



# Heartland Science



Ohio's Legacy of Discovery & Innovation



## Medicine, Health & Science

From the Heimlich Maneuver  
to the Speed of Light

### Heimlich Maneuver

In 1974, Dr. Henry J. Heimlich, a Cincinnati chest surgeon, developed the Heimlich Maneuver -- a simple procedure that laymen can use to save victims of choking, which is the sixth leading cause of accidental death. It costs nothing, requires no special equipment, and takes just minutes to learn. In addition to saving victims of choking, it is sometimes used to save drowning victims. The Heimlich Institute, which he founded in Cincinnati, is currently researching new treatments for AIDS and cancer. It is also working to promote peaceful solutions to international problems through the "A Caring World" program.



The Heimlich Maneuver has had an enormous public health impact, saving an estimated 30,000 lives over the years in the United States alone. In 1984, it earned Dr. Heimlich a prestigious Albert Lasker Award for Public Service. Many recipients of the Lasker Award have gone on to win a Nobel Prize.

More than 100,000 people around the world choke to death each year when food or other foreign objects accidentally lodge in the trachea or windpipe. Unless breathing is restored within 4 minutes they face irreversible brain damage and death. Bystanders may not recognize the problem because the victim can't speak and call for help. Many choking cases are mistaken for heart attacks. Choking cases that occur in public eating places are sometimes termed "café coronaries."

In 1972, Dr. Heimlich recognized the enormous toll from accidental choking, and began to study exactly how objects lodge in the windpipe and how they might be dislodged. He discovered that the usual ways of treating the emergency actually made things worse. Hitting a choking victim on the back or attempting to remove the object with the fingers usually wedged it tighter in the windpipe. Dr. Heimlich realized that air remains in the lungs even when a person's airway is completely blocked.

Research on animals convinced him that the trapped air could be used to force an object out of the windpipe. He published the idea in the Journal of Emergency Medicine so that physicians around the world could read about it and test it. The idea was simple: Any bystander could suddenly compress this air in the victim's lungs by delivering a quick, upward thrust to the diaphragm. That would pop the object out of the windpipe, just like squeezing on a water-filled balloon squirts water out the opening. The report created a sensation, as people used it to save lives. First-aid personnel, emergency medical technicians, medical professionals, and people in everyday life use the Heimlich Maneuver in choking and other medical emergencies.

Dr. Heimlich also has pioneered other medical advances. In the 1950s, he developed and used an operation to replace the esophagus, which carries food from the mouth to the stomach. Sometimes regarded as the first total organ replacement in history, it is used today to repair certain birth defects of the esophagus. In 1964, he developed a valve device for draining blood and air out of the chest cavity in patients with gunshot injuries. It was first used in the Vietnam War, cost about \$1, and saved the lives of thousands of American and Vietnamese soldiers shot in the chest. Today more than 250,000 Heimlich valves are used worldwide each year to treat patients with chest wounds, or following surgery.

### **Saving A Life With the Heimlich Maneuver**

A choking victim cannot speak or breathe and needs help immediately. To perform the Heimlich maneuver on a conscious adult, stand behind the victim and wrap your arms around his waist. The rescuer makes a fist with one hand and places the other hand on top, positioned below the rib cage and above the waist. The rescuer then applies pressure by a series of upward and inward thrusts to force the foreign object back up the victim's trachea. It can be used to save an adult choking victim, an infant, drowning victims and in other situations. For simple instructions, [click here](#). For a course on First Aid including use of the Heimlich Maneuver for the choking adult, child, or infant, contact the American Red Cross or the American Heart Association.

### **When to Use the Heimlich Maneuver**

- The person cannot speak or cry out.
- The person's face turns blue from lack of oxygen.
- The person desperately grabs at his or her throat.
- The person has a weak cough, and labored breathing produces a high-pitched noise.
- The person does all of the above, then becomes unconscious.  
Some people may use a gesture recommended as the universal warning sign for choking. It involves placing a hand at the base of the neck.

### **The Heimlich Maneuver for Pets?**

Yes, indeed. The Heimlich Maneuver can save the life of a beloved dog or cat, if owners know when and how to use it. Find out more at [www.heimlichinstitute.org/pets.html](http://www.heimlichinstitute.org/pets.html).