

First treatment identified for fainting

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Fainting affects one in two people during their lifetime. Those with recurrent episodes are often afraid to socialise or go to work. Today researchers report the first effective therapy. The late breaking research is presented at ESC Congress 2020.

Fainting is caused by a fall in [blood pressure](#) and/or number of heart beats. In some [patients](#), a trigger is identified—for example emotional stress, standing in a hot, crowded space or sitting up too quickly—and they have [warning signs](#) such as weakness, nausea, and dizziness. But in many others, especially [older adults](#), no trigger is found and there are no warning signs.

"This unpredictability raises the risk of falls and even serious trauma and people end up in the [emergency room](#)," said principal investigator Professor Michele Brignole of the Faint and Fall Programme, Istituto Auxologico, Milan, Italy. "If it happens repeatedly, it has a major impact on quality of life—at the same magnitude as a chronic disease."

Currently there is no specific therapy and patients usually receive only generic advice on prevention, such as keeping hydrated, avoiding hot crowded environments, tensing the muscles, and lying down. But prevention is particularly difficult if there are no warning signs.

The BIOSync CLS study examined whether a pacemaker could prevent unpredictable fainting caused by missed heart beats. Patients with this particular cause of fainting were identified using tilt testing. This involves lying on a table that is slowly tilted upward to simulate standing

up. Blood pressure and heart rate are monitored during the examination.

The study included 128 patients aged 40 and above who had fainted at least twice in the previous year with no warning signs. A tilt test showed that fainting was caused by missed heart beats.

All study participants received a pacemaker—but they were randomly allocated to having the pacemaker switched on (pacing group) or switched off ([control group](#)). They were then followed-up for fainting episodes.

During a median follow-up of 11.2 months, more than half of patients (53%) in the control group fainted compared to just 16% in the pacing group. This translated into a 77% [lower risk](#) of fainting in the pacing group.

The researchers estimated that at two years, two-thirds (68%) of the control group would have a fainting episode compared to one-fifth (22%) of the pacing group. A pacemaker would provide a 77% relative risk reduction of fainting over two years and a 46% absolute risk reduction.

Just over two patients (2.2) would need to receive a pacemaker to prevent fainting. Put another way, if 11 patients received a pacemaker, fainting could be avoided in five patients.

Implanting the pacemaker caused minor adverse events in five patients (4%) such as lead-related complications.

Professor Brignole said: "Our study shows that pacing can be an [effective treatment](#) for selected people with unpredictable fainting episodes. Tilt testing is a simple and non-invasive way to identify people who could benefit. We hope this new treatment option will enable these

patients to resume a normal life without fear of blackouts."

More information: Abstract title: Cardiac Pacing in Severe Recurrent Reflex Syncope and Tilt-Induced Asystole.

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