

# Quality Report Card

Licking Memorial Health Systems



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STROKE CARE

## Sleep Disorders Increase Risk for Stroke

A stroke occurs when the blood supply to part of the brain is interrupted or reduced, which deprives brain tissue of oxygen and nutrients, causing brain cells to die. Healthy lifestyle choices, including practicing good sleep habits, can change or lower risk factors that can lead to a stroke. Despite medical warnings, many choose to curtail sleep in favor of social, leisure, or work-related activities resulting in an increased risk to the health of the brain. In addition, sleep disorders, such as obstructed sleep apnea (OSA), can deprive the brain of adequate oxygen and are now listed among the risk factors of stroke. Getting enough sleep and seeking treatment for sleep apnea can help prevent a deadly brain attack.

Sleep apnea occurs when a person's breathing is interrupted repeatedly for 10 or more seconds during sleep. On average, these episodes occur at least five times per hour and possibly hundreds of times every night. The most common form of sleep apnea is obstructive sleep apnea, a result of an issue in the upper airway. Enlarged or swollen tissues collapse or relax during sleep and block the passage of air leading to gasping or loud snoring. When breathing stops, the body asserts strong efforts to open the airway and resume the airflow. The condition causes low oxygen levels that leave the brain vulnerable to stroke. As the body struggles to breathe, the nervous system releases surges of stress hormones which elevate blood pressure levels and lead to fluctuations of the heart rate. Over time, these ongoing and untreated conditions during sleep will lead to systemic problems with uncontrolled high

blood pressure (hypertension) and a heart arrhythmia condition known as atrial fibrillation (AFib). Hypertension and AFib also are two well-known risk factors for stroke.

A stroke is a medical emergency that requires prompt treatment in order to minimize brain damage and potential complications. Therefore, sleep breathing problems are even more dangerous because it may be several hours before a stroke victim is aware of the occurrence. If more than three hours pass after the onset of a stroke, the opportunity to start critical treatment using intravenous therapy to dissolve blood clots is lost, eliminating the chance to reverse any severe damage.

Treating sleep apnea can reduce the risk of stroke. The most common signs and symptoms of sleep apnea include:

- Loud snoring
- Episodes of breathing cessation
- Abrupt awakenings accompanied by shortness of breath
- Awakening with a dry mouth
- Difficulty staying asleep
- Poor concentration or sleepiness during the day

Talk to a primary care physician about a sleep study for a proper diagnosis of a sleep disorder. See the health tips on page 4 to learn more about the symptoms of stroke.



# Patient Story – Kathy Mehler



On December 14, 2017, Kathy Mehler suffered a stroke while driving home from a Lions Club meeting. Two friends who were riding with her realized what was happening and repeatedly told her to pull over. “I could hear what they were saying to me, but just could not respond. I felt helpless,” Kathy explained. After several painfully long minutes, she was able to miraculously stop her vehicle without incident. Fortunately, a police cruiser had been traveling behind her and stopped to assist. “I was so lucky they were right there to help. They saved my life,” she said. The police officers called the emergency squad to transport Kathy to the Licking Memorial Hospital (LMH) Emergency Department where she was attended to immediately. Magnetic resonance imaging (MRI) and computed tomography (CT) scans revealed two clots in her brain. Brandon Chandos, M.D., of Licking Memorial Neurology, was on call and examined Kathy. After evaluating her scans, he determined she was undergoing an acute ischemic stroke.

During an ischemic stroke, a blood vessel that delivers blood to the brain becomes clogged. This occurs when fatty deposits in arteries break apart and travel to the brain or when poor blood flow from an irregular heartbeat forms a blood clot. Tissue plasminogen activator (tPA), the only FDA-approved treatment for ischemic strokes, was administered to Kathy. tPA is given through intravenous therapy (IV) in the arm and dissolves clots and improves blood flow to the affected part of the brain. Dr. Chandos recommended Kathy be transferred to a Columbus hospital for thrombus extraction, removal of the clots. The next morning, Kathy suffered another stroke.

Approximately three weeks later, she was able to transfer back to LMH for rehabilitation care. The stroke had affected her speech and mobility. “Ben Broyles was significant in coordinating my transfer and admittance to the LMH Acute Inpatient Rehabilitation Unit. The entire rehab team at Licking Memorial is outstanding! They worked with me every day and I came out walking,” Kathy said. David Koontz, D.O., supervised Kathy’s care during her stay in the Unit. “Dr. Koontz was remarkable. He was courteous and focused on me as a patient, very devoted to my recovery,” she explained. Rehabilitation staff helped Kathy relearn the basic movements used to perform many daily activities, such as laundry, baking, cooking and getting in and out of a vehicle. “They knew I enjoyed bowling and even got me bowling pins so I could practice during my therapy. I attribute my recovery to the phenomenal individuals in the Unit.” She spent two weeks at LMH and then continued both physical and speech therapy for an additional three weeks through the LMH Home Care program. “The medical staff who assisted me was so caring and helpful. I cannot say enough about the excellent care I received. I am very grateful.”

Kathy did not have any risk factors or experience any preliminary signs of a stroke. In an effort to determine underlying conditions, Dr. Chandos ordered an MRI and electroencephalogram (EEG) after her recovery. An EEG is a test that detects abnormalities in brain waves, or in the electrical activity of the brain. During the procedure, electrodes consisting of small metal discs with thin wires are attached to the scalp. The electrodes detect tiny electrical charges that result from the activity of the brain cells. Both tests produced normal results. “Dr. Chandos did not order unnecessary tests or prescribe expensive unnecessary medication. I appreciate that he is respectful of my time and money,” noted

Kathy. “I take a small aspirin daily and regularly follow up with Dr. Chandos, who has even contacted me himself to follow up on my progress. He has been marvelous and the best physician I have encountered – very kind, sensitive and attentive to my needs.”

As a breast cancer survivor, Kathy is no stranger to adversity. After receiving her diagnosis in 2001, Jacqueline Jones, M.D., of Licking Memorial Hematology/Oncology, helped Kathy battle the disease, which has now been in remission for 16 years.

Determined and positive, she quickly recovered from her stroke in just a few months. Kathy is very thankful for all the support she received throughout her recovery from friends and church family. She received so many letters while at LMH, some days the nurses would say, ‘The entire carton is for you!’ Kristin Santiago, Pastor at Christ Lutheran in Heath, was at the Hospital on the night that Kathy suffered her stroke. “Her presence was strengthening,” she added.

Kathy is an avid bowler and participates annually on a team, which placed second in the league this year. She also enjoys golfing and quilting and makes every effort to keep herself busy on a daily basis. Kathy admits that she is known for her delectable cream puffs and delivered some to the Rehabilitation Unit to show appreciation for their tremendous care. Born in Perry County, Kathy has lived in Licking County since 1968 and has an adult daughter, Heidi.

Brandon Chandos, M.D., joined Licking Memorial Neurology in 2017 and provides comprehensive stroke care throughout every stage of the process. He has participated in clinical trials and research for multiple sclerosis, dementia, stroke, epilepsy and carotid stents. Dr. Chandos is board certified in neurology and sleep medicine.

# Stroke Care – How do we compare?

At Licking Memorial Health Systems (LMHS), we take pride in the care we provide. To monitor the quality of that care, we track specific quality measures and compare to benchmark measures. Then, we publish the information so you can draw your own conclusions regarding your healthcare choices.

1. Thrombolytic drugs, sometimes called “clot-busters” often are effective in treating strokes in progress, and may even reverse some of the neurological damage. However, thrombolytic drugs can have dangerous side effects. To lower the risk of complications, thrombolytic drugs can be given only to patients who have arrived at the Emergency Department (ED) quickly enough to have the drugs initiated within three hours of their first symptoms of having a stroke.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Eligible stroke patients who received timely thrombolytic drugs in the ED	86%	83%	78%	85%

2. Tissue plasminogen activator (tPA) is a FDA-approved medication for acute ischemic strokes. tPA is given through intravenous therapy (IV) in the arm and works by dissolving clots and improving blood flow to the part of the brain being deprived. tPA can help reduce damage to the brain and the long-term effects of stroke. Lower numbers are preferable.

	LMH 2015	LMH 2016	LMH 2017	LMH Goal
Median time from arrival to administration of tPA	84 Minutes	80 Minutes	60 Minutes	60 Minutes

3. Quick access to brain scan results is critical to physicians when treating a patient with a suspected stroke. Clot-buster medications can be administered, but only for a short period of time after the patient’s stroke symptoms begin, and the medications may not be given until a brain scan is completed. Quick completion of a brain scan upon the patient’s arrival can reduce the amount of time elapsed before these important medicines can be given, which then increases the patient’s chance for improved recovery from a stroke.

	LMH 2015	LMH 2016	LMH 2017	National <sup>(1)</sup>
Stroke patients in the ED with brain scan results within 45 minutes	46%	74%	88%	72%

4. Ischemic Stroke is a type of stroke that results in damage to the brain caused by an interruption or blockage in blood flow. It is the most common type of stroke. A stroke can result in death, so seeking medical attention quickly is vitally important. Licking Memorial Hospital measures the rate of in-hospital death from patients suffering an ischemic stroke. Prompt and comprehensive stroke treatment can reduce the risk of death and long-term complications. Lower percentages are preferable.

	LMH 2015	LMH 2016	LMH 2017	National <sup>(3)</sup>
Ischemic stroke – inpatient mortality rate	1.23%	0.85%	1.03%	2.41%

5. The “incidence/prevalence rate” is a measure of how often ischemic strokes occur in our community, as compared to national averages. It is measured as the number of patients that are admitted with a stroke, out of every 1,000 admitted patients. Rates higher than average mean that more patients are admitted to the Hospital with strokes than national average, while lower rates indicate fewer strokes occur in the community than national average. Lower numbers are preferable.

	LMH 2015	LMH 2016	LMH 2017	National <sup>(3)</sup>
Incidence/prevalence rate	26.99	20.73	16.42	18.52

6. Atrial fibrillation, also known as “AFib,” is a condition in which the heart does not pump blood effectively. Patients with AFib are five times more likely to suffer a stroke than the general population, and many patients may be unaware that they have it. Patients with AFib are at risk of having blood clots form inside their heart, which can travel to the brain, causing a stroke. This measure reflects the percentage of patients, diagnosed with stroke who had underlying AFib. Patients with AFib typically are treated with blood thinners to help reduce the likelihood of clots forming inside the heart. Lower percentages are preferable.

	LMH 2015	LMH 2016	LMH 2017	National <sup>(3)</sup>
Ischemic stroke – percentage with AFib	20.37%	25.64%	14.43%	25.11%

Stroke Care – How do we compare? (continued on back)



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**7.** In some cases, after the immediate crisis is stabilized and the patient no longer requires hospital care, ongoing care may be needed depending on the needs of the patient. Patients may be transferred to post-hospital care settings such as inpatient rehabilitation, skilled nursing facilities or home health agencies. The LMH goal is for the patient to return to baseline functioning and be discharged directly home from the Hospital.

	LMH 2015	LMH 2016	LMH 2017	National <sup>(3)</sup>
Ischemic stroke – percent discharged home	45.06%	41.03%	47.42%	<b>50.00%</b>

**8.** Licking Memorial Health Professionals (LMHP) office-based physicians use evidence-based measures in order to provide excellent, quality care to patients. The American Stroke Association and American Heart Association recommend the use of blood-thinning medication in order to prevent clots from forming and to improve blood flow.

	LMH 2015	LMH 2016	LMH 2017	National <sup>(2)</sup>	LMH Goal
% LMHP coronary artery disease patients seen receiving blood-thinning medication	92%	93%	94%	<b>&gt;80%</b>	<b>&gt;85%</b>

**Data Footnotes:** (1) Comparative data from [www.hospitalcompare.hhs.gov](http://www.hospitalcompare.hhs.gov). (2) American Heart Association/American Stroke Association/National Committee for Quality Assurance Heart/Stroke Recognition Program. (3) Comparative data from the Midas Comparative Database.

## Health Tips – Stroke Signs and Symptoms

A stroke is a medical emergency and requires prompt treatment for survival and recovery. Stroke injures the brain, and it may be difficult to realize a stroke is occurring. Do not wait for the symptoms to improve or worsen. If you believe you are having a stroke or someone you know is having a stroke – **call 911 immediately.**

Stroke symptoms include the following:

- Sudden numbness or weakness of the face, arms, or legs, 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

Another way to remember the signs or symptoms of a stroke is to think “**FAST.**”

**Face** – Does one side of the face droop?

**Arms** – Does one arm drift downward or is one arm unable to rise up?

**Speech** – Is it hard to speak or speech is slurred or strange?

**Time** – If you observe any of these signs, it is time to call 911. A quick response can save a person from brain damage and disability.



**Licking Memorial Health Systems**

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Please take a few minutes to read this month’s report on **Stroke Care.** You’ll soon discover why Licking Memorial Health Systems is measurably different ... for your health!

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