

**6.** Warfarin (trade name Coumadin) is a blood thinner, which also is called an anticoagulant. It is used to help prevent and treat blood clots. The most common side effect of warfarin is bleeding in any tissue or organ. It is important for patients to have a prothrombin time (PT) and International Normalized Ratio (INR) blood test regularly to help the physician determine the blood clotting rate and whether the dosage of warfarin should change. The testing is very important and must be accomplished at recommended intervals in order to keep the PT/INR result in the best and safest range for the medical condition. Licking Memorial Health Professionals (LMHP) has adopted this recommendation as a safety measure.

	LMHP 2012	LMHP 2013	LMHP 2014	Goal
LMHP patients on warfarin having a current PT/INR within recommended guidelines	93%	91%	90%	greater than 90%

**7.** Metformin (trade name Glucophage) is a medication that is used in the treatment of diabetes mellitus and polycystic ovarian disease. It is an effective medication for treatment of both of these unrelated disease processes, but must be used cautiously in patients with compromised renal (kidney) function. It is recommended to monitor renal function prior to initiation of therapy and at least annually thereafter. Licking Memorial Health Professionals (LMHP) has adopted this recommendation as a safety measure.

	LMHP 2012	LMHP 2013	LMHP 2014	Goal
LMHP patients on Metformin with a renal function test within last year	95%	94%	94%	greater than 90%

**Data Footnotes:** (1) *To Err Is Human – Building a Safer Health System*, National Academy Press, Washington D.C., 2000. (2) 2010 CDC National Healthcare Safety Network Summary Report. (3) *Hospitalcompare.hhs.gov* national benchmarks. (4) Centers for Disease Control and Prevention (CDC), Interim Results: Seasonal Influenza Vaccination Coverage Among Health-Care Personnel, *MMWR* April 2, 2010 / 59(12); 357-362.



Please take a few minutes to read this month's report on **Patient Safety**. You'll soon discover why Licking Memorial Hospital is measurably different ... for your health!

Visit us at [www.LMHealth.org](http://www.LMHealth.org).

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## Health Tips – Adults Should Stay Up-to-Date on Vaccinations

Your need for vaccinations does not end in childhood. As you mature, you may become susceptible to different diseases, childhood immunizations may have weakened, and new vaccines may have become available.

Vaccines help to protect you from specific diseases and additional diseases that could have overcome your stressed immune system after illness (for example, developing sepsis after being sick with the flu). Vaccines also help prevent you from becoming ill and then spreading disease to your loved ones.

The U.S. Centers for Disease Control and Prevention reports that the following vaccines should be considered for many adults:

- Seasonal influenza (flu)
- Pertussis (whooping cough)
- Tetanus
- Shingles
- Pneumococcal

The schedule for each vaccine varies, depending upon the individual's age and overall health. Please consult your physician for a personal healthcare plan. Additional vaccines may be recommended for those who intend to travel internationally.

# Quality Report Card

Licking Memorial Health Systems



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PATIENT SAFETY

## LMHS Joins Initiative to Prevent Sepsis Deaths

Many individuals do not know much about sepsis, even though it is the ninth leading cause of disease-related death in the United States. The U.S. Centers for Disease Control and Prevention (CDC) reports that more than 1 million cases of sepsis occur each year in the U.S., and up to one-half of the individuals who develop sepsis will die from the condition. It has been estimated that 38 Ohioans die from sepsis every day. Licking Memorial Health Systems (LMHS) has joined in the efforts of the Ohio Hospital Association's Institute for Health Innovation and the Sepsis Alliance to sharply reduce the number of sepsis-related deaths by 30 percent within the next two years.

Sepsis is a body's overwhelming and life-threatening response to an initial infection of microbes that can be bacterial, viral or fungal. The first infection may occur any place on the body – internally or externally. The initial infection also may be serious, such as pneumonia or meningitis, or it may result from a minor issue, such as a finger cut or a case of the flu.

Individuals who are sick and notice their condition worsening rather than improving over the course of several days should consult a physician to be evaluated for the possibility of sepsis. At first, the condition can mimic other diseases with its variety of symptoms, including fever, shivering/feeling cold, pain, rapid heartbeat, nausea, pale skin, confusion, sleeping difficulty or shortness of breath. As the disease progresses into severe sepsis, the symptoms worsen and the body's organs begin to function abnormally. Emergency medical attention is necessary at that point to save the patient's life.

Sepsis can occur at any age. Those who are most at-risk include:

- Individuals with weakened immune systems
- Infants and very young children
- Elderly adults
- Individuals with chronic conditions, such as diabetes, AIDS, cancer, kidney disease or liver disease

LMHS Vice President Medical Affairs Craig Cairns, M.D., M.P.H., said the Licking Memorial Hospital Medical Staff has renewed its scrutiny of potential sepsis cases. "In many cases, sepsis is difficult to diagnosis because there are so many variables to consider. A patient may not know of any precipitating infections, or may not exhibit severe symptoms. However, through the new initiative by the Ohio Hospital Association and the Sepsis Alliance, we have a new algorithm that allows us to sort through the maze of symptoms and test results in order to achieve a successful diagnosis and effective treatment."

Hospitalization, intravenous fluids and broad-spectrum antibiotics are often the first step in treating sepsis. The physician may order CT scans and blood work in an effort to identify the source and type of infection, but in many cases, the precise cause is never identified. Treatment also will be given to prevent the patient's blood pressure from falling too low and to address any organ failures that may develop.



Measurably Different ... for Your Health!



# Patient Story – Tracy Gostrue

Tracy Gostrue became severely ill after a kidney stone led to a septic infection.

At the age of 25, Tracy Gostrue experienced her first kidney stone. “It was very painful,” she recalled. “My doctor told me that the first course of treatment was to drink lots of fluids to see if it would pass on its own.” Fortunately, the stone passed on its own within a couple of days.

Unfortunately, however, Tracy faced many recurrent kidney stones over the next seven years, and she learned to manage them on her own. She explained, “The stones are painful, and I know to start drinking extra fluids as soon as I feel the pain in my back. Normally, the stones are able to pass with just some careful home treatment.”

So, Tracy was not overly concerned when she began feeling the familiar pain in her back in September 2015. An insurance coordinator at Wing, Mack & Smith, D.D.S., and mother of five children ranging in age from 3 to 15, Tracy was often too distracted to pay attention to the intermittent pains. “The pain would flare up for a little while, but then it went away. In the back of my mind, I thought that I should get it checked out by my doctor, but I let it go for about a week,” she admitted.

On a Wednesday afternoon at the office, Tracy suddenly became ill in a much different manner. “I was freezing cold, couldn’t pay attention to my work, and

felt nauseated. These were different symptoms than I had ever experienced before with a kidney stone. The pain wasn’t so bad at that point, so I went home and crawled into bed,” she said.

By that night, the pain had become severe, and Tracy went to the Emergency Department (ED) at Licking Memorial Hospital. The triage nurse took Tracy’s blood pressure and found that it was slightly low at 96/56. In addition, she had a fever of 103 degrees Fahrenheit. The ED physician ordered a CT scan that showed a kidney stone that was 4 mm in size (slightly smaller than a BB) had lodged in the ureter. In addition, blood tests showed that Tracy had a bacterial infection that was causing her to become septic. At that point, Tracy was admitted to the Hospital.

On Thursday, Tracy continued to feel worse. By mid-day, she could not sit up in bed or walk. Her fever remained elevated in spite of continuous intravenous antibiotics. Urologist Donald Lewis, M.D., of Urological Center, Inc., called the nurse’s desk on the fifth floor every hour or two to check on Tracy’s status. By 4:30 p.m., Tracy was taken into surgery so that Dr. Lewis could implant a stent in the ureter to drain the affected kidney. The stent successfully eased the buildup of urine in the kidney. Tracy continued to receive IV antibiotics to treat her septic bacterial infection, and was released to return home two days later.

At her post-operative visit with Dr. Lewis, it was determined that Tracy’s kidney stone had not passed through the stent, and she was scheduled for a lithotripsy

procedure several days later. “The best course of action is to treat kidney stones conservatively, with the least amount of intervention as possible,” Dr. Lewis explained. “For stones that do not pass on their own, stenting is the next procedure of choice, especially during an infection. If the stone remains, as in Tracy’s case, we perform lithotripsy, a non-invasive procedure that breaks up the stone with sound wave technology. If lithotripsy is not successful, then we can perform ureteroscopy to physically remove the stone.”

The lithotripsy procedure successfully broke up the stone in Tracy’s kidney, and she was able to return home the same day. “Before this happened, I knew what sepsis was, but it never crossed my mind that it was happening to me,” Tracy said. “Dr. Lewis was amazing. If he had not been so caring and attentive to my case, I think I would have become much more sick.”

In the future, Tracy knows that she should avoid “dark” liquids, such as colas, tea and coffee to try to prevent the formation of kidney stones. She also knows to be vigilant about unusual and worsening symptoms such as fever, chills and nausea, and if they ever develop again, she should seek medical attention as soon as possible.

## Patient Safety – 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 them to benchmark measures. Then, we publish them so you can draw your own conclusions regarding your healthcare choices.

- The Institute of Medicine published a report in 2000 that highlighted the stunning effects of medication errors. The report set forth a national agenda for reducing errors and improving patient safety by designing a safer health system. Although the medication error rate at Licking Memorial Hospital (LMH) is significantly better than the national benchmark, we make continuous efforts to improve the process. LMH dispensed 954,156 doses of medication in 2014.

	LMH 2012	LMH 2013	LMH 2014	National <sup>(1)</sup>
Medication errors per 1,000 doses	0.011%	0.010%	0.013%	0.310%

- Protecting patients from hospital-acquired infections is a primary patient safety goal. LMH has an ongoing program to prevent and treat infections in patients. Per the Centers for Disease Control and Prevention (CDC) recommendations, LMH tracks high-risk patients, including those with an increased risk of infection due to the presence of an invasive device, such as a ventilator, catheter or central venous line. The following data reflect how many infections occurred during 1,000 patient days compared to the national benchmarks.

	LMH 2012	LMH 2013	LMH 2014	National <sup>(2)</sup>
Pneumonia infection rate of ICU patients on ventilators per 1,000 days of usage	0.0	0.0	0.0	1.0
Urinary tract infection rate for ICU patients with urinary catheters per 1,000 days of usage	0.8	1.8*	0.0	1.9
Bloodstream infection rate for ICU patients with central venous catheters per 1,000 days of usage	0.0	2.6**	2.8**	1.3

\*Throughout a period of 1,000 patient days, two urinary tract infections were recorded in LMH’s ICU.  
\*\*Throughout a period of 1,000 patient days, one bloodstream infection was recorded in LMH’s ICU among patients with central venous catheters.

- LMH conducts a comprehensive assessment to determine if a patient is at risk for a fall at admission and during the Hospital stay. Personal alarms and bed sensors help alert staff to a potential fall.

	LMH 2012	LMH 2013	LMH 2014	Goal
Inpatient falls per 1,000 patient days	0.24	0.29	0.30	less than 0.30

- Venous thromboembolism (VTE) is a serious condition that results when a blood clot forms within a vein. These clots can travel to the lungs and cause serious harm or even death. In fact, VTE is the most preventable cause of death and accounts for more annual deaths than those from breast cancer, AIDS and traffic accidents combined. VTE is 100 times more common in hospitalized patients compared with the community at large. Without prophylaxis, up to 20 percent of high-risk surgical patients develop DVT, and up to 26 percent of all medical patients are affected. High-risk groups include: up to 34 percent of heart attack patients and up to 40 percent of patients with heart failure. Cancer and stroke patients are particularly at risk with VTE complicating as many as 75 percent of these hospitalizations. Often, patients will have no symptoms when a clot has formed. By using preventive measures, such as blood thinners or mechanical devices, the risk for developing a clot can be significantly reduced. Due to the great risk of blood clots for patients, LMH has adopted a prevention protocol that applies to nearly all patients admitted to the Hospital to reduce their risk.

	LMH 2012	LMH 2013	LMH 2014	National <sup>(3)</sup>
Medical patients receiving VTE prophylaxis by end of Hospital day 2	94%	94%	97%	96%

- LMHS recognizes the importance of keeping our staff healthy and lessening the likelihood that they will infect our patients with influenza while under their care. The Health Systems is committed to providing and encouraging free, easily accessible flu vaccines to all employees.

	LMH 2012	LMH 2013	LMH 2014	LMHS Goal	National <sup>(4)</sup>
LMHS employees receiving the seasonal influenza vaccine	84%	85%	81%	greater than 80%	62%

Patient Safety – How do we compare? (continued on back page)



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