

Lakeland Is "Going for the Gold" in Stroke Care

Lakeland is preparing to be the first center in Southwestern Michigan awarded the prestigious status of a state-of-the-art stroke care center "In 2005, Lakeland HealthCare assembled a multidisciplinary committee that began working toward obtaining national certification as a Primary Stroke Center from the Joint Commission (formerly the Joint Commission on the Accreditation of Healthcare Organizations [JCAHO])," says **Debbie Lull, RN, BSN**, Director of Medical/Surgical Services and Chairperson of the committee.

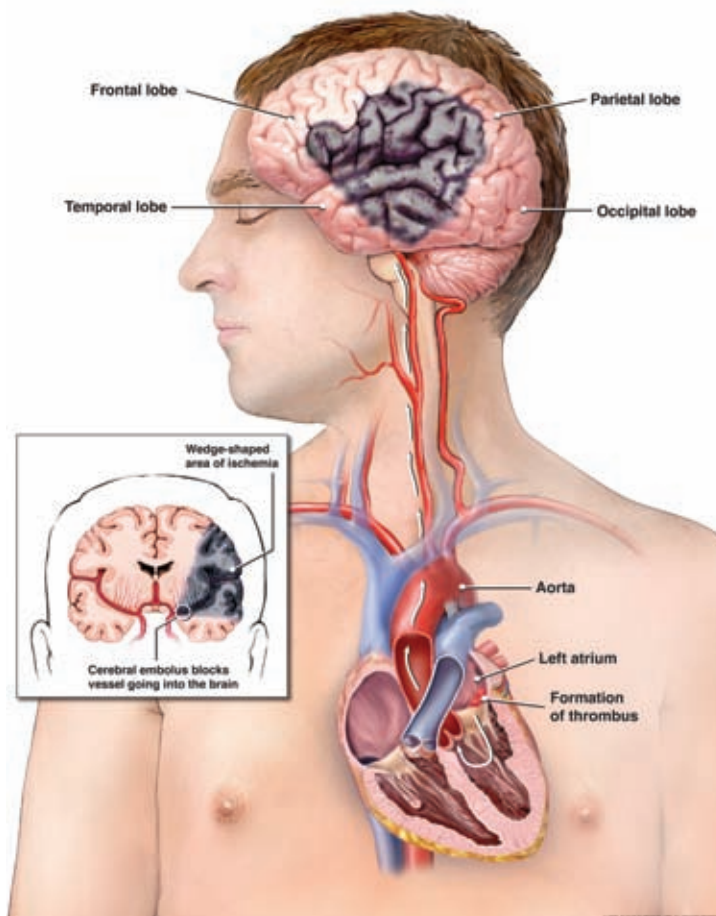
Primary Stroke Center Certification

Achievement of the Joint Commission's Certificate of Distinction for Primary Stroke Centers (known as the Gold Seal of Approval™ for stroke care) signifies that the quality care the center provides is effectively managed to meet the unique, specialized needs of stroke patients.

The Joint Commission's Primary Stroke Center Certification program was developed in collaboration with the American Stroke Association. It is based on the Brain Attack Coalition's "Recommendations for the Establishment of Primary Stroke Centers," and recognizes centers that make exceptional efforts to foster better outcomes for stroke care. To earn this distinction, the stroke management program undergoes an extensive on-site evaluation by Joint Commission reviewers.

Hospitals are evaluated and receive a certification decision based on an assessment of

- Compliance with evidence-based national standards
- Effective use of primary stroke center recommendations and clinical practice guidelines to manage and optimize care
- Performance measurement and improvement activities



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"Brain Attack" Statistics

Each year, an estimated 750,000 people in the United States experience a new or recurrent stroke (i.e., "brain attack"),¹⁻³ which is the nation's third leading cause of death. On average, someone in the US suffers a stroke every 45 seconds and someone dies of a stroke every three or four minutes. Stroke is a leading cause of serious, long-term disability in America.⁴ In Michigan alone, it is estimated that 225,000 people have had a stroke.⁵

While 50% to 70% of stroke survivors regain functional independence, 15% to 30% are permanently disabled, and 20% require institutional care at three months after onset. Strokes also result in substantial healthcare expenditures; the mean lifetime cost resulting from an ischemic stroke is estimated at \$140,000 per patient. Nationwide, costs related to stroke are expected to reach an estimated \$62.7 billion in 2007.⁴

Time Is Brain

The extreme sensitivity of neuronal tissue to even brief periods of ischemia mandates that a stroke be treated as a medical emergency in which every second counts. During each minute in which a large-vessel ischemic stroke goes untreated, the average patient loses about two million neurons, 14 billion synapses, and 7.5 miles of myelinated axonal fibers in the forebrain. During each hour in which treatment fails to occur, the brain loses as many neurons as it does in almost 3.6 years of normal aging.⁶

The severity of stroke-related disability can be reduced if timely and appropriate treatment is received.⁷ Patients with an ischemic stroke may be eligible for treatment with intravenous thrombolytic (e.g., tissue plasminogen activator [tPA]) therapy within three hours of symptom onset.⁸

Studies have shown that some stroke patients can benefit greatly from treatment with tPA, which travels through the bloodstream to the clot or other blockage, dissolves the material causing the obstruction, and allows blood flow to resume. The result is that far less brain tissue is deprived of oxygen and patients suffer less damage. Studies demonstrated that patients given intravenous tPA within three hours of suffering a stroke were more likely to have minimal or no disability than the patients given placebo.^{9,10}

Prior to 1995, there was little that healthcare providers could do for a patient who was having a stroke other than to manage the consequences. In 1995, the results of the National Institute of Neurologic Disorders and Stroke (NINDS) tPA study were published in the *New England Journal of Medicine*. "These results showed a substantial and persistent benefit for patients with ischemic stroke who were treated within three hours of the onset of their symptoms with the clot-busting medication tPA," says Phillip Scott, MD, Associate Professor, Department of Emergency Medicine, University of Michigan. "However, more than a decade later, we are only treating 1% to 3% of patients with an ischemic stroke with this drug." Reasons for this low rate of tPA use include patient

presentation beyond the required three-hour treatment window and the difficulties in evaluating stroke patients rapidly enough to allow time for treatment.¹¹

Need for Community Awareness and Education

Receipt of this brain-saving tPA treatment usually requires patients to recognize stroke symptoms, dial 9-1-1 immediately, and receive prompt transport to a hospital emergency department, where timely evaluation and computed tomography (CT) scanning of the brain can take place to rapidly identify those patients who are candidates for tPA treatment. For patients eligible for tPA, evidence suggests that the earlier patients are treated after the onset of symptoms the greater the likelihood of a more favorable outcome.^{12,13}

"Unfortunately, too many people experiencing symptoms of a stroke just rub their arm or take a hot shower instead of dialing 9-1-1. Or, if their symptoms occur in the evening, many people decide to go to bed, hoping their symptoms will be gone in the morning," says



Robert C. Ward III, DO, FACN.

Dr. Ward practices neurology at Lakeland Regional Medical Center, St. Joseph, and leads the stroke team. "By morning, they wake up with a full-blown stroke and their three-hour window of opportunity for tPA treatment is over."

INSTINCT Trial

Troubled by the low (1% to 3%) rate of use of tPA in patients undergoing ischemic strokes, Dr. Scott and his colleagues conducted a National Institutes of Health supported study investigating whether a focused educational intervention that targets the emergency department, neurologists, radiologists, emergency medical systems, and administrative systems in hospitals would increase the use of tPA to 4% higher than baseline (i.e., a 400% increase over the current level of use). This multicenter, randomized, controlled study, called the **IN**creasing **S**troke **T**reatment Through **IN**teractive Behavioral **C**hange **T**actics (INSTINCT) trial, is underway in 24 Michigan hospitals across the state. Both Lakeland hospitals, Niles and St. Joseph, are participating in the INSTINCT trial.

"Lakeland has undertaken a tremendous effort to be very aggressive in providing a high level of stroke care for their community," says Dr. Scott. "It's a very impressive system they have at Lakeland. I hope that they go on to become certified as a Primary Stroke Center, because that will be a marvelous addition to healthcare in Southwestern Michigan." **Phillip Scott, MD, Associate Professor, Department of Emergency Medicine, University of Michigan**

Lakeland Has Geared Up to Treat Strokes Quickly

As part of the preparations for becoming a Primary Stroke Center, Lakeland has added state-of-the-art 64-slice computed tomography (CT)

scanners at the hospitals in St. Joseph and Niles. The acquisition of this state-of-the-art imaging technology significantly expedites the time required for acute stroke patients to have a head CT completed, including the results reported to or reviewed by a member of the stroke team, within 45 minutes. Shortened CT scanning time, along with an assessment tool that provides a checklist of inclusion and exclusion criteria, helps Lakeland's emergency physicians decide quickly whether a patient with an acute stroke is eligible to receive tPA.

Rapid evaluation, combined with expert coordination of many disciplines (including neurologists, emergency department staff, radiologists, hospitalists, intensivists, and others) may significantly improve long-term outcomes for stroke patients who receive therapy at the hands of Lakeland's stroke team. For some patients, it may mean a complete recovery; or a return to independent living; for others, it may mean the difference between life and death.

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