

Healing by 2-Way Video

Neurologist Shortage Drives Telemedicine into Emergency Room

By Susan Jenks – Florida Today – June 8, 2010

Neurologist Dr. Evan Allen's presence fills the video monitor as he dispenses medical advice from more than 60 miles away. In this particular instance, Allen's image is being beamed into Wuesthoff Medical Center-Rockledge from Orlando, where he's a private practice physician and works as part of a consulting panel for a teleneurology company called Specialists On Call.

The California Company provides round-the-clock emergency consulting services to 15 to 20 hospitals in Florida, including Wuesthoff's flagship hospital, primarily for one of the nation's biggest health problems: acute stroke. These brain attacks, as they are sometimes called, are the third leading cause of death in the United States, a statistic that has changed little in more than two decades.

Wuesthoff contracted with Specialists On Call in mid-March for emergency neurological services, while Parrish Medical Center signed on with a different California company, InTouch Health, in a four-month pilot program that began May 1. InTouch Health provides the videoconferencing equipment, while a stroke team from the Mayo Clinic's Jacksonville campus provides medical advice in the emergency room and during follow-up care at the Titusville hospital.

Driven by patient-access issues and specialty shortages, telemedicine – an umbrella term for the use of telecommunications technologies to deliver patient care – has widespread applications from home monitoring to reading X-rays to electronic surveillance of patients in the intensive care unit, from afar. More recently, a global shortage of neurologists is pushing telemedicine increasingly into the acute-care setting, where rapid diagnosis and treatment of stroke can mean the difference between life and death.

Minutes Count

"A shortage of specialists is driving it," said Dr. Mylissa Graber, the new medical director of the emergency department at Wuesthoff-Rockledge, referring to telemedicine. "But, from the emergency room point of view, it cuts down on time. And with stroke, every minute counts."

Rather than wait for a neurologist on call to answer a page or drive to the hospital, she said, the Webcam, nicknamed "R2D2" by staff after the "Star Wars" robot, provides instant visual images to one of the neurologists from the consulting team.

"Usually, within 10 or 15 minutes, we can assess patients and administer clot-busting drugs, if needed," Graber said.

Strokes are caused when disease or trauma creates a sudden interruption in blood flow to part of the brain or, more rarely, when a blood vessel inside the brain bursts. When that happens, parts of the brain soon start to die. The clot-busting drug tissue plasminogen activator, or tPA, can restore blood flow by dissolving clots. But its use is limited to a three-hour window, after which numerous studies have shown the risk of hemorrhage, or severe bleeding, outweighs the drug's benefit.

Although that window widened last year for select patients to 4.5 hours, Graber and others said, "the biggest issue with stroke is coming to the hospital too late," as patients often fail to recognize the classic symptoms of stroke. These are blurred vision, sudden weakness on one side of the body, dizziness, confusion or trouble speaking.

"Too many patients think if they start slurring their speech, it's nothing and it'll go away," said Dr. Francisco Garcia, director of the emergency department at Parrish. "We need to catch it (stroke) as early as possible."

Garcia described Parrish's new robotic system as so humanized, "it's a bit creepy," because "all you can really see is the face of the physician," while the machine is being rolled into patients' rooms. The video doctor then sits and talks with the family, much as he or she would in an actual face-to-face consultation. And many patients like it.

"We weren't sure what patients' reactions would be," Garcia said. "We thought they might ask, 'Why is this guy not here?'" referring to the hospital's fulltime neurologist. But so far, "we've had nothing but positive feedback," he said.

Teleneurology

Only about 5 percent of those suffering from ischemic stroke, or lack of blood flow to the brain, receive the clot-busting drug in time, according to federal data. Most either never make it to the hospital, or if they do, don't receive the care they need, because not all physicians are adequately trained in tPA delivery or fear harming the patients with its use, according to Dr. Kevin Barrett, a vascular neurologist and part of the stroke team advising Parrish from the Mayo Clinic.

Barrett said Parrish expressed a need for stroke-related coverage and Mayo decided to provide it after the earlier success of a telemedicine program in Arizona. The stroke team in Jacksonville includes five vascular neurologists, an interventional neuroradiologist, an interventional neurosurgeon and nursing and administrative staff. After four months, the pilot program will be re-evaluated.

"Right now, were able to provide recommendations for local treatments," Barrett said. "Or, we can transport patients here for catheter-based, more aggressive stroke therapies, if needed."

So far, Parrish officials said, they've used the consulting service for 23 patients. Only two of them needed immediate drug intervention for severe stroke, or met the stringent criteria for the drug's administration.

Wuesthoff's recent data shows it used the teleneurologists 26 times in April and 18 times within the first two weeks the service became available in March. Only a small group of these patients also met criteria for drug intervention, Graber said.

"If you can't identify when a stroke happens, it's considered too dangerous" to use the drug, she said. "With strokes, our advice to patients is: 'Don't guess. Don't wait.'"

Wuesthoff has a three-year contract with the teleneurology group, which is one of 21 companies listed on the Internet providing this service – clearly an indication of the growing traction of telemedicine, as the technology continues to improve.

Helping Hearts

Earlier this month, Miami Children's Hospital and Arnold Palmer Hospital for Children announced a new telemedicine connection between them that will make a specialized type of heart imaging more accessible to adult and pediatric patients with congenital heart abnormalities, on the two campuses.

"Cardiac imaging is usually hands-on," said Dr. Ruchira Garg, director of cardiac MRI at the Congenital Heart Institute at Miami Children's Hospital. "A lot of what we do is functional imaging," she said, or measuring and assessing patterns of blood flow in the heart, as well as looking at its anatomy, which makes heart disease "diagnostically challenging."

For that reason, bringing telemedicine to the field has lagged behind other specialties, such as neurology or radiology, she said. However, recent improvements in MRI software and voice and video Internet connections will allow Garg to see patients in Orlando on the video screen.

"Big packets of data are being transmitted between the two institutions," she said. Previously, she had traveled to Orlando once a month to perform cardiac MRI's, often needed by older patients whose hearts are deeply scarred after undergoing multiple surgeries and repairs for heart defects. "Fundamentally, what we are doing is bringing access to care for more patients, so they don't have to travel to Miami Children's Hospital to get it," she said.