Soccer scores a health hat trick for hypertensive men

October 15 2012

Playing soccer (football) could be the best way for people with high blood pressure, known as hypertension, to improve their fitness, normalise their blood pressure and reduce their risk of stroke. Research from Universities of Exeter and Copenhagen, and Gentofte University Hospital in Denmark, published today (October 15, 2012) in the journal *Medicine and Science in Sports and Exercise*, suggests that soccer training prevents cardiovascular disease in middle-aged men with hypertension and is more effective than healthy lifestyle advice currently prescribed by GPs.

After six months of soccer training, three out of four men in this study had blood pressure within the normal, healthy range.

Almost one third of British men have hypertension, which increases the risk of cardiovascular diseases including stroke and coronary artery disease. It has long been known that physical exercise can reduce blood pressure in patients with hypertension, but until now little evidence is available on which form of exercise is most effective.

The research team recruited 33 men aged between 33 and 54 with mild to moderate hypertension. They randomly divided them in two groups: one took part in two hour-long soccer training sessions a week while the other received usual care by a GP including advice about the importance of physical activity and a healthy diet, together with control blood pressure measurements. The effects on exercise capacity, maximal oxygen uptake, body fat and blood pressure, were monitored after three

months and at the end of the six-month trial.

For the soccer-playing group, average mean blood pressure was reduced by 10 mmHg, while the reduction was only 5 mmHg in the control group receiving the usual GP advice. For the football group, maximal oxygen uptake and maximal exercise capacity was improved by10 per cent, resting heart rate decreased by eight beats per minute and body fat mass dropped by an average of two kilograms. No significant changes to these health measures were observed in the control group.

The men who had taken part in soccer training were also found to be less physically strained during moderate intensity exercise. When taking part in activities such as cycling, they had markedly lower heart rates and elevated fat burning.

Lead researcher Professor Peter Krustrup of the University of Exeter said: "Playing soccer scores a hat trick for men with hypertension: it reduces blood pressure, improves fitness and burns fat. Only two hour-long football training sessions a week for six months caused a remarkable 13/8 mmHg in arterial blood pressure, with three out of four participants normalising their blood pressure during the study period.

"The soccer training also boosted the aerobic fitness and resulted in marked improvements in both maximal and moderate exercise capacity. Playing football made it easier for previously untrained men to train even harder, and also make it easier for them to cope with everyday life activities such as cycling, walking upstairs, shopping and lawn mowing."

Professor Peter Krustrup concludes "Although our previous research has highlighted the many health benefits of playing soccer, this is the first evidence that soccer may contribute fundamentally to prevention of cardiovascular disease in hypertensive men."

Senior cardiologist from Gentofte University Hospital in Denmark, Peter Riis Hansen, also emphasised that evidence suggests that the decrease in blood pressure after football training lead to a considerable reduction in the risk of stroke, myocardial infarction and death. "He said: Our results are very exciting and we are now trying to understand the findings in more depth, for example by investigating the effects of playing football on the heart's structure and function.

"Recent studies from our research group have also shown positive effects of football training on the blood pressure and heart in premenopausal women with normal blood pressure and we are now aiming to test the effects of football in women with hypertension."

Provided by University of Exeter