Salon.com | News Wires 11/23/2006 10:30 AM

Welcome rsekuler

Logout | Edit Your Account | Help



Premium

Search Go! • Salon • The Web

A&E Books Comics Community Life News & Politics Opinion Sports Tech & Business Letters

AHOO! SEARCH

FROM THE WIRES

S.Korean Workers Protest U.S. Trade Deal

Turkeys Try to Catch Train Out of N.J.

U.N. Official Asks Pakistan Ratification

Mia Farrow Assails
'Genocidal Violence'

More Wires Below

Ky. Court Upholds Lethal Injection

Baby With Heart Outside Body Has Surgery

Atlantic City Prostitutes Fear a Killer

Christian Democrats Gain in Dutch Voting

34 Men Convicted of Plotting in Yemen

Vice President to Visit Saudi Arabia

Robots Aid Stroke Victims, Autistic Kids

U.S., Colombia Sign Trade

American Nun, Priest Join Gaza Standoff

Man's Remains Found in NYC Woman's Bed

Gay R.I. Couple Files for Divorce

Judge: No Class-Action Suit Over Vioxx

4 Dead in Nigeria Hostage Rescue Attempt

Robots Aid Stroke Victims, Autistic Kids

By SETH BORENSTEIN AP Science Writer

November 22,2006 | BALTIMORE -- After more than 2 1/2 years of physical therapy and electronic stimulation, stroke victim Mike Marin still couldn't open a door with his left hand. Now, thanks to a robot, Marin can open a door and his atrophied left arm isn't completely useless anymore.

Marin is at the forefront of what may seem an unlikely use for robots: providing the caring human touch. For three months in rehab at a suburb north of New York, an unnamed and unlikely looking robot guided his arm repeatedly through an ordinary video game. Where normal therapy failed, the constant robot-guided repetitions worked.

"I still got a long way to go," said the New York City computer network specialist who had a stroke two days before his 40th birthday. "The robot really put a lot of muscle tone back in my arm."

Marin, who worked with a robot at the Burke Rehabilitation Hospital in White Plains, N.Y., is one of about 300 stroke patients in experimental studies with a robot that's a cross between an exercise machine and video game. And many of these patients, who wouldn't normally get better, showed significant improvement, said Dr. Christopher Bever, chief of neurology at the Veterans Administration Medical Center in Baltimore, where one of the studies was conducted.

The patients' scores on the video game -- based on their ability to guide the joystick and grasp and release it properly without the robot's help -- have improved about 10 percent, said MIT roboticist Hermano Igo Krebs.

"We're able to show consistently better outcome with therapy using robots rather than conventional standard care," said his MIT colleague, Neville Hogan.

In experiments across the country, robots are providing the human caring touch to patients who need more help than there are therapists and nurses: stroke victims, autistic children, and the elderly. Bever, a newcomer to the field of robotics, now wants to try robotic therapy on patients with multiple sclerosis.

Salon.com | News Wires 11/23/2006 10:30 AM

Rare Lion Cubs Poisoned to Save Costs

Holiday Gobbling Weighs Down Students

Jordanian: British Are Enemies of Islam

O.J. Says Book Wasn't Confession

Online Thieves Offer Oprah Tickets

Parents Ponying Up for Pricey Toys

Rust Belt Shops Worry About Slow Holiday

Dell Shares Up After Beating Forecasts

Ind. Mom Charged With Murder of 4 Kids

Edwards, Obama Gain Popularity on Tours

Study Finds Podcast Use Rising but Small

Man Gets Life for Stepdaughter's Murder

Protesters Occupying Building Detained

TABLE TALK

What's Condi up to now?

Is O.J. confessing?

SALON DAILY NEWSLETTER

Get Salon in your mailbox!
email address

HTML Text

Sign me up

At the University of Southern California, Maja Mataric, who runs the robotics center, is also using robots therapy on stroke patients. Unlike Hogan's robots, Mataric's are more like a coach, using humor and personality, to guide patients through monotonous therapy.

"What I'm really interested in is creating care for huge number of people -- millions of people -- who need one-on-one care," Mataric said.

She's also about to test robots as therapy aids for autistic children. A Yale study of robots and autistic children showed that while able children lose interest in the robots over time, the autistic children "have a fascination with repetitive mechanical things," Mataric said.

In Pittsburgh, "Nursebot" (a robot which took on male and female personalities of Earl and Pearl depending on the gender of the voice used at the time) was tried out with elderly patients. Despite the stereotype of older people being technology phobic, the patients accepted the robots. Their major concern was that the robots couldn't do enough to help them, said University of Pittsburgh nursing professor Judith Matthews.

Sebastian Thrun, who helped develop Nursebot and now is director of Stanford University's artificial intelligence lab, said robots are making inroads into the health care community for the repetitive tasks of taking people to the restroom and reminding them to take medicines.

That's because health care needs, he said, are "much more basic and much more doable from a technological perspective."

Marin, who had to talk his way into the robot therapy trial is hoping to get a repeat shot, but at Burke there's a long waiting list.

In Baltimore, June Green, an able-bodied patient who tested the arm robot as part of a control group, is strapped in again in a chair for another robotic spin. If she fails to guide the joystick correctly, the robot takes over, moving her entire arm.

"You can feel it guide you," Green said. "It feels kind of funny because you're not in control."

--

On the Net:

The MIT lab for biomechanics and human rehabilitation:

http://web.mit.edu/hogan/www/

The Center for Robotics and Embedded Systems at the University of Southern California: http://cres.usc.edu/Home/

The nursebot program: http://www.cs.cmu.edu/nursebot/