

LUCAS™ CHEST COMPRESSION SYSTEM

CASE STUDY

Call Review: January 25, 2010

Newton Medical Center EMS
Covington, Georgia

—by Chief Kevin Johnson, Newton Medical Center EMS

THE CALL

It was almost noon on Monday, January 25, 2010 at a local high school in Covington, Georgia. The beginning of the school week was underway and students were doing their usual studies of current topics in math and science. Others were outside on the playground, and the day was normal for all in attendance as many sat in class just waiting for the long, coveted lunch period.

At 11:58 a.m. the tones rang down for Newton Medical Center EMS Medic 5 and Newton County Fire Department Rescue 1. The address of the school was given and updates came in for a young male who had fainted. As with most critical 9-1-1 calls, the Communication Center broadcast updates about the brewing situation at the school, and ensured the caller stayed on the line during the crisis. A 17-year-old male had collapsed near the school office and was encountered by teachers in the main hallway. He was gasping for air and was in trouble.

At four minutes after the first 9-1-1 call was received, Medic 5 pulled into the parking lot in front of the school. Updates now showed sporadic breathing and the school resource officer (SRO) was on the radio, calling for responders to rush the call. The event was building steam for a tragedy.

The SRO met the crew and advised that CPR was in progress. Equipment was unloaded and taken to the hallway where the young victim lay pulseless with teachers and law enforcement officers rendering crucial first aid. The first part of the Chain of Survival was forming, with early recognition of a medical emergency, quick activation of the 9-1-1 system and early CPR. Before it was over the links in that Chain would wrap around a community as they all worked for the survival of a young student.



Captain Scott Queen, Chief Kevin Johnson, Captain Jack Vechart, EMT/FF David Williams

High School Staff Members Involved:

School Nurse
2 Assistant Principals
2 Principal
3 School Resource Officers (SROs)
Newton County Fire Department
2 Firefighters

Newton Medical Center EMS

Scott Queen, Captain/Paramedic
David Williams, EMT
Jack Vechart, Captain/Paramedic
Kevin Johnson, Director / Paramedic

3 student riders from Dekalb Technical School

Covington – Newton 911 Center

3 Communications Officers

Rescue Air:

Flight Nurse
Flight Paramedic
Pilot

Newton Medical Center:

ER Physician
4 Registered Nurses
2 Cardiologists

Just minutes after the EMS unit arrived, the fire truck pulled up at the location, followed by the EMS captain. As the number of those involved in the student's care continued to grow, there were many behind the scenes who were not aware of the events taking place. Each trained rescuer on this call represented a squadron of EMS instructors, supervisors, managers and medical device developers who contributed countless hours of dedicated service that would come to bear on the day's outcome.

Care transitioned from the school staff and the officers at the scene to emergency medical technicians (EMTs) and paramedics. Even then the teachers and SROs stayed to lend a helping hand until long after the patient was transported to Newton Medical Center. That dedicated group of concerned citizens all contributed to the survival of a student whose day started out like any other.

Oxygen was delivered, electrical shocks were delivered with the LIFEPAK® 12 defibrillator/monitor across the student's heart muscle, and medications were given—all as part of administrations focused on starting his heart.

The LUCAS™ chest compression system, a device recently acquired by Newton Medical Center and EMS, was applied to provide automatic external chest compressions. LUCAS is designed to provide consistent and effective chest compressions, and frees up our personnel so they can provide other necessary procedures such as airway management and medication delivery.

Efforts continued throughout the journey to the hospital, with LUCAS maintaining chest compressions. Upon arrival at Newton Medical Center, our young male, who previously had no heartbeat, was now fighting to breathe on his own and his heart was pumping without artificial support. A cardiac conversion had occurred, resulting in a return to life in just minutes. His care continued in the emergency room. Nurses, doctors, x-ray and respiratory technicians all added links to the Chain of Survival, all contributed their part in saving the life of a fallen citizen.

The patient was later transferred by air to the cardiac care unit of a Children's Healthcare of Atlanta facility. At the time of this publication, he is recovering well, is neurologically intact, and has returned to school. The underlying condition causing his cardiac arrest was effectively treated while in the hospital. Our hope is to see him graduate from high school next year. That will be a great day as those who added links to his Chain of Survival continue to wish him and his family blessings of recovery.

THE SYSTEM

There are many links in the system that works hard each day, aiming for success. This call illustrates the many components of a civilian and public safety/hospital plan that comes to bear in service of those who call this place home. If we take out any one link, if any one person does not live up to what the public has come to expect from those who serve, the chain falls apart.

In this case, teachers recognized a child in distress and the 9-1-1 center captured information that triggered EMS and fire to respond. All were part of the plan, as were the SROs that assisted with CPR and gave critical informational updates to incoming medical crews. The hospital staff were waiting with more tools and equipment to add to the mix. Each had trained for hours in preparation for this very situation. We believe the LUCAS chest compression system was a significant contributor to the outcome of this 9-1-1 call, as it enabled our young patient to receive continuous, effective chest compressions at the scene and during transport to the hospital.

A huge number of people are responsible for saving this life. It clearly demonstrates that this community, and those who serve in a variety of capacities, care about what happens here.

Each person listed on the front page had contact with our patient. The list provides a snapshot of how an effective system works. We often hear news about failures of systems that should help us. In Newton County, I contend the system is up and running well. I know one young man and his family that would probably agree with me.

We are proud of those whose paths crossed with this young man's and proud of their dedication to helping him survive. Without each person giving their all, the outcome may have been different.

Most excellent job!



Chain of Survival

Statements attributed to individuals in this case study reflect the opinion of the individual and do not necessarily reflect the opinion of Physio-Control. For information about specific product claims and labeling, refer to the device operating instructions.

LUCAS is manufactured by JOLIFE AB in Sweden and distributed worldwide by Physio-Control, Inc.

For further information, please contact Physio-Control at 800.442.1142 (U.S.), 888.879.0977 (Canada) or visit our website at www.physio-control.com.



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