

Aquilion ONE Allows Physicians to Prevent Stroke in ER Patient

SINCE THE AQUILION® ONE's introduction last year, the medical community has been interested to see exactly how this revolutionary technology can affect the lives of patients—particularly those patients presenting with stroke symptoms. Today, we know.

Pamela's Story

Pamela Louderback, a grandmother from Taylor Mill, Ky., had been experiencing dizzy spells for months. Although she attributed the episodes to a previous condition, physicians could not accurately diagnose her. Approximately one year ago, Pamela suffered complications from a surgery and her left carotid artery had to be completely closed. Pamela suspected that her dizziness was caused by blockages in her right carotid artery, but doctors were unable to diagnose her condition.

She went about her daily routine, until one day after blacking out at work, Pamela found herself at St. Elizabeth Medical Center's emergency room (ER). Unbeknownst to her and her doctors, she was on the verge of suffering a stroke.



*Pamela
Louderback*

According to Dr. Jeff Dardinger, director of Imaging, Vascular Institute, St. Elizabeth Medical Center, a typical patient presenting with these symptoms would have to undergo a battery of tests and be admitted to the hospital before a diagnosis could be made. For example, a patient would likely have had a CT exam of the head and neck, been admitted to the hospital while an MRA exam was scheduled. After a consulta-

tion the next day, the patient would have the MRA. According to Dr. Dardinger, this process could take anywhere from two to four days. For anyone who has had a stroke, or knows someone who has, you know this timetable can prove fatal or debilitating.

Fortunately for Pamela, she was taken to St. Elizabeth—the first hospital in Kentucky to purchase an Aquilion ONE. Because of the Aquilion ONE's ability to capture the entire brain in one rotation, as well as its ability to show function over time, physicians diagnosed Pamela within an hour and prevented a stroke from occurring at all. This system is ideally suited for detecting >>>





“Toshiba’s Aquilion ONE allowed us to accurately diagnose the patient quickly, dramatically improving her quality of life.”

—Dr. Jeff Dardinger, Director of Imaging, Vascular Institute, St. Elizabeth Medical Center

neurovascular conditions quickly. It uses 320 ultra-high resolution detector rows to capture up to 16 cm of coverage, enough to image the entire brain or heart and show organ movement.

Images confirmed that Pamela’s right carotid artery was 90 percent occluded, which significantly reduced blood flow to the brain. By diagnosing this condition within the hour, physicians immediately planned stent treatment to open the artery passage, preventing a stroke.

“Toshiba’s Aquilion ONE allowed us to accurately diagnose the patient quickly, dramatically improving her quality of life,” explained Dr. Dardinger, who interpreted Louderback’s images. “Without dynamic volume CT, the patient would have undergone a series of tests for two-to-four days, at a minimum, to uncover the occlusion. Being able to diagnose the patient within an hour allowed us to plan treatment immediately and prevent a stroke from occurring.”

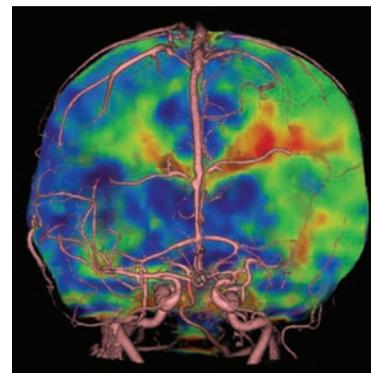
“I truly believe this system saved my life,” explained Louderback. “I had several exams over the past few months, none of which could detect why I was having dizzy spells. It wasn’t until I was imaged in the ER using the Aquilion ONE that a definitive answer could be found.”

Introduced in November 2007, dynamic volume CT scans an entire organ in a single pass and produces 4D videos that show an organ’s structure, its movement and blood flow. In comparison, a 64-slice, 128-slice or 256-slice CT scan can

only capture a portion of an organ in a single pass, requiring physicians to “stitch together” multiple scans of an organ to get a full image. The new technology helps reduce multiple exposures to radiation and exam time.

Designed for today’s healthcare environment, the Aquilion ONE reduces overall healthcare costs and streamlines diagnosis by replacing several tests with a single comprehensive exam. The Aquilion ONE’s single exam helps reduce unnecessary testing, as well as the accompanying accumulative radiation and contrast dose.

“The Aquilion ONE can dramatically improve patient care by providing a fast, comprehensive exam for patients suffering from life-threatening conditions, like stroke and heart attack, while helping to lower healthcare costs,” explained Doug Ryan, senior director, CT Business Unit, Toshiba. “St. Elizabeth Medical Center is an excellent example of where the Aquilion ONE enabled physicians to diagnose and treat a patient before a serious stroke occurred.” **IF**



Anatomical and functional data acquired simultaneously on Aquilion ONE.

The Facts About Stroke*

Stroke killed 150,074 people in 2004. It’s the third largest cause of death, ranking behind “diseases of the heart” and all forms of cancer. Stroke is a leading cause of serious, long-term disability in the United States.

- About 5,800,000 stroke survivors are alive today; 2,300,000 are males and 3,400,000 are females.
- Data from GCNKSS/NINDS studies show that about 780,000 people suffer a new or recurrent stroke each year. About 600,000 of these are first attacks and 180,000 are recurrent attacks.
- In 2004, females accounted for 60.8 percent of stroke deaths.
- From 1994 to 2004 the death rate from stroke declined 24.2 percent, and the actual number of stroke deaths declined 6.8 percent.
- The 2004 death rates per 100,000 population for stroke were 48.1 for white males and 74.9 for black males, and 47.2 for white females and 65.5 for black females.

For stroke information, call the American Stroke Association at 1-888-4-STROKE.

*Information obtained from the American Heart Association; www.americanheart.org

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