

0723A: Aspiration

Introduction

Aspiration or choking occurs at any age. Aging, disease and certain conditions can increase the risk of aspirating. In most cases, aspiration and choking can be prevented.

Aspiration or choking can be life threatening and may result in death. Understanding how aspiration or choking occurs and the situations that increase their risk are the first steps toward prevention.

Aspiration and choking can be very frightening. Those individuals with conditions or diseases that increase the frequency of aspirating or choking may resist eating, drinking or being fed.



Aspirating can occur at any age and at any time.

What is aspiration?

Aspiration occurs when either food, fluid or foreign objects enter (are inhaled into) the airway (lungs). Food or fluid can be aspirated either on its way down to the stomach or on the way up, such as when an individual vomits.

When aspiration occurs, gagging and coughing is the normal response. If the material is coughed out, little or no airway damage occurs.

What is choking?

Choking means food, liquid or a foreign object partially or completely blocks the airway.

The individual may be unable to cough, talk or even breathe depending how much of the airway is blocked. An individual with a partially blocked airway may be able to move enough air to speak, cough or make wheezing sounds. An individual with a complete blocked airway cannot cough, speak or breathe.

How aspiration or choking occurs

During *normal swallowing*, the epiglottis (see illustration) closes off the wind pipe (or larynx) to prevent anything from entering the lungs.

Aspiration occurs when anything other than oxygen or medications, intended to be inhaled, enters the lungs. Food, fluids or foreign objects can enter the lungs more easily when an individual's muscles are not working properly. This is due to the epiglottis not properly closing off the wind pipe (larynx), allowing food, fluids or foreign objects to enter the lungs.

Choking generally occurs when food, fluids or foreign objects block the wind pipe. Fluids, without solids such as soups, can cause choking but generally do not block the wind pipe. However, fluids can more easily enter the airway (lungs).

The average diameter of an adult esophagus is about 1 inch (smaller in children). However, some individuals have narrowing of the esophagus called esophageal stricture dysphagia. The size of the food can increase the risk of choking for individuals who can't chew their food well or have other conditions that make controlling food in their mouth an issue.

Who is at risk for aspiration or choking?

Aspiration and choking can occur anytime including when eating meals or snacks, swallowing medications, brushing teeth or chewing on foreign objects. What might surprise you is some individuals, with certain conditions or diseases, may even aspirate on their own saliva.

Eating rapidly or laughing while eating may cause anyone to aspirate or choke. However, if an individual has a strong cough and gag reflex, the material can be easily dislodged from the airway. During the normal aging process muscles used in swallowing or preventing food, fluids or foreign objects from entering the airway begin to weaken.

IMAGE 1

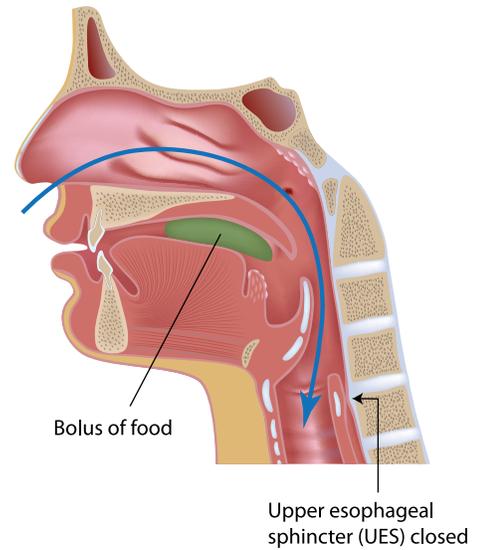
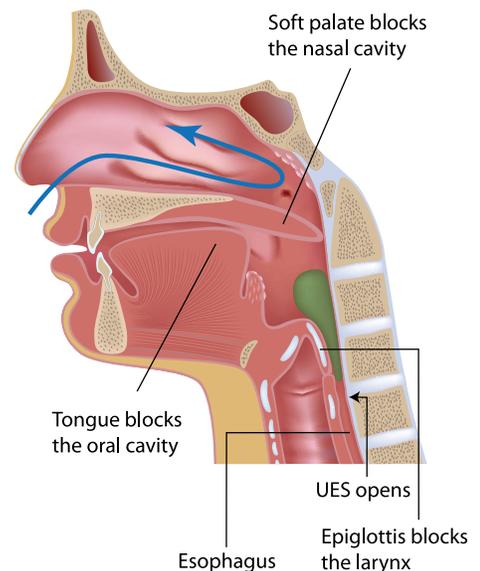


IMAGE 2



When swallowing (image 1), the upper esophageal sphincter closes and the epiglottis blocks the larynx (image 2), preventing the food or liquid from entering the airway.

Older adults, persons with disabilities or developmental disabilities are at high risk for aspirating thin fluids such as coffee. Choking on their morning coffee may be your first indication they may be at risk for aspirating.

Individuals may have uncoordinated swallowing muscles or weakened cough/gag reflexes because of:

- Diseases or conditions affecting the nerves and muscles, such as a stroke or Parkinson's disease;
- Eating rapidly or carelessly due to a lifetime of poor habits;
- Intellectual disabilities or the dementia process.

Other factors can increase the risk of aspiration or choking such as:

- Being unable to communicate their wants and needs and eating when distressed, tired or not feeling well;
- Weakened cough and gag reflex;
- Poor body alignment or not being able to sit upright;
- Eating in bed or lying down;
- Poor chewing ability caused by missing or loose teeth, teeth in poor repair, or poorly fitting crowns, bridges or dentures;
- Heartburn, or gastroesophageal reflux disease (GERD), which causes stomach contents to flow back into the throat (esophagus);
- Medications that cause drowsiness;
- Medical condition that causes fatigue or weakens the gag or swallowing reflexes;
- Being fed by others;
- Tube feedings by either gastrostomy tubes (G-tubes) or jejunostomy feeding tubes (J-tubes);
- Pica, an eating disorder where the individual eats nonfood substances.



As you age, thin fluids such as coffee are easier to aspirate.

How is aspiration or choking life threatening?

Aspiration or choking can be **quickly** life threatening if the individual is unable to get enough oxygen due to blockage of the airway causing respiratory arrest.

Aspiration can also cause complications such as pneumonia. Pneumonia is a serious condition for older adults and individuals with chronic health conditions or diseases and can be life threatening. Individuals with decreased lung capacity and lung disease due to chronic respiratory illnesses are also more susceptible to pneumonia. Emphysema, chronic obstructive lung disease and bronchitis are examples of chronic respiratory illnesses.

Aspiration pneumonia can occur after a single event or may develop over time. Some individuals may have “micro-aspirations.” This means the individual aspirates small amounts of food or fluid over time that the caregiver may not notice.

An individual who avoids eating or drinking due to aspiration may become dehydrated and malnourished. This may also be identified as “failure to thrive.” Failure to thrive may result in death if not treated.

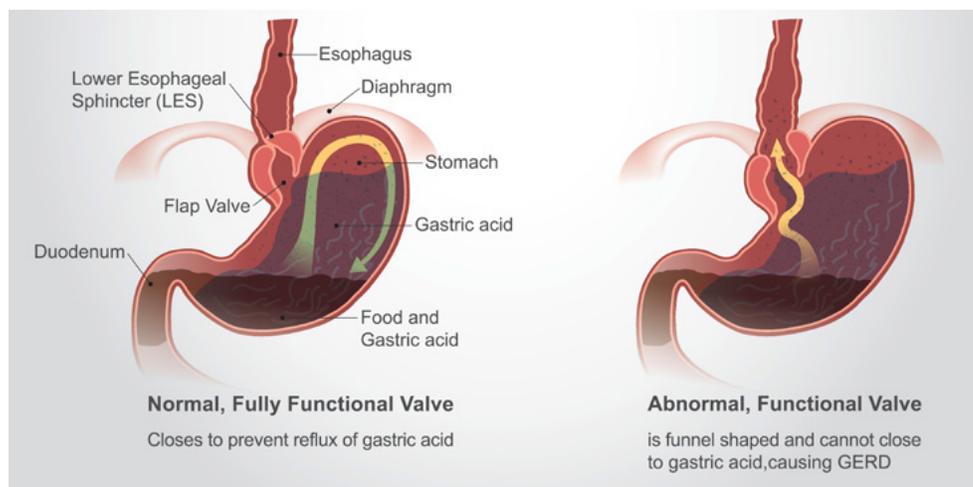
Gastroesophageal reflux disease (heartburn or GERD) can cause stomach contents to flow back into the throat (esophagus) and cause aspiration. GERD is a serious condition that affects many older adults and persons with developmental or other disabilities. Individuals can aspirate while vomiting. Aspirating contents from the stomach increases an individuals’ risk of developing aspiration pneumonia.



Example of a normal chest x-ray. Black areas are normal air space.



Example of aspiration pneumonia. White areas indicate fluid accumulation and/or inflammation in the lung tissue



Signs and symptoms of aspiration or choking

Identifying the risk is the first step toward preventing and/or minimizing serious events! First we will look at physical signs and symptoms of aspiration or choking. Then we will look at health history information that suggests an individual is at risk for aspiration.

Coughing, gagging or choking during meal times and immediately after is the most common sign and symptom that someone is choking or has aspirated.

Additional signs and symptoms that suggest someone is aspirating include:

- Rapid breathing, fatigue or bubbly respirations during and immediately after meals;
- Need to swallow multiple times to clear food;
- Clearing the throat frequently when eating or drinking;
- Eating in odd or unusual positions, such as throwing the head back when swallowing;
- Drooling or having food or fluids fall out of the mouth;
- Vomiting or spitting up small amounts of food or liquid after meals and at night;
- Voice changes after eating or drinking;
- Regularly declining food/fluid;
- Appearing fearful and reluctant to eat;
- Only eating or drinking for certain caregivers;
- Unexplained weight loss or being underweight;
- Frequent pneumonia without being previously ill with a cold or flu.

How to identify risk from health care records

You need to understand what to look for when identifying an individual's aspiration or choking risk before developing a care plan, individual service plan (ISP) or protocols.



Meal time is the most common time individuals may choke or aspirate.

You probably gathered information before and during the screening and pre-admission process related to an individual's risk for aspiration.

Assess if the individual has a documented history of:

- Aspiration;
- Coughing or choking while eating or drinking;
- Drooling or food/fluids falling out of mouth;
- Dysphagia – difficulty swallowing;
- Gastro-esophageal reflux (GERD);
- Taking medications that decrease gag/coughing reflex;
- Parkinson's, stroke or other neurological conditions affecting muscle control/tone;
- Aspiration pneumonia;
- Regular refusal to eat or drink;
- Seizures;
- Tube feedings;
- Pica.

Once an individual has been admitted to your facility, have you observed any of the signs and symptoms outlined above? It is important to document any event that suggests the individual may have a potential aspiration risk.

Reducing the risk of aspiration

Risks for aspiration and other conditions such as constipation or dehydration can develop as individuals age or have changes in their underlying health condition or medications. Document any event that suggests the individual may have **developed** an aspiration risk.

All documented concerns and observations must be reported to the individual's health care practitioner.

You can take steps to prevent aspiration even for those individuals not currently at risk. Individuals without history can develop an issue with aspiration.



It's important to know how to do the abdominal thrust (also known as the Heimlich maneuver). It will enable you to assist someone who is choking. Check your local American Red Cross or hospitals and sign up for training.

The first step to preventing aspiration is to identify potential risk factors. The following are examples of risk factors for aspiration even if the person doesn't have a documented history of aspiration:

- Wears dentures;
- Food pools (collects) in the cheeks or mouth;
- Requires assistance with food and/or drink, medications and/or brushing teeth;
- Requires modified food textures or fluids thickened;
- Eats or drinks too fast or stuffs food into mouth;
- Unable to sit upright;
- Groggy during meals or when taking oral medications.

Another sign of possible aspiration can occur when they drink thin fluids such as water, tea or coffee. Adults tend to have more trouble with thin fluids as they age. Temperature of the liquid can also be a factor in aspiration. Make sure to document the temperature of the fluids if you observe them choking; share this information with the health care provider.

Encouraging safe eating and drinking

Providers can do several things to increase safe eating and drinking for everyone regardless of their risk factors. Making small changes to how meals are served and activities before and after the meal will reduce the risk of aspiration:

- Allow more time for meals.
- Individuals who need to be fed take at least 35–45 minutes to be fed safely.
- Decrease the serving sizes or use smaller utensils or cups to discourage putting too much food or fluid in the mouth.
- When helping individuals cut their food, make sure the food is in small pieces.
- Minimize talking while eating.



It takes more time to feed someone safely. You should plan on 35-45 minutes to feed someone their meal. You may need more time depending on their condition or if they have dementia.

To allow for socialization during meals, consider serving only one or two items at a time. This allows individuals to safely talk with each other between servings.

- Encourage eating more slowly and chewing food well.
- Maintain a calm relaxing environment while eating and drinking.
- Encourage everyone to remain upright after meals for at least 45 minutes.
- If the individual has a medical reason to eat or be fed in bed, the head of the bed should be raised to a 30 degree angle and should remain in that position for 45 minutes after eating. If the person cannot sit up, elevate the head of the bed 30 degrees.
- Be sure the individual is fully awake before eating or while drinking, taking oral medications or brushing teeth.

One tip in reducing aspiration for those individuals that are frequently groggy during meal times is to talk with them while they are eating. It helps keep them more alert. Make sure you don't ask questions while they are chewing or swallowing. Use the time to review upcoming events or other things that interest them.

- Review their medications. Do any have drowsiness as a potential side effect? Can the medications be scheduled at a different time? Work with their prescriber. Changing the time of when they get certain medications can reduce the risk of aspiration. For example, if a medication causes drowsiness, it may be OK to give it closer to bedtime rather than during the day. You must discuss this with their prescriber before making changes to when you give the medication.

History of aspiration risk

Anyone with a history of aspiration risk or any condition that put the person at higher aspiration risk should have written instructions, also known as protocols for eating and drinking. The protocols must be followed at meals and anytime the individual has something to eat or drink. Protocols are a quick guide for all caregivers to follow. In some settings it is acceptable to incorporate protocols in the individual's care or service plan.



Want to know how hard it is to feed an adult? Find a coworker or friend and agree to feed each other an entire meal. Give feedback on what is uncomfortable about the process. If you have individuals that are unable to verbally communicate, practice trying to communicate without words. It's harder than you think.

It is critical that caregivers have routine and easy access to the written protocols for persons identified to be at risk for aspiration.

Anyone can develop protocols for aspiration risk. Protocols do not require an order from the individual's health care practitioner. There are some interventions that require an order from the person's health care provider such as serving food at a specific temperature or modified texture or by using products such as "Thick-it®" that thicken thin fluids.

If you suspect an individual is at risk, recommend the person sees their health care provider. Based on documented signs and symptoms, the health care provider may suggest a swallowing or other test or a referral to a feeding specialist. Feeding specialists can suggest assistive devices to help the individual maintain as much independence as possible.

Aspiration protocols should be specific to the individual. Consider the following when developing aspiration protocols:

- The best way to serve food and beverages;
- Texture or temperature of food or beverages (requires a medical order);
- Tableware considerations;
- Safest position for eating and drinking;
- Precautions for oral care;
- Ensuring the individual is sitting upright for meals and in good body alignment;
- Reminder to keep individual in a sitting position for at least 45 minutes after eating or drinking;
- If the person is unable to sit up, making sure the head of bed is at 30 degrees or as specified by health care provider (this allows gravity to help food stay in the stomach and not flow back into the throat);
- If feeding an individual, written instructions should include how he/she eats and takes medications so that all caregivers know what to do.



Aspiration can occur even during brushing teeth.

(Permission: Hartford Center of Geriatric Nursing Excellence)

Anyone who is at risk for aspirating fluids requires help when drinking. Do not leave fluids in easy reach to the person. However, you must offer fluids often throughout the day. Individuals who depend on others for fluids must have a fluid schedule written on the medication administration record (MAR) and be offered fluids no less than every two hours. Most adults require eight to 10 eight-ounce glasses of water per day unless they have fluid restrictions.

- Tube feedings are considered nursing procedures. They require an RN to delegate the procedure to the caregiver. Once delegated, the caregiver must follow all instructions.

Documentation

Several tools are used to communicate about risks, risk prevention and intervention: care plans, service plans, individual service plans (ISPs) and protocols. Protocols are generally stand-alone documents used as a daily guide for caregivers. Everyone with a protocol should also have the risk identified in their care plan, service plan or ISP.

Care plans; services plans and individual service plans are all tools that communicate how to support an individual for activities of daily living (ADLs); care needs, social supports and other supports to assist the individual to be as independent as possible. Different settings use different terms, but all have the same purpose — supporting the individual.

There is no requirement for a health care provider to implement an aspiration protocol but you cannot diagnose. You can document what you have observed such as individual choking while eating or drinking or other signs or symptoms you have observed. However, you cannot write *“they have a swallowing disorder”* unless it has been documented by a health care provider.

Written instructions or protocols have many benefits. It is an individualized communication tool. It includes information about an individual’s unique health care supports. It assures all caregivers know what to do. It also minimizes the need for others to “guess” what the individuals needs are and can be easily shared in other settings.



Fluids, medications or nutritional products that are administered through a feeding tube is a nursing procedure and requires a registered nurse to delegate the procedure to the caregiver.

Written instructions (protocols)

Protocols (risk documentation) is specific to the individual's experience and should:

- Identify the risk(s);
- Note prevention strategies;
- Cite warning signs of the problem;
- Tell what to do when a problem is observed;
- Advise when to call 9-1-1.

Protocols must be routinely reviewed and revised as needed. Instructions/protocol are *specific to the individual's needs* and must communicate the unique needs of the individual!

It is also important to identify what is “normal” and what “is not” so that everyone knows what to watch for, what to record and what action to take with the information they collect!

What to do if you believe an individual has aspirated

If you observe someone choking or aspirating, **IMMEDIATELY** have them stop eating or, if they are being fed, stop feeding the individual. Keep the individual upright and encourage coughing. Do not feed the individual or allow them to restart eating until breathing is back to normal for them.

Call 911 if:

- The individual's breathing remains labored and distressed;
- Their color remains pale, dusky or bluish; or
- They appear gravely ill or you are concerned about their immediate health and safety.

ASPIRATION/CHOKING PROTOCOL	
You do not need permission to call 911	
Person's name:	Location of use: _____ Date: _____
Describe how you know this person is at risk for aspiration and/or choking (include diagnosis, history, and special considerations): <input type="checkbox"/> Aspiration: <input type="checkbox"/> Choking:	
SECTION 1: Description of Preventions	
<input type="checkbox"/> Fluids thickened to _____ consistency	<input type="checkbox"/> Keep upright after meals for _____ minutes
<input type="checkbox"/> Food texture:	<input type="checkbox"/> Elevate head of bed _____ degrees
<input type="checkbox"/> Small portions, describe:	<input type="checkbox"/> Special positioning during meals, describe:
<input type="checkbox"/> Eating or drinking instructions, located:	<input type="checkbox"/> Staff assists the person when eating. Instructions located:
<input type="checkbox"/> Limited access to food, describe:	<input type="checkbox"/> Adaptive equipment used for eating or drinking, describe:
<input type="checkbox"/> Tooth brushing instructions. Instructions located:	<input type="checkbox"/> Other:
SECTION 2: Signs and Symptoms of Aspiration/Choking	
<input type="checkbox"/> Gagging or choking while eating, drinking, or tube feeding	<input type="checkbox"/> Person has a temperature above _____°F after gagging, choking, or vomiting
<input type="checkbox"/> Persistent coughing during or after eating, drinking, or tube feeding	<input type="checkbox"/> Other:
<input type="checkbox"/> Wheezing or breathing is rapid and difficult	
SECTION 3: What to do if any signs and symptoms are observed	
● STOP FOOD AND FLUID IMMEDIATELY	
● Keep person sitting upright and encourage coughing	
● Provide first aid as trained	
● Take and record person's temperature as soon as able	
<input type="checkbox"/> Other:	
1. Contact and follow any instructions given: <input type="checkbox"/> Supervisor <input type="checkbox"/> Nurse <input type="checkbox"/> Physician _____	
2. Document incident in: <input type="checkbox"/> Progress notes <input type="checkbox"/> Incident Report <input type="checkbox"/> Other: _____	
3. Notify: <input type="checkbox"/> Work <input type="checkbox"/> Home <input type="checkbox"/> Family/Guardian <input type="checkbox"/> School <input type="checkbox"/> Other: _____	
SECTION 4: CALL 911 AND START EMERGENCY AND FIRST AID PROCEDURES AS TRAINED, IF ANY OCCUR:	
● Person appears gravely ill or you are concerned about their immediate health and safety	
● Person is blue, not breathing, or is having difficulty breathing	
<input type="checkbox"/> Other:	
After calling 911.	
Contact and follow any instructions given: <input type="checkbox"/> Supervisor <input type="checkbox"/> Serv. Co./Res. Spec. <input type="checkbox"/> Physician _____ <input type="checkbox"/> Nurse <input type="checkbox"/> Family/Guardian <input type="checkbox"/> Other: _____	
After the person is stable, document incident in: ● Incident Report <input type="checkbox"/> Progress notes <input type="checkbox"/> Other _____	

Sample written instructions (protocols). There is no one format. Protocols should be easy to read and no more than one page (front and back). It is used as a quick reference and need to be readily available for quick access.



Summary

Aspiration and choking can cause serious life threatening conditions. In most cases, aspiration and choking can be prevented by encouraging safe eating and drinking behaviors, identifying an individual's risk for aspiration and documenting the risk and interventions using protocols or other written directions for caregivers.

Training credit

You will need to take and pass a test to receive training credit (a certificate) for this course. You can find out how to order tests here:

<http://www.oregon.gov/DHS/SENIORS-DISABILITIES/PROVIDERS-PARTNERS/Pages/afh-training.aspx>.

Sources for this module's information

Preventing aspiration in older adults with dysphagia

<http://www.ncbi.nlm.nih.gov/pubmed/18227668>

American Red Cross First Aid/CPR/AED Choking Emergencies

www.redcross.org

Course Development: Deborah Cateora B.S.N., R.N.



You can get this document in large print, braille or a format you prefer. Contact the Safety, Oversight and Quality Unit at 1-800-282-9092.

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