Is your practice ready for a choking patient?

Jane Lambert explains how safely and effectively to help an adult, child or infant who is choking

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Airway obstruction can be life threatening if not treated promptly and appropriately by people nearby. Usually associated with eating, it is something that may rarely occur within general practice. However, it is an emergency that can happen. Equally, a parent may rush a young child into your surgery with an obstructed airway.

A foreign object that is stuck at the back of the throat may block the throat or cause muscular spasm. If blockage of the airway is partial, the casualty should be able to clear it. If it is complete, he/she will be unable to speak, breathe or cough, and may lose consciousness.

The vast majority of deaths from foreign body aspiration occur in pre-school children. Virtually anything may be inhaled (Advanced Life Support Group, 2005).

Foreign body airway obstruction is characterized by the sudden onset of respiratory distress associated with coughing, gagging or stridor. Similar symptoms may also be associated with other causes of airway obstruction in children, such as laryngitis or epiglottis, which require different management. According to Bingham et al (2005), foreign body airway obstruction should be suspected if:

- The onset was very sudden
- There are no other signs of illness
- There are clues to alert the rescuer, e.g. a history of eating or playing with small items immediately before the onset of symptoms.

Table 1. Assessment of airway obstruction in adults

General signs of choking	Signs of mild airway obstruction	Signs of severe airway obstruction
Attack occurs while eating Victim may clutch his neck	Victim is able to speak, cough and breathe	Victim unable to speak Victim may respond by nodding Other signs include: • Victim unable to breathe • Breathing sounds wheezy • Attempts at coughing are silent • Victim may be unconscious

From: Handley, 2005.

In adults it is important not to confuse such an emergency with fainting, heart attack, seizure, or other conditions that may cause sudden respiratory distress, cyanosis or loss of consciousness. (Handley, 2005).

Airway obstruction in adults

Recognition

It is important to assess if the casualty is suffering from mild or severe airway obstruction, because this will affect the treatment. Signs and symptoms are listed in *Table 1*.

Management

The treatment recommended for adults is also suitable for use in children over the age of 1 year. If the victim shows signs of 'mild' airway obstruction, encouraging him/her to cough may be the only requirement. Most people are able to clear their own airway by doing this.

Only if the victim shows signs of 'severe' airway obstruction should additional interventions be begun. However, in these cases up to five back blows should be delivered to the victim. Between each back blow it is important to assess whether it has cleared the airway before giving the next one.

To deliver effective back blows:

- Stand to the side of the victim
- Support his/her chest with one hand and lean the victim forwards
- Give up to five back blows between the shoulder blades with the heel of the other hand (*Figure 1*).

If five back blows fail to relieve the airway obstruction, give up to five abdominal thrusts. To deliver effective abdominal thrusts:

- Stand behind the victim and put both arms round the upper part of his/her abdomen
- Lean the victim forwards
- Clench your fist and place it between the umbilicus and the bottom end of the sternum
- Grasp this hand with your other hand and pull sharply inwards and upwards
- Repeat up to five times (*Figure 2*).

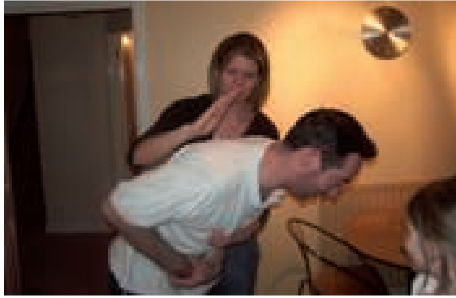

Figure 1. Delivery of five back blows.

Figure 2. Delivery of abdominal thrusts.

If the obstruction is still not relieved, continue alternating five back blows with five abdominal thrusts.

If the victim becomes unconscious:

- Support the victim carefully to the ground
- Call for an ambulance
- Begin CPR, even if the victim has a pulse.

Airway obstruction in children

Recognition

The majority of choking events in children will be witnessed, and it will happen when they are playing or eating. *Table 2* lists the signs and symptoms:

Management

If the child shows signs of 'mild' airway obstruction then encouraging them to cough may be the only requirement. Most children will be able to clear their own airway by doing this. Do, however monitor continuously.

If the coughing is ineffective and the child shows signs of severe airway obstruction,

Figure 3. Delivery of five back blows to a child.

Figure 4. Delivery of five back blows to an infant.

shout for help immediately and commence back blows as for adults.

The procedure is the same as for treating adults; although the size of a child or infant should allow back blows to be delivered with the victim's head down in a prone position, to enable gravity to help remove the foreign body (*Figures 3 and 4*).

If back blows fail to dislodge the object, and the child is still conscious, use abdominal thrusts for children (*Figure 2*) and chest thrusts for infants (*Figure 5*).

Abdominal thrusts

Abdominal thrusts must not be used for infants.

The correct hand placement for abdominal thrusts is as follows:

Table 2. Assessment of airway obstruction in children

General signs of choking	**Effective coughing** (Mild obstruction)	**Ineffective coughing** (Severe obstruction)
Witnessed episode	Crying or verbal response to questions	Unable to vocalize
Coughing or choking	Loud cough	Quiet or silent cough
Sudden onset	Able to take a breath before coughing	Unable to breathe
Recent history of playing or eating small objects	Fully responsive	Cyanosis
		Decreasing level of consciousness

From: Bingham et al, 2005.

KEY POINTS

- Airway obstruction can be life threatening if it is not treated promptly and appropriately by people nearby
- Foreign body airway obstruction is characterized by the sudden onset of respiratory distress associated with coughing, gagging, or stridor
- The majority of choking events in children will be witnessed, and will happen when they are playing or eating

Conflict of interest:
None

- Stand behind the child and place your arms under his/her arms and around the torso
- Clench your fist and place it between the umbilicus and xiphisternum
- Grasp this hand with your other and pull sharply inwards and upwards
- Repeat up to five times
- Ensure that pressure is not applied to the xiphoid process or the lower rib cage because this may cause trauma.

The correct hand position for chest thrusts is as follows:

- With the infant on its back, head downwards, supported on your thigh
- Identify the landmark for chest compression (lower sternum about a finger's breadth above the xiphisternum)
- Deliver up to five chest thrusts. These are like chest compressions but sharper in nature and delivered at a slower rate.

After delivering the chest or abdominal thrusts, reassess the child. If the obstruction is not cleared, continue with the sequence again. Get help but do not leave the child at this point.

Anyone receiving abdominal thrusts should be examined by a doctor for any signs of injury.

An unconscious child

If the child becomes unconscious, the following steps should be taken:

- Place the child on a firm, flat surface
- Call out or send for help (but do not leave the child)
- Open the mouth and look for any obvious obstruction
- If you can see something, make an attempt to clear the airway with a finger sweep (Do not use blind or repeated finger sweeps because these can impact the object deeper)
- Attempt five rescue breaths
- If there is no response, proceed immediately to chest compressions
- Deliver basic life support for approximately 1 minute before leaving to call an ambulance if not already on its way
- If the obstruction appears to have been relieved, open and check the airway, then deliver rescue breaths if the child is not breathing

Figure 5. Delivery of chest thrusts to infants.

- If the child regains consciousness and is breathing effectively, place him/her in a safe side-lying (recovery) position and monitor breathing and conscious level while awaiting the ambulance.

Summary

Many people have either choked themselves or have witnessed someone else choking, often their own children. It is a frightening experience and is life threatening if not treated promptly. For many people, simply coughing will clear the obstruction, but it is essential to know how to respond in case this is ineffective.

It is important for health professionals to receive training on the management of choking while covering basic life support. It helps to practise these techniques during training as well. Many people forget the correct hand position for back blows, chest thrusts and abdominal thrusts.

Most of the health professionals that are taught be the authors are very interested in receiving refresher training in these techniques and are reassured once they have had the opportunity to practise them.

It is important to remember that all patients receiving abdominal thrusts should be examined by a doctor for any possible injury resulting from this procedure.

For any questions on these guidelines or on training readers can contact Jane Lambert on 01908 331791 or jane@ecgtraining.co.uk. Alternatively, the guidelines can be found on the Resuscitation Council (UK)'s website at www.resus.org.uk

References

Advanced Life Support Group (2005) *Advanced Paediatric Life Support: The Practical Approach*. 4th edn. BMJ Books/Blackwells

Bingham R, Zideman D, Simpson S (2005) Paediatric Basic Life Support. Resuscitation Council (UK), London

Handley A (2005) Adult Basic Life Support. Resuscitation Council (UK), London