

Robot created to treat ailing hearts

April 20 2007

U.S. scientists have created a robotic device that can be inserted onto a heart using minimally invasive surgery to deliver medical treatment.

Resembling a robotic caterpillar, the device developed by Cameron Riviere and colleagues at Carnegie Mellon University can crawl across the surface of a beating heart, delivering drugs or attaching medical devices.

The 20-millimeter-long robot -- called HeartLander -- has two suckers for feet, each pierced with 20 holes connected to a vacuum line, which holds it onto the outside of the heart. By moving its body segments it can crawl across the heart at up to seven inches per minute. Surgeons keep track of the device using X-ray video or a magnetic tracker, controlling the movements via a joystick.

"HeartLander can reach all parts of the heart's surface," Riviere said. And because it's stationary relative to the heart's surface, there is no need to interfere with the organ's movement.

The researchers are now working on adding a radio-frequency probe to treat arrhythmias by selectively killing malfunctioning heart tissue. They also plan to add a camera.

The research is described in New Scientist magazine.

Copyright 2007 by United Press International

Citation: Robot created to treat ailing hearts (2007, April 20) retrieved 27 April 2024 from <https://medicalxpress.com/news/2007-04-robot-ailing-hearts.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.