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Harvard University Study

Presence of Defibrillators in Airports Linked to High Survival Rates

CHICAGO (Reuters Health) Oct 15 - Survival rates of people who experience cardiac arrest in airports and who are resuscitated by first responders with defibrillators are extraordinarily high, according to the results of a Harvard University study.

Dr. Russell D. MacDonald, now with Manitoba Health Emergency Services in Winnipeg, explained here at the annual research forum of the American College of Emergency Physicians that his team's goal was to find out if first responders with minimal medical training could help improve survival from cardiac arrest at Boston's Logan Airport.

"We found that these rapidly deployable responders can get to patients minutes before emergency medical personnel arriving by ambulance, and typically these firemen are situated in more locations and are closer to terminals than ambulances are," Dr. MacDonald told Reuters Health during the 2001 Scientific Assembly of the American College of Emergency Physicians, under way here this week.

"The American Heart Association has demonstrated repeatedly that reducing the time from collapse to intervention improves survival in cardiac arrest," he added.

In the 5-year prospective observational study of all cardiac arrests taking place on the Logan Airport grounds, the fire rescue crew responded to 53 cardiac arrests. Of those, 38 met the inclusion criteria. In 36 of 38 cases, the airport fire rescue crew members were the first to apply the defibrillator. They were the first to deliver a shock in 28 of 32 cases in which a shock was delivered.

"One in four patients who suffered a cardiac arrest at Logan was discharged from hospital alive... That's phenomenal," Dr. MacDonald said. "In most communities, less than 10% of cardiac arrests survive."

At least one major airport, Chicago's O'Hare, has placed automatic external defibrillators throughout terminals so that they can be accessed by anyone who witnesses a cardiac arrest, Dr. MacDonald said. Response time and survival data have not been studied at O'Hare.

Some facilities, such as Vancouver and Toronto airports, have nursing or paramedic staff stationed within the airport, but Dr. MacDonald said these crews may not be able to respond as quickly as firemen stationed inside the airport security shield.