

# Robots closer to performing bed baths (w/ Video)

November 11 2010, by Lin Edwards

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Cody robot. Image credit: Travis Deyle

(PhysOrg.com) -- Cody, a robot built at the Georgia Institute of Technology in the U.S., has been demonstrated initiating contact with a live person and cleaning their arm and leg using wiping motions. This leads the way towards a robot that will in the future be able to autonomously carry out bed baths on live patients.

The robot was developed by a team led by Dr. Charles Kemp, the principal investigator for the Healthcare Robotics Laboratory. Cody has compliant arms and a specialized "bath mitt" attached to one of them. The area of skin is selected via a camera and laser range finder, and then the robot cleans it with the soapy bath mitt, using a gentle wiping motion. The robot's arm joints have reduced stiffness to soften any accidental impacts, and the robot is programmed to never exert pressure capable of causing injury. As an added safety measure, there is also a "stop" button to instantly stop the robot moving.

The initial contact in the experiment was made by the robot, which differs from most robot/human contact experiments in which the human initiates the interaction.

The psychological effect on patients of having an [autonomous robot](#) carry out their bed baths is unknown, but leading postdoctoral student on the team, Dr. Chih-Hung (Aaron) King, who was the robot's demonstration "patient," said the experience made him tense at first but his trust of the robot grew and the tension waned after a while. There was little or no discomfort involved, and he never felt afraid.

The researchers say having a robot carry out hygiene tasks such as bed baths for incapacitated patients may have advantages such as giving the patient greater privacy and independence, and may improve their quality of life. A [robot](#) could also provide some relief for nurses or carers who sometimes find the bed bath embarrassing, which can also make the patient feel uncomfortable.

Cody was introduced at last month's 2010 IEEE International Conference on Intelligent Robots and Systems (IROS) in Taipei, Taiwan. The theme of this year's conference was "Intelligent Robotics in the Next Transition" to reflect the increasing interest in human-robot interactions and using robots to help improve the quality of life for

humans.

**More information:**

- [www.hizook.com/blog/2010/11/04...aths-patient-hygiene](http://www.hizook.com/blog/2010/11/04...aths-patient-hygiene)
- [www.healthcare-robotics.com/](http://www.healthcare-robotics.com/)

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