

# WPMC CARDIOLOGY NEWS

March 2011



Jacque Kemmerer, ARNP

## *Continuum of Care: ER and Cath Lab* Cardiac Cath Lab Keeps Local ARNP Going Strong

On December 8, 2009, Jacque Kemmerer had gone through her normal routine: after work she had gone to the gym and participated in "Boot Camp." Around 8:00 o'clock in the evening she noticed she was having pain in her left arm and she thought perhaps she had strained a muscle during her work out. She got up to get ice for what she thought was a sore muscle, but when she stood up she felt a heaviness in her chest. Knowing the signs and symptoms of a heart attack, Jacque, who is an Advanced Registered Nurse Practitioner (ARNP) asked her daughter to drive her to the Western Plains Medical Complex emergency room.

"I was impressed from the first moment we got to the Emergency Department. I explained my symptoms and the nurse told me we could worry about paperwork later. She got me right into a treatment room to be evaluated by the physician."

After that, things moved pretty quickly. The staff in the Emergency Room evaluated her, and started running an EKG. Her physician was notified and she was going to be admitted to the ICU for observation. "They were moving me to an ICU bed when the alarms started going off and I heard someone say something about the Cath Lab." Jacque had worked for a vascular surgeon in Kansas City and knew what that meant. "The next thing I knew, Dr. Khan and the Cath Lab team were around me." The next day, when she got all the details, she realized that she had nearly died. "I had a 98% blockage in my coronary artery. They call that kind of heart attack a 'widow maker' because most people who have that happen to them never wake up."

Jacque thinks her experience is important for other people to know about. "First, I think it's a good reminder that we are all at some risk with our cardiovascular health, even if we're active and lead a healthy lifestyle. And second, it's a good reminder of how lucky we are to have these services available to us. If I had not had the teams in the ER and the Cath Lab when I needed them, I probably wouldn't be here!"

## *Continuum of Care: FastER, ClosER, Better*

If you come to our Emergency Department, you can be comforted to know that we are Physician-Staffed 24 hours a day.

If you are having a cardiac event, our Emergency Department teams know that "time equals muscle" and that some heart attacks require **immediate** activation of our Cath Lab teams. Our Cath Lab teams will be on site within 30 minutes and ready to provide you with the intervention you need to restore heart function.



# Continuum of Care: Cardiac Rehabilitation

## Restoring Lives and Rebuilding Confidence



*Retired physician, Clair Conard on the treadmill at Cardiac Rehab.*

Cardiac Rehab at Western Plains Medical Complex was designed to assist people in recovering from a heart attack or cardiac procedures including stenting, angioplasty, bypass and valve replacement.

Our goal is to help our patients regain their strength and return to their normal activities.

We accomplish

these goals by assisting our patients with exercise and providing education about healthy habits and lifestyle changes.

Patients are assessed and tested for placement in the cardiac rehabilitation program. After the initial assessment, a monitored exercise and education program will begin.

Admission to the program requires a physician's orders. Patients who qualify for cardiac rehab include those who have or have had:

- Heart attack within the past 12 months
- Stable angina
- Bypass surgery
- Valve replacement repair
- Coronary Angioplasty
- Coronary stenting
- Heart or lung transplant

The exercise goal for each patient includes 30 minutes with warm up and cool down stretches before and after each session.

Our services include education and training in the following areas:

- Nutrition
- Heart disease, anatomy and physiology
- Stress and depression management
- Aids to daily living
- Environment and weather conditioning

For more information, call 620.225.8428.

## Continuum of Care: Primary Care and Cardiology

If you have a medical condition that requires a referral, you can feel confident that your primary care physician has two cardiologists as referral options right here — close to home — in Dodge City.



**Dr. Khan**

**Muhammad Khan, MD**  
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**Dr. Mishra**

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# Continuum of Care:

## CARDIAC STRESS TESTS AND NUCLEAR IMAGING

### What is a Cardiac Stress Test?

While there are several different type of Stress Tests, one of the most common is a Stress Echo. This test is made up of three parts: A resting study, a stress test, and a repeat Echo while the heart is still beating fast.

### Why is it Done?

If you have blockages in your coronary arteries, you may have minimal symptoms when you are not active. However, the signs and symptoms of heart disease may be exposed by monitoring your heart while you are participating in exercise.

During exercise, your heart wants to pump more oxygenated blood to your body. If you have blockages, your heart muscle can't get all the blood it needs due to reduced blood flow. This reduced flow causes the heart muscle to "starve" during exercise. The "starvation" may produce symptoms like *angina* (chest discomfort) or inappropriate shortness of breath and reduced pumping of the heart muscle. The latter can be recognized by examining the movement of the walls of the left ventricle (the major pumping chamber of the heart) by Echocardiography.

### What is a Nuclear Stress Test?

A Nuclear Stress Test is used to evaluate blood flow to the heart using a small amount of radioactive tracer injected into a vein. A special camera, called a Gamma Camera, detects the radiation released by the tracer to produce computer images of the heart.

The test is used in conjunction with a medication that increases blood flow to the heart, simulating exercise for patients unable to exercise on a treadmill.

A nuclear medicine technologist will inject a small amount of radioactive tracer. You will be asked to wait about 30 minutes before the first set of "resting" images are taken. You will lie down under the Gamma Camera with both arms above your head for about 15 minutes while the camera takes images of your heart at rest.

You may be asked to walk on a treadmill depending upon your ability to do so. Your heart rate, EKG and blood pressure will be monitored throughout the test. Several waiting periods will be interspersed with Gamma Camera imaging. The various images will be compared to evaluate the flow of blood in the heart.

**ECHOCARDIOGRAPHY is a test that uses sound waves to create pictures of your heart. (Similar to an ultrasound.)**

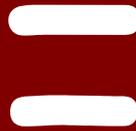
The first test is a resting study and is taken while you are resting and there is less stress on the heart. It provides a baseline examination and demonstrates the size and function of various chambers of the heart. An EKG is performed to analyze the movement of blood flow through the heart's chambers.

Exercise is then initiated using a treadmill. If you are not physically capable of performing a significant amount of physical exercise, a different kind of test may be performed which utilizes chemical stimulation to the heart. (See **Nuclear Stress Test** below.)

EKG and blood pressure recordings are made throughout the exercise period and also when the exercise is stopped. Immediately after completing exercise, the patient moves directly to the examination table and lays on the left side. The Echo examination is immediately repeated.



*The Gamma Camera at Western Plains Medical Complex.*



# “Time Equals Muscle”

## What it Means and Why You Should Care

Everyone knows that heart disease is the number one cause of death in the United States. It is widely understood that heart attacks can be deadly. But not everyone understands what is actually happening when we have a cardiac event called a **myocardial infarction** (MI) or heart attack.

The heart is a muscle that has as its only function the pumping of blood. It moves blood through your body, but it also requires oxygenated blood for its own function. If your arteries get clogged up with plaque or cholesterol, then the heart receives less oxygen rich blood. If the blood flow is only partially clogged, you may experience chest pain or *angina*. But if the clog is total, you will experience a type of heart attack called a STEMI. If you are having a STEMI type heart attack and the flow of blood is not restored, a part of your heart muscle will die: which is where we get the phrase **time equals mus-**

**cle**. Faster restoration of blood flow makes recovery more likely.

**Every year, almost 400,000 people experience ST-Elevation Myocardial Infarction (STEMI)** -- the deadliest type of heart attack. Unfortunately, a significant number don't receive prompt treatment to restore blood flow.

**Mission: Lifeline™** seeks to save lives by helping STEMI patients get quicker access to care.

**Western Plains Medical Complex is the only Mission: Lifeline™**

**STEMI-receiving hospital in Western Kansas.**

The American Heart Association and American College of Cardiology recommend that STEMI patients receive percutaneous coronary intervention (PCI) with door-to-balloon times within 90 minutes.

Since January 2008, the **Cardiac Cath Lab at Western Plains has maintained an average door-to-balloon time of 63 minutes.**

For more information on the American Heart Association's **Mission: Lifeline™** initiative, visit [www.americanheart.org/missionlifeline](http://www.americanheart.org/missionlifeline)



Western Plains Medical Complex in Dodge City, Kansas.