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Paramedics Will Employ New Therapy in Cardiac Arrest Cases

By KAREN ZRAICK

Paramedics in New York City are being trained in a relatively new cooling therapy that has been shown to increase the chances for cardiac arrest patients to survive and to avoid brain damage, city officials said on Monday.

The treatment, known as therapeutic hypothermia, involves lowering a patient's body temperature in order to slow the brain's demand for oxygen and prevent damage to cells. The approach is still in development.

About 20 city hospitals began to use therapeutic hypothermia — which can involve simple items like cold packs, injections of chilled saline solution into a vein or bone, as well as more sophisticated equipment — in January 2009; that number has now grown to 43 of the 50 hospitals participating in the 911 emergency system. The goal is to lower a patient's body temperature about six degrees for 24 hours.

Since the start of the three-year pilot project, about 2,600 cardiac patients were taken to hospitals as potential recipients of the treatment. City officials said on Monday that survival rates for those patients had increased 20 percent last year compared with 2008, a change that they attributed to the cooling therapy.

"We know that cooling your body's temperature slows everything down," said Salvatore J. Cassano, the city fire commissioner. "It brings your body out of that panic mode, and it actually reduces your body's need for blood. That buys us time."

Now, in the second phase of the project, paramedics in about one-third of ambulances will be trained to administer the treatment. City paramedics respond to about 15,000 calls per year from people with [heart attack](#) symptoms; half result in cardiac arrest, according to Fire Department officials.

New York is one of the first cities nationwide to use therapeutic hypothermia during cardiac arrest, city officials and medical experts said Monday. It is more commonly used after a patient is revived, to prevent secondary injuries that commonly occur when blood rushes back into the heart.

Dr. John Freese, medical director of the Emergency Medical Service for the Fire Department, said the use of the therapy before or during transport was “the obvious next step” for the department, which has been focused on improving cardiac arrest survival rates for the last seven years.

The rate of patients revived after being shocked with a defibrillator increased to 16.7 percent since the project began, up from 10 percent, he said.

“The available science suggests that it’s a safe therapy to augment things we do and may add additional benefits,” Dr. Freese said.

Studies have shown that the only notable side effect has been a mild fluid buildup in the lungs, which can be avoided by careful monitoring of patients, he added.

The project was organized by the city’s Emergency Medical Service and the Greater New York Hospital Association. When it was initially announced, there was some concern about the possibility of longer patient transport times, as ambulances bypassed some hospitals to reach those that offered cooling therapy.

But those worries were largely allayed as more hospitals added the procedure, said Zeynep Sumer, vice president for regulatory and professional affairs for the Greater New York Hospital Association.

The participating hospitals have been “extremely encouraged” by the results so far, Ms. Sumer said. “We’re seeing a lot of interest in the project from hospitals outside of New York City.”

The Buffalo and Albany areas are also participating in the demonstration project, and the State Department of Health is awaiting data on its success there, an agency spokesman said. The treatment is already in use in several cities, including Miami, Boston and Seattle, as well as London and Vienna.

Dr. Stephan Mayer, chief of the neurological intensive care unit at NewYork-Presbyterian/Columbia University Medical Center in Manhattan, initially brought the idea for the project to the hospital association. He has been a longtime proponent of cooling

therapy, and has been a consultant to two companies that provide equipment used in the treatment. He has divested his holdings in those companies, he said.

For New York to use the procedure on such a large scale will be an important test, especially outside of a hospital setting, where there is less data on its use and outcomes, he said.

“New York taking this on is a big deal for the field,” he said.