

# A life-saving link: Stroke patients can connect with Mass General

May 16, 2002

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PLYMOUTH, MA

For a stroke patient, the 40 miles between Jordan Hospital and a specialist in Boston can be a deadly stretch. The trip by ambulance takes an hour under the best circumstances. A medical helicopter can be a life-saver, but it costs \$4,200 per trip.

Now Jordan has a 21st-century alternative: an instant link to stroke specialists at Massachusetts General Hospital.

Using technology similar to the teleconferencing equipment used in corporate board rooms, stroke specialists at Massachusetts General can see patients at Jordan on a television screen, ask them to speak, point to objects, move their fingers and perform other tests. The patients see the doctor on a television screen in the emergency room.

Massachusetts General doctors also have instant access to the patients' CAT scans taken at Jordan. The tests and images help doctors determine whether a patient is having a stroke and what kind.

Some patients who are having ischemic strokes, in which a clogged vessel prevents blood from reaching the brain, can benefit immensely if they receive clot-busting drugs.

The drugs can save lives and reduce the disabling effects of strokes - if they receive them in time, within three hours of having a stroke if they get the drugs intravenously or six hours if they receive them through a catheter. Ischemic strokes account for about 80 percent of all "brain attacks."

However, patients experiencing hemorrhagic strokes, which involves bleeding into the brain, could die from the medication.

"The real challenge is there just 't enough stroke neurologists around, and you need to have them around 24 hours, seven days a week," said Dr. Lee H. Schwamm, associate director of the acute stroke service at Massachusetts General. "The longer you wait, or if you choose the wrong patient, the more dangerous (the medicine) becomes."

The cost of the service is \$20,000, equivalent to five Medflights from Jordan to Boston.

Jordan became the second hospital to offer the service in January. The only other hospital in the program with Massachusetts General is Martha's Vineyard Hospital. Schwamm said a hospital in a Middle Eastern country is also negotiating to participate.

Dr. Donald Hansen, chief of emergency medicine at Jordan, said he thought the program could benefit Jordan patients after viewing it at Martha's Vineyard last year.

"For a while there, we did not have neurology back-up for the emergency physicians," Hansen said. "Even though it's only five or six cases a year that qualify for (clot busters), it can really make a difference in a person's life."

So far, only two patients have been linked up to the stroke specialists at Massachusetts General. It was determined that neither would benefit from receiving the clot-busting drugs, and they were transferred to the Boston hospital.

The stroke program is one example of the growing field of telemedicine. While the technology to send images and diagnose diseases from remote locations has been in use for about 15 years, only a few hospitals are using it to diagnose and treat strokes.

Deborah Dakins, editor of industry journal Telemedicine Today, said she knows of only two other programs - one, a partnership between Wayne State University and Detroit Medical Center, and another sponsored by the University of Maryland in Baltimore.

"There aren't a lot, because you need to be a certified stroke treatment center," in order to offer the consulting services, she said.

Telemedicine as a whole is growing quickly, however. Figures on how much is spent on the technology is difficult to come by, since much of the equipment is manufactured by companies not solely in the medical supply business.

Johnathan D. Linkous, executive director of the 1,300-member American Telemedicine Association, said the use of the technology has grown rapidly as Medicare, Medicaid and private insurance companies have begun paying for telemedical services. He estimates that about 1,000 medical facilities in the U.S. are linked with others via telemedicine.

"As the costs of the technology have dropped, the costs of telemedicine has dropped as well," Linkous said.

Telemedicine also has the power to become a competitive tool as hospitals vie for more patients.

"You're essentially locking in referrals to come to your hospital," Linkous said.

Kimberly Melloin, assistant director of emergency medicine at Jordan, said any stroke patients they see who need more advanced treatment will be sent to Massachusetts General.

## Warning signs of stroke

The most common sign of stroke is sudden weakness of the face, arm or leg, most often on one side of the body. Other warning signs can include:

- Sudden numbness of the face, arm, or leg, especially on one side of the body.
- Sudden confusion, trouble speaking or understanding speech.
- Sudden trouble seeing in one or both eyes.
- Sudden trouble walking, dizziness, loss of balance or coordination.
- Sudden severe headache with no known cause.

The signs of a stroke depend on the side of the brain that's affected, the part of the brain, and how severely the brain is injured. Therefore, each person may have different stroke warning signs. Stroke may be associated with a headache, or may be completely painless.

Source: [www.strokecenter.org](http://www.strokecenter.org)