

Dysphagia

Applicable to: Nurses, Physicians and Other Health Professionals

Recommendations

Target Population: Adults and children

- Early identification of dysphagia to minimize dysphagia-associated complications such as aspiration pneumonia, respiratory infections, dehydration, undernutrition/ malnutrition, social isolation, decreased quality of life, and death. In children, even short term swallowing problems can impact growth and development resulting in serious long term problems.
- Management of dysphagia by an interdisciplinary team, which can include a speech-language pathologist, a dietitian, an occupational therapist, nursing staff, and a physician.
- Being aware of the signs and symptoms of dysphagia, which may aid in diagnosis and allow timely implementation of strategies to minimize complications.
- Strategies and treatments to minimize dysphagia-associated complications such as:
 - A clinical and/or swallowing assessment completed by a qualified health care professional to help identify dysphagia. A referral should be made if the individual has not been previously assessed by a qualified health professional.
 - Management of dysphagia through:
 - Appropriate changes to food textures and/or fluid consistency or thickness to better align with an individual's swallowing ability. Specific dysphagia diet changes should be recommended only by qualified health professionals.
 - Postural and positioning changes during eating, safe feeding practices such as altering the pace of delivery, reminders to swallow, multiple swallows, therapeutic swallowing exercises and using adaptive feeding equipment.
 - Good oral care to reduce rates of pneumonia.
 - Monitoring nutrition intake and hydration status for individuals on any type of dysphagia or fluid consistency diets. Ongoing monitoring so that interventions can be safely discontinued if unnecessary.
- Adapting most foods being eaten to meet new texture recommendations and continuing to eat balanced meals and snacks.
- Emphasizing small, more frequent meals (i.e. three meals and three snacks per day), as well as energy and protein dense foods, to help individuals achieve adequate nutrition and hydration intake.
- Checking for availability of appropriate texture modified foods with services like Meals on Wheels (if available in their local area) for those individuals having difficulty preparing foods at home.
- Referring individuals who are not eating well (tiring easily or finding the diet consistency recommendations unpalatable) to a Registered Dietitian as they may be at nutrition risk. Individuals requiring thick fluids have a higher incidence of dehydration.

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Note

- The International Dysphagia Diet Standardization Initiative (IDDSI) framework provides an evidence-based global standardized framework with terminology and descriptors for dysphagia diet. It is applicable to all ages, in all care settings, and for all cultures. Alberta Health Services (AHS) has no immediate plans to transition to the IDDSI framework. AHS has a safe, effective and evidence informed process for the provision of dysphagia diets with more similarities than differences to the IDDSI framework.

What is dysphagia?

Dysphagia is the medical term used for difficulty during swallowing.¹ Dysphagia is defined in terms of impaired oral, pharyngeal, and/or esophageal phases of swallowing.²

Dysphagia is caused when there is a problem with swallowing that impacts an individual's ability to protect their airway and compromising the safety and nutritional adequacy of an oral intake.³

Dysphagia is common in many health conditions and there are many consequences of dysphagia such as malnutrition, dehydration, pneumonia, repeated hospitalizations, social isolation and death.⁴

It is important that individuals with dysphagia be identified and assessed early by trained health care professionals to optimize nutritional and hydration needs.⁴ An interdisciplinary team which can include a speech-language pathologist, a dietitian, an occupational therapist, nursing staff, and a physician is recommended for the management of dysphagia,⁴ and also looking at improving the quality of life for individuals with dysphagia.⁵

What are the signs and symptoms of dysphagia?

Individuals and caregivers need to be aware of the signs and symptoms of dysphagia which may aid in diagnosis and allow timely implementation of strategies to minimize risk of respiratory infections, dehydration, and malnutrition. Some individuals may not want to disclose that they are having difficulty swallowing or they may be silent aspirators without any signs and symptoms of dysphagia.

Signs and Symptoms of Dysphagia in Adults⁶⁻⁸

- Coughing and/or choking when eating or drinking
- Drooling/poor management of oral secretions
- Pocketing of food in cheeks
- Facial weakness
- Gurgly, hoarse voice or lots of throat clearing
- Multiple swallows for each bolus
- Decline in respiratory status
- Prolonged meal times
- Weight loss or malnutrition
- Recurring chest colds
- Pain with swallowing
- Increasing avoidance of multiple foods/liquids

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Signs and Symptoms of Dysphagia in Infants and Children^{2,3}

- Back arching
- Breathing difficulties
- Decreased responsiveness during feeding
- Difficulty chewing foods that are texturally appropriate for age, refusing foods of certain textures/types, loss of food/liquid from the mouth when eating, crying or grimacing at mealtimes
- Frequent congestion after meals, frequent respiratory illness, vomiting, choking, pharyngeal residue and nasopharyngeal reflux

Refer to American Speech-Language-Hearing Association (ASHA) website for more information:

www.asha.org

What are the consequences of unmanaged dysphagia?

When dysphagia is unmanaged due to not being diagnosed or when there is non-compliance to recommended diet changes, it can lead to aspiration pneumonia, respiratory infections, dehydration, undernutrition/ malnutrition, social isolation, decreased quality of life, repeated hospitalizations, and death.^{4,9,10} In children even short term swallowing problems can impact growth and development resulting in serious long term problems.³

Aspiration Pneumonia

Aspiration is defined as food or liquids passing into the airway. Individuals with dysphagia are at risk for developing aspiration pneumonia and 10-30% of hospital admissions for pneumonia are due to aspiration.⁷ Children with dysphagia and a multisystem diagnosis are at a higher risk of pneumonia.³

Not everyone with dysphagia will develop aspiration pneumonia but the mortality rate for aspiration pneumonia ranges from 20 to 65%.⁸

Risk factors for aspiration pneumonia include:^{3,11}

- Predisposing medical conditions such as respiratory, cardiac, or gastrointestinal diseases, and neuromuscular impairments such as traumatic brain injury or strokes
- Dependence on others for feeding
- Institutional setting
- Decreased level of consciousness or altered mental state
- Decreased functional status
- Tube feeding
- Gastroesophageal reflux disease (GERD)
- Poor nutritional status
- Compromised immune system
- Reduced pulmonary clearance
- Smoking
- Poor oral hygiene (bacteria colonization in mouth and throat)

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What strategies are used to manage individuals with dysphagia?

There are many strategies and treatments used to minimize the risk for aspiration pneumonia, respiratory infections, dehydration, and malnutrition.⁶ Strategies to improve the safety, efficiency and function for individuals with dysphagia include:

- A clinical and/ or swallowing assessment completed by a qualified health professional to help identify dysphagia. A referral should be made if the individual has not been previously assessed by a qualified health professional.
- An interdisciplinary team approach which can include a speech-language pathologist, a dietitian, an occupational therapist, nursing staff and a physician is recommended for the management of dysphagia.¹²
- Management of dysphagia through:
 - Appropriate changes to food textures and/ or fluid consistency or thickness to better align with an individual's swallowing ability.¹³⁻¹⁵ Specific dysphagia diet changes recommended only by qualified health professionals.
 - Postural and positioning changes during eating, safe feeding strategies such as altering the pace of delivery, reminders to swallow, multiple swallows, therapeutic swallowing exercises and using adaptive feeding equipment.²
- Good oral care to reduce rates of pneumonia.¹⁶
- Monitoring nutrition intake and hydration status for individuals on any type of dysphagia or fluid consistency diets.¹⁷ Ongoing monitoring is important so that interventions can be safely implemented or discontinued if unnecessary.

Refer to American Speech-Language-Hearing Association (ASHA) website for more information:

www.asha.org

What is a dysphagia diet?

Modified food textures and changes to fluid consistency or thickness are commonly referred to as a dysphagia diet. An appropriate dysphagia diet:

- Provides altered textures of solid foods and/or liquid consistency that is safe for swallowing and aligns with an individual's ability to swallow.
- Ranges from less restrictive to very restrictive texture modification. For some diets such as pureed or minced consistency, a blender or food processor is required to change the texture of food to the desired texture.
- May require a thickener to modify the consistency or thickness of fluids.

What are the different dysphagia diets and the indications for use in Alberta Health Services?

Dysphagia diets are recommended for those individuals who are unable to chew or swallow food in solid state due to chewing and/or swallowing difficulties (dysphagia), sore or dry mouth, strictures, mucositis, esophagitis, poor, or absent dentition.

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Dysphagia (Texture Modified) Diets available in Alberta Health Services

Pureed:

- Used for patients who are not able to chew or swallow solid foods. Provides a diet of pureed foods that will meet the following:
 - Pureed to the texture or consistency of a pudding or mousse
 - Moist, smooth and cohesive with small consistent sized particles smaller than cooked cream of wheat or applesauce
 - Thick enough to spoon up a minimum of 7.5 mL onto a teaspoon
 - No water separation

Minced:

- Used for patients who are unable to chew or swallow solid foods. Provides a diet of minced foods that will meet all of the following:
 - Require little chewing
 - Moist and cohesive (e.g., yogurt, minced beef with gravy, pancakes moistened with syrup)
 - Minced, grated, or finely mashed foods with no water separation
 - Regular bread products are allowed (e.g., soft, moist cookies, soft buns) excluding breads that are dry or chewy (English muffins, bagels, etc.)
- Allows foods of mixed consistencies (thin liquids and solids combined)

Dysphagia Soft:

- Used for patients who have trouble chewing or swallowing solid foods. Provides a diet of soft moist foods with a sauce or gravy that will meet all of the following:
 - Firm foods such as meat, poultry or fruit need to be diced to 1 cm cubed or less
 - Foods such as canned meat, salmon, or sausages and wieners with soft casings can be eaten without being cut up but should be soft enough to be mashed using a fork in one hand.
 - Salad type, minced or cheese sandwich fillings
 - Soft grain products
- Foods excluded are: very dry or crumbly; very sticky or gummy; hard such as raw vegetables, whole or chopped nuts, hard large seeds and whole dried fruit; chewy such as some breads (e.g. English muffins, bagels)
- Allows foods of mixed consistencies (thin liquids and solids combined)

Easy to Chew:

- Used for patients with chewing difficulties, limited dentition or to facilitate independent eating. Provides foods of a softer texture and excludes:
 - Dry crispy or hard foods.
 - Foods with long or stringy pieces
 - Foods with tough skins, nuts, salads
 - Hard raw vegetables and fresh fruit

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Modifications that can be added to Texture Modified Diets:

The following modifications: **Pureed Bread Products, No Mixed Consistencies and Thick Fluids** can be added to another diet texture order such as pureed, minced or dysphagia soft to change components of the diet:

- Pureed Bread Products
- No Mixed Consistencies
- Thick Fluids

Pureed Bread Products:

- Used for patients who are unable to chew or swallow bread products in a solid state.
- Pureed bread products such as breads, bread stuffing, muffins, sandwiches, pancakes, crackers, cookies, bread pudding, and cake are blended with a liquid until smooth and pureed to a consistency of a pudding or mousse.
- Pasta, rice, couscous, and barley in a gravy or sauce are the consistency of the primary diet or diet texture order.

No Mixed Consistencies:

- Used for patients with dysphagia who are not able to control two consistencies (thin fluid and solids) being in their mouth at the same time.
- Foods avoided are those with 2 consistencies or 2 phases. These include foods with a thin liquid and solid pieces in the same mouthful (e.g., soup with vegetable or meat pieces, cold cereal with milk) or foods that release thin liquid when chewed (e.g. watermelon, cherry tomatoes).
- This modification is included for Pureed Diet and Thick Fluids, but if required by the patient it would need to be added to Dysphagia Soft, Minced Diet, Easy to Chew or other non-dysphagia diets such as a Regular diet.

Thick Fluids:

- Used for patients with chewing and/or swallowing difficulties, and unable to safely manage thin fluids.
- Thick fluids improves the control for drinking and reduces the risk of fluid going down the wrong way, into the lungs.
- This modification if required by the patient, would need to be added to Dysphagia Soft, Minced diet, Easy to Chew or other non-dysphagia diets such as a Regular diet.
- The three levels of thick fluids available: Nectar, Honey and Pudding. The International Dysphagia Diet Standardization Initiative (IDDSI) names these three levels:
 - Mildly Thick, Moderately Thick, and Extremely Thick.¹⁸ Presently commercially prepared thick fluids will have both the previous name and the IDDSI name. (Example: “Mildly Thick – Nectar Consistency”).
- The three levels of thick fluids available in AHS are:
 - *Mildly thick (Nectar)*: Fluids are mildly thick, run freely off a spoon but leave a thin coating on the spoon.
 - *Moderately thick (Honey)*: Fluids are moderately thick and slowly drip in dollops off the end of a spoon. They should pour more slowly, like liquid honey.
 - *Extremely thick (Pudding)*: Fluids are extremely thick, sit on the spoon and do not flow off it. They should be as thick as pudding and must be eaten from a spoon.

Note: The above descriptions are only meant to assist with answering questions about a consistency that has already been recommended.

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Commercial thickeners:

- Commercial thickeners or thick, ready to use beverages, are available to order/ purchase.
- Commercial food thickeners include recipes for thickening various liquids to a mildly thick (nectar), moderately thick (honey) or extremely thick (pudding) level consistency. It is important to follow the manufacturer's instructions or recipes provided on the product label or on the manufacturer's website.

What types of foods should be included on a dysphagia diet?

Individuals with swallowing difficulties following a dysphagia diet should continue to eat balanced meals and snacks, and be able to adapt most foods they are already eating to meet their new texture recommendations.

- Once a qualified health professional completes a swallowing assessment and recommends an appropriate texture, a Registered Dietitian can review the individual's food intake and make suggestions on how to modify foods to the new texture.
- Emphasizing small, more frequent meals (i.e. three meals and three snacks per day), as well as energy and protein dense foods, can help individuals achieve adequate nutrition and hydration intake.¹⁹
- Individuals having difficulty preparing foods at home can check for availability of texture modified meals with services like Meals on Wheels (if available in their local area).
- Individuals who are not eating well or finding the foods unpalatable, may be at nutrition risk and will benefit from a referral to a Registered Dietitian.

Why is hydration management important?

Hydration is important and for some individuals with dysphagia, a health professional will recommend fluids be thickened to a specific consistency for safe swallowing.

- For adults in hospital, the goal is to provide a minimum of 1500 mL of total fluids as thick fluids (1000 mL) and high fluid foods (500 mL) through meals and snacks.
- For pediatric patients in hospital, 2/3 of the fluid is provided as thick fluids and the remainder as high fluid foods.
- The selection and use of thickening agents in pediatric dysphagia management is variable. Selection may depend on the thickening agent available, the age of the child, and their medical history.

Note: Thickeners for children should only be used under the supervision of a health care professional.

Dehydration is of major concern for seniors, especially those over the age of 85 years and those who are institutionalized.²⁰ In addition, those individuals requiring thick fluids have a higher incidence of dehydration due to noncompliance and palatability of thick fluids.^{1,21} A hydration assessment with ongoing monitoring and management of fluid intake is beneficial for preventing the morbidity and mortality risks associated with dehydration.²²

- Hydration assessment should identify all fluid intake, including caffeinated beverages and alcohol.
- Dehydration can result in constipation, fecal impaction, cognitive impairment, functional decline, and even death.²³ Both physiologic changes and factors leading to a decrease in fluid intake contribute to the risk of dehydration.

Refer to Nutrition Guideline: Seniors Health Overview

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What are some strategies for managing hydration?

There are many factors that impact fluid needs. Research indicates that there is no single factor or formula to determine fluid requirements and a comprehensive assessment is encouraged to determine fluid needs.²⁴

- Fluid intake needs to be sufficient to meet requirements. Optimal fluid intake can help improve blood pressure, achieve hydration and decrease complications of fluid overload (e.g. heart failure, ascites, pleural effusion, hypertension, and edema).
- Examples of fluids/beverages include water, milk, juice, pop, soup, caffeinated beverages such as tea and coffee, alcohol, oral nutritional supplements, and energy drinks. For infants, include breastmilk and infant formula. A fluid can also be a food that melts at body temperature; including ice, ice cream, and Jell-O®.
- Individuals requiring thick fluids due to dysphagia may meet fluid needs by including foods with high water content and having thick fluids such as water, milk, juice, tea and coffee, and oral nutritional supplements at meals and between meals. Studies have shown that thickening fluids does not decrease the bioavailability of the fluid.^{17,25} For infants include breastmilk and infant formula.
- All fluids should be assessed not only for their caloric content but also for their nutrient, fluid and bioactive substances such as alcohol, soy protein, psyllium, caffeine, and food additives, and the impact of those substances on the individual.

Refer to Nutrition Guideline: Seniors Health Overview

Free Water Protocol:

- Was developed in institutionalized settings to provide patients with dysphagia requiring thick fluids, an option to have thin water in-between meals.¹⁶
- Allows some patients at risk of aspirating thin liquids to safely include thin water for improved hydration and comfort and also maintain quality of life.²⁶⁻³⁰
- Allows planning strategies to meet fluid requirements that are suited to each individual. The free water is separated from meal times and provided in between meals. It is used to augment the daily fluid intake to help meet fluid requirements.
- Will look at the safest means to deliver free water (via cup sips, by teaspoon, ice chips or it may be only with strict supervision) based on a formal screening protocol.
- Requires good oral hygiene to keep the mouth free of bacteria and to reduce rates of pneumonia.^{16,27}

What is the International Dysphagia Diet Standardization Initiative (IDDSI) framework?

The International Dysphagia Diet Standardization Initiative (IDDSI) framework provides an evidence-based global standardized framework with terminology and descriptors for the dysphagia diet. It is applicable to all ages, in all care settings, and for all cultures.¹⁸ By standardizing terminology and diet criteria, the IDDSI framework has the potential to improve patient safety, communication between patients and health care providers, and provides a reference point for research innovation.

To access the IDDSI framework and supporting documentation refer to <http://iddsi.org/>

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As AHS has a safe, effective, and evidence informed process for the provision of dysphagia diets with more similarities than differences with the IDDSI framework, there are no immediate plans to transition to the IDDSI framework. Opportunities may exist to learn from other jurisdictions that proceed with implementation of the IDDSI.

AHS texture modified diets and thick fluids were structured to be flexible to provide the least restrictive diet possible while minimizing safety risks, promoting oral intake and reducing harmful outcomes such as malnutrition and decreased quality of life. They are also used for patients who do not have dysphagia.

AHS is completing further analysis of current literature and implementation experiences about the IDDSI framework in other jurisdictions.

Are there any handouts on nutrition for seniors that I can use with my patients?

Refer to approved provincial Alberta Health Services dysphagia nutrition handouts to support patient education. For more information, contact Nutrition.Resources@albertahealthservices.ca

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