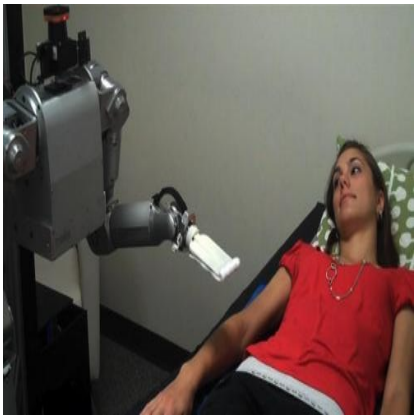
ICU
MANAGEMENT & PRACTICE

How Do People Respond to Being Touched by a Robotic Nurse?



For people, being touched can initiate many different reactions from comfort to discomfort, from intimacy to aggression. But how might people react if they were touched by a robot? Would they recoil, or would they take it in stride? In an initial study, researchers at the Georgia Institute of Technology found people generally had a positive response toward being touched by a robotic nurse, but that their perception of the robot's intent made a significant difference.

The research is being presented March 9 at the Human-Robot Interaction conference in Lausanne, Switzerland.

"What we found was that how people perceived the intent of the robot was really important to how they responded. So, even though the robot touched people in the same way, if people thought the robot was doing that to clean them, versus doing that to comfort them, it made a significant difference in the way they responded and whether they found that contact favorable or not," said Charlie Kemp, assistant professor in the Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University.In the study, researchers looked at how people responded when a robotic nurse, known as Cody, touched and wiped a person's forearm. Although Cody touched the subjects in exactly the same way, they reacted more positively when they believed Cody intended to clean their arm versus when they believed Cody intended to comfort them.

These results echo similar studies done with nurses."There have been studies of nurses and they've looked at how people respond to physical contact with nurses," said Kemp, who is also an adjunct professor in Georgia Tech's College of Computing. "And they found that, in general, if people interpreted the touch of the nurse as being instrumental, as being important to the task, then people were OK with it. But if people interpreted the touch as being to provide comfort … people were not so comfortable with that."

In addition, Kemp and his research team tested whether people responded more favorably when the robot verbally indicated that it was about to touch them versus touching them without saying anything."The results suggest that people preferred when the robot did not actually give them the warning," said Tiffany Chen, doctoral student at Georgia Tech. "We think this might be because they were startled when the robot started speaking, but the results are generally inconclusive."

Since many useful tasks require that a robot touch a person, the team believes that future research should investigate ways to make robot touch more acceptable to people, especially in healthcare. Many important healthcare tasks, such as wound dressing and assisting with hygiene, would require a robotic nurse to touch the patient's body,"If we want robots to be successful in healthcare, we're going to need to think about how do we make those robots communicate their intention and how do people interpret the intentions of the robot," added Kemp. "And I think people haven't been as focused on that until now. Primarily people have been focused on how can we make the robot safe, how can we make it do its task effectively. But that's not going to be enough

if we actually want these robots out there helping people in the real world."

In addition to Kemp and Chen, the research group consists of Andrea Thomaz, assistant professor in Georgia Tech's College of Computing, and postdoctoral fellow Chih-Hung Aaron King.

The above story is reprinted (with editorial adaptations by ScienceDaily staff) from materials provided by Georgia Institute of Technology.

PHOTO:

In the study, researchers looked at how people responded when a robotic nurse, known as Cody, touched and wiped a person's forearm. Although Cody touched the subjects in exactly the same way, they reacted more positively when they believed Cody intended to clean their arm versus when they believed Cody intended to comfort them. (Credit: Georgia Tech)

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