

Pop Goes the Café Coronary by Henry J. Heimlich MD, Emergency Medicine, June 1974

Every year in the United States, 3900 healthy people strangle on food stuck in their tracheas. That's more people, by the way, than are killed each year in accidental shootings.

The incident generally occurs at the dinner table. The victim suddenly chokes, turns blue or black, and is dead in minutes. He can neither speak nor help himself. And chances are no one else will help him either since bystanders frequently confuse the episode with a heart attack. Thus the popular appellation "café coronary."

Appropriate treatment, of course, is tracheostomy or insertion of a large-caliber hypodermic needle into the trachea to provide a temporary airway. Recently an instrument for removing the food from the back of the throat has been described. To have this instrument available or someone skilled at tracheostomy on the spot at the time of this dire emergency would be fortuitous but rare indeed.

What's really needed then is a first aid procedure that doesn't require specialized instruments or equipment and can be performed by any informed layman - or even considered by a physician before resorting to tracheostomy with its attendant hazards. So, experimentally at least, I have developed such a procedure. It's been tested only on dogs but I believe the logic of the concept and the favorable findings warrant public dissemination.

Since aspiration must occur during inspiration in order for the bolus to be sucked against the laryngeal orifice, the victim's lungs are expanded at the time of the accident - actually there is always residual air in the lung - so sudden forceful compression of the lungs will increase the air pressure within the trachea and larynx and thus eject the offending bolus like the cork from a champagne bottle. There, in short, are the dynamics of the procedure. And here's how to do it:

Standing behind the victim, the rescuer puts both arms around him just above the belt line, allowing head, arms, and upper torso to hang forward. Then, grasping his own right wrist with his left hand, the rescuer rapidly and strongly presses into the victim's abdomen, forcing the diaphragm upward, compressing the lungs, and expelling the obstructing bolus. The same effect can be obtained with the victim lying face down on the floor, the rescuer sitting astride the victim's lower torso or buttocks.

If, however, the victim is already lying on his back, he needn't be moved. The rescuer merely sits astride him and suddenly presses both hands - one on top of the other - forcefully into the upper subdiaphragmatic abdominal region.

A second person should be prepared to remove the ejected food from the victim's mouth - particularly if he's on his back - with a spoon or fingers.

The procedure is adapted from experimental work with four 38-pound beagles, in which I was assisted by surgical research technician Michael H. McNeal. After being given an intravenous anesthetic, each dog was "strangled" with a size 32 cuffed endotracheal tube inserted into the larynx. After the cuff was distended to create total obstruction of the trachea, the animal went into immediate respiratory distress as evidenced by spasmodic, paradoxical respiratory movements of the chest and diaphragm. At this point, with a sudden thrust, I pressed the palm of my hand deeply and firmly into the abdomen of the animal a short distance below the rib cage, thereby pushing upward on the diaphragm. The endotracheal tube popped out of the trachea and, after several labored respirations, the animal began to breathe normally. This procedure was even more effective when the other hand maintained constant pressure on the lower abdomen directing almost all the pressure toward the diaphragm.

We repeated the experiment more than 20 times on each animal with the same excellent results. When a bolus of raw hamburger was substituted for the endotracheal tube, it, too, was ejected by the same procedure, always after one or two compressions.

We cannot be certain, of course, that the experimental results will be duplicated in humans. But when tracheostomy is not feasible, there is certainly no risk in recommending that the procedure be tried in actual café coronary emergencies since an unaided victim will die in minutes. Then, as experiences are reported, the method can be evaluated. Only by disseminating public information about this simple technique can we determine whether it will result in a significant reduction of what amounts to 3900 totally avoidable deaths every year. Should you use, or learn of anyone, using, the Heimlich method, by the way, please report the results either to EM or to me.

Dr. Heimlich is director of surgery and physician-in-chief of the esophagus center at the Jewish Hospital and associate clinical professor of surgery at the University of Cincinnati College of Medicine.

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The rescuer suddenly forces a supine victim's diaphragm upwards with both hands . . .

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or clasps his hands around a collapsing victim's abdomen and presses.