



Quality Report Card

How Sleep Impacts Heart Health

Sleep is critical to maintaining good, overall health. It provides time for the body to repair cells, tissue, and blood vessels, strengthens the immune system, improves mood, and increases energy and brain function. The Centers for Disease Control and Prevention states that most adults need at least 7 hours of sleep each night. Studies show that sleep deprivation can negatively affect heart health by contributing to high blood pressure and increasing the risk of heart disease, heart attacks, diabetes, and stroke.

Recently, the American Heart Association added sleep to its heart health checklist, a list of 8 key measures for improving and maintaining cardiovascular health: diet, exercise, tobacco use, weight, cholesterol, blood sugar levels, blood pressure, and now sleep. The effects of getting more quality sleep can help benefit a person's heart health.

During sleep, the stimulation of the nervous system is reduced, and heart-rate, breathing, and blood pressure drop to levels below those that occur when a person is awake. When an individual experiences sleep disruptions, their blood pressure and heart rate will remain higher for longer periods of time. High blood pressure is the leading risk for heart disease and stroke.

Sleep also affects the hormones that control hunger, the body's response to insulin, and a person's metabolism. Sleep deprivation can cause people to crave foods that are higher in added sugar,

fats, and sodium. Excessive intake of these types of food can lead to health conditions such as obesity, diabetes, and high blood pressure, which increase the risk of cardiovascular disease.

A lack of sleep can decrease motivation for exercise because a person is already feeling tired. Studies show that regular physical activity can help to improve sleep quality and reduce pre-sleep anxiety. Exercising in the afternoon or early evening is most helpful for promoting sleep; however, workouts completed just before bedtime can increase stress hormones and worsen sleep issues.

Conditions such as sleep disorders can also harm a person's heart health. Sleep apnea is a sleep disorder that occurs when the airway is repeatedly blocked during sleep, causing the individual to stop breathing for a short amount of time. This decreases the amount of oxygen that the body receives while sleeping, and in response, blood vessels constrict and heart rate and blood pressure increase. Sleep apnea is associated with a number of serious health complications, including coronary heart disease, heart failure, irregular heartbeat, and stroke.

Insomnia – the inability to fall asleep, stay asleep, or both – is the most common sleep disorder in the United States. Over the past

decade, insomnia has been linked to high blood pressure, heart disease, and heart failure. The sleep disorder is also the number one symptom of people who have heart failure. Certain medications, such as beta blockers, can also contribute to insomnia, as well as health anxieties. Individuals who suffer from insomnia may experience symptoms such as daytime sleepiness, fatigue, and problems with concentration or memory.

People who are having trouble sleeping should visit their healthcare professional if symptoms of poor sleep last for more than a couple weeks. Sleep issues may be a result of an underlying health condition or a sleep disorder. A patient may be asked to participate in a sleep study that will monitor their eye movement, pulse, breathing rate, body movements, snoring, and blood oxygen levels. Results of the study will help determine the appropriate course of action for better sleep.



Patient Story – Craig Burdick



While vacationing and visiting family members in Central Ohio, Craig Burdick made the decision to leave his home in Pennsylvania and stay in the area. He met Gina, and the two were soon married. The couple settled in Heath, and Craig began serving as the pastor of a local church. He also became a football referee. After 13 years as a church pastor, Craig felt called to take on a new challenge, and accepted a position to provide pastoral services with a healthcare organization that operates a number of care facilities in the area.

As a local football referee, it is important for Craig to stay physically active and in good condition. However, after taking the position with the healthcare organization, Craig had made minor changes in his routine that had a detrimental affect on his healthy habits. He spent more time driving than he had in the past, and often chose to stop for fast food for meals while visiting the 17 different care facility locations. Less activity and unhealthy food choices led to weight gain, and eventually Craig faced a frightening health crisis.

In June 2022, Craig was visiting the care facilities when he began to feel overheated and unwell. At first, he thought the buildings were overly warm inside, and that he would feel better with some rest. After returning home, Craig noticed tingling in his arm, but rationalized that the sensation was a side effect of a shoulder surgery that he underwent in the past. None of the symptoms he was experiencing caused him concern or to consider a more serious cause, such as a cardiac event.

"I guess with a family history of heart disease, I should have been more aware of the symptoms. My father and three uncles all suffered heart attacks," Craig revealed. "Heredity is a major risk factor for heart disease."

Gina, a district nurse for Granville Exempted Village Schools, felt the symptoms were serious enough to warrant a visit to the Hospital, but Craig decided he just needed to rest. The next morning, Craig woke early to make an hour and a half drive to a facility in Caldwell. While getting ready to leave, Craig felt as though he needed to vomit and quickly made his way to a bathroom. He also felt faint, and sat on the floor for a few minutes until he regained some of his strength. Crawling to the couch in his living room, Craig found his cellphone and called Gina, who was upstairs asleep. Gina immediately called 911. The emergency medical technicians (EMTs) arrived quickly, and used a portable electrocardiograph (EKG) machine to test Craig's heart rhythm.

"I was right in the middle of experiencing a heart attack. At that point it felt as though an elephant was sitting on my chest, but the pain was actually radiating from my armpit," Craig shared. "The EMTs gave me nitroglycerin and some pain medication to relieve the symptoms." While being transported to Licking Memorial Hospital (LMH), Craig overheard the medics relaying his test results and current status to staff members at LMH over their radios. When the squad arrived, Craig was rushed to the catheterization laboratory to have a stent placed in an artery that was 99 percent blocked. In just 48 minutes from the time his wife called 911, the stent was placed, and the artery was reopened.

LMH has established a team of specialists, including Cardiologist Hassan Rajjoub, M.D., who are ready at a moment's notice to respond when a patient is experiencing a cardiac event. From the EKG, the EMTs knew Craig was experiencing a ST-elevation myocardial infarction (STEMI),

a heart attack caused by a blockage of a heart artery. A STEMI is more serious and has a greater risk of serious complications and death than other cardiac events. The heart muscle becomes damaged within minutes and could stop functioning all together unless the artery can be reopened. For this reason, every minute from the onset of a heart attack is absolutely critical.

"Dr. Rajjoub and his team were amazing. They move together as though they were a well-oiled machine. I was up and walking the halls soon after the surgery, and I went home two days later," Craig said. "It was also comforting to see a good friend of mine, Chaplain Cheryl Simpson, waiting in the Emergency Department for my arrival."

As part of his treatment, Craig was referred to the Cardiac Rehabilitation Program. The program focuses on restoring and enhancing both the physical and psychological health of the patients. The specially trained staff work to develop an individualized health and fitness plan and provide healthy lifestyle information. "I have been following the protocol they designed for me, and I have lost weight and feel so much better. My goal was to be ready to referee when football season began, and the staff supported me wholeheartedly, pushing me when I needed it. They were phenomenal," Craig expressed.

While he now has to take medication, Craig feels his life is back to normal. He continues to provide spiritual services to the residents of the care facilities and serve as the Chaplain for the Licking County Prosecutor's Office. He is grateful to be able to spend time with Gina, and their children, Austin, Scott, Caden, and Maria. "Maria is only eight-years-old. She is our miracle baby, born years after we thought we were done having children," Craig said. "It is important for me to stay healthy for her, and our boys."

Heart 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. The first step in heart attack treatment is to confirm that the patient is truly experiencing the symptoms of a heart attack. An electrocardiogram (EKG) measures the electrical activity of the heart and is one diagnostic tool used to determine if a heart attack is occurring.

	LMH 2019	LMH 2020	LMH 2021	National Average ⁽¹⁾
Median time from arrival to completion of EKG	3 minutes	3 minutes	3 minutes	7 minutes

2. In patients having a heart attack, emergency angioplasty restores blood flow to the heart muscle by re-opening blocked or clogged arteries. This is completed by inserting a catheter into the artery that feeds the heart, inflating a balloon and placing a stent inside the artery to keep it open. This procedure can help reduce damage to the heart muscle, and has the best results when performed within 90 minutes after arriving in the Emergency Department (ED). Licking Memorial Hospital (LMH) began performing this procedure in 2008.

	LMH 2019	LMH 2020	LMH 2021	National Goal ⁽²⁾
Mean time from arrival until balloon angioplasty performed	55 minutes	58 minutes	65 minutes	90 minutes
Time to balloon within 90 minutes	99%	98%	98%	95%

3. Emergency Medical Services (EMS) are often the first to evaluate and treat patients experiencing heart attack symptoms. EMS acquires a baseline EKG to wirelessly transmit to the LMH ED physician for interpretation and early identification, so that the Catheterization Lab team can be alerted quickly. Medical contact to reperfusion refers to the time it takes in minutes from the first medical contact by EMS with a patient experiencing heart attack symptoms, to the opening of the artery to allow blood flow back to the heart muscle.

	LMH 2019	LMH 2020	LMH 2021	National Goal ⁽²⁾
Medical contact to reperfusion	75 minutes	78 minutes	82 minutes	Less than 90 minutes

4. Licking Memorial Health Professionals (LMHP) physicians also monitor the usage of antiplatelet drugs, such as aspirin or an antithrombotic drug, in patients with coronary artery disease (CAD). The usage of these medications lowers the risk of myocardial infarction (MI) or death in patients with CAD.

	LMHP 2019	LMHP 2020	LMHP 2021	LMHP Goal ⁽³⁾
LMHP CAD patients with aspirin and/or antithrombotic prescribed	93%	93%	90%	Greater than 85%

5. LMHP physicians monitor the cholesterol levels, specifically the LDL (bad cholesterol) levels of their patients with diagnoses of CAD. Elevated LDL cholesterol level is a risk factor for MI, but is reversible through medication, diet and exercise.

	LMHP 2019	LMHP 2020	LMHP 2021	LMHP Goal ⁽³⁾
LMHP CAD patients with LDL less than or equal to 100 mg/dl	78%	84%	61%	Greater than 50%

Data Footnotes: (1) Hospitalcompare.hhs.gov national benchmarks. (2) American Heart Association website (3) Benchmark indicates LMHP Goal.



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6. When performing certain heart procedures, such as a catheterization, a cardiologist may choose to access the heart through the radial artery, located in the wrist, or the femoral artery, located in the upper thigh. A growing body of evidence supports adoption of transradial artery access to improve acute coronary syndrome–related outcomes, to improve healthcare quality, and to reduce cost. Accessing the radial artery requires advanced skill; however, radial access offers quicker recovery time by eliminating the need for the patient to remain flat on their back in bed for several hours after the procedure. Also, the risk of bleeding is decreased. Although radial access is routinely utilized, it may not be an option for some patients due to a risk of spasms or the size of the artery. LMHS’ cardiologists possess the advanced skills needed for the procedure and have been offering the safer alternative to patients.

	LMH 2019	LMH 2020	LMH 2021	LMH Goal
Heart catheterization procedures	593	550	556	
Percentage of radial access	89%	91%	88%	83%

Tips to Improve Sleep Hygiene

Sleep not only restores the body and improves energy levels, it is also vital to cardiovascular health. Adults who sleep less than 7 hours each night are more likely to be at risk for heart disease, heart attack, and stroke. Many people have trouble falling asleep or are unable to get the quality sleep they need. The following tips can help individuals improve their sleep hygiene:

Adopt a regular sleep schedule.

Go to bed at the same time each night and wake up at the same time each morning every day of the week.

Turn off electronic devices an hour before bed.

Televisions, computers, and smartphones emit a blue light, which is inhibitive to

the body’s sleep cycle. Individuals can use the “do not disturb” function on their smartphone to block notifications during sleep. Charging electronic devices away from the bedside or in another room can also help decrease distractions.

Get enough physical activity during the day.

Moderate to vigorous exercise each day can help alleviate daytime sleepiness and reduce the time it takes for a person to fall asleep at night. Individuals should refrain from exercising two hours before bedtime.

Avoid eating or drinking a few hours before bedtime.

Heavy foods, alcohol, and caffeine can disrupt a person’s quality of sleep.

Optimize the sleep environment. The bedroom should be cool, dark, and quiet. Using white noise or a sound machine that plays rainfall or ocean waves can also be helpful for falling and staying asleep.



**Licking Memorial
Health Systems**

1320 West Main Street • Newark, Ohio 43055
(220) 564-4000 • LMHealth.org

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

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