



SENSATIONAL 1

Sensational 1 – a new football which increases the speed of the game and gives the female sex the chance to play a fast, safe and attractive game.

Size matters - They did it in basketball in handball - adapted to women players – now we are doing it for football. Our aim is to set a new standard for the type of ball used in parks, clubs and at international match level.

Studies have shown that there has to be a difference in the size and weight of a football for men and women respectively.

It's a fact, that women and girls around the world have taken up football. FIFA predicts that there will be just as many women playing football by 2014 as there are men.

That's why women should have a ball which offers them the best chance of being part of this fast, safe and attractive game. Sensational 1 will make it easier for female players to score with shots from outside the penalty area and dazzle with fancy footwork which is impossible with a ball which is too big and heavy.

The new football will also lower the frequency of injuries. Studies show that there are 6 times as their male counterpart. We believe that a smaller and lighter ball will mean significantly less accumulative stress over the thousands of shots women make during their football careers.



“The new ball will give women the chance to kick just as hard as men. They will not have any advantage over men, but will have the same opportunities.”

Thomas Bull
Lector of sports



Scientific researchers involved from day one

- Sensational 1 will be the perfect ball for women

Two danish coaches from B93 - Majken Gilmartin (head of sports at the city hall, Copenhagen) and Bettina Falk (former national team player) – introduced the idea and the ball along with their U18 girls team.

“We found that the when players made the transition from a smaller ball to a size 5 ball, their game changed significantly”.

Nina, 15, says: “Try heading a heavy size 5 ball, it’s not something most girls relish. And I suddenly found that I could only reach the near post area with my crosses, which I found frustrating”.

That’s why the coaches and the players decided to pursue the idea of creating a ball especially designed for female players, which gives them a chance to use their technique, increase the speed of play by 20-30% and hopefully reduce the number of injuries.

The new ball was developed in cooperation with sports researcher Thomas Bull from Aarhus University, Lector Peter Krstrup from University of Copenhagen, ball developer Lars Kjergaard and Youth development coach Thomas Slosarich, from The Danish FA.

Thomas Bull: “The girls gain no advantage over men, but will have the same opportunities.”

Copenhagen Municipality and DIF (Danish Sports Federation) have supported development and production of Sensational 1 which we started testing in march 2009 “We are convinced that some of the barriers to women’s football are currently due to the fact that they are forced to play with a large, heavy ball once they graduate to youth teams. We found that a lighter, faster ball can make an enormous difference for players and spectators. The new ball will make it easier for female players to score with shots from outside the penalty area and dazzle with some fancy footwork which is impossible with a ball which is too big and heavy for them,” says Bettina Falk, who played 56 games for the Danish women’s national team.

Majken Gilmartin: “Our aim is to set a new standard for the type of ball used in parks, clubs and even at international match level. We believe that everyone will benefit from the difference in size and weight”.





Scientific studies of Sensational 1

Thomas Bull Andersen, Principal, Sports Institute, Aarhus University. The idea behind the ball is to give women the chance to get just as much speed when kicking a football as men do. The weight of the ball has been determined by biometric considerations, in which the weight of the player's foot and lower leg are decisive.

It can be demonstrated that the speed of a football when kicked depends on the speed of the foot at the point of contact, and the relationship between the combined weight of foot and lower leg and the weight of the ball. A woman's lower leg and foot weigh less than a man's, and therefore a football for women should weigh less. It can be determined that a female football should weigh 360 grams. If it weighs more, women are deprived of the same opportunities as men, and even if they strike the ball just as fast as men do, they will never make it move as fast. To even things up, the ball's weight must not exceed 360 grams. NB: This weight applies to adult women and not just youth players.

As part of the launch of the Sensational 1 ball, a series of kicking trials were run at the Institute for Sport at Aarhus University. During the trials, 3D data was recorded of the segments of the kicking leg and the ball at a frequency of 500 frames per second. The trials were run on adult top level players, and showed that such women can get more speed on the ball when kicking a Sensational 1, compared to a standard size 5 football. Women kicked just as hard as their male counterparts, but the results show that the theoretical conclusions were correct and that women achieving the same speed moving their foot would have kicked a Sensational 1 just as hard as men.

Test for wind sensitivity

The ball has been tested by researchers at Takeshi Asai - University of Tsukuba in Japan, where it was subjected to extensive wind tunnel testing. This demonstrated that the ball had a completely similar reaction patterns in relation to wind sensitivity as a FIFA-approved size 5 football, despite its lower weight and smaller circumference.

Test period 2009

With the approval from the Board of The Danish FA, we have tested the ball this season at all levels. The tests were performed in consultation with the Principal of Aarhus University, Thomas Bull and the Principal of the University of Copenhagen, Peter Krstrup - 2 of the most acknowledged researchers in the field of biomechanics and physiology in women's football.

A range of different tests were performed on the ball in play and when kicked. Through dialogue with players, coaches and the local federations, the importance of a faster ball was discussed along with the importance of investigating the opportunity of reducing injuries by the use of a lighter ball.

Laboratory tests for kicking

Thomas Bull has run a series of formal tests in the laboratory, in which kicking the speed of the Sensational 1 football was measured and compared with that of the traditional ball used in women's football, size 5.

What we had previously seen and found on the football field now became more factual: Skovbakken IK's international Marianne Pedersen kicked a maximum 94.7 km/h using a standard size 5 football, but achieved 102 km/h using a Sensational 1 - an increase of almost 9%. The same result was achieved in identical tests performed on 8 other top players.

Thomas Bull plans laboratory tests in the spring to look at whether the kicking technique of women changes once they have trained with a lighter ball for an extended period of time.



Injury prevention

The next natural project to follow, looks at injury frequency using a Sensational 1 ball in football in relation to a standard size 5 ball. The aim was to establish whether the reduced size and weight of the ball has any significance to the likelihood of injury. This is planned for the coming season with Peter Krstrup conducting the research.

Behind the ball...

Majken Gilmartin, Founder of Sensational - Idea and Development

Bettina Falk, former national team player - Development

Thomas Slosarich, FA Youth Development Coach - Development, On-the-pith testing

Thomas Bull, Sports Scientist - Development, Scientific testingsports

Peter Krstrup, Sports Scientist - Scientific testing

Lars Kjergaard - Production

U15, U16, U17, U18 and adult girls at B93

Cover: national team players Cathrine Paaske and Julie Rydahl

Inside: Lord Mayor of Copenhagen Ritt Bjerregaard with the u16-17 girls

www.sensationalfootball.com

 Sensational 1 - a new women's football - because size matters



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