

# Quality Report Card



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STROKE CARE

## Rehabilitation after a Stroke

Stroke is a leading cause of long-term disability, affecting more than 795,000 adults each year in the United States. The effects of stroke vary from person to person based on the type, location, and severity. When an area of the brain is damaged from a stroke, loss of normal function in parts of the body may occur. Stroke rehabilitation is an important component for recovery and can help individuals regain independence and improve their quality of life.

The brain is divided into three areas: the cerebrum, the cerebellum, and the brain stem. The cerebrum controls movement, sensation, speech, thinking, reasoning, memory, vision, and emotions. The cerebellum receives sensory information from the body through the spinal cord and is responsible for muscle control, fine movement, coordination, and balance. The brain stem controls many of the body's vital functions, such as heartbeat, blood pressure, and breathing, as well as the nerves involved with eye movement, hearing, speech, chewing, and swallowing.

Stroke rehabilitation offers different therapies that can help people regain the skills they lost during a stroke. The long-term goal of rehabilitation is to help the stroke survivor become as independent as possible. Research shows that people who participate in a stroke rehabilitation program have a better recovery rate than those who do not. Rehabilitation typically starts in the hospital and can begin as soon as 24 to 48 hours after having a stroke, as long as the patient is stable.

A stroke patient's rehabilitation team is comprised of several healthcare professionals, including their primary care physician, rehabilitation nurses, and physical, occupational, and speech therapists. A patient's primary care physician can guide care and suggest lifestyle behaviors for avoiding future strokes. Rehabilitation nurses help individuals incorporate the skills they learn into daily routines and can offer options for managing complications that arise from having a stroke.

Physical therapists work with stroke patients to help them relearn movements such as walking, sitting, lying down, and maintaining balance and coordination. An occupational therapist assists patients with improving daily living skills such as dressing, bathing, and performing household chores. Speech and language pathologists can help patients to improve their language skills, swallowing, and can help to develop abilities with memory and communication.

The Acute Inpatient Rehabilitation Unit at Licking Memorial Hospital (LMH) provides acute rehabilitation services for patients who have had a stroke. The goal of the Acute Inpatient Rehabilitation program is to help patients develop the skills necessary to live as independently as possible after leaving the Hospital. The interdisciplinary team focuses on the patient's specific area of disability caused by the stroke, such as balance and coordination, mobility, daily activities, speech and language, and swallowing.

Outpatient rehabilitation is also offered through Licking Memorial Rehabilitation Services for patients who need continued therapy after they are discharged from the Hospital. The comprehensive rehabilitation team provides several types of physical, occupational, and speech therapies that focus on decreasing pain while enhancing function to restore quality of life for the patient. The Rehabilitation Services Department utilizes many tools and technologies to improve an individual's daily living activities, including the STISIM Drive®, a driving simulator that assists patients who may need to strengthen basic driving skills including reaction time, managing pedals, and steering. There is also the BTE™ Simulator II, which replicates hundreds of real-world jobs and daily living functions, and is used for functional upper extremity rehabilitation.

Recovering from a stroke can be a very challenging experience for patients. It takes time and varies for each individual, depending on the severity of the stroke as well as the cognitive and physical effects on the body. Beginning rehabilitation as soon as possible can contribute to a faster recovery. A positive support system of family and friends can help encourage a person's motivation and mood, giving them the ability to continue with rehabilitation exercises outside of therapy sessions.

# Patient Story – Beth Carpenter



Beth Carpenter has always had an active lifestyle and kept herself busy. She enjoys playing golf, bowling, and exercises regularly. Beth worked as a waitress at Bob Evans while she raised her children. After they were grown, Beth attended classes at Eastland-Fairfield Career and Technical Schools in Groveport where she acquired computer skills that she used to obtain a job in medical records at a medical facility in Lancaster. She returned to school and earned her license as an X-ray technician and worked at a podiatrist's office until she retired four years ago.

On the morning of Saturday, March 18, Beth woke up and noticed that she had numbness and tingling in her right arm. She initially thought that she had slept on it and that her hand had just fallen asleep. Later in the day, Beth was in her kitchen preparing food. She reached up to touch her face and noticed that her nose and right cheek were numb. Knowing this was not a normal sensation for her, Beth took 325 mg of aspirin and went straight to Licking Memorial Hospital (LMH) Emergency Department (ED).

When she arrived at the registration desk, Beth informed the receptionist of her symptoms and explained that she may be experiencing a stroke. The ED staff worked quickly to bring Beth to an exam room. The entire time she remained alert and displayed none of the outward symptoms of a stroke, such as weakness, facial droop, or difficulty speaking or walking. Beth underwent two computed

tomography (CT) scans, one with contrast and one without contrast. Both CT scans revealed no abnormalities.

Although Beth does not have a history of heart disease, her mother died from a heart attack when she was 54 years old. Because of her family history and her own history of high blood pressure and high cholesterol, Beth was taken to the Cardiology Unit for observation and was fully admitted to the Hospital on the following day. On Sunday, Beth had an MRI procedure, which revealed evidence that she had indeed experienced a stroke.

A stroke occurs when the blood supply to part of the brain is cut off, causing damage to the brain, and affecting the functions of the body. Arteries narrow and harden as people age, which can increase the risk of stroke. Certain medical factors, such as heart disease, high blood pressure, and high cholesterol, may also contribute to stroke risk.

After Beth was discharged from the Hospital, she had a follow-up visit with Noman Ahmed, M.D., of Licking Memorial Neurology. "Dr. Ahmed was very nice and thorough in my follow-up examination. He answered all my questions," Beth said. "He checked my list of medications that I was taking and increased the dosage of my cholesterol medication explaining that the higher dose will help to prevent future strokes. He also suggested that I do a sleep study in June, which would be three months after my stroke."

At the end of January, Beth had contracted COVID-19. Although she made a full recovery, she has been experiencing arm pain on a regular basis. She mentioned her concern during her visit with Dr. Ahmed, and he ordered an MRI of her cervical (neck) area. The MRI did not show any stenosis or pinched nerves, so Dr. Ahmed suggested performing an electromyography (EMG) when she came in for her follow-up

in June. An EMG is a diagnostic test that helps detect neuromuscular abnormalities by measuring electrical activity in the muscles.

"Dr. Ahmed asked me if I would like to have a pain medication prescribed to cope with my arm pain during the time I had to wait for the EMG. I thought that was very caring of him to be so considerate about my comfort level," said Beth.

Beth is grateful to the staff at the LMH ED for responding quickly to her health needs. "Everyone told me that I was very lucky that I came into the ED when I did. When my symptoms did not go away, I knew something was wrong and trusted my instincts," said Beth. "By sharing my story, I hope that someone else who may be experiencing symptoms like mine will take action to save their own life."

Beth continues to live an active lifestyle. She lives with her 91-year-old father at her farmhouse in Thornville. In addition to golfing, bowling, and regular exercise, Beth also enjoys gardening and tending to her flower beds and orchard she has on more than 5 acres of property. Beth has 5 children, 13 grandchildren, and 8 great-grandchildren who all live in Central Ohio, and she visits them as often as she can.

# 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 a stroke 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 2020	LMH 2021	LMH 2022	LMH Goal
Eligible stroke patients who received timely thrombolytic drugs in the ED	90.6%	100%	91.7%	88%

2. Tissue plasminogen activator (tPA) – an FDA-approved medication for acute ischemic strokes, 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. Minimal time to administration produces brain-saving benefits.

	LMH 2020	LMH 2021	LMH 2022	LMH Goal
Median time from arrival to administration of tPA	73 Minutes	68 Minutes	65 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 2020	LMH 2021	LMH 2022	National <sup>(1)</sup>
Stroke patients in the ED with brain scan results within 45 minutes	96%	84%	84%	70%

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 (LMH) measures the rate of in-hospital death of 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 2020	LMH 2021	LMH 2022	National <sup>(2)</sup>
Ischemic stroke – inpatient mortality rate	0.0%	0.78%*	0.79%*	2.71%

\*In 2021 and 2022, one individual suffered a fatal ischemic stroke.

5. The “incidence 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 who 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 the national average, while lower rates indicate fewer strokes occur in the community than the national average. Lower numbers are preferable.

	LMH 2020	LMH 2021	LMH 2022	National <sup>(2)</sup>
Incidence rate	20.10%	20.51%	21.43%	19.81%

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 2020	LMH 2021	LMH 2022	National <sup>(2)</sup>
Ischemic stroke – percentage with AFib	14.29%	11.72%	14.96%	18.33%

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 required 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 2020	LMH 2021	LMH 2022	National <sup>(2)</sup>
Ischemic stroke – percent discharged home	49.58%	53.13%	58.27%	55.56%

**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 in patients who have a blood clot-related diagnosis.

	LMHP 2020	LMHP 2021	LMHP 2022	National <sup>(3)</sup>	LMHP Goal
% LMHP coronary artery disease patients seen receiving blood-thinning medication	93%	96%	88%	>80%	>85%

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

## Recognizing Stroke Symptoms **F.A.S.T.**

During a stroke, every minute counts. Recognizing the signs and symptoms of a stroke can save a person’s life. Treatment works best if the stroke is recognized and diagnosed within three hours of the first symptoms. The National Stroke Association urges people to learn the warning signs of stroke, and act “F.A.S.T.” by calling 911 immediately if any of the following symptoms are present:

**Face:** Does one side of the face droop or is it numb? Ask the person to smile. Is the person’s smile uneven?

**Arms:** Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?

**Speech:** Is speech slurred? Are they unable to speak or difficult to understand? Ask the person to repeat a simple sentence such as, “The sky is blue.” Is the sentence repeated correctly?

**Time to call 911:** If the person shows any of these symptoms, even if the symptoms go away, call 911 and get them to the hospital immediately.

The key to recognizing stroke is the suddenness of the onset of symptoms. In addition to the conditions mentioned, someone experiencing a stroke may also suffer numbness in the face, arm, or leg, vision changes, loss of balance or coordination, confusion, trouble walking, or a sudden severe headache. If you or someone you are with have any type of unusual symptoms that occur suddenly, call 911.



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

The Quality Report Card is a publication of the LMHS Public Relations Department. Please contact the Public Relations Department at (220) 564-1572 to receive future mailings.

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