

A Simple, Effort-Less, Safe Resuscitation Method for Choking Victims

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Introduction

Choking deaths occur when the victims accidentally inhale objects which then lodge in the larynx and obstruct the airflow. Adults usually choke on food boluses, while infants and young children inhale in addition to food, foreign bodies such as coins and parts of toys. The abdominal thrust, popularly known as the Heimlich maneuver is used worldwide to resuscitate choking victims, ever since it was described in 1975.

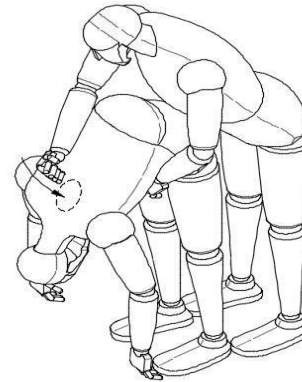
Procedure

While this procedure is effective in ideal circumstances and has saved many lives, it has some drawbacks. These are mostly related to the need to wrap the rescuer's arms around a large adult victim, clasp them above the umbilicus and then exert enough force to almost lift the subject up. Another relatively common problem is such efforts leading to trauma to internal organs or the xiphisternum. Statistical studies also show that the popularization of this technique has not reduced the number of deaths from choking, at least in the United States; in fact, the numbers increased from around 3,000 to 4000 between 1975 and 2000. From the year 2000 to 2020 the number of such deaths have remained relatively constant at 4000-5000 cases per year. When such deaths occur in children and otherwise healthy adults, it is particularly distressing. Several external devices have been used to aid recovery in victims who have failed the abdominal thrust procedure, but in real life situations, such devices may not be readily available.

Positioning



Above shows the optimal/desired method, using the top of the back rest of a chair to exert the abdominal thrust. It also shows the site for applying the thumps if the offending object has not already been expelled.



Above shows an alternative method when a chair is not available; here one arm of the rescuer is used to support the victim, and to exert the thrust on the abdomen.

Methodology & Result

We sought to devise an effective, easy to perform, and safe resuscitation method, that also does not require any special equipment. The method we have developed can be performed with or without the aid of an object such as the backrest of a chair; when it is not available, the rescuer's arm placed over the middle of the abdomen of the victim can be used, and then asking them to cough, repeatedly if necessary. If the choking victim is alone, he/she can try leaning over the back rest of a chair or similar, with pressure onto the substernal area and then coughing repeatedly. It is anticipated that most of the time the foreign objects will be expelled by just these two measures, as the inverted U-shaped position of the victim helps through gravity, and the coughing efforts in this position is also much more effective in expelling the offending material. If the foreign body is still not ejected, thump repeatedly over the space below the root of the neck as noted in the figures.

The same methods can be used in pregnant women, but we recommend stationing the top of the back rest at just below the xiphisternum. Babies and toddlers can be held upside down by their ankles and, if necessary, gentle thumps applied to below the root of the neck

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