

# Soccer training improves heart health of men with type 2 diabetes

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Diabetics can strengthen their hearts almost to the point of giving up blood pressure medication just by playing ball. New research at the University of Copenhagen has shown that just twelve weeks of soccer training improves heart health of diabetics dramatically. Credit: Anders Kjærbye/University of Copenhagen

A new study from the Copenhagen Centre for Team Sport and Health at the University of Copenhagen, Denmark, demonstrates that soccer training improves heart function, reduces blood pressure and elevates exercise capacity in patients with type 2 diabetes. Soccer training also reduces the need for medication.

The study, recently published in *Medicine & Science in Sports and Exercise*, investigated the effects of [soccer training](#), consisting of small-sided games (5v5), on 21 men with type 2 diabetes, aged 37-60 years.

## Soccer training makes the heart ten years younger

"We discovered that soccer training significantly improved the flexibility of the heart and furthermore, that the cardiac muscle tissue was able to work 29% faster. This means that after three months of training, the heart had become 10 years 'younger'", explains Medical Doctor, PhD Student, Jakob Friis Schmidt, who co-authored the study alongside with PhD student, Thomas Rostgaard Andersen. He adds:

"Many type 2 diabetes patients have less flexible heart muscles which is often one of the first signs of [diabetes](#)' effect on cardiac function, increasing the risk of heart failure."

Advanced ultrasound scanning of the heart also demonstrated that the heart's contraction phase was improved and that the capacity of the heart to shorten was improved by 23% - a research result that had not been reported with other types of physical activity.

## Blood pressure greatly reduced

At the start of the study, 60 percent of the participants had too high [blood pressure](#) and had been prescribed one or more pressure reducing medications. Soccer training reduced the systolic and diastolic blood pressure by 8 mmHg, which is greater than the achievements of prior training studies. These effects are as pronounced as those achieved by taking high blood pressure pills and the need for medication was significant reduced.

## Great functional improvements

The study also showed that the participants' maximal oxygen uptake was increased by 12% and that their intermittent [exercise capacity](#) was

elevated by 42%. "An improved physical condition reduces the risk for other illnesses associated with [type 2 diabetes](#) and makes it easier to get along with daily tasks and maintain a physically active life" says Thomas Rostgaard.

Professor Jens Bangsbo, head of the Copenhagen Centre for Team Sport and [Health](#) at University of Copenhagen, adds that,

"The results of the study, coupled with participants' interest in continuing to play after the study, show that soccer has a great potential to help diabetic patients. This does not only gain the patients, but also contribute socio-economically."

Provided by University of Copenhagen

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