'Robo-doc' works hospital rounds

By Julie Clothier for CNN

LONDON, England (CNN) -- A London hospital has two new members of staff -- two robotic "doctors" that can carry out ward rounds in place of human physicians.

The robots will be trialed in a general surgery ward and the accident and emergency department at St Mary's Hospital. They will also be used for surgical training for junior doctors at London's Imperial College.

Called "Remote Presence," or RP6 for short, the robots stand in for a human doctor, who controls the machine remotely.

The robots, which cost £50,000 ($88,000) each, operate with a wireless-based system, using a broadband Internet connection. They allow two-way, audio-visual interaction between doctor and patient to take place in real-time.

Project leader Parv Sains, who is Research Fellow at Imperial College, said the robots enabled patients to have access to specialists without the patient or the doctor having to be physically near each other.

"If a specialist is at a conference in California but their medical opinion is needed for a St Mary's patient or to deliver a lecture to junior doctors, the RP6 robot provides an instant and global link at any time of the day or night," Sains said.

The specialist controls the robot off-site using a joystick, and is in full control of the robot's movements, head monitor and camera. The doctor can see the patient, ask questions, read patient records, view X-rays and test results from a console.

The patient, meanwhile, can see the human doctor on a screen on the robot's "face."

The robot does not physically examine the patient, but it allows face-to-face contact between doctor and patient, Sains said.

"Our robots certainly would never replace all doctors on ward rounds, but they are a communication tool, which allows a doctor to have direct contact with their patient if they are unable to get to them."
The technology has been developed by California-based company InTouch Health. Three of the robots have already been piloted in the U.S. and one in Strasbourg, France. St Mary's is the first hospital in the United Kingdom to pilot the system.

Professor Sir Ara Darzi, head of Imperial College's Division of Surgery, Anesthetics and Intensive Care and a surgeon at St Mary's, lead the move to bring the robots to the UK.

"This is a revolutionary concept which opens new avenues for telemedicine research and integrates technology with healthcare at a grass roots level, increasing the interface between patients, clinicians and teaching staff," he said.

As part of the pilot, a study is being conducted to evaluate how patients respond to the robots.

Ian Pearson, futurologist for British Telecom, told CNN that robots are already having a big impact in healthcare, and will do so even more in future.

"What the machines are starting to do is advanced reporting and doing things like brain surgery and hip replacement because they are more precise than a human surgeon. So where extreme precision is required, doctors are already being replaced by high-end robotics," he said.

"Gradually, in 2020, I would expect that you would be able to get a direct diagnosis from an AI (artificial intelligence) system which will go straight through to an AI-based chemist which will check that the drugs are compatible and you will get your prescription -- probably with minimal human intervention." (Full story <http://www.cnn.com/2005/TECH/05/12/visionary.pearson/index.html>)

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