

Back Blows Are Death Blows

Henry J. Heimlich, M.D., Professor of Advanced Clinical Services, Xavier University, Cincinnati

Two-year-old Charles Tate of West Dayton, Ohio, choked to death while his uncle pounded his back and held him upside down. Timmy Abner, age 15, of Milford, Ohio, choked to death as his brother, Bradley, an EMT trained in Red Cross techniques, gave mouth-to-mouth resuscitation and slapped his back. Several other cases can be cited.

These deaths occurred between 1974 and 1976, the years during which the National Academy of Sciences refused repeated requests from the American Red Cross and myself to decide whether to approve the Heimlich Maneuver. These tragic deaths resulted because the choking victim was slapped on the back.

The editors of this journal have asked me to write an editorial about the controversy concerning the treatment of choking. The controversy surrounds the fact that the Red Cross has recommended backslaps for more than 40 years, despite the fact that all known scientific references prove that the backslap can drive an object tighter into the throat, causing death. There is no controversy concerning the effectiveness of the Heimlich Maneuver—it is taught by every organization interested in preventing choking deaths.

The backslap as a treatment for choking was abandoned 125 years ago by medical authorities, and the Red Cross has been aware of its dangers for at least 10 years. Yet the Red Cross and the American Heart Association not only still recommend backslaps, but also teach that backslaps are the first thing to do when someone is choking. That decision was made by individuals who must bear the burden of proof for having recommended backslaps. I have taken the liberty of suggesting questions you may wish to ask these individuals. You have a right to receive complete answers in the interest of saving lives and for your own protection from liability.

The Heimlich Maneuver was first described in 1974 and quickly became widely accepted and disseminated because it was simple, safe, and above all, saved lives. Over 3,000 lives have been saved; 1,194 of these cases have already been computer-analyzed in carefully documented studies. The state of Arizona has had a 45% decrease in choking deaths after the Arizona State Department of Health Services introduced a statewide Heimlich Maneuver teaching program. No such results have been reported in the 40 years the Red Cross has taught backslapping.

The success of the Heimlich Maneuver is based on sound scientific principles—physiological and anatomical—and documented records of lives saved. This research is published in leading peer review medical journals including the

Journal of the American Medical Association (JAMA), New England Journal of Medicine, Annals of Thoracic Surgery, Heart and Lung, Journal of Occupational Medicine as well as the popular medical publications *Emergency Medicine, Clinical Symposia, and Emergency Medical Services*. The Heimlich Maneuver is approved and taught by public health agencies, the Red Cross, the American Heart Association, the armed forces, the White House, and medical societies. No one denies that the Heimlich Maneuver is the most effective and safest method for saving the life of a choking victim.

Now let us look at the backslap.

All known published medical references from 1854 to 1979 warn that backslaps and finger probes can convert a partial airway obstruction to complete blockage, transforming a non-fatal condition to certain death. No one of these medical references recommends backslaps or records a life saved by backslaps. These facts are the result of a two-year study by Dr. Milton Uhley.*

If you are instructed by the Red Cross or the Heart Association to teach or perform backslaps for choking, ask: *Can you cite one published medical reference indicating backslaps are effective and not dangerous?*

After teaching backslaps since 1933, the Red Cross, in 1969, was made aware of the fact that backslaps cause a partial airway obstruction to become total, resulting in death. This information was given to them by the Committee for the Prevention of Foreign Body Accidents of the American Broncho-Esophagological Association, under the chairmanship of Dr. Gabriel F. Tucker, Professor, Chevalier Jackson Clinic (now a Northwestern University professor). Mr. Robert Oswald, the National Director of Safety Programs of the Red Cross, advised the committee that, in keeping with their findings, the Red Cross First Aid Manual was being revised. Mr. Oswald wrote, as recorded in the Association's published transactions, that Red Cross instructions are that "nothing should be done to interfere" with a choking victim who is coughing. But if such a victim becomes unconscious, the first-aider is advised to give mouth-to-mouth ventilation "to try to force air past the obstruction. Finally, if that doesn't work, he is advised to put the victim's head downward, to slap his back, etc., as a last resort effort..."

Those instructions are confirmed in the Red Cross official textbook, *Standard First Aid*, published annually from 1973 through 1978, which states on page 94: "Do not allow any-

*References listed in *Clinical Symposia*. Summit, New Jersey: CIBA, Medical Education Division.

one to slap you on your back if you choke and do not try to dislodge an object from another person's throat by this means, except as a last desperate effort to save his life."

The Red Cross, therefore, recognized that backslaps are extremely dangerous and should only be used as a last resort, when the choking victim is unconscious and near death. In 1976, the Red Cross and the Heart Association, ignoring the dangers of backslaps that had been so well documented, not only recommended that backslaps be used in the *conscious* victim, but that they be performed before the Heimlich Maneuver, which for two years had proven to be life-saving for the choking victim.

In 1966 and 1973, committees at the National Academy of Sciences recommended that choking be treated by mouth-to-mouth resuscitation, backslaps, and finger probes, despite the absence of any support for backslaps or any report of a life saved by backslaps in all known medical references. Dr. Archer Gordon* participated in and edited the report of the 1966 meeting and was chairman in 1973. Dr. Peter Safar* also participated in both meetings. Other prominent physicians participating in 1973 were Drs. Eugene Nagel,* Arnold Sladen, and Kevin McIntyre.*

Ask these individuals two questions: *On what published scientific data was the recommendation for backslaps based in 1966 and 1973? What studies were done between 1966 and 1976 to determine whether backslaps, widely taught by the Red Cross during those 10 years, were saving choking victims or killing them?*

The Red Cross now states that "the sequence of back blows followed by manual thrusts** (Heimlich Maneuver)... means that the combination of maneuvers is more effective than either maneuver alone." That statement is based on a study by Dr. Archer Gordon, performed on baboons, and reported at a Red Cross meeting in 1975. Dr. Gordon concluded, from this study, that the back blow would render a subsequent Heimlich Maneuver more effective. That study is the only reason why the Red Cross and the Heart Association teach that backslaps be done before the Heimlich Maneuver.

The baboon experiment, however, has no value. These facts were brought out at the 1975 Red Cross meeting: Both the 1966 and 1973 National Academy of Sciences committee reports, edited by Dr. Gordon, stated that the throat muscles of a choking victim are in severe spasm (locking a piece of meat in place). Dr. Safar had previously written that anesthesia relaxes the throat muscles (prevents locking onto the meat).

Dr. Gordon also redesigned the lying-down position for the Heimlich Maneuver in order to accommodate back blows and finger probes. His idea was to perform the Heimlich Maneuver from alongside the lying-down choking victim so that backslaps and finger probes could be done. (I had originally described the lying-down position as being done from *astride* the choking victim so that a small rescuer can use his weight to save a husky victim, and the thrust be done safely in the midline of the abdomen.) The National Academy of Sciences has acknowledged that Dr. Gordon's alongside position can cause rupture of the liver or spleen. As of June 1979, they recommend my *astride* position to avoid injury to internal organs. Dr. Gordon's *alongside* position appears on hundreds of thousands of Red Cross and Heart Association posters.

*"Impartial experts" quizzed by president of Red Cross in videotape distributed by Red Cross, entitled "The Heimlich Controversy."

**The term "manual thrust" is used since I denied my name to the Red Cross as long as they teach what are, in my opinion, dangerous methods along with the Heimlich Maneuver.

TAWAS ST. JOSEPH HOSPITAL
TAWAS CITY, MICHIGAN 48763
Phone 517/362-3411



June 20, 1979

Henry J. Heimlich, M.D.
Professor of Advanced Clinical Sciences
Xavier University
Victory Parkway
Cincinnati, Ohio 45207

Dear Dr. Heimlich,

I am sending an account of a recent choking incident involving members of my family in which the Heimlich [Maneuver] was successfully performed. I will be sending copies of the account to the American Heart Association and to the American Red Cross officials for their research, accompanied by a letter of protest against the back blows procedure.

I hope it will help them realize that your method is better and that back blows should be reserved as a last resort method.

Thanking you again for sharing your life-saving technique and making its use widespread, I remain

Yours very truly,

A handwritten signature in cursive script that reads "Roxanne Klingler L.P.N."

Mrs. Roxanne Klingler, L.P.N.
Education Assistant

Figure 1: Letter received by Dr. Heimlich.

To repeat, Dr. Gordon's baboon experiment is the *sole* basis for the Red Cross and the Heart Association teaching that back blows should be used before the Heimlich Maneuver in treating a choking victim.

Dr. Eugene Nagel recently stated in a newspaper article that "although the Heimlich Maneuver is probably the most effective single technique," Dr. Gordon's baboon study "has shown conclusively that the combination of back blows, Heimlich Maneuver and finger sweeps was better than any single technique used exclusively." Dr. Nagel and other doctors who took part in the 1966 and 1973 National Academy of Sciences meetings, at which backslaps and finger probes were recommended, are apparently ready to base their reputations on Dr. Gordon's 1975 baboon study. If so, they should still be asked: *On what published scientific data did you recommend backslaps in 1966 and 1973?*

Dr. Edward Patrick, M.D., Ph.D., Professor of Engineering, Purdue University, using Dr. Gordon's findings and additional data, proved that back blows are ineffective for choking and can drive an object deeper into the airway. (The airflow produced by the Heimlich Maneuver always is toward the mouth, never deeper into the airway.) Dr. Patrick presented these findings at both the 1975 Red Cross meeting and at the subsequent 1976 National Academy of Sciences conference. Dr. Gordon had also experimented on six anesthetized humans and stated that he got a spike of pressure when he hit their backs. Dr. Patrick showed that a spike of pressure is useless. Only a *flow* of air, such as produced by the Heimlich Maneuver, can transmit kinetic energy to the object causing choking and drive it out of the throat. For example, when a pin is suddenly jabbed into a piece of meat, the pressure at the point of the pin can be tremendous but it will not move the meat. On the other hand, a rapid *flow* of air from a bellows will readily displace an object.

Dr. B. Raymond Fink, University of Washington, Professor of Research Anesthesiology, proved to the 1976 National Academy of Sciences conference that the Heimlich Maneuver produces sufficient force to result in a "champagne cork" effect, causing an object in the throat to fly out the mouth.

The independent studies of Drs. Fink and Patrick, so damaging to back blows, were withheld from the Academy Committee responsible for the final decision of the 1976 National Academy of Sciences conference. The chairman of the conference workshop on choking, Dr. Donald Benson, totally omitted the work of Patrick and Fink from his written report to the National Academy of Sciences Emergency Medical Services Committee. That committee decided, in closed session, what procedures were to be used for choking. Dr. Benson's report also failed to mention that the consensus of the choking workshop was that the Heimlich Maneuver should be the *first* method used for choking.

In a recent National Academy of Sciences review of choking by a four-man ad hoc committee, the works of Patrick, Fink, and this author were again withheld from the committee by the National Academy of Sciences. The story of what transpired at the 1976 National

Academy of Sciences conference and a detailed analysis showing the errors in Dr. Gordon's conclusions can be found in Dr. Patrick's textbook, *Decision Analysis in Medicine*.*

The only known study published in a medical journal that recommends back blows is by Dr. Charles Guildner and appears in *JACEP*, September 1976. Dr. Guildner duplicated the Gordon experiments on six anesthetized humans and reported: "The technique of delivering a 'sharp blow between the shoulder blades' was also applied several times. This procedure was so ineffectual in creating airflow or increased pressure within the chest, it was abandoned." Oddly, after making no other statement about back blows, Dr. Guildner concluded the treatment for choking be: "1. Back blows—four in rapid succession...2. Abdominal or chest thrust" (Heimlich Maneuver).

In an article in the June 1979 issue of *Emergency*, The Red Cross is quoted as stating "...it is in the best interest of the welfare of the victim to avoid this [Heimlich] maneuver if possible." Their reason is that the Heimlich Maneuver "can result in broken ribs or spleen injury if not performed correctly" [this

*Boca Raton: CRC Press, Library of Congress Card Number 77-19085, 1979.

author's italics]. Yet, the detailed studies of Dr. Trevor Hughes found minimal injuries in thousands of applications of the Heimlich Maneuver.

If the Red Cross is truly concerned about an incorrectly performed Heimlich Maneuver causing injuries, inserting useless and dangerous backslaps before the Heimlich Maneuver will not solve the problem. They have insisted that the loss of time resulting from backslaps would not be dangerous, but unfortunately were mistaken, as evidenced by the tragic reports of brain damage and loss of consciousness caused by such delays. They cannot cover up their years of unscientific recommendations for backslaps by adding them to the Heimlich Maneuver, in the hope that the Maneuver will save the choking victim even after back blows have wasted precious time.

Of 1,194 cases of Heimlich Maneuver saves that have been analyzed in our series, 182 were saved by the Heimlich Maneuver after back blows failed. Of these, 26 lost consciousness during back blows; therefore, the delay caused them to be seconds from death.

On December 7, 1978, the Red Cross distributed a three-page single-spaced telex message to its chapters and divi-

June 20, 1979

John W. Eckstein, M.D., President
American Heart Association
7320 Greenville Avenue
Dallas, Texas 75231

Dear Dr. Eckstein,

I realize the valuable services and research work your organization supports in our country. I realize that due to the research efforts of the Red Cross and the American Heart Association the life-saving technique of CPR was developed and has been taught nationwide. For this all Americans can be sincerely grateful.

As professionals we realize that due to research and technical advancements new and better procedures and techniques are always being developed. And as professionals we have to assess these techniques and either accept or reject them on the basis of their effectiveness or ineffectiveness. To be more specific I am addressing the controversy concerning airway obstruction: Back blows vs. the Heimlich Maneuver.

I am enclosing an account of airway obstruction in which both back blows and the Heimlich Maneuver were performed. The significance of this account for me is that the victim was my father. I thank God, Dr. Heimlich and Mr. Gary Schmidt (rescuer) that the Heimlich Method was used in the case of my father as it was extremely effective after back blows had failed.

I am a Michigan Heart Association certified CPR instructor-trainer and an EMT Instructor-Coordinator. I am well aware and well versed in the A.H.A. and A.R.C. methods for management of airway obstruction. My protests toward your methods are:

1. The AHA-ARC methods are confusing and time-consuming to teach lay students as well as medical professionals.
 - a. In my estimation and experience it is highly improbable that a lay rescuer would remember the lengthy instructions taught in your technique.
2. Your methods waste precious seconds in an actual emergency.
 - a. Rescuer must take extra time to remember all the steps in proper sequence.
 - b. Rescuer will need more time to perform the sequence of steps.

The fact that two prominent professional organizations (i.e., A.H.A. and A.R.C.) will not recognize the effectiveness of Dr. Heimlich's method and accept his research bewilders and infuriates me.

As an AHA CPR instructor I am concerned and torn between teaching my students as mandated by AHA or teaching what is simple and effective.

I am sure in your important position that you have little time for arguing about a procedure that has already proven its worth through well-documented statistics.

For the many victims like my father I ask that you adopt the Heimlich Maneuver as the most effective form of managing airway obstruction in an emergency and reserving back blows and finger sweeps as last resort techniques. As a CPR instructor, I implore you to help end this confusion by advocating the simplest and most effective method for emergency management of airway obstruction.

Sincerely yours,



Mrs. Roxanne Klinger, LPN, EMT
Education Assistant
Tawas St. Joseph Hospital
Tawas City, Michigan 48763

rk

encl.

cc: Mr. Royce J. Britton

A.H.A.

Mr. George M. Elsey, President

A.R.C.

Figure 2: Letter to American Heart Association.

sion managers for use with the media and others. It states that their facts are "based on a National Headquarters review of court proceedings with Harrisburg, Pennsylvania legal authorities." The Red Cross bulletin describes a "choking incident" occurring on June 11, 1975, in a Harrisburg, Pennsylvania school. It states only that "The victim received first aid at school and en route to the hospital, followed by a tracheostomy and other medical procedures there. After release from hospital July 8, 1975, he is presently at home." The Red Cross telex then reports that a lawsuit was settled out of court and that "[Dr. Heimlich's] deposition was not offered or accepted in evidence by the court." In this bulletin to their staff and chapters, Red Cross headquarters completely omitted the following information that is readily available in the depositions of witnesses.

Gary Daniels was 15 at the time of the choking episode, and has been in coma since the choking incident. When he began choking on a sandwich, a teacher administered the "first aid" which consisted of *two* back blows. Before the back blows Gary had been coughing and, therefore, could partially breathe. The Heimlich Maneuver was then performed. Gary survived

but with irreversible brain damage due to the prolonged lack of oxygen, and remains in coma and has been tube-fed for the past four years.

After a five-day court trial (not mentioned in the Red Cross telex), with the testimony of expert medical witnesses, my deposition, given under oath with cross-examination, was to be read in court. It was not read because at that time, the school district settled by granting the child \$352,000. The school, in its defense, contended it had followed Red Cross methods.

Gary's attorney, Richard C. Angino of Harrisburg, says that such a case in the future could well be used against the Red Cross: "If the Red Cross continues to advocate as a first aid emergency maneuver for choking the striking on the back, and if they have no scientific basis for advocating such an action, it is subjecting itself to potential litigation in future choking cases."

If you teach or perform the backslap as the first treatment for choking, and are taken to court, can you provide the scientific basis for your treatment?

I hope you will soon be presented with the results of the recent American Heart Association survey conducted under the chairmanship of Dr. Kevin McIntyre, a member of the 1973 com-

mittee that recommended backslaps and finger probes. Ask for the full report; do not blindly accept the conclusions. It reports "successes" and "failures" of various methods of treating choking. It does not say what is meant by failures. Are they deaths? The figures reported are vague; apparently, if backslaps failed and a life was then saved by the Heimlich Maneuver, it is counted as both a successful backslap and a successful Heimlich Maneuver. Ask the question: *How many lives were saved by the backslap alone, and how many cases were reported by the committee members of 1966 and 1973?*

Even with the discrepancy that tends to increase the seeming number of backslap saves, the American Heart Association survey clearly demonstrates that the Heimlich Maneuver is the most effective procedure for saving the life of a choking victim, and the evidence unquestionably rules out any rationale for back blows being the first method to be used for choking.

Dr. McIntyre's American Heart Association committee conducting the survey concludes, "There is no documentation... that back blows... aggravated airway obstruction." It is unlikely that they are not aware of the extensive medical references reporting the

Date of Incident:	June 8, 1979
Time:	8:00 p.m.
Place:	Wabun (Restaurant), Oscoda, Michigan 48750
Choking victim:	Charles C. Kobs
Those observing incident:	Mrs. Norma Kobs (wife) Mr. Dean C. Kobs (son) *Mr. and Mrs. Gary Schmidt (friends) Waitress at the restaurant
Obstructing object:	Steak
Signs and symptoms noted:	Victim could not speak or cough Victim struggling for breath Bluish color to the face Eyes bulging
Back blows applied:	Yes, wife and son "patted him on the back, his head was bent forward slightly." The procedure did not loosen the object. <i>Victim reported that he was breathing a little air around the object before back slaps were done. After back blows, the partial obstruction became a total airway obstruction.</i>
Heimlich Maneuver:	Victim stood up when Mr. Schmidt explained how to perform the Heimlich Method. D. Kobs applied pressure to the victim's abdomen by pressing his fist inward and upward under the diaphragm. The object was dislodged immediately and expelled from the mouth.
Alcoholic intake before dinner:	Yes
<p>Summary of Incident: On June 8, 1979, 8:00 p.m., C. Kobs choked on steak while eating in a restaurant. His wife N. Kobs and son D. Kobs thought he was having a heart attack. Friends at a nearby table saw the incident and recognized the signs of choking and acted immediately. G. Schmidt (first responder) explained to Mr. Kobs' family what was happening and they began applying back blows. Mr. Schmidt stopped them and told them that the Heimlich Method should be done. Rather than performing the maneuver himself, he explained the procedure to Mr. Kobs' son who applied inward and upward pressure to the abdomen of the victim. Immediately the piece of steak popped out of the victim's mouth and he began breathing spontaneously. A medical examination was not done following the episode; however, Mr. Kobs seemingly suffered no ill effects from the procedure.</p>	
<p>*Mr. Schmidt learned the Heimlich Maneuver viewing the "Today Show" on television.</p>	

Figure 3: Account of choking incident, by Mrs. Klinger.

dangers of back blows; or have not heard of the case of Gary Daniels, so well-known to their Red Cross colleagues; or have not received the report from an American Heart Association CPR instructor-trainer to the President of the American Heart Association, carefully documenting how a partial airway obstruction became a total blockage after back blows (Figure 3). Dr. McIntyre did not ask for my data on loss of consciousness due to back blow delays, but the figures are recorded in medical journals.

It seems unnecessary to discuss the Heart Association's recommendation that the Heimlich Maneuver should be performed by chest thrust. You all know from CPR that there is no way to determine at what degree of chest compression the chest will be crushed. An excellent reference from the Mayo Clin-

ic, which describes the extensive internal injuries caused by chest compression when CPR is performed, can be found in the medical journal *Heart and Lung*, May 1976.

You now have the facts concerning the controversy over the use of back blows for choking, as recommended by the American Red Cross and the American Heart Association. The thousands of dedicated EMS people, many of whom serve under the auspices of the American Red Cross and the American Heart Association, have the right to receive honest and complete answers from those few persons who have persisted in recommending backslaps as the *first* treatment in choking. Armed with the facts, you can make your decision as to which procedure you will advocate to save the lives of choking victims. ●



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