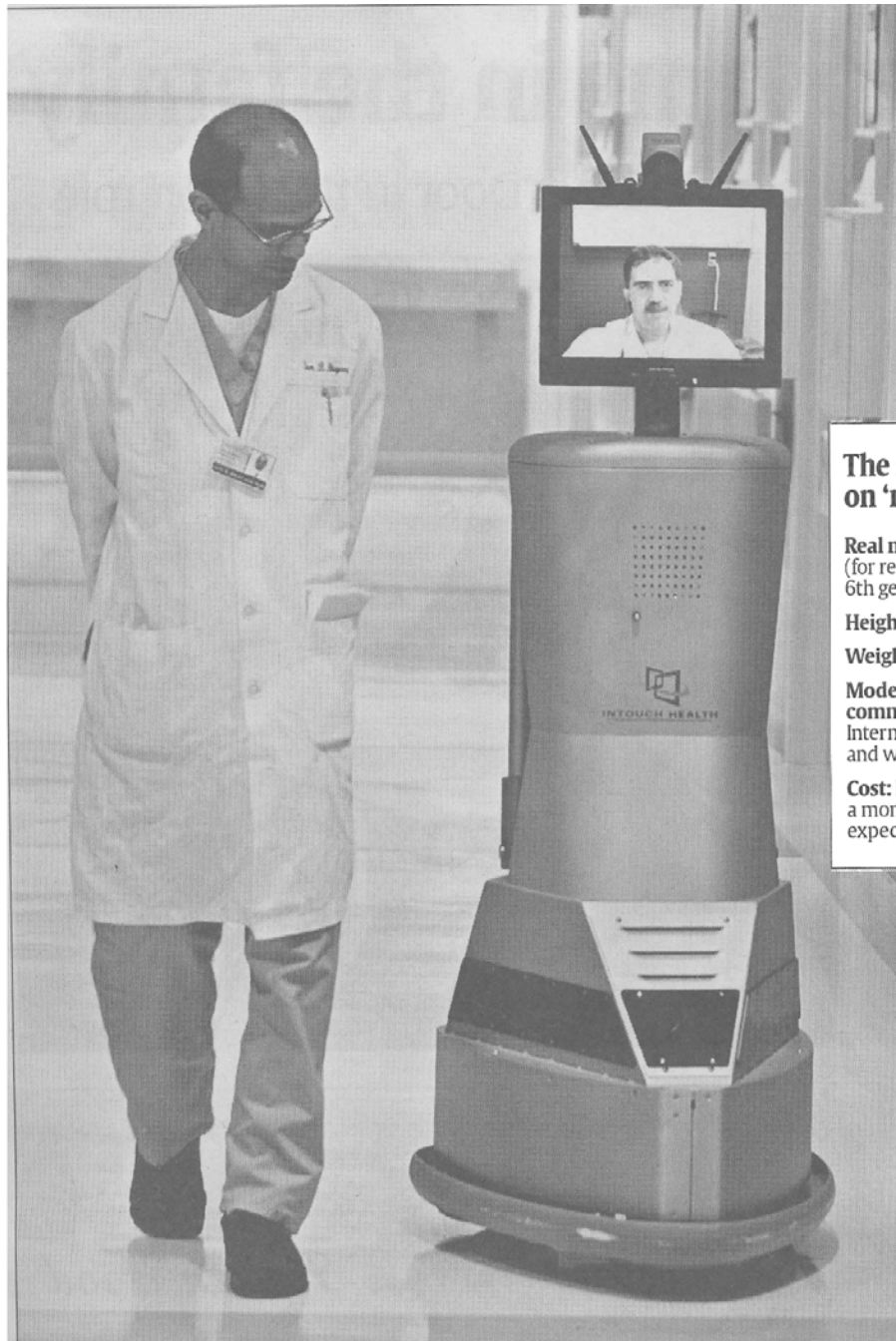




Robo doc: Medicine by 'extension'



The stats on 'robo doc'

Real name: RP-6 (for remote presence; 6th generation system)

Height: 5 feet, 6 inches

Weight: 220 lbs

Mode of communication: Internet, broadband and wireless

Cost: Lease for \$3,000 a month (price is expected to increase)

I, Robot: Sam Bhayani and robo doc make the rounds at Johns Hopkins. Urologist Louis Kavoussi's face appears on the screen, which makes it easier for patients to relate to a robot.

Technology is middle man in patient care

By Robert Davis
USA TODAY

As Joseph Mabry waited for the machine nicknamed "robo doc" to roll into his hospital room, the recovering kidney surgery patient was in no mood for a faceless drone.

"I had just had surgery, so I was feeling kind of down," he says.

But when Mabry, a bus operator from Baltimore, saw his doctor's face on the flat-screen TV atop the robot's body, he perked up. "I didn't expect to look up and see my doctor's face," says Mabry, 47. "It felt pretty good."

Over the next few days, he saw the robot often and left Baltimore's Johns Hopkins University Hospital a fan of the technology.

Robo doc may be the face of tomorrow's medicine. It's being tested in five hospitals across the nation by InTouch Health, a California-based health-care technology firm, to see whether the doc-in-a-box can give quality care.

"With the aging population, there is a real shortage of medical professionals," says InTouch Health chief executive Yulun Wang. "This is an extender. It can be a doctor extender or a nurse extender."

The study seeks to determine whether physicians can adequately assess their patients from afar using secure wireless Internet connections and robots equipped with cameras and TV screens.

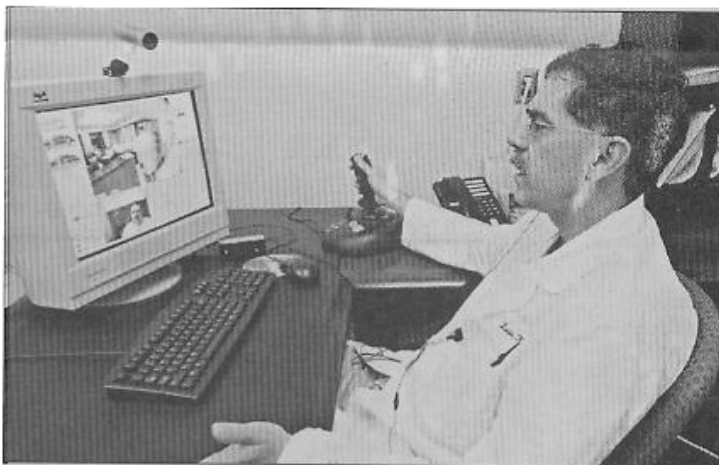
At Johns Hopkins, the robot is the surrogate for Louis Kavoussi, the renal surgeon who operated on Mabry and is lead investigator in the robot trial.

For some procedures, machines are just better, Kavoussi says. "The laying of the hands is very valuable from a psychological standpoint. But X-rays are better than our hands. A CT scan or ultrasound is going to show 1,000 times more than a physician's hands."

So far, most patients are telling researchers that they prefer their own doctor talking to them through the robot than a stranger who happens to be in the hospital when a consultation is needed after surgery.

Robots are not new to hospitals. Across the country, robots are:

► **Operating.** The da Vinci Surgical System, a robot operated by a surgeon seated at a viewing and control console, can see better and move surgical tools



Control room: From his office, Kavoussi can guide robo doc with a joystick. The robots are still in the testing stage, and so far patients have responded well.



Making rounds: Physicians Edward Schaeffer, left, and Sam Bhayani visit Joseph Mabry with robo doc. "I hope it catches on," Mabry says.

more carefully around delicate organs than its human counterpart. Patients have been shown to recover faster when operated on by the robot.

► **Filling prescriptions.** Using bar codes and computerized safety checks, ROBOT-Rx fills prescriptions in hospital pharmacies without the risk of human error. Medication errors are a leading cause of preventable hospital deaths.

► **Delivering goods.** The TUG robot calls elevators and glides through hospital hallways carrying loads of linens, medications, food or anything else that needs to be carted around a hospital. Faced with nursing and other staff shortages, TUG frees up busy humans.

But the "robo doc" takes the trend to a new level because it is face to face with the patient at a most vulnerable time: after surgery.

Complications can arise immediately after surgery, posing life-and-death challenges for doctors and the hospital staff. Is another drug needed? Is an infection brewing? Does the patient need

to go back to the operating room?

Technology is particularly important in the surgical wards, says Maureen Bisognano, who heads the Institute for Healthcare Improvement, a Boston-based non-profit organization.

She likes the robot because it cuts the medical middle man, where mistakes can be made. "Trying to pass information from one physician to another, things get lost," she says. "Eliminating that is very appealing."

"These patients are sicker than they have been in years," she says, and that creates a heavy load for the medical staff. "There is a lot of turnover of nursing staff in the medical surgical units."

Her staff is looking for ways to improve care at the bedside. One key is "a marriage of technology that frees up more time for care."

The robo-doc study will try to determine whether patients recover as well, if they undergo more scans or procedures and if they are comfortable with robo-treatment. Early findings show that most patients think the robot increases their access to their own doctor.

Mabry, for instance, was in the hospital over the weekend, and Kavoussi often visited him by navigating the robot into the hospital room using a joystick — from the basement of his home.

"I can look decent from the waist up on the computer screen," Kavoussi says. "We end up spending twice as much time talking to the patient when we're with the robot."

Kavoussi has financial ties to the company that makes the robot. His relationship with the company is monitored by Johns Hopkins officials.

He says future models might have more sensors that doctors can use to measure the oxygen level in the blood, to listen to breath sounds or to peer beneath the skin with ultrasound.

"I hope it catches on," Mabry says. "When you are in the hospital and you need something, you talk to a nurse or some doctor on call. I got to talk to my own doctor."