

Academic / Research  
2016 / 17

The Economics  
Times, pg 2, dated:  
28-12-2016.

## SUPPORT FOR THE NEEDY

# Doctor Engineers Wearable Device to Rescue the Elders

Fall detection device comes wrapped in silicone and can be worn around the waist

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**Bengaluru:** A fall can lead to serious consequences if help is not on hand, especially for the elderly and the epileptic. A biomedical engineering device invented by Bengaluru-based doctor-engineer BG Sudarshan could play saviour.

Simply put, the wearable device detects a fall and calls out for help.

"As a doctor, I've seen many epileptic patients die not due to epilepsy but because of the fall. My device identifies a critical tilt angle and once this angle is breached, an alarm goes off to a relative or a doctor for help," says Dr Sudarshan, a faculty at the department of electronics and instrumentation engineering at RV College of Engineering (RVCE). He is also the medical officer at the college's hospital.

His fall detection device — for which he has filed for a patent — comes wrapped in silicone and can be worn around the waist. The prototypes of the device, which came after five years of research, is a product of Sudarshan's medical training and his doctoral degree in

biomedical engineering. Sudarshan has filed for a patent for another of his inventions: another wearable device that monitors vital signs. While there are many wearable health-monitoring devices in the market, Sudarshan's is based on algorithms that he wrote and on circuitry and sensors developed indigenously. Both devices have a smartphone interface.

The vital signs monitoring device is clipped onto the fingertip. "The patient-to-doctor ratio in India is 1:1100. With this, patients need not visit a doctor to get vitals checked. The algorithm detects abnormalities in the vitals and the readings are sent to a doctor."

A Bengaluru-based company has come forward to commercialise Sudarshan's vital signs monitoring device. The college has signed a non-disclosure agreement that stops him from naming the company or elaborating more on the functionality. "All I can say is that it will be a low-cost device." Of the 23 patents filed by RVCE since 2013, this is the only one that has reached the commercialisation stage. "We have a Centre for Excellence in the area of flexible electronics because wearable technology is the in-thing today," said KN Raja Rao, an advisor with RVCE.

Former Vice Chancellor of Chhattisgarh's Swami Vivekanand Technical University, SC Sharma, who pushed Sudarshan into biomedical engineering, said his work is "a rare marriage of

medicine and



Dr BG Sudarshan

— N NARASIMHA MURTHY



### IT RAISES AN ALARM

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DR BG SUDARSHAN,  
faculty member, RVCE

A Biomedical Engineering Device Invented by Bengaluru Based "Doctor-Engineer"-  
B.G.Sudarshan- at R.V.College of Engineering.

