

Safe Swallowing Management for Individuals with Developmental Disabilities

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Learning Objectives

Participants in this session will:

- * Become familiar with the basic anatomy and physiology of swallowing
- * Be able to identify risk factors related to swallowing disorders
- * Be introduced to general safe swallowing strategies
- * Learn of an innovative training approach for managing swallowing disorders in individuals with DD



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Introduction

* The effective management of feeding and swallowing disorders in individuals with neurodevelopmental disabilities requires the expertise of an interdisciplinary team of professionals.

-Petersen & Rogers, 2008



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What is Dysphagia?

* Dysphagia is difficulty with swallowing.



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Why are we learning about this?

“Eating and/or drinking difficulties are common and wide ranging and can lead to a variety of health problems, including under-nutrition and dehydration, choking, asphyxiation, and respiratory illness; a leading cause of death among people with intellectual disabilities”.

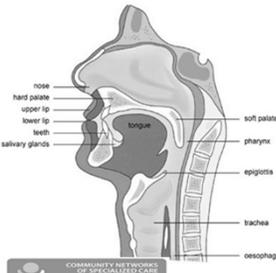
-Ball et al., 2012

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Swallowing Anatomy

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Swallowing Anatomy

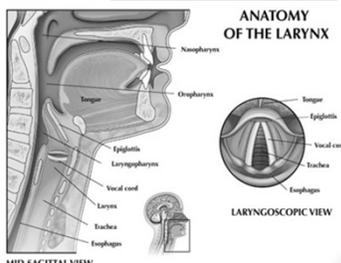


- * chewing, swallowing and breathing involves:
 - * 42 muscles
 - * 6 cranial nerves for motor function and sensation
 - * Lots of co-ordination
 - * In approximately 2-3 seconds

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Swallowing Anatomy

- * Larynx: voice box
- * Vocal folds: a.k.a. “vocal cords”, vibrating membranes that create sound when air passes through
- * Epiglottis: flexible ‘flap’ of cartilage which folds down over the entrance to the trachea
- * Trachea: wind pipe- connects to lungs
- * Esophagus: food tube

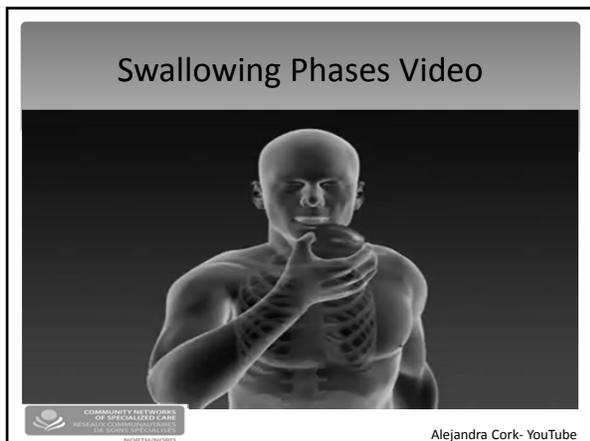


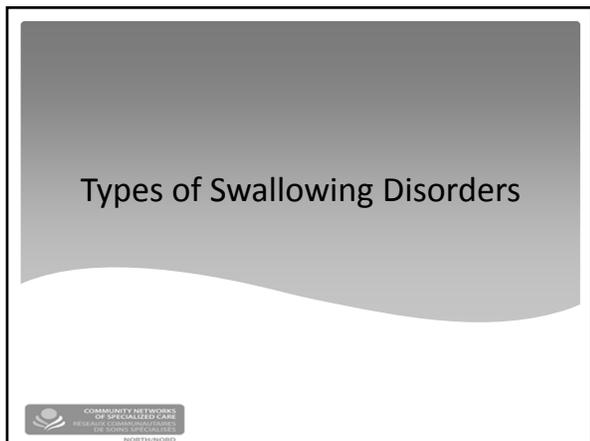
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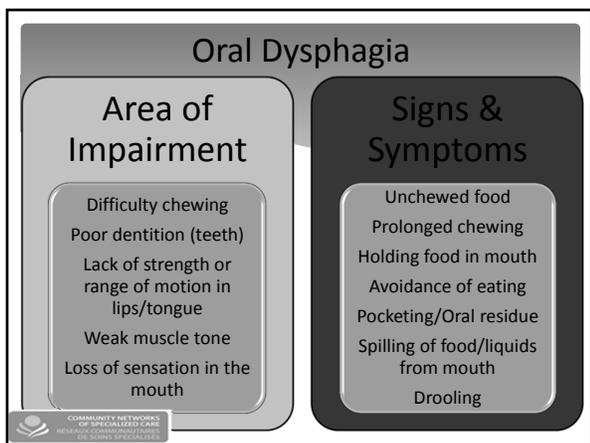
Swallowing Physiology

- * There are 3 phases of the swallow
 - * ORAL PREPARATORY & ORAL TRANSIT
 - * PHARYNGEAL
 - * ESOPHAGEAL

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Pharyngeal Dysphagia

<h4 style="text-align: center;">Area of Impairment</h4> <ul style="list-style-type: none"> Decreased sensation/ nerve impairment Poor soft palate/throat wall movement Poor/slow airway closure Vocal fold dysfunction 	<h4 style="text-align: center;">Signs & Symptoms</h4> <ul style="list-style-type: none"> Coughs before swallow Not 'ready' to swallow Nasal regurgitation Throat clearing/cough "Down the wrong pipe" Gurgly, wet respirations or voice
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Esophageal Dysphagia

<h4 style="text-align: center;">Area of Impairment</h4> <ul style="list-style-type: none"> Poor esophageal sphincter function Weak/absent peristalsis Delayed esophageal sphincter opening May be GERD Esophagitis/Pharyngitis 	<h4 style="text-align: center;">Signs & Symptoms</h4> <ul style="list-style-type: none"> Pain in throat/chest Pressure/food stuck Food gets stuck high up in throat Regurgitating food Painful swallowing Putting hands in mouth or hitting face/neck
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Esophageal Motility Disorders

- * When the muscles of the esophagus are not working efficiently to move food from the mouth/throat to the stomach
- * Food can get stuck in the "food tube"- esophagus
- * Sphincters may not allow passage into esophagus or stomach



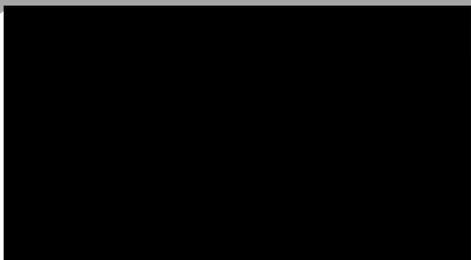


Gastroesophageal Reflux Disease

- * Known as GERD
- * Backflow of gastric contents into esophagus/throat
- * Painful/uncomfortable
- * Managed by diet, positioning, and medication (proton pump inhibitors)
- * May require surgery
- * Common in many developmental disabilities



Gastroesophageal Reflux Disease



Mayo Clinic- YouTube



Risks of Swallowing Disorders



Implications of Swallowing Difficulties

- * Malnutrition
- * Dehydration
- * Airway compromise
- * Depression
- * Fatigue
- * Irritability
- * Fatality
- * Ethical Considerations
- * Social isolation
- * Meal refusal
- * Pain
- * Coughing/throat clearing
- * Challenging behaviour
- * Caregiver burnout
- * Hospitalization
- * Sensory needs



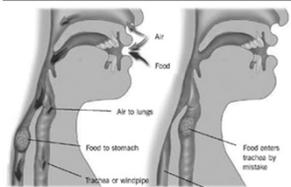
Aspiration/Penetration

Aspiration

- * The entry of food, liquid, saliva, or gastric contents into the airway, below the level of the vocal folds which is **not immediately ejected**

Penetration

- * The entry of food, liquid, saliva, or gastric contents into the airway, which does not reach the vocal folds, and is **then ejected from the airway**



Silent Aspiration

- * When a person aspirates without any physical attempt to protect or clear the airway
- * People who silently aspirate will not cough or clear their throat
- * It is more difficult to observe- may show in behaviour
- * May see recurrent chest infection, pneumonia
- * Wheezing, changes in breathing during meals



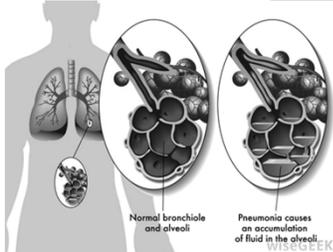
Videofluoroscopy Video



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Radio New Zealand- YouTube

Aspiration Pneumonia



- * Inflammation/infection of the lungs as a result of food, liquid, saliva, or gastric contents being aspirated into airways/lungs
- * Aspiration Pneumonitis: a condition where vomit/toxic substances have been ingested into lungs causing pneumonia

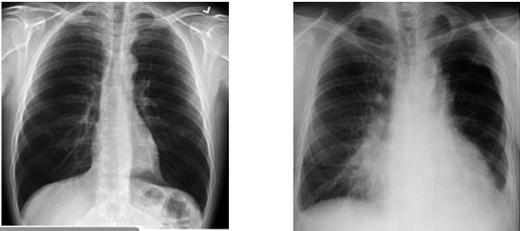
Normal bronchioles and alveoli

Pneumonia causes an accumulation of fluid in the alveoli

WISGEEK

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Aspiration Pneumonia



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Risks of Aspiration

- 88% of people who were dependent on others for meal intake had dysphagia
- 75% of those people were aspirating on instrumental exam
- Individuals who rely on others for being fed are at greater risk of aspiration - Langmore et. al, 1998

Feeding Dependency



- Oral hygiene can significantly affect a person's likelihood of developing aspiration pneumonia
- Poor oral care of individuals with dysphagia puts them at greater risk of developing more serious types of airway infection

Oral Hygiene



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Safe Swallowing Strategies

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Swallowing Strategies

Prior to eating	While eating	After Eating
<ul style="list-style-type: none"> Get & give attention Check posture Temperature check Say the menu Clean oral cavity 	<ul style="list-style-type: none"> Pressure on tongue Small bites/sips Avoid straws Encourage independence Watch throat 	<ul style="list-style-type: none"> Oral care Stay upright (45 degrees or more) for 30-45 minutes Tube feeds/GERD upright 30 degrees at all times

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Swallowing Strategies

Gulping Drinks	<ul style="list-style-type: none">• Give small amounts at a time• Confirm you won't take away
Eating Too Quickly	<ul style="list-style-type: none">• Portion onto smaller plates/use aids• Use visuals (slow/stop/go)
Holding Food	<ul style="list-style-type: none">• Check for tooth decay/pain• Check temperatures/cue to swallow

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Make a referral

- * If you have any concern that someone may be experiencing a swallowing problem, REFER!
- * CCAC is the first route of access in most communities
- * Bedside/clinical assessment first, then may need videofluoroscopy
- * Some hospitals offer outpatient swallowing programs
- * DO NOT CHANGE the diet texture without professional consultation!

Training Ideas

North Community Network of Specialized Care Partnership with OPTIONS northwest

- * NCNSC has a clinical partnership with 8 developmental service agencies across northern Ontario
- * OPTIONS northwest is one of the partner agencies
- * NCNSC houses a specialized clinical services team



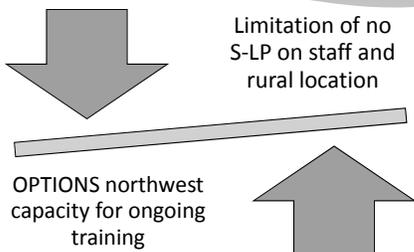
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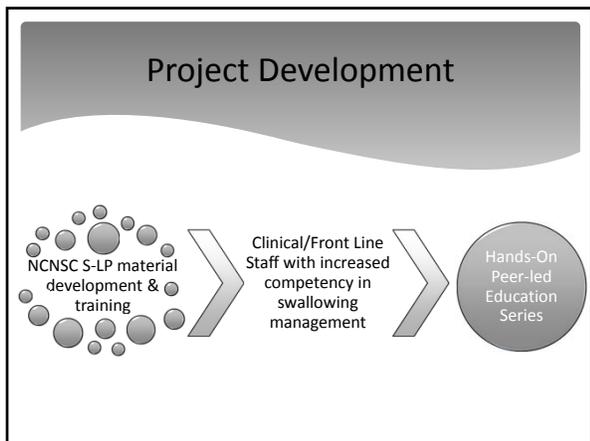
Trend of swallowing related incident reports noticed by the Director of Personal Support Services at OPTIONS northwest

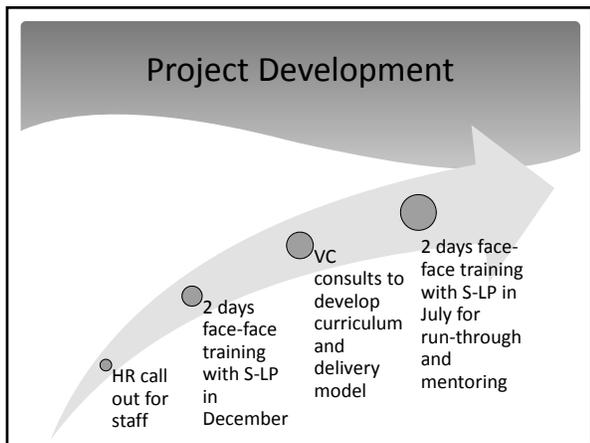
Some reports required Serious Occurrence reporting to the ministry

Aging population and increase in persons with swallowing disorders noted, staff required more support and training

Project Development

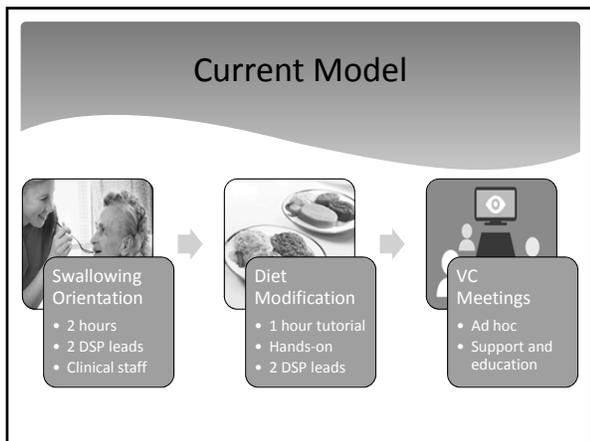






Swallowing Team

- * 4-6 direct support professionals with advanced training in safe swallowing management
- * Peer facilitator of mandatory staff orientation and training
- * Liaise with clinicians for education series
- * Peer trainers for hands-on diet modification tutorial and support to residential services
- * Continued access to S-LP as needed through videoconferencing/technology



Swallowing Team Testimonials



* "It's nice to be included as a front line staff. We bring a realistic perspective/a "real world" perspective to the mix. This is what we do everyday, and we have valid points to add. It's nice to be recognized as valuable".

- Michelle Tallon,
Swallowing Team Member

Swallowing Training Curriculum

<ul style="list-style-type: none"> * Prevalence rates * Anatomy and Physiology * Phases of the Swallow * Signs & types of dysphagia * Medical factors * Aspiration/penetration * Posture and feeding * Interactive exercises (feeding/awareness) 	<ul style="list-style-type: none"> * Social factors * Environmental factors * Sensory considerations * Ethical implications * Malnutrition/dehydration * Adaptive feeding utensils * Diet modification * Challenging behaviour * Pre/post tests
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Hands-On Diet Modification Curriculum

- * Myths and misconceptions
- * Diet textures
- * Tips for preparation
- * Video tutorials
- * Hands-on mixing of fluids and testing textures
- * Visual comparison of textures
- * Pre-test/post-test
- * Creative solutions for making modified diets
- * Risks of improper diet modification

Hands-On Diet Modification Sample

Why change the diet texture?

```

    graph TD
      A[Slowing down food] --> D((Diet Change))
      B[Better control of food] --> D
      C[Easier chewing] --> D
      E[Increase sensation/awareness] --> D
      F[Reduce aspiration risk] --> D
      D --- G[ ]
      style G fill:none,stroke:none
    
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Thickened Fluids

Nectar like liquids	<ul style="list-style-type: none"> • Easily pourable • Comparable to thick soup • Forms a thin web over the prongs of a fork 	
Honey like liquids	<ul style="list-style-type: none"> • Slightly thicker, droplets when poured • Comparable to honey • Forms a thick web over the prongs of a fork 	
Spoon thick / Pudding like liquids	<ul style="list-style-type: none"> • Not pourable, holds their shape • Comparable to yogurt • Stays on the prongs of a fork 	

Hands-On Diet Modification Sample

Factors to Consider with Modified Diets

Consistency	Staff	Health	Ethics
<ul style="list-style-type: none"> • Measure the fluid AND the thickener • Allow time to set and prepare 	<ul style="list-style-type: none"> • Include enough time • Be Creative • Mistakes are like a neck airtight 	<ul style="list-style-type: none"> • Thickeners don't change the hydration • Risk of decreased intake 	<ul style="list-style-type: none"> • Quality of Life • Consent • Staff biases and reactions

Thin Fluids

- Thin fluids are typical texture fluids that the average person drinks
- (E.g.,) water, juice, milk
- Ice cream and jello are also often considered thin fluids because they melt in your mouth



Trainee Reflection

What did you like the most about the training?

- * "Watching everyone doing different varieties of thickening fluids"
- Direct Support Professional
- * "I had never used the thickened fluid before, found it very interesting to get the different textures".
- Direct Support Professional

Impacts of Training on Direct Support Professionals

- * "I will be more mindful and empathetic of how it feels to be supported with meals."
- * "[I] will think differently working with individuals after this inservice. I found it interesting learning how you swallow."
- * "I will try to make meal times more enjoyable for clients I support, rather than it being a race."
- * "Definitely will remind us how it feels for our clients- to put us in their shoes- to be more aware."

Next Steps & Considerations

- * "my advice is that this training should be mandatory because of the issues that arise from difficulties with swallowing".
- Amanda
Swallowing Team Member
OPTIONS northwest



Next Steps & Considerations



- * Many agencies are voicing interest in developing this type of training
- * NCNSC will be offering a free online tutorial for direct support professionals *(in development)*

Next Steps & Considerations

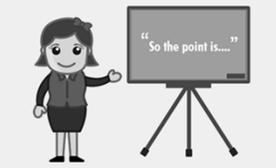


- * Look to collaborate with local clinical resources
- * Online training will not replace the benefit of face-face, hands-on orientation and tutorials

Conclusion

- * Prevalence rates continue to rise with an aging population and better identification of disorders
- * Unidentified or mismanaged swallowing disorders can be fatal.
- * Creative models of care are required for underserved and under resourced areas
- * Maximizing resources available (personnel and technology)

Conclusion



"I didn't realize how much swallowing difficulties could affect someone's day to day living"
-Direct Support Professional

- * Training direct support professionals = decreased risk to individuals they support
- * DSP's are not well prepared in their education to support individuals with complex swallowing difficulties
- * Value identified by staff in receiving specialized swallowing training

Questions/Discussion

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