

## Pacemakers made out of human stem cells may replace electronic models in future

The very first functional pacemaker cells created out of human stem cells have been developed by scientists from the McEwen Centre for Regenerative Medicine, at Toronto, Canada.

To date, [electronic pacemakers](#) are used to regulate heartbeat disorders of a human [heart](#). The sinoatrial node (SAN) pacemaker cells are known to be the chief heartbeat controllers. A fault in its working can lead to irregular heartbeats and the treatment requires implantation of electronic pacemaker machines.

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The effort made by scientists explains how human pluripotent stem cells can be developed into pacemaker cells in 21 days. These biological pacemaker cells can be used to replace the deteriorating SAN through cell transplantation.

The scientists formulated and tested the developmental pathway of creating pacemaker cells from stem cells by using different signaling molecules at different times, through the course of three weeks, till the goal was achieved.

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"We are replicating nature's way of making the pacemaker cell," [said](#) the study's senior author, Dr. Gordon Keller, Director of the McEwen Centre.

**The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Alternative Pacemaker Therapy: First Functional Pacemaker Cells Developed From Human Stem Cells](#)**