

# Ethnic differences in need for heart pacemakers may have genetic link

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A team of researchers at the NIHR Leicester Biomedical Research Centre (BRC), UK, has found evidence to show that South Asian people (from India, Pakistan, Bangladesh and Sri Lanka) are less likely to require a pacemaker for an abnormally low heart rate compared to white people of European origin.

Abnormally slow [heart rate](#) (bradycardia) occurs when the electrical conduction system of the [heart](#) does not work properly. Symptoms include dizziness, fainting, confusion, shortness of breath and tiring easily after light physical activity. It is more common as people get older, especially after 75 years of age. The best way of managing significant bradycardia is to implant a permanent pacemaker. The device, which sits under the skin below the collarbone, is about the size of a 50 pence piece. It is connected to a pacing wire which sends an electrical impulse to stimulate the heart to beat when it detects that the heart rate is too low.

The researchers looked at the number of permanent pacemakers implanted in Leicestershire over an 8 year period. During that time, 4,883 people had a permanent [pacemaker](#) implanted, which represents about five people in every 1000 of the local population. However, the rate of permanent pacemakers fitted in white people was nearly six times higher than in South Asian people, even when factors such as risk of heart disease and age were taken into account.

Iain Squire, professor of cardiovascular medicine at the University of Leicester and honorary consultant physician at Leicester's Hospitals, said: "From previous research comparing the two populations, we know that South Asians have higher incidences of coronary artery disease and stroke compared to people of European origin. However, with this particular heart condition, our study shows that the level of susceptibility is in fact reversed."

Professor Sir Nilesh Samani, cardiovascular theme lead for the NIHR Leicester BRC and Professor of Cardiology at the University of Leicester, said: "Leicester is a particularly good place to undertake research of this kind because of our mixed population. The results of this study raise the possibility that genetic differences at least partly explain the differences in risk of different heart conditions between South Asians and Europeans. Finding out the mechanisms, including any genetic variation that underpins these differences, is certainly warranted by further research."

**More information:** Evidence for reduced susceptibility to cardiac bradycardias in South Asians compared with Caucasians. *Heart* Published Online First: 20 February 2018. [DOI: 10.1136/heartjnl-2017-312374](https://doi.org/10.1136/heartjnl-2017-312374)

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