- With a different colour highlight any negative aspects for sport and sporting performers.
- With your third colour highlight the benefits to business and sponsors.
- Put the highlighted information into a table and add to your revision notes (you might like to add a column for the disadvantages for business and sponsors).

If the global sports industry were a country then its annual earnings would comfortably put it amongst the top 10 wealthiest countries on the planet. Global sport produces annual sales similar in size to the yearly output of the entire economy of Spain or Canada. Indeed a recent study by respected financiers PricewaterhouseCoopers has suggested that the industry will be worth \$111bn by 2009. This figure includes gate revenues, TV rights, merchandising and sponsorship. As with anything big, the US typically leads the way accounting for just over 50% of the global sports business market.

To give an example of how valuable the market is in the US it is worth remembering that the focal point of the sporting and therefore the advertising calendar occurs during Superbowl. A 30-second ad during the game can cost a staggering \$2.5million and such advertising is often seen as the ultimate showcase for an existing brand or often the launch of a new one. When you consider the event reaches a television audience of over 90 million in the US you start to understand why it's the most highly desired ad space on TV for large companies.

Brand association with a major sporting event, or a figure within a game, commands top dollar revenues for sports and its superstars. Perhaps one of the main beneficiaries has been Tiger Woods. His 5-year \$40million (£23million) contract with Nike is up for renegotiation at the end of the year. Given the huge sum of money involved it seems difficult to see how it can be a profitable investment for Nike. However one example shows the potential pay-off. TV business channel CNBC estimated that Tiger's amazing shot at the 16th hole en route to winning the 2005 Masters at Augusta, when Tiger holed a right-angled chip that dramatically drooped over the edge of the hole, revealing the trademark Nike swish logo, was worth around \$10 million to the company. This sum has been calculated based on the estimated worth of the numerous "free" repeats on global TV of the stunning shot.

Interestingly the world's biggest, wealthiest country (the US) and the world's most popular sport (football, or soccer as the Americans so irritatingly refer to it) have yet to be combined successfully even though the US, before the World Cup, were ranked the 5th

best team in the world by Fifa. The potential is therefore huge, which probably explains why the Glaziers were so keen to buy the Manchester Dolphins (oops... I mean United) for around £800million last year. Many analysts suggested that the Glazier family overpaid but the global brand that is Manchester United is huge. In today's stock market £800 million could buy you companies like WH Smith, MFI, Halfords or HMV. All successful companies but perhaps not big global brands like Manchester United. Love them or hate them one can definitely see some of their potential.

Successful sponsorship has to create the correct image to benefit both parties over the long-run.

Indeed recent deals suggest that Glazier is focusing on the, as yet, untapped US market. They have signed a four-year, £56 million shirt sponsorship deal, a record in British football, with New York-based global insurance company American International Group Inc, the 9th largest company in the US. The club apparently turned down a higher £70 million bid from a largely unknown betting company, probably to ensure deeper integration with the US market. The moral implications of a betting firm sponsoring the most popular club in Britain may have also contributed to the decision. Successful sponsorship has to create the correct image to benefit both parties over the long-run. Indeed the more restrictive laws governing betting in the US may have meant that choosing a betting firm to sponsor them may have actually cost them marketing/revenue opportunities.

So the Man Utd brand is set to be exploited to its maximum over the coming few years and is indicative of the increasing role of business in sport. However is it a good thing to see money dominate sport?

This is a complex issue; many Man Utd fans fear ever increasing ticket and merchandise prices, which may erode the traditional working class roots embedded in the game. However can one ultimately blame Chelsea, who have repriced the cost



of success for everyone in football across Europe? To compete for the best players do clubs need more funds with rich businessmen like Abramovich involved in the game? This may mean that fans of the game will have to pay more (whether they realise it or not) to support their team. With such an incredibly wealthy benefactor Chelsea do not need to run their club as a viable business. This seems to have set them aside from the vast majority of clubs in sport. A resulting consequence may be the bankruptcy of other clubs as they try to compete. Only a few teams can succeed in sport. Coming second or third, but with sound finances may not cut it with the fans or with a manager or chairman with a big ego.

Moving away from football, money has started to flow into our summer sport of cricket. Much of this money has come from Sky TV who have revolutionised access to the game. Their coverage of every England tour since 1990 has enabled fans to watch England play at all hours, from all over the

world. Compare this to the days of trying to get a decent reception on your radio, hoping to listen to the Ashes being fought Down Under (honestly! Ask your PE teachers!). This winter I will be watching England attempt to retain the Ashes, through the night, live on Sky. And remember Sky have covered 3 previous England tours to Oz, all ending in heavy defeats, so they are not suddenly taking advantage of the increased popularity of the game. However the decision to award Sky exclusive rights to home test cricket from 2006 has been greeted with some opposition as it removes live international cricket from terrestrial TV.

What is more important? That the widest possible audiences watch our national summer sport, or that we maximise revenue to invest in the game at grass roots level? Maybe a balance should have been struck

but the recent decade of Sky TV money flowing into the game has certainly made England a better team and probably helped drive the phenomenal once in a lifetime Ashes series last summer. Without this

...as long as sport continues to thrill, excite and inspire millions globally, it will continue to attract money as companies will always look to exploit its popularity.

money it is unlikely that we would have academies for the best young players, a full coaching staff and back-up team for the elite players, and most importantly the central contracts that allowed the ECB to manage the best players rather than have them overused by their counties. Indeed English football now has the opposite problem. The Sky money is concentrated at Club level, giving them more power in the Club vs. Country debate. England has arguably under-performed at numerous World Cup and European Championships due to player fatigue/injury after grueling domestic seasons.

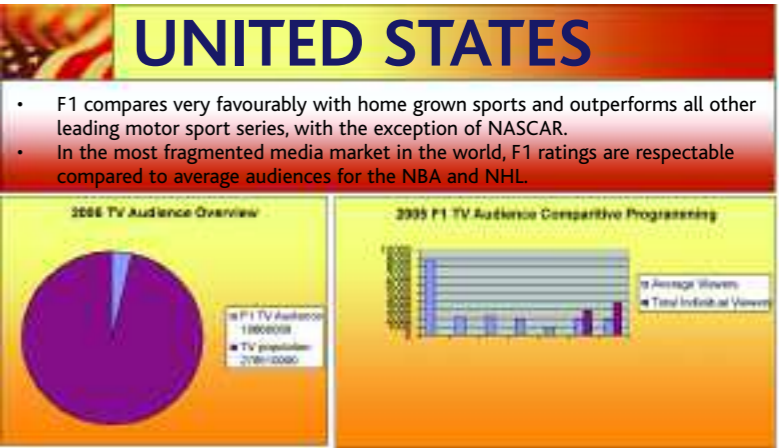
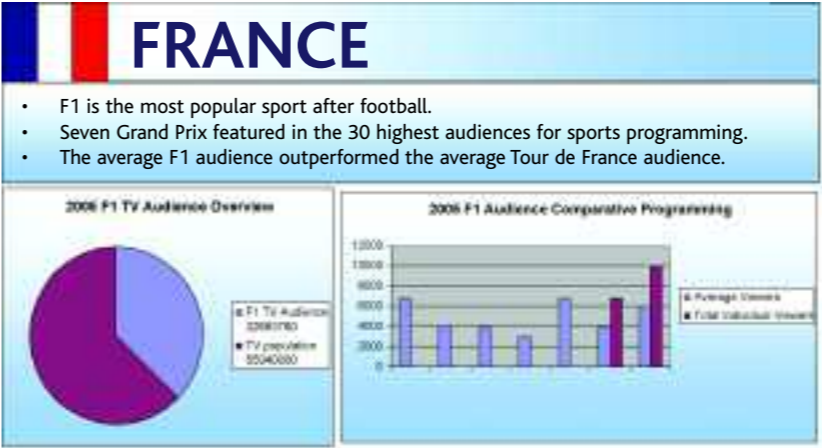
In conclusion it is fair to say that as long as sport continues to thrill, excite and inspire millions globally, it will continue to attract money as companies will always look to exploit its popularity. The arguments raised above perhaps suggest that money in sport is a mixed blessing. At best it improves facilities at grass root level and in-time performance at the top level. However, if overly concentrated on individual sports, teams, or individuals, it can cause distortions in sport. Perhaps how football copes with Chelsea's unparalleled riches over the next 5 years will shape the debate over the impact of money on sport.

Agree or Disagree? Let us know by emailing us: [info@balls-sportsmagazine.co.uk](mailto:info@balls-sportsmagazine.co.uk) (Subject: Letters).

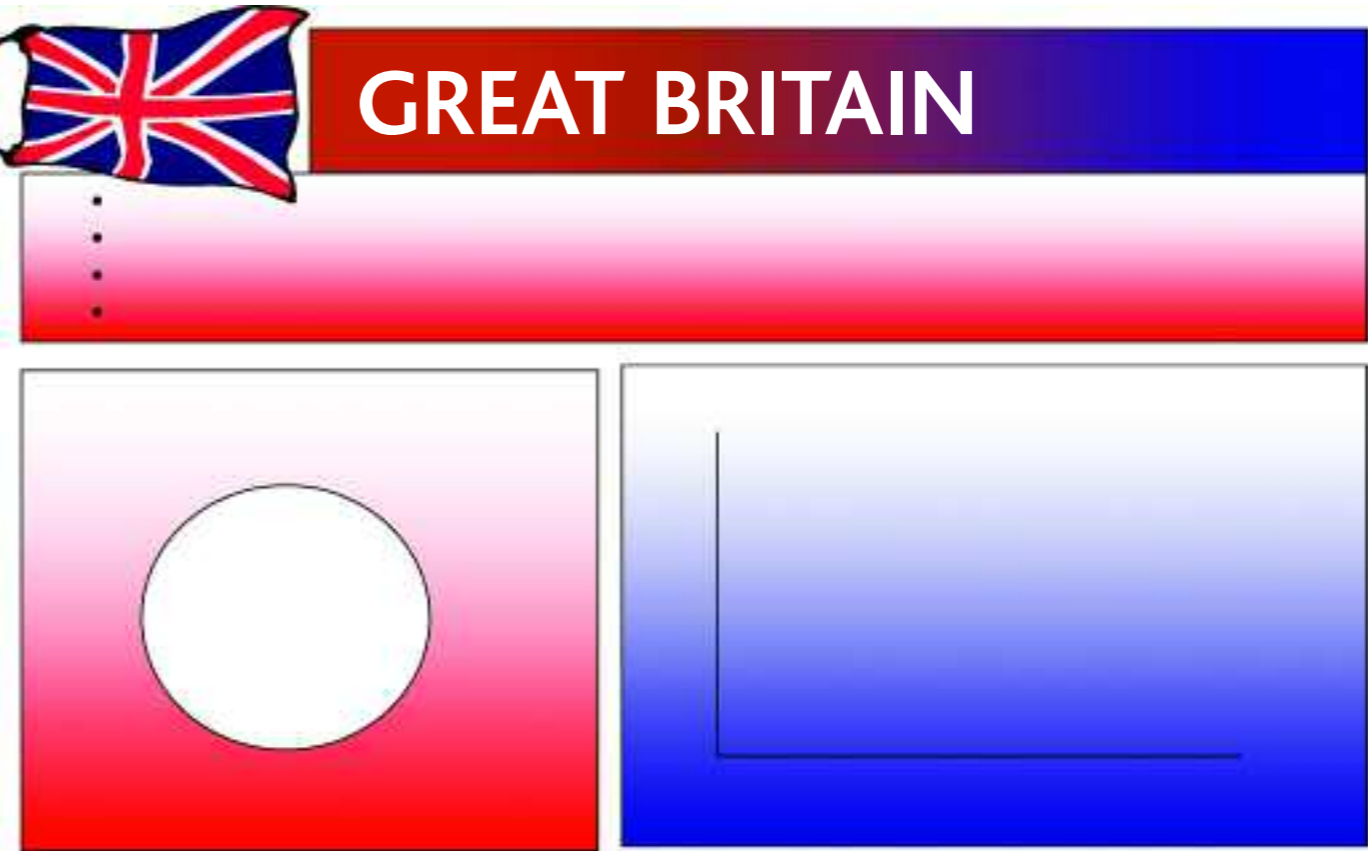


# FORMULA 1

## TV MARKET ANALYSIS



Can you research sporting TV markets in Great Britain and complete the template below?



- Tasks
1. List the various ways in which sponsorship is used in F1
  2. How has formula 1 adapted to the demands of TV?
  3. How do you think formula 1 decides where to hold their races?



Information kindly provided by Sportbusiness International Magazine. (April 2006) [www.sportbusiness.com](http://www.sportbusiness.com)

...when Tiger holed a right-angled chip that dramatically drooped over the edge of the hole, revealing the trademark Nike swish logo, was worth around \$10 million to the company.

# SHELLY WOODS

## INTERVIEW

The inspirational and talented wheelchair athlete Shelly Woods talks to Balls Sports Magazine about the issues facing the world of disability sport and its elite performers.

PROFESSIONAL SPORTS PARTNERSHIPS  
is proud to introduce...

### Shelly Woods

*Shelly Woods is one of Great Britain's best young talents for the Paralympic Games in Beijing in 2008 and London in 2012.*

Shelly suffered a spinal cord Injury (T12-L1) from a 20ft fall from a tree aged 11. She was always an active youngster and after her accident she decided to sample a few sports such as wheelchair basketball and swimming but she enjoyed wheelchair athletics the most.

In 2004 at only 18 years of age Shelley started to make a name for herself with some exceptional performances in road races - 2nd in the Great North Run, 2nd in the Manchester Run and she won the Mini London Marathon setting a new course record of 11mins 57 seconds.

After her achievements on the road, Shelly tried track racing in the 800m, 1500m and 5000m. In her first season on the track she had some very good performances and represented Great Britain.

In 2005 Shelly continued to progress rapidly and her results continued to be impressive, winning the Great North Run and finishing second in the Great Manchester Run but her outstanding performance of the year was in her first marathon ever – the London Marathon – where she came second! She was the first British athlete to cross the finish line in all these events.

Shelley also had good performances on the track in 2005 where she won a bronze medal at the European Championships in the 5000m.

Recently referred to as 'the next Tanni Grey-Thompson', Shelly actually broke Tanni's 5000m British record in June last year and in this year's Commonwealth Games in Melbourne she finished just 2 places behind Tanni in the final of the 800m.

In April this year, Shelly won the Paris Marathon and later this year she will compete in the 1500m and 5000m at the European Championships in August as well as the London Marathon in April. Her ultimate goal is to compete at the Beijing Paralympic Games in 2008 where she will be a genuine medal prospect and to win Gold at the London Paralympic Games in 2012 when she will still only be 26 years old!

#### PERSONAL DETAILS:

Date of Birth: **7 February 1986**

Sport: **Wheelchair Athletics**

Home Town: **Blackpool**

Current Address: **Blackpool**

Club: **Blackpool & Fylde**

Sponsors: **Halliwells, Bromakin, Omega Commercials Ltd**

#### ACHIEVEMENTS TO DATE:

**2006** 2<sup>nd</sup> – 10km Rolling Rampage, Canada  
**2006** 2<sup>nd</sup> – London Marathon  
**2006** 1<sup>st</sup> – Paris Marathon  
**2005** 1<sup>st</sup> – Redcar 10 mile  
**2005** Champions Track meet, Warm Springs  
**2005** 2<sup>nd</sup> – London Marathon  
**2005** 2<sup>nd</sup> – The Great Manchester Race  
**2005** Bronze – IPC Open European Championships 5000m  
**2005** 1<sup>st</sup> – Great North Run (new course record)  
**2004** 1<sup>st</sup> – London Mini Marathon (new course record)  
**2004** International Track Meeting Bron, France  
**2004** British Open, Birmingham 1500m  
**2004** 2<sup>nd</sup> – The Great Manchester Run  
**2004** 2<sup>nd</sup> – Great North Run

**2005 World Rankings**  
 800m 8th  
 1500m 3rd  
 5000m 8th  
 Marathon 8th

**Personal Bests**  
 800m – 1:58.42  
 1500m – 3:33.62  
 5000m – 12:11.81  
 Marathon – 1:57.03



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### Key Terms

- Disability sport and its Organisations
- Barriers to participation
- Segregation/Inclusion
- Elite Sport
- Venues/Facilities
- Role Models
- Profiling
- Funding
- Paralympics.

*You compete in events from 400m to the marathon, how do you manage to keep your training specific across such a varied range?*

The beauty with wheelchair racing is we can cover such a wide range of events and be successful. You can't compare us to runners, we are more like cyclists - because of the type of training we do. Think of it this way – Lance Armstrong can win a stage in the Tour de France and can also go on and win the whole thing. Wheelchair racing gets faster as the distance goes on compared to runners. My coach sets my training programme and the sessions I do are to improve my weaknesses where needed.

*Outside of athletics which disability sports do you admire/enjoy the most?*

Well I've tried wheelchair basketball and must say it's a lot of fun, and I

would love to try snow skiing - my brothers and Dad are keen snowboarders. I would also like to try and find a sport I can do with my brothers where we are on a totally level playing field.

**Task 1: Research a disability sport**

**You never know what you can achieve until you try. I race because I love it. Becoming good at it and winning races is a bonus.**

**of your choice that has been adapted (www.efds.net). What are the rules of the sport? How is the sport organised (governing body)? Are there specialist venues/facilities for the sport?**

**To train for and race in marathons you must be 'mentally tough'. Is this innate? Did you**

*disability/accident have any impact on your desire to achieve?*

I wouldn't consider myself 'mentally tough', but as I'm getting older I think the training and racing is starting to make me mentally tougher. I love racing the marathon - as so much can happen in that race. At the end of the day, when it's hurting in the closing stages, you think to yourself, 'I've not done all this work to just give up', and you want to push yourself to be the best you can be.

The one thing my disability/ accident has taught me is to make the most of every opportunity.

**What advice would you give to a young person with a disability who may be reluctant to participate in sport?**

You never know what you can achieve until you try. I race because I love it. Becoming good at it and winning races is a bonus.

**Task 2: Consider what 'challenges' a disabled athlete must overcome to become an elite performer. You may use some of these headings to help;**

- Stereotypes and myths.
- Self esteem.
- Access of sporting/competitive opportunities.

**How would you like to see the profile of disability sport raised? Should the Paralympics be fully incorporated into the Olympic Games?**

I think the profile of disability sport is starting to get better and improving all the time, but it still has a long way to go! We (wheelchair racers) are always being told by the public that the coverage on TV is terrible and they'd love to see much more.

I'm not sure the Paralympic and Olympic Games should be fully incorporated, but if there was the same crowd at the Paralympics as the Olympics, and if Paralympic athletes were treated the same way as Olympians are, it would be brilliant.

The Olympic Games holds 2 wheelchair 'exhibition' events - the 800m for women and 1500m for men. One of my ambitions is to race at the Olympic and Paralympic Games and medal at both.



“I admire Lance Armstrong for beating the odds and overcoming cancer and coming back and winning the Tour de France 7 times.”

**Task 3: Consider the issues of segregation and inclusion for disability sport, what are the advantages and disadvantages of each?**

*You name Lance Armstrong and Chantal Petitclerc as your inspiration/role models, can you explain what it is you admire about them?*

I admire Lance Armstrong for beating the odds and overcoming cancer and coming back and winning the Tour de France 7 times. I am also inspired by his mindset. The way he trains and thinks. People all around him told him he couldn't do it because of what his body had already had to deal with, but he proved them all wrong, again and again and again.

Chantal Petitclerc is a big role model - she won 5 gold medals in Athens and holds most of the world records in my sport. She is at the top and considered as the best of the best! I'd love to beat her before she retires.

**Task 4: How many athletes with disabilities can you name? If you cannot name more than five consider why this might be the case. Which disabled athlete do you admire and why? Shelly Woods is classified as a T12-L1 athlete. Research the profiling system used in wheelchair athletics.**

*As an athlete how do you get funded to meet the financial demands of training and competition and does disability sport gain the funding it deserves?*

You can't really profit from my sport and make a living so I am always looking for sponsors to help me fund my training and racing expenses. Athletes, whether able or disabled, always struggle to train the way they have to, to be at the top - yet earn enough money to allow them to compete, but things are improving in that area too.

**Task 5: Research a disability sports competition, what evidence of sponsorship/media coverage can you find? Which sporting organisations provide funding? How could disability sport gain more funding?**

**BALLS**



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What is needed to achieve it? Be confident, believe it.

“IF YOU THINK YOU CAN OR IF YOU THINK YOU CAN'T  
YOU ARE PROBABLY RIGHT”

Put the time in.  
Don't wait until you have few lessons left .Revision, memory and exams are a skill. They are not decided by what has gone on in the past. They can be learnt. No one ever achieved without effort. Repetition and good practice achieves results. The more time put in now the more you will improve. Start now.

“THE MORE I PRACTICE THE LUCKIER I GET”

Prepare smartly.  
Listen to advice of your coach (teacher). Prepare effectively. Plan your timetable. 'chunk' notes. Use posters. Use rhymes to remember. Use the 'out of the ordinary'. Use pictures and diagrams. Use colour. Use web sites. Use a variety of techniques. Continue to practice things you think you have mastered.

“PERFECT PRACTICE MAKES PERFECT”

Train the way you play.  
Get familiar with your specification, past exam papers and mark schemes. Be familiar with the terminology/definitions. Practice in exam conditions. Practice exam technique. 'overload': practice answering more then the required marks.

“FAIL TO PREPARE, THEN YOU SHOULD PREPARE TO FAIL”

Play games.  
Liven up revision. Turn memory tasks into quizzes. Use games from the TV. Set games for a revision partner. Be competitive, improve your scores. Parents etc can be good quizmasters.

Get in the zone.  
Confidence will come from preparation. It will feel natural and effortless.  
Revision works.

BALLS

# CIRCULATORY LOTTO


- Rules;
- Put numbers 1 – 16 randomly in the 16 boxes.
  - Select a quizmaster who can use a glossary (from your specification or textbook, or use your own knowledge!) to define the key words listed below.
  - When you think the quizmaster is describing a particular key word, cross off the relevant number.
  - When you have a line of four, shout WINNER!

- Key Words
- AORTA
  - VENA CAVA
  - PULMONARY VEIN
  - PULMONARY ARTERY
  - VENTRICLE
  - ATRIUM
  - PLASMA
  - RED BLOOD CELLS
  - WHITE BLOOD CELLS
  - PLATELETS
  - HAEMOGLOBIN
  - VEINS
  - ARTERIES
  - CAPILLARIES
  - DEOXYGENATED
  - OXYGENATED

- How about?
- Adding another 9 words that relate to the Circulatory System and play again using a 5x5 table.
  - Reverse the game so that you have the definitions numbered and when the quizmaster reads out a key word you have to match the correct definition.
  - Pick another topic and key words from your specification; design another lotto version for your classmates to play.

Got a good revision game? Send your ideas to  
[www.balls-sportsmagazine.co.uk](http://www.balls-sportsmagazine.co.uk) (Subject; Revision Games).

# Paying the Penalty

Penalties proved very decisive in many matches during the World Cup this summer, most notably they helped eliminate England (again!) while Italy won the ultimate prize in world football after a dramatic penalty shoot out.

Images courtesy Getty Images

England's elimination from the World Cup on penalties was the 4th time in 7 major championships. In the same time Germany have taken part in 4 penalty shootouts and won them all by scoring every penalty. Penalties can no longer be called a lottery and perhaps England suffers during penalty shoot-outs by 'choking' when the pressure really is on.

Sven-Goran Eriksson announced during the World Cup that England had been practicing penalties in training for 5 – 6 weeks. Jamie Carragher was specifically brought on in the last minute to take a penalty (I assume he was one of the most successful in training) and Lampard and Gerrard regularly score from the penalty spot for their clubs.

**'The pressure and expectations of taking a penalty are particularly prevalent in important sporting situations and elicit the most intense psychological reactions'**

The situation Lampard, Gerrard and Carragher faced can create a drive and increased arousal which in turn can lead to anxiety. It's interesting to witness the body language of the penalty takers. They looked extremely nervous as they walked from the half way line and lacked the confident authority the German players had exhibited the previous evening during their Quarter Final against Argentina. The quality of the kicks showed little conviction as muscles seemed to stiffen and their facial expressions exhibited a fear of failure rather than confidence. As the Portuguese goalkeeper Ricardo said in his post match interview "I could see in the eyes of the English players that they were not OK."

Carragher infamously scored his first penalty but "did not realise you had to wait for the referee's whistle." Ivan Carminati, the English fitness coach, described this as a 'joke' and declared

"the stress made him do what he did. Normally Carragher is a good penalty-taker but anything can happen when the pressure gets to you. You can practise penalties all you want...but you cannot prepare for the stress."

Carragher's retaken penalty had hesitation in the run-up and a break down in technique as it was comfortably saved by Ricardo.

The drama of penalties is not new to English football fans and has caused much triumph and heartache over the years. David Beckham faced immense pressure when England was awarded a penalty against Argentina in the 2002 World Cup, having been sent off against them in the previous World Cup. In his book 'My Side' he described 'a hungry feeling, in the pit of my stomach: dread' as he approached the penalty.

Moments before, as Beckham prepared to take the penalty, Simeone the Argentinean captain attempted an audacious piece of gamesmanship as he stood in front of Beckham and offered to shake hands with him. Beckham highlights the level of concentration required to remain focussed and control your anxiety as he states "I looked beyond him – through him – towards the goal, trying to blank him

out.....I can't breathe.....I forced in 2 big gulps of air to try and steady myself"

The relief and joy of scoring was clearly evident by his cathartic conversion and emotional celebration.



Such feeling of joy and ecstasy were not present at the World Cup in 1990 or Euro 96 as Waddle and Southgate, respectively, produced two penalty kicks which did not mirror their obvious talent. Both had had fine tournaments up to that point and yet in this specific situation a perceived feeling of nervousness and worry may have been one reason for their poor execution.

Tony Cascarino, in his Times newspaper column, described the pressure he felt as he walked from the halfway line to take a penalty in the 1990 World Cup for the Republic of Ireland, "time to think – too much time, time to doubt, to worry". He went on to show a classic symptom of anxiety, fear of failure, as he described his thought process, "I didn't have enough faith in my ability to stick it in the corner..... I didn't want to aim for the roof of the goal because I was worried I would blast it over the bar"

Anxiety about their performance can negatively affect a performer's concentration, attention and level of

information processing. Taking a penalty is clearly a very high pressurised situation and how players react to that situation is a key factor that can separate success and failure – as we reflect on England's elimination from the World Cup perhaps England are paying the penalty for their inability to handle the pressure and anxiety created in this intense situation.

## Questions

1. Using examples from the article explain state anxiety and the symptoms a performer may feel.
2. Using examples from the article explain the difference between somatic anxiety and cognitive anxiety.
3. What was Simeone attempting with his act of gamesmanship?

## Essay or Class Discussion

Ivan Carminati was quoted as saying,

"You can practise penalties all you want.....but you cannot prepare for the stress"

## Discuss

## Extension Activities

1. Before the lesson choose 3 students to perform a task/test with a friend with no one else around i.e. 10 free basketball throws.

Now repeat the task with the entire class watching and anyone else you can generate. Discuss with the students their results and how they felt.

2. Ask the students to complete the Competitive State Anxiety Inventory (CSAI 2) 15 minutes before their next school match. Compare class results and discuss.

**BALLS**

**The relief and joy of scoring was clearly evident by his cathartic conversion and emotional celebration.**



SPORTING CALENDAR

Wow! look at all the sport you can enjoy until your next edition of Balls!

SEPTEMBER 2006  
7-10 EQUESTRIAN Burghley Horse Trial  
8 CRICKET NatWest series: England v Pakistan, Trent Bridge  
9-10 ATHLETICS IAAF World Athletics final, Stuttgart  
10 CRICKET NatWest series: England v Pakistan, Edgbaston  
10 MOTOR RACING Italian Grand Prix  
14-17 GOLF HSBC World Match Play Championship, Wentworth  
16-17 TENNIS Fed Cup final  
17 MOTOR RACING Belgian Grand Prix  
22-24 GOLF 36th Ryder Cup, Co Kildare  
22-24 TENNIS Davis Cup  
23 CRICKET Eng of County Championship season  
24 CRICKET 40-over league play-offs

OCTOBER 2006  
1 ATHLETICS BUPA Great North Run, Tyneside  
1 MOTOR RACING Chinese Grand Prix  
4-8 EQUESTRIAN Horse of the Year Show, London  
5-8 GOLF Dunhill Links Championship, Scotland  
8 MOTOR RACING Japanese Grand Prix  
9-14 SQUASH British Open  
14 RUGBY LEAGUE Super League Grand Final, Old Trafford  
22 MOTOR RACING Brazilian Grand Prix  
26-29 GOLF Volvo Masters, Sotogrande  
NOVEMBER 2006  
30 Oct-5 NovTENNIS BNP Masters, Paris  
30 Oct-5 NovTENNIS Bell Women's Challenge, Quebec  
5 MOTOR RACING World Touring Car Championship (TBC)  
5-15TENNIS WTA Tour Championships, Madrid  
10 CRICKET Prime Minister's XI v England, Canberra  
10-12 RALLYING Rally of New Zealand  
12-14 CRICKET New South Wales v England, Sydney  
12-18TENNIS Masters Cup, Shanghai  
17-19 CRICKET South Australia v England, Adelaide  
19 MOTOR RACING World Touring Championship, China  
23-27 CRICKET First Test: Australia v England, Brisbane

DECEMBER 2006  
1-3 TENNIS Davis Cup final  
1-3 RALLYING Wales Rally GB  
1-5 CRICKET Second Test: Australia v England, Adelaide  
7-10 GOLF WGC World Cup (TBC)  
9-10 CRICKET Western Australia v England, Perth  
10ATHLETICS Spar European Cross County event, Legnano  
14-18 CRICKET Third Test: Australia v England, Perth  
26-30 CRICKET Fourth Test: Australia v England, Melbourne

EXTRA TIME

GUESS WHO.

Simple rules; the smaller the ball the bigger the points!



5 POINTER



10 POINTER



15 POINTER



20 POINTER



AND THE 'BET YOU DON'T GET IT' 50 POINTER

5 Point Guess: \_\_\_\_\_  
10 Point Guess: \_\_\_\_\_  
15 Point Guess: \_\_\_\_\_  
20 Point Guess: \_\_\_\_\_  
50 Point Guess: \_\_\_\_\_  
Your Score: \_\_\_\_\_

How well did you do? Find the answers on the page opposite.

COUNT YOUR BALLS AND WIN A BALL!

What could be easier? Count the number of balls in the photo, email your answer to [info@balls-sportsmagazine.co.uk](mailto:info@balls-sportsmagazine.co.uk) (Subject: Count your Balls).

Remember to also include your name and address.



Prediction game...

So do you think you know about Sport? More than your classmates? More than sports stars? More than your teachers? Even more than us? Prove it!

Below are 6 sporting events happening in September and October. Balls are going to keep score and see which group of people will be top of the table. Why not set up a class competition?

The Line Up.

**Sports Star;** No wonder Olympic Gold Medallist Darren Campbell looks worried he is first off for the Sports Stars.  
**Teacher:** Mr David Carpenter, Assistant Director of Sport at Paignton Community and Sports College, looks confident as he aims to prove that teachers know best!  
**Male Student:** Richard Kenyon, Yr 11 GCSE PE Student at Rossmore Community and Sports College, sets the standard for the boys!  
**Female Student:** Ashleigh Davis, Yr 11 GCSE PE Student at Ounsdale High School represents the girls!  
**Balls Sports Magazine:** Editors choice. Expect a winning start to the campaign!



EVENT	RULES	Sports Stars	Teachers	Male Students	Female Students	Balls	YOUR PREDICTION	CORRECT RESULT	POINTS
US TENNIS OPEN WINNER MALE:	5 POINTS IF CORRECT 1 POINT IF RUNNER UP	RAFAEL NADAL	ROGER FEDERER	RAFAEL NADAL	ROGER FEDERER	ROGER FEDERER			
US TENNIS OPEN WINNER FEMALE:	5 POINTS IF CORRECT 1 POINT IF RUNNER UP	MARIA SHARAPOVA	MARIA SHARAPOVA	VENUS WILLIAMS	AMELIE MAURESMO	AMELIE MAURESMO			
RYDER CUP WINNERS:	2 POINTS IF CORRECT	EUROPE	USA	USA	USA	EUROPE			
CHINESE GRAND PRIX WINNER:	5 POINTS IF CORRECT 1 POINT IF RUNNER UP	ALONSO	ALONSO	ALONSO	MICHAEL SCHUMACHER	ALONSO			
LEADING PREMIERSHIP GOALSCORER AT THE END OF SEPTEMBER:	5 POINTS IF CORRECT 2 POINTS IF SECOND 1 POINTS IF THIRD	WAYNE ROONEY	ANDRE SHEVCHENKO	CRISTIANO RONALDO	THIERY HENRY	ANDY JOHNSON			
ENGLAND V MACEDONIA SCORE	5 POINTS FOR CORRECT SCORE 1 POINT FOR CORRECT OUTCOME (E.G.DRAW)	3-0	3-0	2-1	2-1	4-0			
TOTAL POINTS	MAX: 27								

Think that you could do better? Students and staff email us at [info@balls-sportsmagazine.co.uk](mailto:info@balls-sportsmagazine.co.uk) (Subject; Prediction Game) stating

- Whether your are a member of staff or student,
- Students (Your name, school and PE course)
- Staff (Your name, school, position and photo)

Guess Who Answers:  
Jens Lehmann (5 points), Yining Zhang (50 points), Phil Mickelson (20 points) and bet you didn't get it!

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# What are the TOP 5 Sporting Reactions?

Experienced teacher of examination Physical  
Education Stuart Taylor explains reaction times  
and reveals the sports that require the fastest  
reactions.

The difference between winning and coming runner up in many top level sporting events can be minute – down to the 1000th of a second. With so much at stake elite sports performers do all in their powers to become the ultimate winning machine. Athletes train and practice for years to improve their components of fitness and groove near perfect technique to be as successful as possible, but is this enough? Do spectacular actions such as an amazing save from England goalkeeper Paul Robinson or a flying sprint start from Asafa Powell happen just by chance? In this article we look at which sports possibly require the fastest reactions.

Reaction time is a 'skill based' component of fitness such as speed and co-ordination. It is a vital part of many sporting performances; however, it is often one that is not specifically focused upon when considering a Personal Training Programme. Imagine Andy Murray standing on the baseline at Wimbledon's centre court receiving serve – without reaction time training it's possible that we may see Murray move to hit the ball after it has already hit the back of the court – ridiculous!!

So what exactly is reaction time and which sports require the quickest? Reaction Time is the name given to the time taken between the input of a stimulus and the response that is selected by the athlete. To put it into context if you were driving a car it's the time taken from when you see the car in front brake and you press the brake pedal on your own car. Sensory receptors such as the eyes or ears detect stimuli within sports situations that act as cues for the athlete. Information, known as nerve impulses are sent to the brain where a response is selected. This response is normally in some form of movement – either to move the body, a body part or an implement such as a racket or a bat.

## TASK:

1. Using a metre ruler or stick test your reaction time by gripping the ruler between thumb and first finger. Hold the ruler near the bottom end of the ruler noting the measurement on the ruler.

2. Use a partner to stand on a chair holding the top end of the ruler whilst you release your grip keeping your fingers in a similar position.

3. When ready, your partner can drop the ruler – you must react and grip the ruler, again with your thumb and first finger.

4. Calculate the difference between the measurement on the ruler from your first and final grip.

5. Repeat three times and calculate an average. Why not compare your score with that of your class?

So which sports require performers to have the quickest reaction times? Well, many factors influence our TOP 5. We have tried to consider factors such as the where the stimulus is first noted and the difficulty of the response required e.g. the difference in distance between a baseball pitcher and batter compared to that of a hockey penalty taker and goal keeper. Obviously the closer the stimulus is to an athlete the less time the athlete has to process the information and react to it.

\*This is actually not true reaction time – rather anticipation or coincidence timing.

**TASK:** why not log on to [www.topendsports.com](http://www.topendsports.com) to try your reactions in a series of tests online. Compare your scores to others online and against the TOP 5 above.

Agree or Disagree? Let us know by emailing us: [info@balls-sportsmagazine.co.uk](mailto:info@balls-sportsmagazine.co.uk) (Subject: Letters).

**BALLS**

5.



## THE TOP FIVE

### Number 05: Formula 1

Formula 1 Drivers Reacting to the Green Light. This is commonly known as 'simple' reaction time where a stimulus requires one response only. A driver reacts to the stimulus, a green light, in order to get away from the start grid as quickly and as smoothly as possible. As with athletics a 'flying start' in motorsport incurs a penalty for the driver that starts too quickly. A driver's position into the first corner is often crucial to his/her finishing position making a driver's reaction time one of the most important aspects of the race.

4.



### Number 04: Cricket Slip Catch

Cricket Slip Catch. South African Cricketer Jonty Rhodes is renowned throughout world for his amazing diving and quick fielding skills. Rhodes has taken many amazing close fielding catches where the ball has actually travelled past his body and/or taken the ball whilst his body is in mid air. Considering a cricket ball can leave the bat at speeds in excess of 90 mph, Rhodes, and others like him show amazing reaction times. This requires hours of practice in specific quick catching situations to anticipate the flight of the ball as it leaves the bat.

3.



### Number 03: Sprinter's Start

A Sprinter Reacting to the Gun. This is one sport where the performer reacts to an auditory stimulus rather than a visual stimulus. Much is made of going on the "B of the BANG." So much so that the IAAF have ruled that if an athlete responds to the gun inside of 100milliseconds, the start is deemed as FALSE and is restarted. The fastest reaction time recorded was Surin Bruny - who managed a 101 mSec in the 1999 World Championships 2nd semi-final.

2.



### Number 02: Facing a Baseball Pitch

Facing a Baseball Pitch. Striking sports such as cricket, tennis and baseball require quick reactions. So much so that it has been shown that to be effective and consistent the performer must actually anticipate where the ball is going before it is released from the hand or racket. \*

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