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Sodium's Effect on the Heart

As part of a heart-healthy diet, physicians and other healthcare professionals recommend reducing sodium intake. Sodium, generally referred to as salt, is a mineral the body needs to function properly, but too much salt can have adverse effects. Only a small amount of salt is needed, but most people consume too much sodium which can increase blood pressure and, in turn, leads to other serious heart problems that can cause a heart attack or stroke.

Sodium travels in the bloodstream and is regulated by the kidneys. This vital mineral carries an electrical charge which helps facilitate muscle contractions and nerve impulses. It also works to maintain normal water balance in the body assuring the optimal levels of hydration for cells and the spaces that surround the cells. When too much sodium is present in the bloodstream, the mineral pulls water into the blood vessels, increasing the total amount of blood inside the vessels. With more blood flowing through the vessels, blood pressure increases. Over time, high blood pressure can push and overstretch the blood vessel walls and speed the build-up of plaque which can block blood flow. The added pressure forces the heart to exert more effort to pump blood through the body which can put strain on the muscle. High blood pressure is a major risk factor for heart disease.

Reducing sodium intake reduces the risk for high blood pressure and can reduce bloating and weight gain from extra water. While many people add salt to foods after preparation, the majority of salt consumed – more than 70 percent – is found in packaged and prepared foods, condiments and sauces. It is recommended that people aim for 2,000 milligrams (mg) of sodium per day. To estimate the amount of sodium in packaged foods, check the Nutrition Facts label. The amount of sodium per serving is listed in mg. Be sure to check the ingredient list for words such as sodium, salt and soda. The total sodium shown on the Nutrition Facts label includes the sodium from salt and any other sodium-containing ingredient in the product. Remember to take note of the serving size on the Nutrition Facts label. If the portion size equals two servings of a product, double the amount of sodium listed.

Dining out can pose a challenge in calculating sodium intake. Fast-food and fast-casual restaurants have little control over the amount of sodium in the foods served because such establishments simply assemble packaged foods. It is best to order foods as plain as possible. Sauces, soups and cheese generally are high in sodium. When ordering a meal, try to avoid such items. Ask for dressings and sauces on the side, and use as little as possible. Items on the menu that use words such as cured, smoked, teriyaki, pickled or marinated may be high in sodium. Order food items that have been grilled, baked, roasted or steamed.

Many people believe food will taste bland without added salt. There are alternatives that can be used instead including low-sodium spice mixes such as Mrs. Dash[®]. Pure herbs or spices, and vinegar or lemon juice also can be used to add flavor to foods. Check the labels

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HEART CARE



On April 24, 2018, community leader Jerry McClain was returning to work at The Jerry McClain Companies from a lunch meeting when he experienced severe pain in his stomach and chest as he drove on State Route 16. "I recall thinking to myself that I had never felt worse in my entire life," explained Jerry. "I began to pray and was especially thankful for my life." As he walked into his downtown office building, a coworker commented that he did not look well. When Jerry reached the lobby, he collapsed into a chair near the entrance and passed out. He briefly remembers being placed on a gurney, then woke up in the Licking Memorial Hospital (LMH) Emergency Department (ED).

A 12-lead electrocardiogram was completed by Emergency Medical Services (EMS) en route which showed Jerry was having a heart attack or STEMI – ST-elevation myocardial infarction. STEMI is caused by a prolonged period of blocked blood supply that affects a large area of the heart. STEMI is the most dangerous form of heart attack and calls for a quick response due to its substantial risk of disability and fatality. "At the time, we did not understand the extent of the severity of the situation, and the rapid response of the Newark EMS was crucial to my positive outcome. I am grateful and they are to be commended," commented Jerry.

Patient Story – Jerry McClain

Hassan Rajjoub, M.D., and the Catheterization Laboratory team were notified prior to Jerry's arrival to LMH so that they could prepare for an emergency cardiac catheterization. A procedure used to diagnose and treat cardiovascular conditions, cardiac catheterization utilizes a long, thin tube called a catheter that is inserted in an artery or vein in the groin, neck or arm and threaded through the blood vessels to the heart.

Jerry spent less than 15 minutes in the ED being prepared for his procedure in the Catheterization Laboratory where Dr. Rajjoub quickly identified a coronary artery blockage. A mere 27 minutes after his arrival to LMH and 45 minutes after EMS arrived to his office, an angioplasty was performed to reopen the blocked artery with a balloon and two stents. Coronary angioplasty is a procedure used to open clogged heart arteries. Angioplasty involves temporarily inserting and inflating a tiny balloon where the artery is clogged to help widen the artery. Angioplasty often is combined with the permanent placement of a small wire mesh tube called a stent to help prop the artery open and decrease its chance of narrowing again.

Following three days in the Hospital, Jerry was discharged home in stable condition with no complications. He continued to rest for several more days before gradually resuming normal work at his business and around his home.

"We are so blessed to have the care I received available in our community," Jerry said. "Dr. Rajjoub saved my life, and I wouldn't be here today without him. Now, I am back to doing all the things I love, even if it is at a slightly slower pace."

A general contractor, Jerry founded his company, The Jerry McClain Companies, in 1966 as a custom home and renovation company. Due to its monumental growth, Jerry expanded the company into the commercial construction industry, building many retail stores, business offices and assisted living residences. In 2016, he donated the land on which the Licking Memorial Family Practice, Urgent Care and Women's Health facility is located in Downtown Newark. His company, The Jerry McClain Companies, under the management of Roger McClain, constructed the \$8 million building. Jerry's vision, generosity and hard work are evident in numerous areas of the Downtown District. He nurtures the economy of the Downtown area and continually makes outstanding efforts to improve the community. Jerry was honored with the Licking Memorial Health Systems (LMHS) Lifetime Achievement Award in 2012.

Under Dr. Rajjoub's leadership, the Cardiac Catheterization Lab team was recognized with the prestigious LMHS President's Award in 2015. The Cardiology Department also received the National Cardiovascular Data Registry Platinum Performance Achievement Award in 2015 and the American Heart Association Mission: Lifeline Gold Level Recognition 2015 – 2017.

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.

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

LMH 2015LMH 2016LMH 2017National AverageMedian time from arrival to completion of EKG1.0 minute1.0 minute2.0 minutes7.0 minutes	Median time from arrival	LMH 2015	LMH 2016	LMH 2017	National Average ⁽¹⁾
	to completion of EKG	1.0 minute	1.0 minute	2.0 minutes	7.0 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.

Mean time from arrival until	LMH 2015	LMH 2016	LMH 2017	National Goal ⁽²⁾
balloon angioplasty performed	61 minutes	55 minutes	54 minutes	90 minutes
Time to balloon within 90 minutes	LMH 2015	LMH 2016	LMH 2017	National Goal ⁽²⁾
	100%	100%	97%	95% ⁽¹⁾

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 2015	LMH 2016	LMH 2017	National Goal ⁽²⁾
Medical contact to reperfusion	77 minutes	75 minutes	76 minutes	Less than 90 minutes

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 2015	LMHP 2016	LMHP 2017	LMHP Goal ⁽³⁾
LMHP CAD patients with aspirin and/or antithrombotic prescribed	92%	93%	94%	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 2015	LMHP 2016	LMHP 2017	LMHP Goal ⁽³⁾
LMHP CAD patients with LDL less than or equal to 100 mg/dl	68%	65%	63%	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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of any packaged spices used in preparing or flavoring foods to ensure it contains an acceptable amount of sodium. Many believe sea, kosher or Himalayan salts are healthier alternatives to table salt; however, these salts contain the exact same amount of sodium as typical table salt and should be used sparingly. Salt substitutes made with potassium chloride also can be used to flavor foods if there is no diet restrictions on potassium.

Finally, a best practice to lower sodium in the diet is to observe proper portion size and follow the guidelines for nutrition as illustrated by the MyPlate plan from the United States Department of Agriculture. MyPlate offers a healthy eating style by focusing on five food groups including fruits, vegetables, grains, protein foods, and dairy. The plan suggests dividing a plate into four sections. Half the plate should be filled with fruits and vegetables. Divide the other half of the plate with grains, and a small portion of protein foods including meat, poultry, seafood, beans or eggs. Enjoy a dairy product with each meal including milk, yogurt or natural cheese. Portion sizes are very important. One cup of a vegetable, fruit, milk or grain is all that should be consumed during a meal. Meat selections should be no larger than a deck of cards. Portion control and focusing on fresh fruits and vegetables will assist in keeping sodium levels low.

Health Tips – Life's Simple 7®

The American Heart Association suggests seven small steps people can take to improve heart health. Life's Simple 7[®] are inexpensive improvements that can make a big difference to living healthy.

- 1. Manage Blood Pressure: High blood pressure is a major risk factor for heart disease and stroke causing strain on the heart, arteries, and kidneys.
- **2.** Control Cholesterol: High cholesterol contributes to plaque, which can clog arteries and lead to heart disease and stroke.
- **3.** Reduce Blood Sugar: Most foods consumed turn into glucose – or blood sugar – that the body uses for energy. Over time, high levels of blood sugar can damage the heart, kidneys, eyes and nerves.
- **4.** Get Active: Daily physical activity decreases blood pressure. Find enjoyable forms of exercise, be consistent, and build more opportunities to be active into your routine.
- **5.** Eat Better: A healthy diet reduces the risk factors for heart disease.
- **6.** Lose Weight: Losing weight reduces the burden on the heart, lungs, blood vessels and skeleton.
- **7.** Stop Smoking: Cigarette smokers have a higher risk of developing cardiovascular disease.



1320 West Main Street • Newark, Ohio 43055 (220) 564-4000 • www.LMHealth.org Please take a few minutes to read this month's report on **Heart Care.** You'll soon discover why Licking Memorial Hospital 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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