



## Patients Test Drive Pacemaker



Novel research presented at EHRA EUROPACE – CARDIOSTIM 2015 by Professor Michael Giudici, Director of arrhythmia services in the Department of Internal Medicine, University of Iowa Hospitals and Clinics, U.S. revealed that patients can test drive a pacemaker outside the skin before deciding to have a permanent implant.

Prof. Giudici explained that the procedure will allow patients to see the before and after so that they are able to make an informed decision. Patients often have concerns such as body image issues since the procedure involves an incision in the upper chest and may also cause some discolouration of the skin and a lump which may sometimes be visible. Women can have intimacy issues with upper chest implants and in such cases, a submammary location is often considered. Older people have concerns that their grandchildren might bump their heads on the pacemaker.

The technique has been tested successfully in six patients aged 40 to 82 years and who were already dependent on a pacemaker but had to have it removed temporarily due to device infection. They were given temporary permanent pacemakers where the patient uses a permanent pacemaker and a permanent pacing lead but the device is outside the body. This also helps evaluate whether the patient's slow heart is causing the problem without performing a surgery and placing a permanent pacemaker.

Over a period of four years, the patients were offered a two to three week test drive that allowed them to assess the benefits of permanent pacemaker implantation. The procedure was performed in an electrophysiology lab. A needle was stuck directly into the subclavian or axillary vein and a permanent pacing lead (or leads) was passed percutaneously and attached in the atrium or ventricle (or both). The leads were fixed to the skin and attached to a non-sterile permanent pacemaker which was sewn to the skin and covered with a waterproof dressing. Each pacemaker was programmed according to the patient's requirement and was removed after the test period was over.

At the end of the test drive, all six of the patients decided to have a permanent pacemaker implanted under the skin. No complications occurred during the implantation, the trial period or during the time of device removal. Since the pacemaker was placed outside the chest, there was no incision but patients were still able to experience the real impact of the device. All patients were satisfied with the device and indicated that their exercise tolerance, quality of life, and in some cases, alertness improved. With the ability to test the device, patients were more confident that the pacemaker would do them some good.

Professor Giudici concluded: "This is a simple procedure that lets patients try out a pacemaker before committing to an invasive procedure. Many patients start to feel better and that outweighs any potential

downsides to having it. This study was in patients with bradycardia but patients with a very irregular heart rhythm might also find test driving a pacemaker useful."

Source: European Society of Cardiology

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