Therapy Preventing Brain Damage in Cardiac Arrest Patients

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Therapeutic cooling, a technique used at University Medical Center, is helping to prevent brain damage in cardiac arrest patients.

Therapeutic hypothermia has been used at UMC with great success as part of a multicenter study to assess its effectiveness and safety, said Dr. Arthur Sanders, head of the UMC Code Arrest Committee. Cooling is an option for the patient whose heart stops due to sudden cardiac arrest and regains a pulse upon resuscitation, but remains comatose. During the noninvasive procedure, the patient's body is cooled to 32-34 degrees Celsius for 12-24 hours.

UMC is one of 14 Arizona hospitals that have been designated Cardiac Arrest Centers by the Arizona Department of Health Services, signifying they are capable of delivering high-quality care – including therapeutic cooling – to cardiac arrest patients who survive initial resuscitation. UMC is the only hospital in southern Arizona with this designation.

In a statewide effort to improve survival from cardiac arrest, The University of Arizona Sarver Heart Center, the Arizona Department of Health Services and the Mayo Clinic in Scottsdale are leading the way in establishing Cardiac Arrest Centers in Arizona. The initiative is part of the state's SHARE (Save Hearts in Arizona Registry and Education) Program, which promotes the concept of highly specialized facilities that offer the best possible care for a certain condition.

The cornerstone of the prerequisites for a hospital to qualify as a Cardiac

Arrest Center is therapeutic hypothermia, or cooling, a cutting-edge therapy the reduces the chance of lasting brain damage following cardiac arrest.

The establishment of cardiac arrest centers is one of three major steps taken by the SHARE program to change out-of-hospital cardiac arrest survival statistics for the better. The efforts have produced encouraging results for the first time in decades.

A new concept called Cardiocerebral Resuscitation, consisting of a simplified version of bystander CPR; improved protocols for Emergency Medical Services; and specialized Cardiac Arrest Centers that offer cutting-edge postresuscitation care, have resulted in dramatic improvements both in survival and neurological outcome.

Cardiocerebral resuscitation, developed at the UA's Sarver Heart Center, is easy to perform and does not involve mouth-to-mouth breathing, which makes it the ideal form of bystander CPR. By performing CCR while waiting for EMS to arrive, bystanders can greatly enhance the chances of survival for a cardiac arrest victim by keeping the blood circulating through the body.

Therapeutic hypothermia is the topic of the latest issue of the internationally known medical journal The Lancet. The article is titled "Induced Hypothermia and Fever Control for Prevention and Treatment of Neurological Injuries."

UMC is a 355-bed hospital affiliated with the UA. It is the primary teaching hospital for the UA Colleges of Medicine, Nursing and Pharmacy and specializes in heart care, oncology, pediatrics, pediatrics and trauma care. For more than a decade it has been listed among the top hospitals in the United States in U.S. News & World Report's "Best Hospitals in America" edition.

Source: The University of Arizona