

The Columbus Story of Mobile Emergency Care

A medical emergency may happen to anyone, anytime, anywhere. From that moment on, the care the victim receives has a direct bearing on his return to health. This care begins with a Mobile Emergency Care team.



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34: And he went up, and lay upon the child, and put his mouth upon his mouth, and his eyes upon his eyes, and his hands upon his hands: and he stretched himself upon the child; and the flesh of the child waxed warm.



A history.....

A medical emergency may happen to anyone, anytime, anywhere. From that moment on, the care the victims receive has a direct bearing on their return to health. This begins with Mobile Emergency Medical Care—a program which was founded in Columbus, Ohio and has made significant progress in the last seven years. Not only has this resulted in greatly improved patient care, but new capabilities have been acquired and new abilities have been mastered as well.

The Columbus Ohio Division of Fire was one of the first departments in the United States to offer a Mobile Emergency Medical Care service to the public beginning in 1934. Columbus' efforts reflect the growth of Emergency Medical Care in the United States.

Each year 50,000,000 people experience a medical emergency outside the hospital. Documented research shows that a significant reduction in mortality is realized by effective and efficient emergency medical care. This care can be achieved in communities where the will to provide it exists.

Attempts at resuscitation are as old as the Bible. A century ago interest turned to chest compression (Howard Method 1817), which continued until recent times when mouth-to-mouth ventilation became a part of modern CPR (cardiopulmonary resuscitation). Delivery of emergency care is not new to Columbus, development of the vehicle paralleled the increased sophistication of the care delivered.

Columbus Fire-Fighters Pioneer Emergency Care

Fire fighting has always been one of the most hazardous occupations in the country. As a result, it was not uncommon to find a physician at the scene of a major fire drawn there both by the need for professional services and the "fire buff's" thrill of following the "engines." Historically, many volunteer fire companies listed physicians on their membership rosters.

In the period following World War I and as motorized fire apparatus came into service, fire departments in major cities added an ambulance to their equipment roster and first-aid kits to the rigs. This care capability was provided for the fire fighters and civilian victims of the emergency.

In 1931 a Lyons pulmotor was donated to the Columbus Fire Department and was carried in the chief's buggy for the protection of fire fighters overcome by smoke. In 1933, Chief Edward Welch recommended the formation of an emergency squad in his first annual report; however, the event that effected the birth of a squad service was the electrocution of a lineman working on a pole in 1934. Chief Welch responded to the

call for help with two fire fighters and the pulmotor. Although attempts to save the lineman were futile, newspaper coverage of the fire department's efforts resulted in citizens calling the fire department for aid in a medical emergency. Late in 1934, a hose wagon equipped with supplies donated by the Red Cross along with an H and H Inhalator was placed in service for the public; thus Columbus Fire Department became one of the first fire departments in the country to offer this service.

From that date in 1934, "Number One Inhalator" steadily gained the support of the citizenry and the medical community. Each year more requests for aid came, additional squads were placed into service, and more men were trained. The squadmen developed a sincere interest in their work, attending classes on their own time and practicing their skills under the supervision of physicians who volunteered their services. Patient care improved and first aid teams were formed. The Columbus teams have demonstrated their ability by placing in the top ten positions in the International Rescue and First Aid competitions since 1963.

Heartmobile Concept Founded in Columbus

In the early 1960's, Emergency Medical Care began to receive national attention. The long-range implications of efficient and effective emergency medical care on mortality were pointed out in a report by the National Research Council, National Science Foundation, entitled "Accidental Death and Disability, the Neglected Disease of Modern Society." Columbus had a highly trained fire department Emergency Squad which arrived at the scene on an average of four minutes after a call for help. Yet nationally, mobile emergency medical teams arrived at an average response time of over 40 minutes with inadequately equipped and trained crews. Primarily as a result of concern over highway safety, specifications were developed at a national level covering ambulance attendant training and equipment requirements as well as the design of the emergency vehicle itself.

A major new concern of the medical community at this time was heart attacks. As the number one cause of death in the United States, heart attacks were claiming close to a million lives a year. Technical developments leading to knowledge about alarm systems, electrical defibrillation, and closed chest pulmonary resuscitation, resulted in the formation of Coronary Care Units (CCU) in major hospitals. The Ohio State University Hospitals opened the first Coronary Care Unit in Columbus in 1964.

While positive strides could now be made toward reducing the death rate of patients who reached the CCU, any major reduction in the overall mortality rate was still limited because of the incidence of "sudden death" before the victim reached the CCU.

In 1966 Dr. J. F. Pantridge proposed the use of "flying squads" to provide pre-hospital care to coronary disease victims

in Belfast, Northern Ireland. These special coronary care vehicles would go out with a physician to treat heart attack victims at the scene. Their ability to stabilize the victim at the scene prior to transporting him had dramatic results and aroused interest in the USA.

Research in the concept of mobile emergency care began in Columbus in 1966, and the turning point for emergency care came three years later when the "Heartmobile" became operational. It was the first vehicle of its kind in the United States specifically designed to transport the care and facilities of the CCU directly to the victim. The vehicle was operated in conjunction with the Columbus Fire Department Emergency Squads and financed by a grant from the Regional Medical Program to Ohio State University.

The "Heartmobile" was staffed by three off-duty squadmen and a physician from the Ohio State University Hospitals. The program was an investigational study to determine the merits of mobile emergency coronary care. The results were highly successful.

The outgrowth of this program has been greatly improved emergency service for people in the Columbus metropolitan area. The Heartmobile concept was incorporated July 1, 1971 into the pre-existing Fire Emergency Squad system. Experience proved that physician attendance was not necessary. Properly trained squadmen could perform diagnosis and therapy of cardiovascular emergencies as effectively as physicians. The "medic" units operate in conjunction with standard emergency squads. Seven contiguous communities in conjunction with Columbus dispatch the nearest of thirteen medics and thirty-two emergency squads to the emergency without regard of municipal boundaries.



In 1965, the Armco Steel Corporation sponsored their first annual Student Design Program. One student team from the University of Cincinnati analyzed the then traditional ambulance. Their design efforts served as the catalyst which stimulated the idea of a Mobile Coronary Care Van.





Highlights of the Columbus Story

This system is a forerunner in the country. Fifty-five percent of all heart attacks within the City of Columbus are first seen by medics. The units reach the scene of a medical emergency at an average response time of 3.5 minutes. In Columbus alone 15-20 life-saving rescues are performed each month and more in the suburban areas.

Undoubtedly, the emergency operations of the Columbus Division of Fire and the Fire Service as a whole will continue to develop and, as medical knowledge and facilities increase, so will that of the Mobile Emergency Medical team. The proposed ambulance of the future, which is being studied in Columbus, and the widening array of techniques available to emergency medical teams will increase the scope of their activity and provide the best emergency medical care. It is anticipated that this will be coupled with increasing sophistication of the hospital emergency facilities and will also be incorporated into a central operation of emergency vehicles within an appropriate call and response system.

Mobile Emergency Medical Care has made great progress in the last seven years. The skills and procedures practiced by the Mobile Medical team have increased in scope and complexity with a direct and positive benefit to the victim. The challenge of today will be its growth in the next five years.

Emergency medicine, effectively practiced from the call for help until the victim is placed in the care of a physician, can have a dramatic effect on mortality. The goal now is to bring this level of patient care to as many people as possible in a practical and economical manner.

934,000 people in the Columbus metropolitan area are served by a sophisticated Mobile Emergency Medical Service. Seven contiguous communities in conjunction with Columbus dispatch the nearest of thirteen medics and thirty-two emergency squads to the emergency without regard of municipal boundaries.

44,163 runs were made by the Columbus, Ohio Division of Fire, Emergency Services Division in 1975. One out of thirteen Columbus residents called for a squad. Specially trained fire personnel are doing a sophisticated job formerly done only by physicians.

55% of all heart attacks within the City of Columbus were first seen by squadmen of the Emergency Services Division.

3.5 minutes is the average response time for a Columbus emergency squad to arrive on the scene of a medical emergency.

15-20 life saving rescues are performed each month in Columbus metropolitan area.

Editorial Comments

コロンバスに新しい
胎動を見る。救急
医療の新たな段階を。
プロトコルで結ばれた
素人救急隊が人を救う。
そのかげに専門医の
すぐれた技がある。
人を信頼し、人の命の
重みにあふれて。
一七七年 川

Translation

I found Columbus the sign of progress; a new era of EMS (emergency medical service).

An emergency medical technician guided by established protocol saves lives here.

In performing his job, he appears to have the skills of a specialist physician.

Columbus is a place where (emergency medical service) is reliably provided to the community with full respect to the weight of life.

Kenji Miki

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COLUMBUS, Ohio—If you're going to suffer a heart attack, you'd probably be "fortunate" if it happened here. The odds of your surviving would be much better than in most parts of the U.S.

Columbus 'Heartmobile' Awards

1969

Excellence of Design Award

1969 Design Review

Industrial Design Magazine

1970

Certificate of Merit

The Institute of Professional Designers

London, England

Design USA 1970

Museum of Service and Industry

Industrial Designers Society of America

1971

Design in Steel Award

American Iron and Steel Institute

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