Taking Action for Optimal Community and Long-Term Stroke Care
A Resource for Healthcare Providers

Chapter 3: Body Function (Physical)
Section 3.3 – Nutrition and Swallowing

Updated January 11, 2021

Disclaimer

- Taking Action for Optimal Community and Long-Term Stroke Care is for informational purposes only and is not intended to be considered or relied upon as medical advice or a substitute for medical advice, a medical diagnosis or treatment from a physician or qualified healthcare professional. You are responsible for obtaining appropriate medical advice from a physician or other qualified healthcare professional prior to acting upon any information available through this publication

TACLS Overview

Overview

- This presentation has been developed to complement the information provided in Taking Action for Optimal Community and Long-Term Stroke Care
- TACLS content is aligned with the most current Canadian Stroke Best Practice Recommendations (www.strokebestpractices.ca)
- Some of the best practice recommendations are included in this resource for quick reference. For the full Canadian Stroke Best Practice recommendations visit: www.strokebestpractices.ca
- As you consider the following information, always ensure that you are practicing and working within your scope of practice and seek advice from qualified and appropriate team members as needed

COVID-19

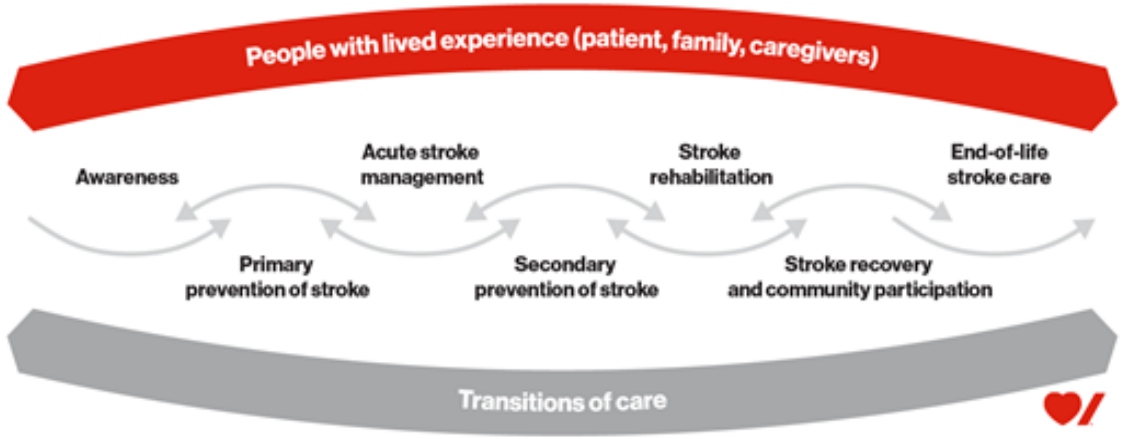
- In light of COVID-19, resources are being shifted across the healthcare continuum to help meet ongoing and changing needs.
- There may be some variability in the staff who would typically work with patients who have had a stroke.
- There are many considerations that are key to promoting safety and optimizing recovery when working with individuals who have had a stroke.
- TACLS can be used to help *support healthcare providers* and may be helpful to informal caregivers during this time by providing key information, skills and guidance when providing care to individuals who have had a stroke in any setting, from acute inpatient care to the community.

Purpose and Use of TACLS

- TACLS slide presentations are designed to be used as a resource, in conjunction with the TACLS manual, for informing and educating healthcare providers about how to care for individuals who have had a stroke across care settings
- Informal caregivers may also find these resources helpful
- TACLS content is aligned with the Canadian Stroke Best Practice Recommendations (www.strokebestpractices.ca)

Target Audience

- Healthcare providers who care for individuals who have had a stroke and are in acute care, inpatient rehabilitation, or community settings (such as at home or in long-term care)
- Informal caregivers, such as family members, may also find these resources helpful as they provide practical information to deliver safe and appropriate care



Your Role as Part of the Stroke Team

- There have been major advances in treatment and care of individuals with stroke and the types of care received in the early days following a stroke can have a direct and significant impact on outcomes
- Your role, observations and your ability to communicate effectively within the team is vital to helping the individual with stroke get the best possible care and experience the best possible recovery
- Your support can help individuals adjust to the changes that stroke brings, find new ways to help them thrive as they recover, and learn and adapt to “the new normal” that is life after stroke

Your role

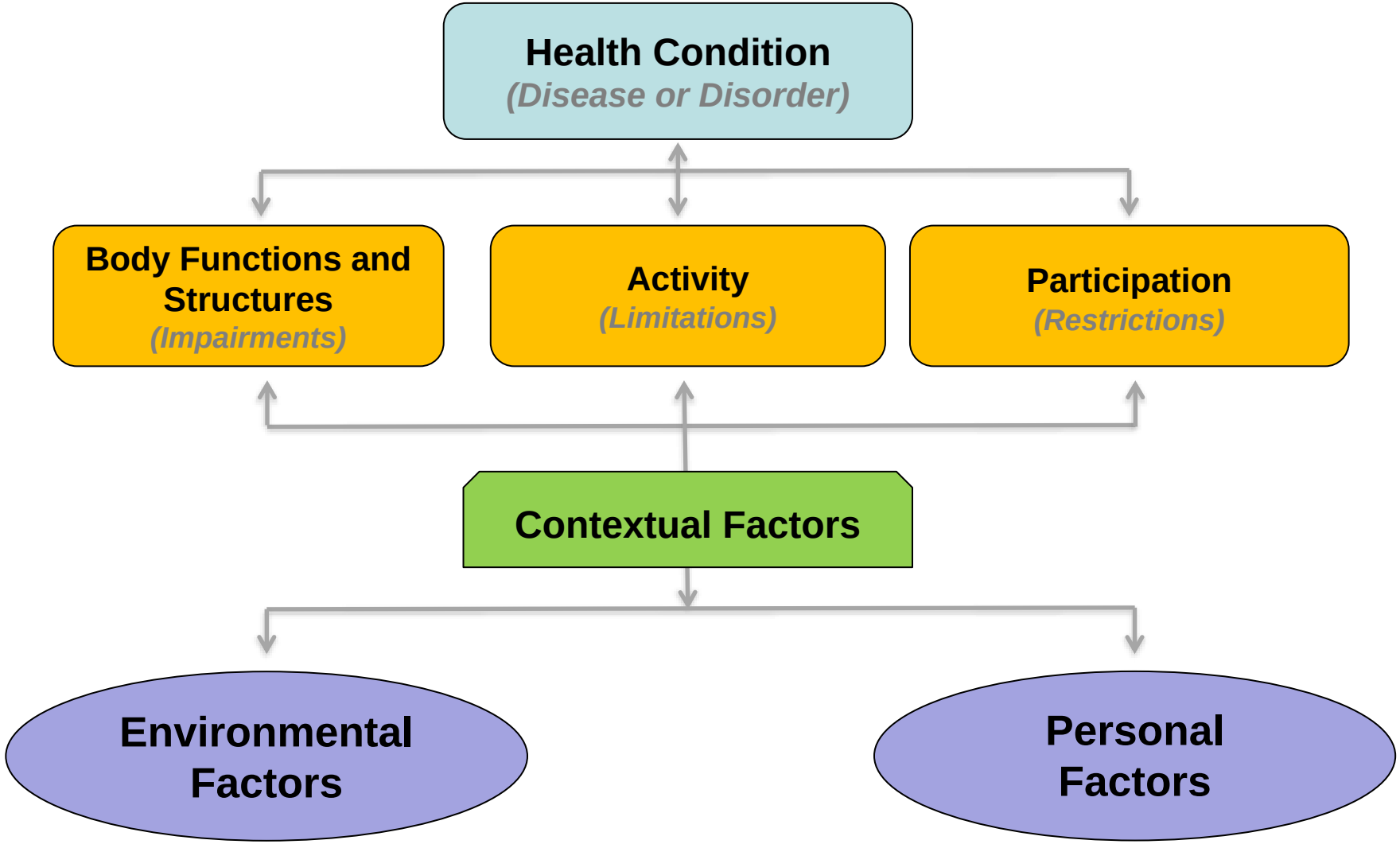
- It is very important to review and understand your role within the stroke care team
- Consult with your team if you
  - Are unclear about any aspect of the care plan
  - Have questions about how to implement the recommended care
  - Have concerns about the health of the person you are caring for
- Know your direct contact on the team and follow your workplace guidelines for communicating with the team
- Do not delay if a situation requires immediate attention – contact the appropriate team member as quickly as you can
- There may be times when the information in this resource differs from the instructions or care plan that have been developed by the organization you work for or by the stroke team. **In these cases, always follow the direction from your employer, your team, and the care plan**

Your Role: Communicate with your Team

Stroke care is a TEAM effort. The team is there to support you. Make sure to reach out to your team if you have any questions so that the safety and recovery of the individual you are working with and/or caring for is not compromised.

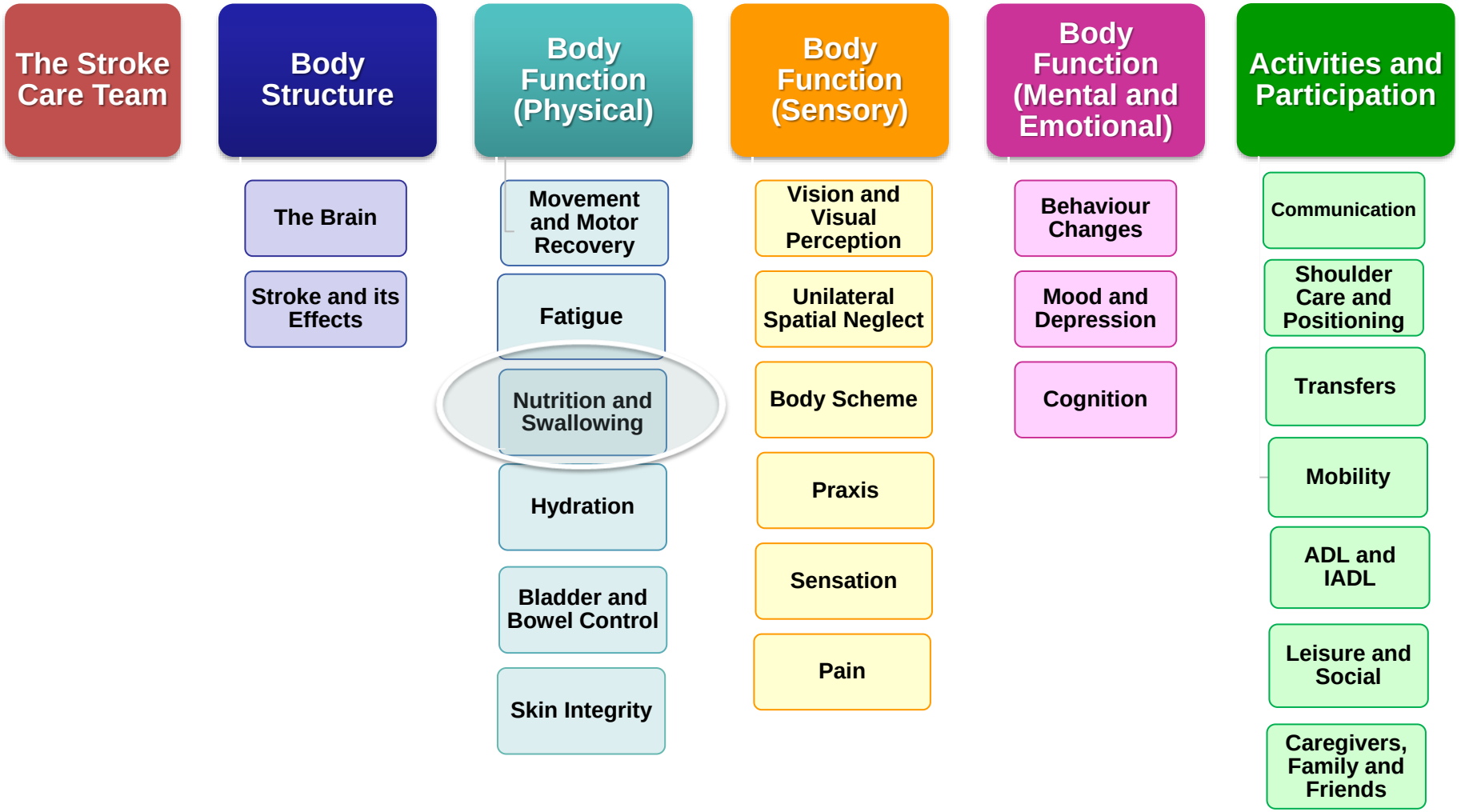
TACLS Structure

TACLS is organized to follow the International Classification of Functioning (ICF) structure.



https://www.who.int/classifications/icf/en/

TACLS Content and Layout



SECTION 3.3
Nutrition and Swallowing

Nutrition and Swallowing

- Topics in this section:
  - Impact of stroke on eating and swallowing
  - Dysphagia
  - Modifying food textures and fluid consistencies
  - Assistive devices
  - Oral hygiene

Key Messages: Nutrition and Swallowing

- Know whether the person you are working with has had a swallowing assessment and whether they have any swallowing impairments
- Problems with swallowing could lead to complications and interfere with recovery
- People with dysphagia may need a modified diet including altered food textures and thickened liquids to safely manage swallowing. They are at risk of malnutrition and need to be carefully monitored
- Report any changes in nutrition and swallowing to the stroke care team

Best Practice Recommendations: Dysphagia

- Patients should be screened for swallowing impairment before any oral intake (e.g. medications, food, liquid) by an appropriately trained professional using a valid screening tool
- Abnormal results from the initial or ongoing swallowing screens should prompt referrals to a speech-language pathologist, occupational therapist, dietitian or other trained dysphagia clinicians for more detailed bedside swallowing assessment and management of swallowing, feeding, nutritional and hydration status
  - An individualized management plan should be developed to address therapy for dysphagia, dietary needs, and specialized nutrition plans
- Patients, families and caregivers should receive education on swallowing and feeding recommendations
- To reduce the risk of aspiration pneumonia, patients should be permitted and encouraged to feed themselves whenever possible
- Patients should be given meticulous mouth and dental care, and educated in the need for good oral hygiene to further reduce the risk of pneumonia

Canadian Stroke Best Practice Recommendations *Stroke Rehabilitation and Recovery following Stroke*, 6th edition, section 7.1

Best Practice Recommendations

- Patients should be screened for malnutrition, ideally within 48 hours of inpatient rehabilitation admission using a valid screening
  - Patients can be rescreened for changes in nutritional status regularly throughout inpatient admission and prior to discharge, as well as periodically in outpatient and community settings
  - Results from the screening process can be used to guide appropriate referral to a dietitian for further assessment and ongoing management of nutritional and hydration status
- Stroke patients with suspected nutritional concerns, hydration deficits, dysphagia, or other comorbidities that may affect nutrition should be referred to a dietician. Dietitians provide recommendations on:
  - Meeting nutritional and fluid needs orally while supporting alterations in food texture and fluid consistency recommended by a speech-language pathologist or other trained professional
  - Enteral nutrition support in patients who cannot safely swallow or meet their nutrient and fluid needs orally
  - Nasogastric feeding tubes should be replaced by gastric-jejunum tube (GJ-tube) if the patient requires a prolonged period of enteral feeding
- The decision to proceed with enteral nutrition support, i.e. tube feeding, should be made as early as possible after admission, usually within the first three days of admission in collaboration with the patient, family (or substitute decision maker), and the interdisciplinary team

Canadian Stroke Best Practice Recommendations *Stroke Rehabilitation and Recovery following Stroke*, 6th edition, section 7.2

Your Role as a Healthcare Provider

- Eating and drinking are necessary and pleasurable parts of life
- Stroke can leave people unable to feed themselves or swallow food or liquid safely
- Food textures may need to be modified
- You play a critical role in helping people:
  - Avoid the dangers that may result from swallowing impairments
  - Eat and drink enough to stay healthy
  - Enjoy their meals
- All people who have had a stroke should be **screened for swallowing impairment before any oral intake** (e.g., medications, food, liquid) **by an appropriately trained professional** using a **valid screening tool**
- It is important that you **know whether the person you are working with has had a swallowing screen and/or assessment**, if they have any swallowing issues, and what the current management strategy is to support safe swallowing

Impact of Stroke on Eating

- Stroke can interfere with getting food and drink from the plate or glass to the mouth in several ways:
  - Decreased or weakened arm and hand movements
  - Cognitive and motor abilities used to chew, swallow and/or pace their bites
  - Visual changes where a person may not see some of the food on their plate (e.g., unilateral spatial neglect or a visual field loss)
  - Stroke can change how food smells or tastes to the person
- Mealtimes can be challenging, frustrating and less enjoyable

Impact of Stroke on Swallowing

- Stroke can affect swallowing muscles and these effects may be easy to notice, such as:
  - Weakness in the face, tongue, or voice muscles
  - Drooling
- Other effects may be less visible and unrecognized, such as:
  - Lack of a cough or gag reflex when food or liquid enters the airway (silent aspiration)
  - Decreased sensation when the person does not feel food or liquid left in the mouth or throat
  - Reduced clearance of food from esophagus resulting in reflux and/or heartburn or discomfort in chest during or after meals

Impact of Stroke on Swallowing

- Swallowing requires the coordination of many muscles to move food and liquid through the mouth, throat and esophagus to the stomach
  - A stroke can affect these muscles, resulting in **dysphagia** (difficulty swallowing)
  - A person may also have decreased alertness and attention that can impact the ability to swallow safely

Dysphagia Screening

- People must have their swallowing abilities screened by a member of the stroke team **before any** oral intake, by an **appropriately trained professional** using a **valid screening tool.** This might be completed by a:
  - speech-language pathologist
  - occupational therapist
  - dietitian
  - nurse
  - healthcare support worker
- Abnormal results from any swallowing screen should prompt a referral to a speech-language pathologist or other trained dysphagia clinician for a more in-depth assessment

Dysphagia Screening and Assessment

Some of examples of healthcare professionals that are involved when swallowing or eating impairments are present include:

- A speech-language pathologist assesses a person's swallowing abilities, identifies impairments and makes recommendations to increase safety with oral intake of food and fluids

- A dietitian collaborates with the stroke care team regarding a person's diet, the texture for oral or tube feeding and ensures this meets their nutrition and hydration requirements

- An occupational therapist recommends seating and positioning strategies to ensure the person is sitting in a stable position while eating, and may recommend adaptive equipment to increase independence with self-feeding

It is important for everyone involved in the care of the person to be watching for signs of eating challenges, dysphagia and aspiration

Common Signs of Dysphagia

- Before giving food, you may notice that a person:
  - Is drooling
  - Has speech difficulties
  - Shows a reduced level of consciousness
- When giving food, a person may have:
  - Difficulty self-feeding or taking food or liquid from a spoon or cup
  - Poor lip closure, loss of food from mouth, not sensing food on the lips or food spillage
  - Difficulty moving food to start or complete the swallow
  - Difficulty swallowing and is spitting food out
  - Pocketing of food in cheeks, under the tongue or the side of the mouth
  - Slow and effortful chewing
  - Rapid and uncontrolled eating

Dysphagia - What the Person May Report During or After Meals

- In addition to watching for signs, a person may report the following during or after meals:
  - Difficulty chewing solids
  - Coughing when swallowing liquids
  - Coughing during or after meals
  - A tight throat
  - Food sticking in their throat or chest
  - Reflux or heartburn
  - Feeling full after eating very little
  - Feeling anxious about mealtimes

Consequences of Eating Challenges and Dysphagia

- Challenges with eating and dysphagia may interfere with getting adequate nourishment
- It may also lead to:
  - Aspiration
  - Choking
  - Dehydration
  - Malnutrition
  - Impaired quality of life

Aspiration and Choking

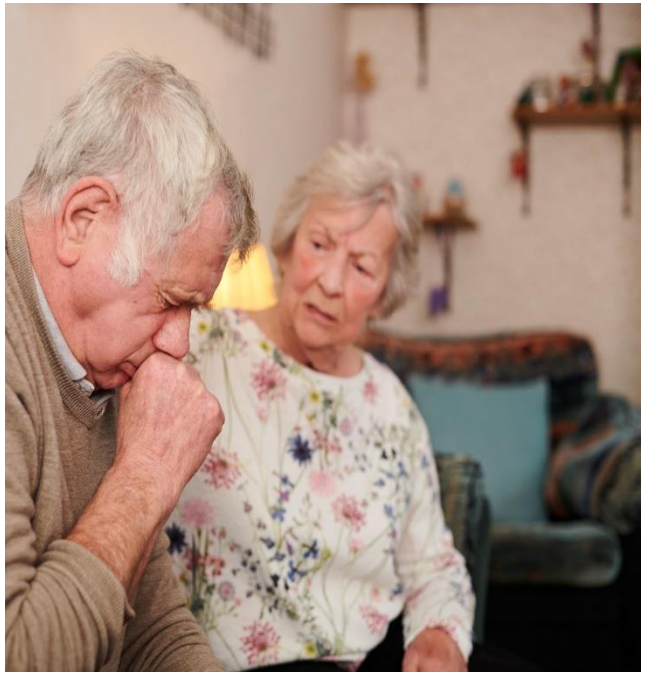
- Aspiration is the entry of saliva, food, liquid, or refluxed stomach contents into the airway. It is **very important to watch for aspiration** as it can lead to serious health consequences such as:
  - Respiratory issues including infection
  - Pneumonia

Aspiration and Choking

- Signs of possible aspiration during and/or after a swallow or a meal may include:
  - Coughing, throat clearing, or choking
  - Shortness of breath
  - Altered voice quality, such as a wet or gurgling voice
  - Watery eyes or runny nose

Aspiration and Choking

- Choking occurs when a piece of food becomes lodged in the airway, making it difficult or impossible to breathe



Dehydration

- Inadequate fluid intake can lead to dehydration and result in:
  - Dry mouth
  - Constipation
  - Urinary tract infection
  - Confusion
  - Severe illness
  - Death

Malnutrition

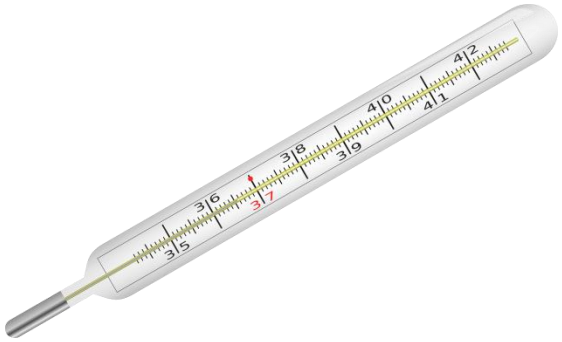
- An inability to eat a balanced diet can result in:
  - Malnutrition
  - Weight loss
  - Reduced energy
  - Skin breakdown
  - Impaired wound healing
  - Lower resistance to infection

Impaired Quality of Life

- Eating is often a social activity
- Swallowing and eating challenges can make the person reluctant to eat with a group
- These challenges can:
  - Increase social isolation
  - Decrease quality of life
- Changes in taste and smell can also affect a person's enjoyment of food

Other Consequences of Eating Challenges and Dysphagia

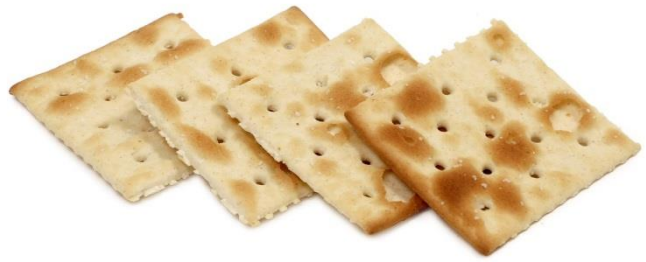
- May include:
  - Spikes in temperature after meals
  - Dry mouth
  - Weight loss or weight gain due to malnutrition
  - Respiratory infections
  - Poor air intake or weak cough
  - Have difficulty breathing or becoming short of breath during or after meals
  - Chronic heartburn



Textures That May Cause Swallowing Problems

There are certain foods, textures and fluids that may be more difficult for a person with swallowing impairments to manage such as:

- Dry particulates
  - Dry and crumbly foods, breads, muffins, cookies
  - Peanut butter, dry crumbly cheeses
- Bread products
  - Breads, cakes, pastries and sandwiches
  - Any meals prepared with bread



- Mixed consistencies or two-texture consistencies
  - Foods combining liquids and solids (e.g.: cereal with milk, chicken and vegetable soups, fruit cocktail, etc.)

Textures That May Cause Swallowing Problems

- Thin fluids
  - Water or other thin fluids
  - Broth-based soups
  - Commercial nutritional supplements
  - Ice cream, ice, cold jellied products, watermelon

Foods That May Cause Swallowing Problems

- Foods that may cause reflux:
  - Spicy, seasoned foods
  - Citrus products and other acidic foods
  - Peppermint and spearmint
  - Caffeine (e.g., coffee, tea, chocolate, cola)
  - High-fat and fried foods
- Other problematic foods:
  - Rice, stringy food, raisins, nuts, seeds

- If you are not sure if a food or fluid is safe for the person that you're working with always talk to the appropriately trained member of the stroke care team

Managing Dysphagia - Modifying Food Textures

- To eat **safely,** a person who has dysphagia often needs their food and liquid textures modified
- The assessment of the swallowing impairment determines which food textures are recommended and safer. An appropriately trained professional (such as a speech-language pathologist) will use a patient-centred approach to assess the person and make recommendations for modified textures
- Sometimes even with modified food textures a person still is not able to swallow safely. In this case, a person may be fed through a tube
- If swallowing ability improves, a person may be able to return to a modified diet or have their food textures less modified (**only** on the advice of an appropriately trained professional)
- **Always report feeding and swallowing concerns** to the speech-language pathologist, dietician or other member of the healthcare team

Modified Food Textures

- An appropriately trained clinician may recommend modified food textures to promote safety when swallowing such as:
  - Pureed:
    - Mashed and blenderized food
    - Dense, smooth foods of pudding consistency
  - Minced or moist minced:
    - Foods that are the texture of ground beef
    - Finely chopped foods that are easy to chew
- If you are not sure if a food texture is appropriate ask the person on the team who is trained in dysphagia management to show you

Modified Fluid Consistencies

- An appropriately trained clinician may recommend modified fluid consistencies to promote safety when swallowing such as:
  - Thickened fluids
    - Fluids thickened to a consistency specified in the care plan
    - From thinnest to thickest: thin, slightly thick, mildly thick (also known as "nectar" thick), moderately thick (also known as "honey" thick), and extremely thick (also known as "pudding" thick)
- If you are not sure how thick a fluid should be, ask the person on the team who is trained in dysphagia management to show you
- A thickener can be added to hot and cold beverages. Pre-thickened beverages are also commercially available

How You Can Help

- Always follow the food and diet instructions in the current care plan
- **Never** modify a food texture or fluid consistency, or change a person's diet on your own
- **Do not alter medications** (e.g., crush them) or change the delivery (e.g., yogurt instead of applesauce) without consulting the team pharmacist and speech-language pathologist, as you may impact the effectiveness of the medication
- Consult the speech-language pathologist if the person is having difficulty managing and/or swallowing fluids, foods and/or medications

How You Can Help

- Carefully monitor the person for any signs and symptoms of dysphagia or aspiration
- If you observe any signs or symptoms of dysphagia or aspiration, talk to your team for advice and strategies
- Report any changes in a person's condition or swallowing abilities. The person may need to be screened or re-assessed by a team member with expertise in dysphagia management
- Consult with the speech-language pathologist if you have any questions or concerns

How You Can Help: Positioning

- Always use proper and recommended positioning when a person is eating and drinking:
  - Consult the care plan
  - Get the person out of bed to eat whenever safely possible
  - Seat the person upright in a wheelchair or straight-backed chair
  - Position someone who is unable to get out of bed as close to 90 degrees as safely possible, and stabilize them with pillows
  - Keep the head midline and slightly flexed forward
  - Encourage the person to remain upright for at least 30 minutes after meals, or elevate the head of the bed 30 degrees to help prevent reflux
  - **Consult with the stroke care team if you are unsure of any aspects of proper positioning**

How You Can Help: Reduce Distractions

- Reduce distractions when a person is eating and drinking such as:
  - Remove all non-essential items from the table or tray, avoid busy dining rooms, and present one food at a time
  - Serve meals in a quiet environment. Turn off the TV or radio, minimize conversation, and discourage the person from talking with food in their mouth
  - Encourage visitors to come outside of mealtimes
  - Have the person take medications before and after meals, rather than during

How You Can Help: Monitor Feeding Rate and Amount

- Monitor feeding rate and amount by:
  - Providing small, frequent meals
  - Feeding small amounts using a teaspoon or half teaspoon, not a tablespoon
  - Encouraging the person to swallow twice. To check for a complete swallow, watch for **laryngeal elevation**
  - Ensuring the mouth is clear before introducing more food
  - Cueing the person to the whole plate or tray if they have neglect or tend to miss food
  - Encouraging the person to eat slowly, and never rush them while eating or drinking
  - To reduce the risk of aspiration pneumonia, the care plan may indicate that the person is permitted and encouraged to feed themselves whenever possible. **Follow the current care plan.** Supervision may be required to promote safety

How You Can Help: Teaching

- When eating and drinking teach the person to:
  - Monitor self-feeding with a mirror
  - Remove pocketed food with their tongue
  - Be aware of drooling and use a napkin if necessary
  - Cough to clear the throat
  - Take extra swallows when needed to clear food or liquid from the mouth or throat
  - Wear loose-fitting clothes and avoid tight belts to avoid reflux
  - Ensure that dentures are in and fitting well
    - Report observations to the care team. Recommendations may need to be added to the care plan
    - It may be helpful to discuss potential reasons for the difficulty with their dentures (e.g., weight loss, or challenges applying adhesive with one hand)

How You Can Help: Assistive Devices

- An occupational therapist may recommend assistive devices to help support physical impairments that are impacting eating and drinking such as:
  - Rimmed plates (can help to get food onto the utensil when using one hand)
  - A gripper pad (to prevent dishes from slipping on a table surface)
  - Cup or glass holders
  - Modified utensils with built-up or bent handles (to make the utensil easier to grasp)
  - Cutting utensils for one-handed use such as a rocker knife, cheese knife or pizza cutter
  - Modified cups with a cut-out or partial lid (can make the cup easier to grip and reduce spills)

Best Practice Recommendations: Oral Care

- An appropriate oral care protocol should be used for every patient with stroke, including those who use dentures. The oral care protocol should be consistent with the Canadian Dental Association recommendations and should address areas such as frequency of oral care (ideally after meals and before bedtime); types of oral care products (toothpaste, floss, and mouthwash); and management for patients with dysphagia.
- If concerns with implementing an oral care protocol are identified, consider consulting a dentist, occupational therapist, speech-language pathologist, and/or a dental hygienist

Canadian Stroke Best Practice Recommendations *Acute Stroke Management*, 6th edition, section 9.8

Oral Hygiene

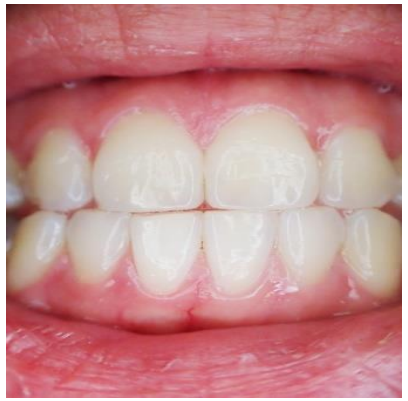
- Poor oral hygiene, dental problems and poorly fitting dentures can lead to issues with eating and swallowing safely
- Dysphagia can also lead to poor oral hygiene due to reduced saliva management reduced frequency of automatic swallowing
- A person may also have difficulty completing their oral hygiene independently and effectively
- A clean mouth and teeth are essential for comfort and good health including reducing respiratory infections
- Oral hygiene is also important when a person is fed through a tube

How You Can Help: Oral Hygiene

- Help the person practice good oral hygiene
  - Encourage or help the person perform mouth care before and after meals
  - Remove and clean dentures after each meal so food particles can't collect and cause irritation
  - Check the mouth for food debris after each meal
  - Encourage the person to get regular dental check-ups
- Clean dentures when required, not just at bedtime
  - Remove and soak dentures overnight. Gums and mouth tissues will be healthier when allowed to "breathe" for four to six hours every night

How You Can Help: Oral Hygiene

- **At least once a day**, check that the person's mouth and tongue are pink and moist. Tell the team if the mouth is dry with patchy white areas, or the tongue is white and coated
- **Help the person brush** their teeth, gums and tongue using a soft toothbrush and toothpaste
  - Do not use oral swabs as they do not adequately clean the mouth



Case Studies

Dysphagia Case Example #1

- Mr. Yuen, a feisty, elderly widower you've been working with for the last year, had sustained a stroke three years ago that required him to be tube fed
- Over the last few visits, you notice a decrease in his appetite and increase in drowsiness
- You ask him how he is feeling and he responds by saying he must have caught the flu when his grandchildren came to visit

Dysphagia Case Example #1

- The following day when cleaning his dentures, you notice food particles on them
- When you ask him about it, he confesses he has been having "little tastes of his favourite foods since it's the holiday season"
- He insists he has no coughing or difficulty swallowing and hopes he can have his swallowing reassessed after holidays and maybe get his tube feeds discontinued

Dysphagia Case Example #1

Why is it important to report this information to your supervisor and team members?

Dysphagia Case Example #2

- Mrs. Blackwater, who sustained a stroke a year ago, has been eating regular foods and fluids prepared by her family since being discharged back to her home community
- No difficulties were reported by her or her family, and you have seen nothing that concerned you, aside from occasional gentle reminders to eat the food on the far left side of her plate
- It's the summer time and her kids and grandkids have come to visit; she says she loves the energy the young people bring

Dysphagia Case Example #2

- Her family tells you she is not finishing her meals and now complains of a new tickle in her throat that only shows up at supper time
- A visit by the speech-language pathologist does not show any diminished swallowing abilities and her doctor has ruled-out illness

Dysphagia Case Example #2

- When you ask Mrs. Blackwater what she thinks is happening, she tells you sometimes she forgets to finish eating because she is busy visiting with her children and grandchildren
- Although she loves having them near, she becomes tired at the end of the day, and doesn't remember to focus on chewing and swallowing while she is eating
- Sometimes food and liquids goes down "the wrong way"

Dysphagia Case Example #2

Which of the following approaches would help Mrs. Blackwater eat more safely?

a. Recommend her visitors go home
b. Ask her and her family when it might be a quieter time in the house with fewer distractions for eating
c. Tell her to eat in a room by herself
d. Suggest having larger meals when she is more rested
e. Explore ideas her family has for making mealtimes a safer and more enjoyable experience

Quiz

Test Your Knowledge

Which of the following signs may indicate a person has eating and swallowing problems?

a. Coughing
b. Choking
c. Shortness of breath
d. No swallow reflex
e. Drooling
f. Poor lip closure
g. Altered voice quality
h. Wet voice
i. Gurgling voice
j. Loss of food from mouth

Test Your Knowledge

Match the foods to the modified texture:

i. Pureed foods

ii. Minced or moist minced foods

iii. Thickened fluids

a. Foods are the texture of ground beef; all foods are finely chopped

b. From thinnest to thickest: thin, slightly thick, mildly thick (also known as "nectar" thick), moderately thick (also known as "honey" thick), and extremely thick (also known as "pudding" thick)

c. Mashed and blenderized foods; dense, smooth foods of pudding consistency

Conclusion

- More information regarding stroke and stroke care can be found at **www.strokebestpractices.ca**

- For additional resources visit: **https://www.strokebestpractices.ca/resources/professional-resources**

- Questions and comments can be sent to **strokebestpractices@heartandstroke.ca**

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