

New Service Offers Faster Treatment for Heart Attacks

Southwest Michigan recently implemented an alert system that will help area hospitals and emergency medical services reduce door-to-balloon times for a patient experiencing a heart attack.

In the ambulance, medics use the LIFENET STEMI (ST-segment elevation myocardial infarction) Management Solution by Physio-Control to instantly transmit patient 12-lead ECG data from a defibrillator/monitor to the hospital care team via a web-based alert system. The emergency department and cardiac catheterization lab can begin preparation for the patient before their arrival. Because data is transmitted to the hospital while the patient is in the ambulance, physicians can also re-route STEMI patients to the appropriate facility for care. By preparing for patients prior to their arrival, hospitals can provide quicker interventional treatment.

This new service for southwest Michigan is the result of a multidisciplinary partnership of Berrien County Medical Control Authority, Lakeland HealthCare, and local ambulance services, which worked together to obtain necessary grants and to educate paramedics and hospital staff on the alert system.

Time Saved Is Muscle Saved

According to the American Heart Association, each year nearly 400,000 Americans experience ST-Segment Elevation Myocardial Infarction (STEMI).¹ Studies show that rapid treatment with balloon angioplasty and stenting is the most effective treatment for these patients. The American College of Cardiology and the American Heart Association recommend that treatment is complete within 90 minutes, a goal well below the national average performance.² Mortality has been shown to increase by 40 percent if door-to-balloon time extends from 90 minutes to 120 minutes.³



The new alert system starts in the ambulance to reduce door-to-balloon times for patients with heart attacks, which helps to improve outcomes.



Door-to-balloon times are especially critical for STEMI patients in southwest Michigan, said **Bryan Staffin, DO**, Medical Director of the Berrien County Medical Control Authority, and Medical Director, Emergency Services, Lakeland HealthCare.

*"Because of the large size of Berrien County and the number of people living in rural areas, EMS and hospitals have unique challenges in providing fast treatment for heart attack patients," said **Dr. Staffin**. "This new system allows us to work together to provide all southwest Michigan residents with a high quality of care by reducing door-to-balloon times."*

In addition to collaborating with ambulance services to enhance cardiac care, the Emergency Department staff

members at Lakeland Regional Medical Center, St. Joseph, are working to shorten treatment times for patients who walk through their doors. A new streamlined process allows the Emergency Department team to perform an EKG in triage on any patient complaining of chest pain and notify a physician for faster treatment. The Emergency Department management team estimates that this system has reduced door-to-triage time for these patients by about 15 minutes.

*"Whether they arrive on an ambulance or through our Emergency Department doors, Lakeland HealthCare can provide patients experiencing chest pain with rapid diagnosis and treatment," said **Caren Rossow, Director of Trauma Services, Lakeland HealthCare.** "Because each passing minute equals more heart-muscle damage, time saved is muscle saved."*

To learn more about cardiovascular services at Lakeland HealthCare, visit www.lakelandhealth.org.



When a hospital receives patient data from the STEMI defibrillator/monitor in the ambulance, the emergency department and cardiac catheterization lab can prepare to provide quicker interventional treatment when the patient arrives.



The Lakeland Emergency Departments have implemented a new triage system that allows walk-in patients with chest pain to receive faster treatment.

¹ American Heart Association Website, STEMI Statistics and Mission Lifeline FAQ, October 2008.

² 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation. 2005;112 (24):IV-89-110.

³ McNamara, R.L., et al. Effect of Door-to-Balloon Time on Mortality in Patients with ST-Segment Elevation Myocardial Infarction. Journal of the American College of Cardiology. 2006; 47; 2180-2186.

STEMI Management Solution – Micro View

