



# Kick-Off

By Soccer Fitness Golds

## Summer 2014

**IN THIS ISSUE:** HOW PLAYING SOCCER REGULARLY CAN IMPROVE STRENGTH AND ENDURANCE, IN ADDITION TO REDUCING BODY FAT

## Football for Health: Lessons From the 4th World Conference on Science and Soccer

By Richard Bucciarelli

The 4th World Conference on Science and Soccer was held in Portland, Oregon, on June 4th-7th, 2014. Researchers, academics, sports scientists, as well as practitioners in soccer-specific strength and conditioning, athletic therapy, sport psychology, and sports medicine descended upon Portland for three days to share their research, knowledge, and ideas. I have attended several of these conferences before, and for a soccer fitness coach like me the best thing about them is the opportunity to learn new and exciting pieces of evidence-based theoretical knowledge, which can then be put into practice in the weight room and/or on the pitch.

The conference in Portland was no different, as it was both a great educational experience and also a fantastic opportunity to network with other soccer and fitness professionals. One particular presentation, however, stood out to me both for its originality and for its

practical applications. Dr. Peter Krstrup, Ph.D., a professor of exercise physiology at the University of Copenhagen in Denmark, who has also worked with the Danish Men's and Women's National teams, as well as several other professional soccer clubs in Europe, has for several years been the lead researcher in a group of studies titled "Football for Health". The basic premise of the Football for Health studies has been to examine the difference in health effects between playing soccer, and other more traditional forms of exercise (including strength training, jogging, and interval running) on a variety of markers of health (including muscle mass, cardiovascular endurance, and body composition).

The rationale for studying the health effects of playing soccer is quite simple. Recent studies have indicated that there are a total of 400,000,000 "soccer players" in the world. Of those, there are only about 1,000,000 who are considered "elite" – professional and national team

players. The other 399,000,000 – a staggering number – are mainly youth and/or adult competitive and/or recreational players, who will not make a career out of playing soccer, and thus are simply playing the game for enjoyment and physical fitness. Dr. Krstrup and his team were interested in examining how participation in recreational soccer – comprising 3 hours per week of playing the game – affects the physical fitness of this large and growing number of people from around the world. The following is a summary of the results from one of the main Football for Health studies, titled "Recreational football as a health promoting activity: a topical review", and how the results of this study can have a powerful impact on youth/adult soccer players both here in Canada, as well as around the world.

(Note: there were several dozen studies done comparing soccer to other forms of physical activity on many different populations, including

healthy youth/adults, the elderly, and in people with diseases such as heart disease, diabetes, cancer, osteoporosis, and others; for the purpose of this article, I will focus on the results from the one main study that was conducted using healthy adults).

#### General Organization<sup>1</sup>:

Participants in this study were untrained men between the ages of 25-40, who were randomly assigned into 5 groups:

1. Soccer group: participated in 3 sessions per week of recreational soccer, 1 hour per session, for 12 weeks.
2. Jogging group: participated in 3 sessions per week of 60-minute jogging, for 12 weeks.
3. Interval running group: participated in 3 sessions per week of 60-minutes interval running, for 12 weeks.
4. Strength training group: participated in 3 sessions per week of 60-minutes strength training, for 12 weeks.
5. Control group: restricted to no physical activity for 12 weeks.

The intensity, as measured by average heart rate as a percentage of maximum heart rate of each individual, was kept equal among all four of the exercise groups (football/soccer, jogging, interval running, and strength training). All participants were advised not to participate in any other physical activity over the course of the 12-week training period. Various different physical and physiological measurements were taken, both pre-training, and following the 12-week training intervention.

### Results – Cardiovascular Fitness<sup>1</sup>:

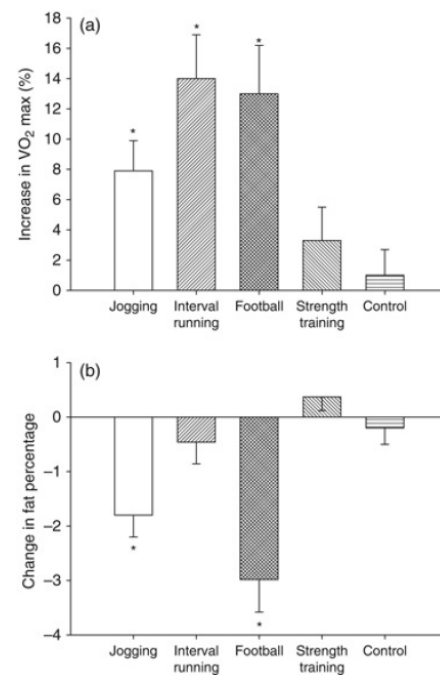


Figure (a) compares increases in  $VO_2$  Max (a common marker of aerobic fitness) among the different exercise groups. Football (soccer) was second only to interval running in terms of % improvement in  $VO_2$ Max. More importantly, however, as can be seen in Figure (b), soccer was shown to have a far greater effect on change in body fat percentage than any other method of training, including jogging and interval running. Thus, participation in soccer will have almost similar effects on aerobic endurance as interval running, and better effects on change in body fat percentage as either jogging or interval running.

### Results – Body Composition<sup>1</sup>:

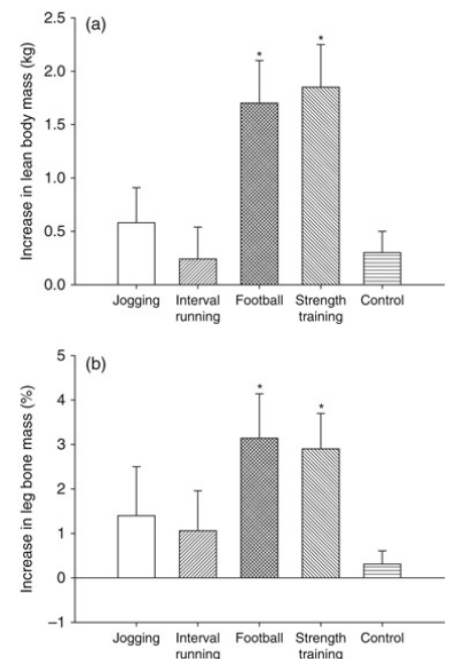


Figure (a) compares differences in the increase in lean body mass (or muscle mass) between the different training groups. Soccer was shown to elicit a greater increase in muscle mass than jogging or interval running, and more importantly, a similar increase in muscle mass as compared to strength training. In Figure (b), increases in leg bone mass (an important factor in preventing musculoskeletal injury and in maintenance of mobility and overall health) is compared. Again, soccer was shown to be better than jogging or interval running, and equal to strength training, at increasing leg bone mass. Thus, playing soccer will increase muscle mass and leg bone mass, similarly to participating in strength training.

## Discussion / Conclusions<sup>1</sup>:

The Football for Health studies have made a strong case for promoting participation in recreational soccer as a means of achieving better overall health, which includes cardiovascular and musculoskeletal health. The reason soccer participation is so effective is that, based on the results of these studies, the sport was shown to be the one form of exercise that will elicit significant improvements in both aerobic endurance, body composition, and muscle/bone strength.

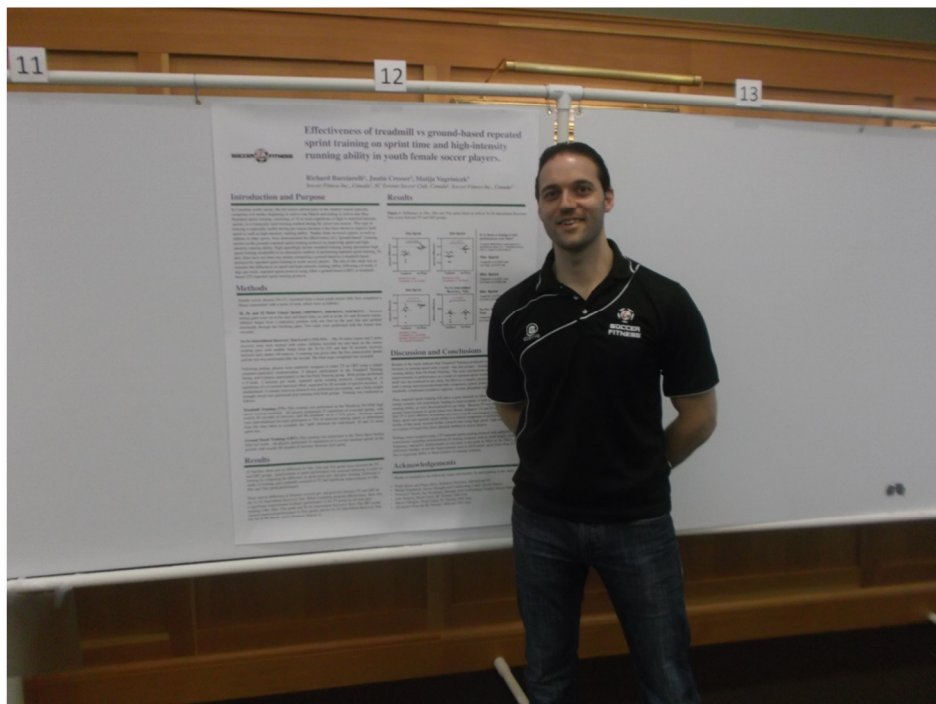
## Implications:

In order to be ready to meet the physical demands of participation in recreational soccer, individuals should consider combining their soccer training with a program of aerobic endurance, speed/power, strength, and flexibility training. By combining running and strength training with soccer, players of any age and level of ability will ensure that they get the most out of their soccer practices and games. The benefits of this type of combination training include:

- Ability to run faster and jump higher in training/games
- Increased endurance and the ability to perform more running throughout training/games
- Greater muscular strength which will reduce the likelihood of injuries while playing soccer

By focusing on fitness training, any recreational soccer player will ensure that they can be ready to meet and exceed the sport's physical demands, be pre-emptive in the prevention of possible injuries, and maximize the enjoyment and physical fitness benefits that will come out of playing the sport they love.

At **Soccer Fitness**, we have recognized the need for supplemental fitness training to prepare the body for recreational soccer. We have just launched **Soccer Fitness Gols**, an online community and mobile fitness app, to meet this need.

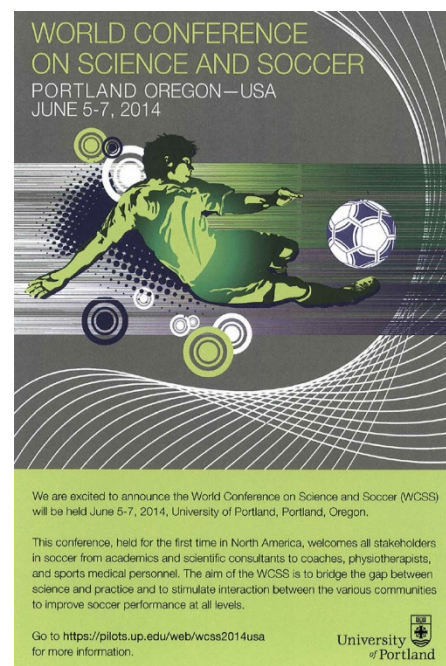


The **Soccer Fitness Gols** mobile app combines soccer-specific training, customized workouts, performance monitoring, practical workout schedules, and social connectivity to give every user a science-based and truly soccer-specific fitness training experience. With the World Cup capturing the attention of the entire planet this month, what better time to get back in shape using the world's most popular sport? Soccer Fitness Gols can help you do just that.

*Richard Bucciarelli is co-founder of Soccer Fitness Gols Inc., a company created to help soccer players, coaches, and fans achieve their fitness "gols" through their love of the Beautiful Game, and the developers of the Soccer Fitness Gols mobile fitness app. For more information please visit*

[www.soccerfitnessgols.com](http://www.soccerfitnessgols.com).

1. Krusturup, P. Aagard, P., Nybo, L., Petersen, J., Mohr, M., Bangsbo, J. Recreational football as a health promoting activity: a topical review. *Scandinavian Journal of Medicine in Sport Science*, Volume 20 (April 2010), Issue s1, Pg. 1-13.

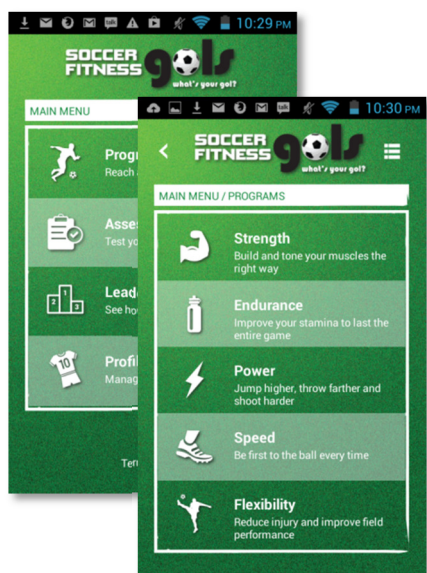




# What's your gol? Introducing the Soccer Fitness Gols mobile app

By Rob Bucciarelli

We would like to introduce you to **Soccer Fitness Gols**, the first mobile app offering customized fitness programs built on soccer-specific sports science that fit easily into your hectic lifestyle. Soccer Fitness Gols will help the average soccer fan, parent, coach, or player get into shape to play the Beautiful Game better, and have fun.



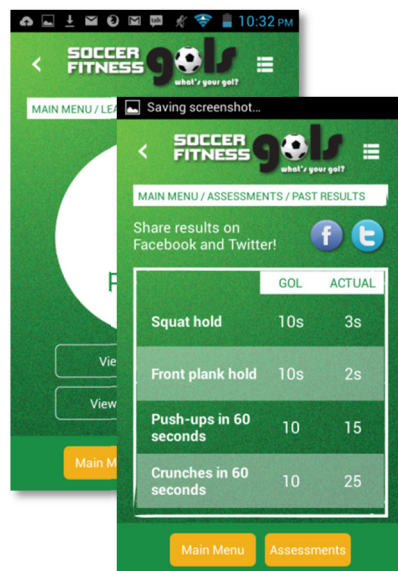
With **Soccer Fitness Gols**, you can work on specific areas of fitness important to soccer, such as strength, endurance, speed, power, and flexibility; or, you can work on all of them altogether! Workouts are designed to take ~30 minutes so that you can easily fit them into your day. All workouts include proper warm-ups and cool-downs to help prevent injuries and keep you playing longer.

**Soccer Fitness Gols** includes fitness assessments, both stand-alone and built right into your workouts. As you progress through the workouts, your

fitness level will automatically be tracked, and the intensity of the workouts will automatically increase as your fitness level improves. You can chart your improvement over time, and compare yourself to peers based on age and gender.

What's more, **Soccer Fitness Gols** allows you to share your results with friends and family on Facebook and Twitter. With lots of Leaderboards available, you can wrack up points, or "Gols", by completing workouts, programs, and assessments, and compete with others across the world.

Soccer Fitness Gols is currently in its first Beta release, and is available on the Google Play app store. We hope you will try out our app and send us your feedback to help us improve our service. If you have any suggestions, please don't hesitate to contact us through our website at [www.soccerfitnessgols.com](http://www.soccerfitnessgols.com).



**We look forward to helping you reach your fitness Gols!**

*Rob Bucciarelli is co-founder of Soccer Fitness Gols Inc., a company created to help soccer players, coaches, and fans achieve their fitness "gols" through their love of the Beautiful Game, and the developers of the Soccer Fitness Gols mobile fitness app. For more information please visit [www.soccerfitnessgols.com](http://www.soccerfitnessgols.com).*

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