

Recreational football can treat hypertensive and type two diabetes patients

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Football training produces significant changes in body composition and glycaemic control in type 2 diabetes patients, and effectively lowers blood pressure in men with high blood pressure. These are the findings of new studies carried out by the Copenhagen Centre for Team Sport and Health at the University of Copenhagen.

The studies, published in the acclaimed *Scandinavian Journal of Medicine & Science in Sports*, show that 24 weeks of twice-weekly recreational football training sessions lower [blood pressure](#) and improves heart function in men with [high blood pressure](#) and men with type 2 [diabetes](#). Furthermore, men with type 2 diabetes lost 12 % of their abdominal fat and reduced their blood sugar 20% more than inactive control subjects.

These effects are likely to reduce the risk of developing heart diseases including heart failure and myocardial infarction, and the participants had a reduced need for antidiabetic and antihypertensive medication on completion of the studies. The projects investigated the effects of football training in 21 men with type 2 diabetes and 32 men with high blood pressure aged 30-60 years with focus on metabolic and cardiovascular changes.

Football training increases heart rate and improves general health

"I feel I have more energy in my day-to-day life, and it's definitely connected with being fitter," says Søren Sonberg with type 2 diabetes, who participated in one of the projects.

Professor Jens Bangsbo, leader of the projects, explains: "The average heart rate during training was higher than 80% of maximum [heart rate](#), and for significant periods it was higher than 90%. This type of training is very effective, and after 24 weeks of training physical fitness, measured as maximal oxygen uptake, was 10% higher for the

participants with high blood pressure and 12% higher for those with diabetes. At the same time, the [diabetes patients](#) lost almost 2 kg of fat. A better fitness combined with a lower body fat percentage makes it easier to carry out daily activities."

Bangsbo continues: "We found that football training in [men](#) with type 2 diabetes significantly reduced abdominal fat and improved glycaemic control, which is essential for managing diabetes and preventing diabetic complications."

In both project groups, the heart's contraction phase became significantly more effective, and blood pressure fell by 8-10 mmHg. Peter Riis Hansen, senior cardiologist from Gentofte University Hospital, Denmark, who participated in the studies, comments: "Such changes are remarkable and may reduce the risk of future cardiovascular disease and death". He further notes that: "The results suggest that recreational football training may be a very efficient tool in the treatment of hypertension and [type 2 diabetes](#)."

Football training provides social cohesion and the desire for more training

After completion of the projects, the participants continued their training themselves. The reasons are clear, as Sonberg explains: "I feel I have a better quality of life with the football training. I wouldn't ever dream of stopping training now. The social interactions with the others are fantastic, and our football team is currently planning a training camp abroad. The training has given us the desire for much more."

Provided by University of Copenhagen

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