SCOPE:

County MH/MR Administrators
State and Non-State-Operated ICF/MR Providers
Community Residential Mental Retardation Facility Directors
State Center Directors
Base Service Unit Directors
Early Intervention Program Directors
Adult Day Care Program Directors
Vocational Facility Program Directors
MR Unit Directors

PURPOSE:

To provide information for the prevention, recognition and management of persons who are choking or undergoing upper airway obstruction.

BACKGROUND:

The National Safety Council reported that foreign body obstruction of the airway, or choking, accounted for approximately 3,100 deaths in 1984. About every five days a person dies of choking by food in the United States. Choking incidents have been reported in state operated and community programs serving persons with mental retardation.

To prevent the complications that can occur with choking, providers of services need to be aware of the causes, precautions, recognition and management techniques for foreign body airway obstruction.

CAUSES AND PRECAUTIONS

Foreign body obstruction of the airway usually occurs during eating. In adults, meat is the most common cause of obstruction, although a variety of other foods and foreign bodies have been the cause of choking in children and some adults. Common factors associated with choking on food include:
- high risk foods
- large, poorly-chewed pieces of food
- elevated blood alcohol
- upper and/or lower dentures
- poor supervision during eating

An unconscious person can develop airway obstruction when the tongue falls backward into the pharynx, obstructing the upper airway. Regurgitation of stomach contents into the pharynx, resulting in an obstructed airway, can occur during a cardiopulmonary arrest or during resuscitative attempts. Head and facial injuries may result in blood clots obstructing the upper airway, particularly if the person is unconscious.

Airway obstruction leading to asphyxia is a leading cause of death and disability in children. It can be caused by a foreign body such as a toy or peanut, or may be caused by an infection that causes swelling of the airway, such as occurs in croup or epiglottitis.

The following precautions may prevent foreign body airway obstruction:

1. Cutting food into small pieces and chewing slowly and thoroughly, especially if wearing dentures.

2. Avoiding laughing and talking during chewing and swallowing.

3. Avoiding excessive intake of alcohol before and during meals.

4. Restricting children from walking, running or playing with food or foreign bodies in their mouths.

5. Keeping foreign objects (e.g., marbles, beads, thumbtacks) away from infants and small children.

**HIGH RISK FOODS**

Certain foods pose a special choking hazard to children and other persons who have weak or immature chewing and swallowing abilities, or anatomical or sensory anomalies. The highest risk foods are hot dog-like products which have smooth, slick surfaces, are cylindrical, upper airway sized and compressible. Other foods in the high risk category are chewing gum, candy, nuts and grapes, meat, peanuts and peanut butter, bread/cookies/biscuits, and carrots and apples. Studies have pointed out that the high risk foods are generally round or cylindrical. The risk of these foods can be reduced by introducing food substitutes and by close supervision. The American Trauma Society has also recommended that persons with a susceptibility to choking have food cut into small pieces, be taught to chew their food well, and have seeds removed from oranges, grapes, melons and other fruits.
RECOGNITION OF FOREIGN BODY AIRWAY OBSTRUCTION

Because early recognition of airway obstruction is the key to successful management, it is important to distinguish this emergency from fainting, stroke, heart attack, epilepsy, drug overdose or other conditions that cause sudden respiratory failure, but which are managed differently. The differentiation between a foreign body and an infectious cause, such as the cough in children, is important since in the latter case, going through the steps of dislodging a foreign body will not be helpful and can be dangerous.

According to the American Heart Association, foreign bodies may cause either partial airway obstruction or complete airway obstruction. With partial airway obstruction, the victim may be capable of either "good air exchange" or "poor air exchange". With good air exchange, the victim can cough forcefully, although frequently there is wheezing between the coughs. As long as good air exchange continues, the victim should be encouraged to persist with spontaneous coughing and breathing efforts. At this point, do not interfere with attempts to expel the foreign body.

Poor air exchange may occur initially, or good air exchange may progress to poor air exchange, as indicated by a weak, ineffective cough, high-pitched noise while inhaling (such as a crowing-like sound), increased respiratory difficulty, and possibly a bluish color of skin, fingernail beds and inside mouth. The partial obstruction should be managed as if it were a complete airway obstruction.

With complete airway obstruction, the victim is unable to speak, breathe or cough, and may clutch the neck between the thumb and index finger. (Staff and clients should be instructed to use this sign as the universal distress signal for choking.) Movement of air will be absent, oxygen will be depleted, the brain will develop a shortage of oxygen, unconsciousness will occur, and death will follow rapidly. Prompt action is required.

MANAGEMENT OF FOREIGN BODY OBSTRUCTION

Management of upper airway obstruction should be taught within the context of basic life support or CPR training to staff and clients. Training courses in manual and emergency procedures are provided by the American Heart Association, the American Pediatric Institute, and the American Red Cross. Training should be available at a local hospital, Red Cross, YMCA, or other health center.

The Office of Mental Retardation encourages all providers to ensure that at least one on-duty staff person has experience in management of choking accidents and to include management of foreign body airway obstruction as a staff training requirement. Persons with mental retardation should also be instructed in certain life saving techniques, such as the Heimlich maneuver, which can be administered to oneself as well as others.
Additional information, including literature on the prevention and management of choking, is available through local chapters of the American Heart Association, American Red Cross, American Trauma Society and the American Academy of Pediatrics. The address and phone number for the American Trauma Society and the American Academy of Pediatrics are listed below:

The American Trauma Society
P.O. Box 13526
Baltimore, Maryland 21203
(800) 556-7890
(301) 528-5304

The American Academy of Pediatrics
141 Northwest Point Road
Elkgrove Village, Illinois 60007
(800) 433-9016

Pertinent information should be made available to staff, clients and parents.