Virginia Department of Behavioral Health & Developmental Services

Aspiration Pneumonia Risk Awareness Training (RAT)

Presented by:
The Virginia Department of Behavioral Health and Developmental Services
The Office of Integrated Health
Health Supports Network

Virginia Department of Behavioral Health & Developmental Services

Who benefits from this training

DSP's and caregivers- you will learn important risk factors associated with aspiration pneumonia, learn to recognize signs and symptoms, and the importance of reporting.

Support Coordinators-you will learn important risk factors associated with aspiration pneumonia, understand the signs and symptoms that DSP's and caregivers are going to recognize and provide in documentation, and diagnosis that may be associated with risk factors.

Training Objectives

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1. Define Aspiration Pneumonia
2. Identify (4) risk factors for Aspiration Pneumonia
3. State (4) signs and symptoms of Aspiration Pneumonia
4. Name (1) diagnostic tool to diagnose Aspiration Pneumonia.
5. Identify (1) long-term complication of Aspiration Pneumonia.
6. List (1) recommendation for preventing Aspiration Pneumonia.

Terms and Definitions

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Aspiration-Aspiration occurs when a person accidentally inhales particles into their airway.

Pneumonia-Pneumonia is an infection that inflames the air sacs in one or both lungs. The air sacs may fill with fluid or pus (purulent material), causing cough with phlegm or pus, fever, chills, and difficulty breathing. A variety of organisms, including bacteria, viruses and fungi, can cause pneumonia.

Dysphagia- is defined as difficulty swallowing and may involve obstructive or motor disorders.

Blood tests. Blood tests are used to confirm an infection and to try to identify the type of organism causing the infection.

Chest X-ray. This helps your doctor diagnose pneumonia and determine the extent and location of the infection. A chest x-ray can't tell the physician what kind of germ is causing the pneumonia.

What is Aspiration Pneumonia?

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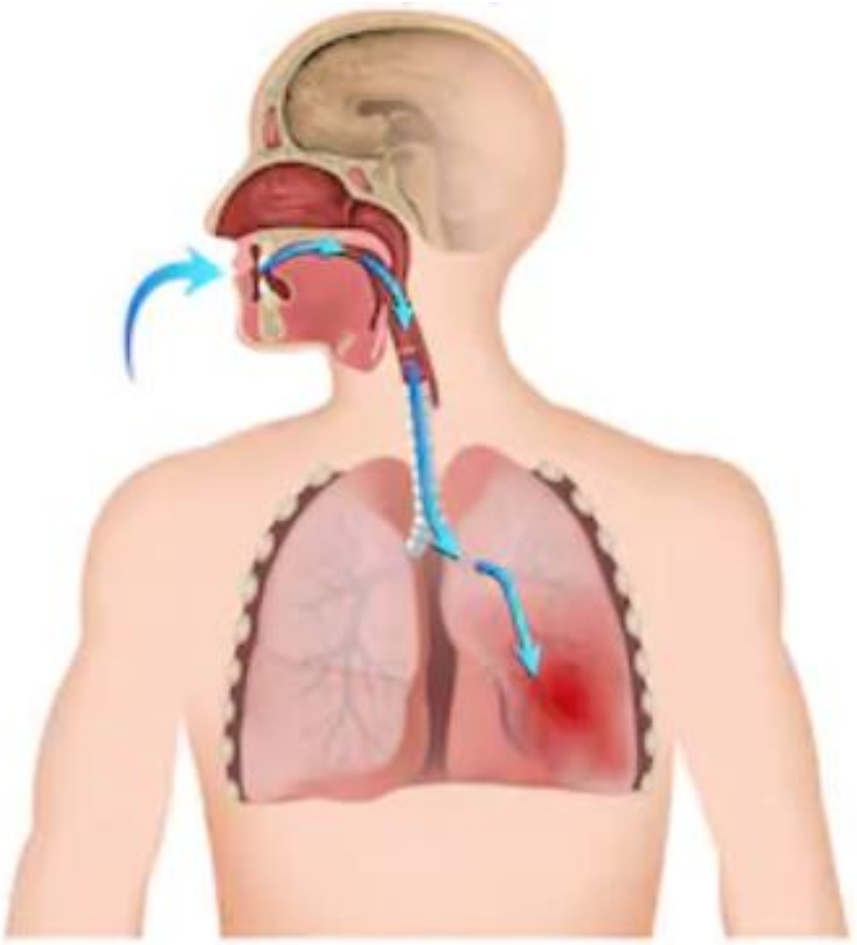
Aspiration pneumonia is an acute lung infection that occurs when food, drink, vomit or saliva has been inhaled into the lungs. Aspiration is more likely if something disturbs your normal gag reflex, such as a brain injury or a swallowing problem such as dysphagia (Sullivan & Roland, 2019).



Risks Factors for Aspiration Pneumonia

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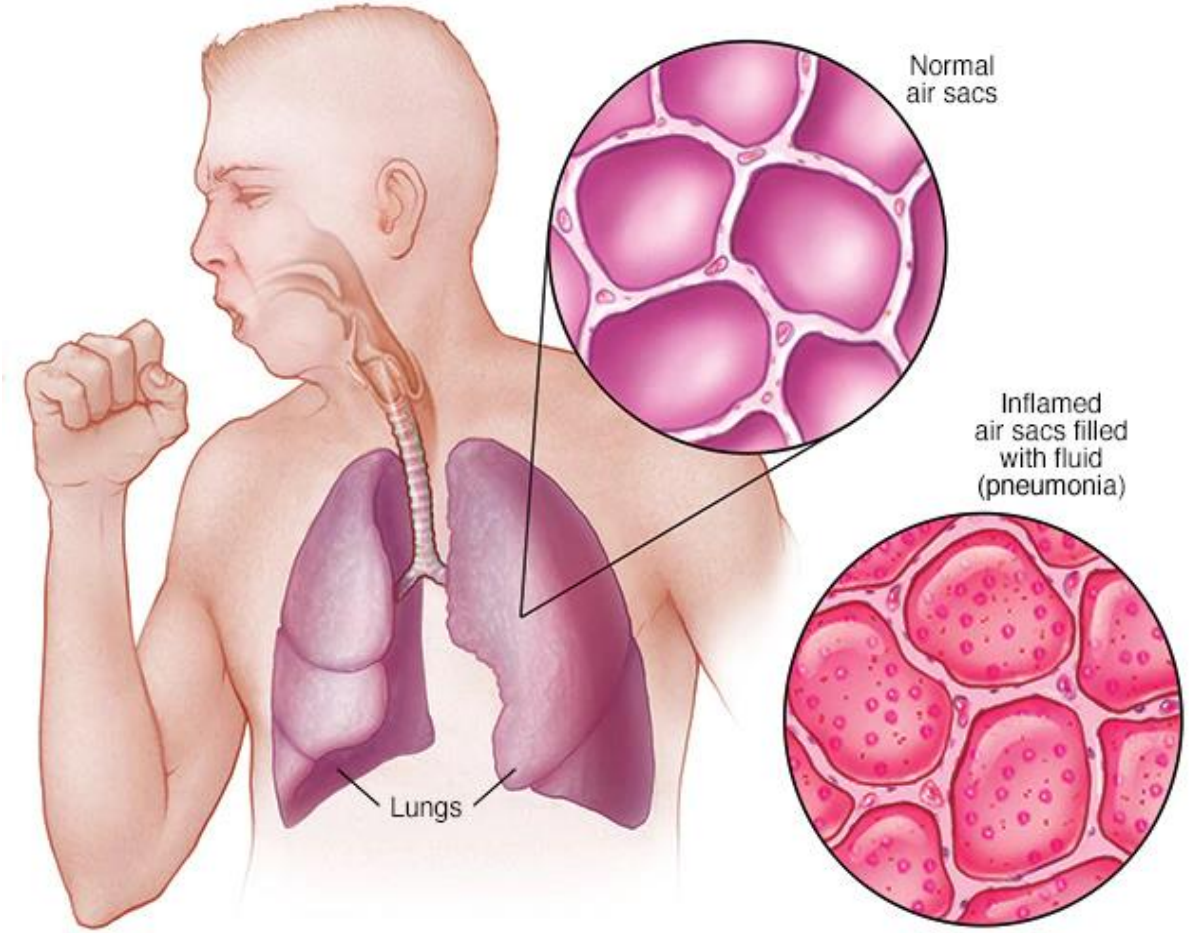
- Dysphagia, or difficulty swallowing.
- Difficulty controlling head or neck muscles (cerebral palsy).
- Mobility limitations that prevent sitting up straight.
- Impaired consciousness or awareness.
- GERD, or Gastroesophageal reflux disease.
- Eating too quickly or putting too much food in one's mouth.
- Dental problems that prevent adequate chewing (edentulous).
- Anatomical variation such as a small airway or a large tongue.
- Age (Dementia).
- Stroke.
- Upper Gastrointestinal Disorders
- Assistance to be fed.
- History of choking.
- Feeding tube (G-tube, NG-tube, J-tube)
- (Sullivan & Roland, 2019) & (Marik, 2001)

Aspiration Pneumonia

Inflamed air sacs filed with fluid = Pneumonia



Signs and symptoms

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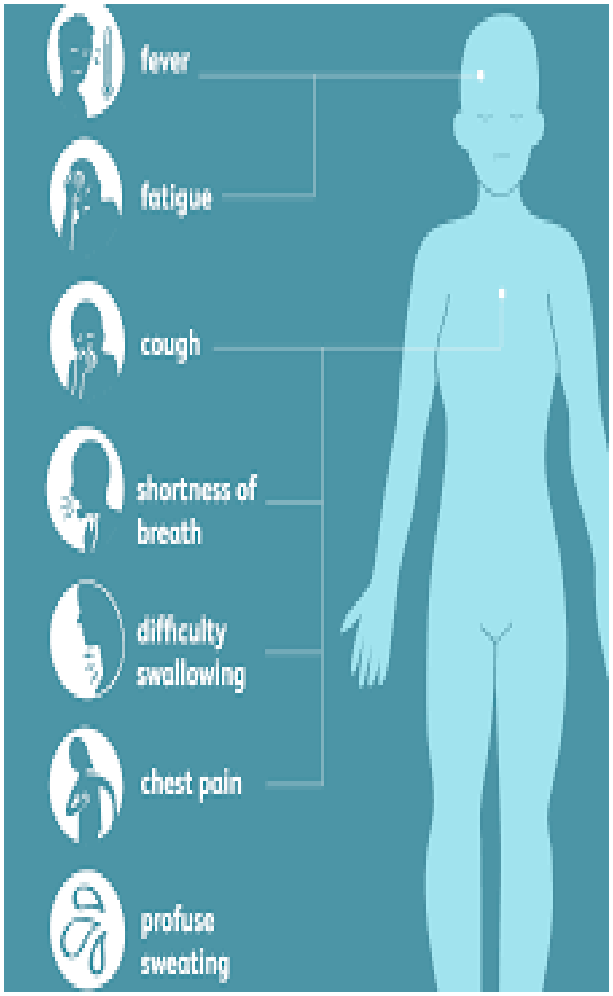
Aspiration

- Sudden coughing, wheezing, or hoarseness
- Drooling
- Changes in breathing patterns
- Regular coughing or sneezing while eating
- Gurgling sounds or voice after eating
- Excessive throat clearing



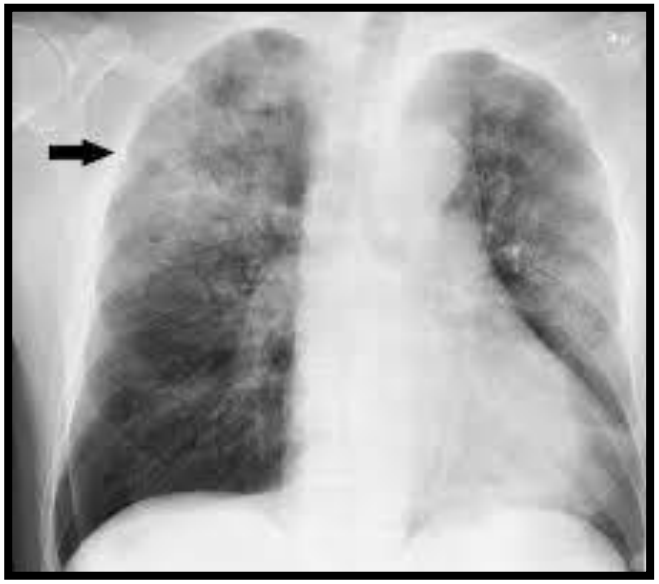
Pneumonia

- Chest pain
- Shortness of breath
- Wheezing
- Fatigue
- A blue tinge to the face or lips
- Cough, especially involving bloody or green sputum
- Bad breath
- Difficulty swallowing
- Perspiration
- Fever

(Gamache, 2018)

Diagnosing

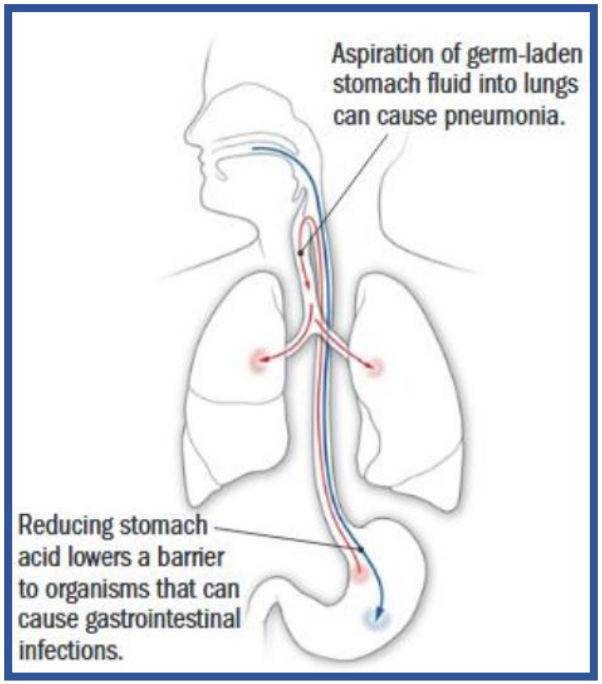
- **Blood tests.** Blood tests are used to confirm an infection and to try to identify the type of organism causing the infection.
- **Chest X-ray.** An x-ray helps your doctor diagnose pneumonia and determine the extent and location of the infection. A chest x-ray can't tell the physician what kind of germ is causing the pneumonia.
- **Pulse oximetry.** This measures the oxygen level in the blood. Pneumonia can prevent the lungs from moving enough oxygen into the bloodstream.
- **Sputum test.** A sample of fluid from the lungs (sputum) is taken after a deep cough and analyzed to help pinpoint the cause of the infection.



Treatment

Treatment for aspiration pneumonia depends on the severity of the pneumonia, general health status, and pre-existing conditions. Severe cases may require hospitalization. If the underlying cause is due to dysphagia the individual may be put on NPO "Nothing by Mouth" until a plan can be determined. Assessment by a gastroenterologist and Speech Pathologist will be required.

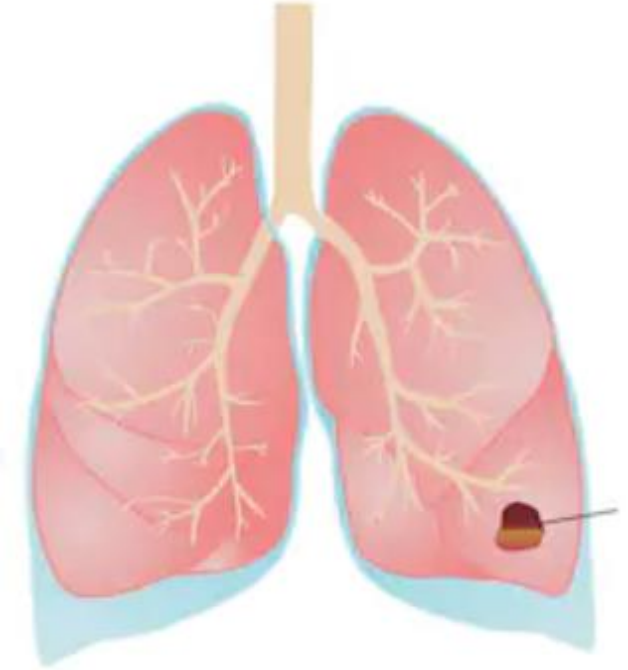
- Antibiotic medication
- Supplemental Oxygen
- Surgery
- Nasogastric tube
- Steroids
- HOB elevated (Sanivarapu & Gibson, 2020)



Long-term Outcomes

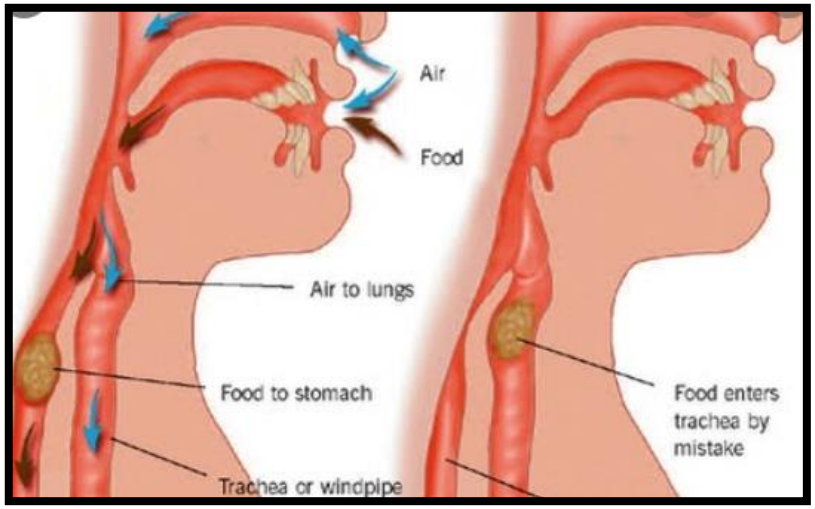
Complications from aspiration pneumonia are as follows

- Lung abscess
- ARDS (Acute Respiratory Distress Syndrome)
- Spread of infection to the blood stream (bacteremia)
- Respiratory failure
- Empyema
- Parapneumonia Effusion
- (Sanivarapu & Gibson, 2020)



Aspiration and Dysphagia

- Dysphagia is defined as difficulty swallowing and may involve obstructive or motor disorders (O'Toole, 2013).
- The terms dysphagia and swallowing disorder are used interchangeably.
- Dysphagia may involve difficulty with sucking, chewing, swallowing foods, liquids or medications, controlling saliva, and protecting the airway (International Dysphagia Diet Standardization Initiative [IDDSI], 2016).
- The act of swallowing involves several intricate steps with a number of muscles propelling food downward from the mouth to the stomach (U.S Department of Health and Human Services, 2017)



Modified Diets

- Based on the severity of dysphagia, individuals may be placed on a modified diet. This is an example of a Pureed Diet. Recommendations from a Speech Language Pathologist following a barium swallow study will help ensure the individual is eating food/drink that is prepared to meet their dysphagia needs.

Pureed Diet

A Pureed diet ***is food with a very smooth consistency or foods that have been well processed in a food processor or blender to a very smooth consistency or texture. No solid pieces or parts can be noticed in the food.***

Pureed food has no lumps and feels very soft and smooth in the mouth.

Food Group	ALLOWED	NOT ALLOWED
Meats or meat substitutes	Pureed meats, soufflés that are smooth, hummus, pureed bean spreads; pureed cottage cheese; smoothly pureed casseroles with no lumps	NO cheese, peanut butter; no fried, scrambled or hard-cooked eggs unless pureed in a food processor or blender; no meat or fish that does not puree to smooth consistency; no coarse sausages
Vegetables	Pureed vegetables with no chunks, lumps, pulp, or seeds; tomato paste or sauce without seeds; mashed potatoes or pureed potatoes with gravy; well-cooked pasta or noodles that have been pureed to a smooth consistency	NO fresh or uncooked vegetables including frozen or canned corn, celery, onions, peppers, lettuce, cabbage, cucumbers, peas, sliced tomatoes; no non-pureed or non-smooth cooked vegetables
Fruits	Pureed canned fruits; soft cooked fruit that has been pureed Fruit juices only if the individual can have thin liquids	NO fresh fruits; no frozen or canned grapefruit, or pineapple
Grains and Bread	Pureed bread mixes, gelatin/water mixture or other pureed food (slurry) poured over the bread to make it smooth and easy to swallow without chewing, farina-type cooked cereals that are pureed or smooth as farina	NO non-smooth grain products ; no cereal with grainy/chunky texture like oatmeal; grits; barley; wheat germ; fried or wild rice; dry cereal; muffins or bread with fruits, seeds, or nuts; garlic or cheese bread; no rolls; crackers; biscuits; waffles; French toast or other similar foods.
Desserts	Smooth pudding; custards; smooth yogurt; desserts that are pureed in a blender or food processer with no seeds or nuts or other hard pieces; smooth soufflés. **Note**: Ice cream, sherbet and frozen	NO ices; gelatins; frozen juice bars; cookies; cakes; pies, pastry; coarse or textured puddings, no bread, rice or tapioca puddings; no yogurt with fruit. **Note**: If an individual is not allowed to have thin liquids, then the individual **may not**

Positioning Protocols

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Each person will need to be evaluated to determine the best body position for safe eating. An evaluation by a Speech Pathologist will give guidance for positioning. A protocol should be written using the (SP) assessment information. These are just examples of what you might see incorporated in a Protocol. (Kagaya, H., Inamoto, Y., Okada, S., Saitoh, E. (2011).

Protocol Example

- Provide a quiet setting at mealtimes to reduce the number of distractions.
- Order for pureed diet consistency with honey-thickened liquids.
- Prepare food and liquid according to orders.
- Ensure seating position that offers the best support is sitting upright, chin slightly tucked, with head tilted to the left, body should be in alignment with feet resting on the foot pedals.
- Can feed self by using scoop plate, weighted spoon, and two handled cup. Please make sure all of these are available each meal.
- Provide reminders during the meal to eat slowly, taking a drink between bites.
- Provide reminders to swallowing twice after each bite.
- Provide reminders to tuck the chin and tilt head to the left side.
- Remain in the upright position for 2 hours after meals.

Importance of Reporting Change

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- Aspiration can present with signs and symptoms or it can be silent.
- Individuals with intellectual and developmental disabilities are at higher risk for aspiration.
  - For example, individuals with Down Syndrome have a greater risk of dying from Aspiration Pneumonia (Jasien, et.al.,(2016).
- Document your observations in daily note and who it was reported to.

DSP's connect the dots……

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Situation: Gary is enjoying his lunch with peers at DS. You notice that he takes a gulp of drink and now he is coughing and stretching his neck upward. He keeps clearing his throat and making rubbing his throat. You've noticed the coughing during meals all week, but today is more intense. You staff this with your supervisor and agree this is a noticeable change.

This event would require a CHRIS report and would be included in the Quarterly Review

Example only: Follow your agency documentation standards.

Example of a daily note: 4/9/20 Gary had difficulty drinking at lunch today. He started coughing, stretching his neck upward, and making noise clearing his throat. DSP notified direct supervisor.

Way to go DSP! You recognized and reported.

DSP's connect the dots....

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You are the boots on the ground. Based on your daily observations you may recognize a change in status that would require evaluation. If you notice any of the risk factors listed below for aspiration pneumonia, report and document it quickly.

Use the RAT tool to help staff be aware of risks and also prompt changes that need to occur with plans and support instructions. The RAT can help providers be proactive.

Step 2:	If the person does not meet the criteria in Step 1 (above), consider if these common indicators for **aspiration pneumonia** occurred in the past plan year. (Check all that apply.):

- ☐ Has a diagnosis of dysphagia
- ☐ Has a diagnosis of GERD
- ☐ Has a diagnosis of Hiatal Hernia, Gastroparesis, Peptic Ulcer, Crohns Disease, Irritate Bowel Syndrome, Irregular Cleft Palate
- ☐ Has required assistance to be fed (food or liquid)
- ☐ Has experienced a choking episode
- ☒ Regularly coughs while eating
- ☐ Has a feeding tube (G Tube, J Tube, NG Tube)
- ☐ Is missing the majority or all of their teeth
- ☐ Is often lethargic or falls asleep in the daytime
- ☒ Has eating habits that could lead to choking (e.g. stuffing mouth, eating too quickly, jumping in seat)
- ☐ Has an altered textured diet or drink modifications (e.g. bite size, pureed, thickened liquids)
- ☐ Has a diagnosis of any neurologic disorder (e.g. Cerebral Palsy, Stroke, Dementia , Alzheimer's Disease)

Recommendations

- Anyone with a history of aspiration pneumonia or risk factors that increase the likelihood of aspirating should have a protocol to address specifics to that individual.
- Protocols require approval from a medical professional.
- Staff will require training on assistance level during meals the individual will need to eat safely.
- Positioning Protocol for mealtimes should be written based on SLP recommendations.
- Adaptive feeding equipment (plates, utensils, cups) in all settings as prescribed.
- Staff training on signs of aspiration, what to do, where to document, and who to notify if an event occurs.
- Good oral hygiene to decrease bacteria in the mouth that could get aspirated into the lungs.
- Seek medical assessment quickly, aspiration pneumonia can lead to sepsis.

Case Study - Meet Joe

- Joe is a wonderful, fun loving person. He enjoys watching people from afar. He especially likes mealtimes and eating with his peers and becomes distracted easily. Joe eats with minimal intervention. He will overfill his mouth if he feels rushed during meals. Although Joe is non-verbal, he has good receptive skills. In the past, to get his needs met, Joe has refused to eat.

- Over the past few days, you have noticed that Joe is not finishing all his meals. He appears to be unhappy at mealtimes, which is very unusual. He attempts to put his fist in his mouth. He will take a few bites of food, but then stretches his head upward. He has been coughing at mealtimes too. You assumed if he was choking, he would not be able to cough. Joe is leaning more to left side than before (he has severe scoliosis), you try to use a pillow to keep him upright.

Apply what you've learned

What are three (3) interventions that could be utilized to help Joe.

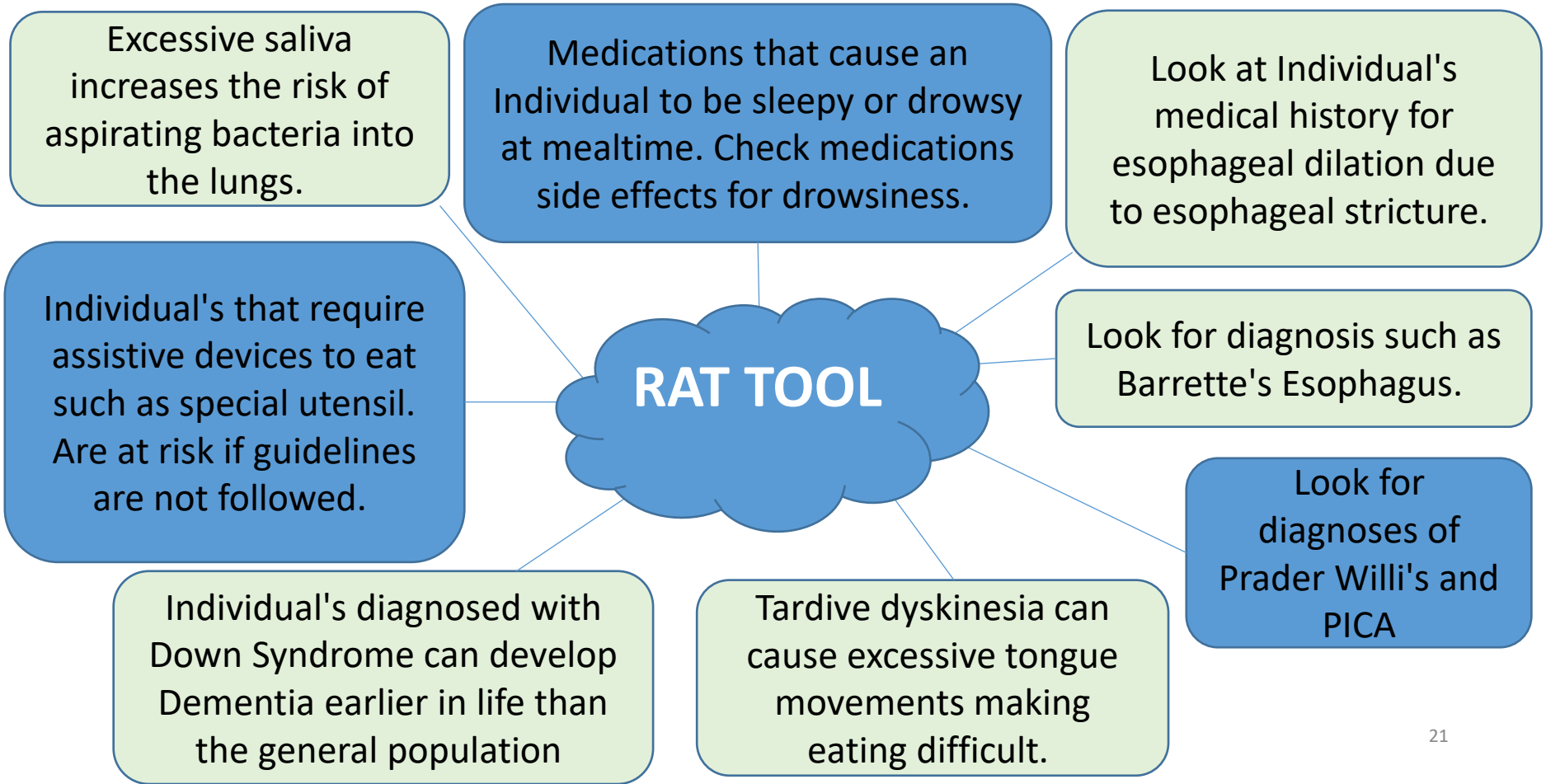
1. _____

2. _____

3. _____

SC's connect the dots…

- SC's- as you are completing the RAT tool keep in mind there are key diagnoses and situations you need to incorporate in discussion with providers and caregivers to ensure risk factors are being recognized.



Follow these steps to success…

Remember! Think about all settings: home, Day Support, Community Engagement

Prior to ISP meeting, review discharge summaries, medical reports, and health history for information.

SECTION B - Aspiration Pneumonia			
	Aspiration Pneumonia *is inflammation of the lungs and airways to the lungs (bronchial tubes) from breathing in foreign material. Aspiration pneumonia occurs when foreign materials (usually food, liquids, vomit or fluids from the mouth) are breathed into the lungs or airways leading to the lungs.*		
		YES	**NO**
Step 1:	The person has been diagnosed by a medical professional with **aspiration pneumonia** in the past plan year.	☒	☐
If YES is checked in Step 1 (above), the new diagnosis must be addressed in the ISP. Skip Steps 2-3 and proceed to Section C. **If NO is checked in Step 1 (above), complete Steps 2-3 below before proceeding to Section C.**			

Skip Step 2 and go to Section C

Step 2:	If the person does not meet the criteria in Step 1 (above), consider if these common indicators for **aspiration pneumonia** occurred in the past plan year. (Check all that apply.): ☐ Has a diagnosis of dysphagia ☐ Has a diagnosis of GERD ☐ Has a diagnosis of Hiatal Hernia, Gastroparesis, Peptic Ulcer, Crohns Disease, Irritate Bowel Syndrome, Irregular Cleft Palate ☐ Has required assistance to be fed (food or liquid) ☐ Has experienced a choking episode ☐ Regularly coughs while eating ☐ Has a feeding tube (G Tube, J Tube, NG Tube) ☐ Is missing the majority or all of their teeth ☐ Is often lethargic or falls asleep in the daytime ☐ Has eating habits that could lead to choking (e.g. stuffing mouth, eating too quickly, jumping in seat) ☐ Has an altered textured diet or drink modifications (e.g. bite size, pureed, thickened liquids) ☐ Has a diagnosis of any neurologic disorder (e.g. Cerebral Palsy, Stroke, Dementia , Alzheimer's Disease)

Follow these steps to success…

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		YES	NO
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During the ISP meeting ask all participants if they are aware of any risk factors listed in Step 2

Step 3: Based on the above selected risk indicators, a referral to a qualified Healthcare Professional is needed to evaluate and help develop a plan to reduce the risk of **aspiration pneumonia**.
If no risk indicators were selected, proceed to Section C.

Individual declined referral to Qualified Healthcare Professional (please select one of the options below)

☐ Currently have a Support Plan/Protocol ☐ Other: _____

Qualified Healthcare Professional will be contacted by: Dr. Hopewell **get Date:** Nov 15, 20

Aspiration Pneumonia continued...

WHO CAN HELP?

There are a number of healthcare professionals that can provide guidance toward reducing risk and possible adverse events. The PCP is the gate keeper to accessing other healthcare professionals.

Healthcare professionals that can assess, diagnose and prescribe treatment that include but are not limited to:

- Primary Care Practitioner (PCP)
- Gastroenterology Specialist
- Speech Pathologist
- Pulmonologist
- Registered Nurse
- Dietician/Nutritionist

Resources

- Relias The Fatal Four In Idd: Aspiration's Dangers And Key Interventions https://www.relias.com/blog/the-fatal-four-aspiration-dangers-and-key-interventions

- Download Fatal Four Posters https://www.relias.com/resource/fatal-four-posters

- International Dysphagia Diet Standardization Initiative https://iddsi.org/

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