The Brain, The Body & You – Learning Series

WORKSHOP 4:
Nutrition, Swallowing, Feeding and Hydration

- Powerpoint (see file)
- Workshop Schedule
- Reference Notes
- Resource List
- Evaluation Form

Developed by Audrey Brown, Speech Language Pathologist & Professor Ruth Doran
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WORKSHOP SCHEDULE

(4 hours)

5 minutes	Welcome & Introductions
20 minutes	Review signs and symptoms of stroke and how to react to them ► VCR/DVD – Video #1 Recognize and React to the signs & symptoms of stroke for health care providers – use one of the vignettes Review Types of stroke Review risk factors for stroke (see detailed notes in workshop #1)
10 minutes	►Labeling exercise for diagram
10 minutes	Review labeling and function of each structure
10 minutes	Review phases of swallowing (► each participant gets a cookie so what you are doing paired with action)
25 minutes	What constitutes effective swallowing? What factors affect swallowing? ► Swallowing "saliva" exercise
15 minutes	Underlying conditions that affect swallowing
15 minutes	What challenges participants face with nutrition, swallowing, feeding and hydration in the workplace
15 minutes	Types of dysphagia
20 minutes	BREAK
20 minutes	Interdisciplinary dysphagia team Dysphagia screening Management of dysphagia Common diets
15 minutes	► video: "Hands That Feed" Swallowing care plan and assistive feeding devices
15 minutes	► Participant feeding exercise
15 minutes	Comparison of dysphagia, malnutrition, and dehydration

20 minutes	Oral care and reinforce best feeding practices ► Review of participant issues and have we addressed them
10 minutes	Questions and evaluation

REFERENCE NOTES

Objectives for this Workshop

At the completion of this workshop, the learner will:

1. Define a stroke
2. Identify the risk factors for stroke
3. Recognize the signs and symptoms of a stroke and identify how to react to them
4. Be able to identify the body structures used in swallowing and the function of each structure
5. Be able to define terminology related to nutrition, swallowing, feeding and hydration
6. Identify factors affecting swallowing
7. Identify members and roles of the interprofessional dysphagia team
8. Be aware of the process for dysphagia screening
9. Be aware of common special diets
10. Know feeding techniques for clients with dysphagia
11. Know correct mouth care practices for the stroke survivor

Introduction

► The content is based on the anatomy and physiology of the head and neck; on the experience and observations of the Speech Language Pathologist (SLP) and the faculty presenter; and on resources from the Coordinated Stroke Strategy.

► start by labeling the diagram of the anatomy of the head and neck (see Powerpoint)
[diagram@www.heartandstroke.ca/profed]

Review of Functions

1. lips – hold food in oral cavity

2. teeth – chewing (mastication)

3. tongue – large organ, very major role in molding and directing food bolus

4. hard palate – roof of mouth, part of the skull, assists with formation of food bolus

5. soft palate – is a muscle, covers the nasal passages on swallowing

1 – 5 = **oral preparatory stage of swallowing**
note: cheeks (not listed) suck in with swallowing

6. epiglottis – 1 of 3 protective mechanisms – directs food into the esophagus and away from the larynx by moving down & backwards

7. vocal cords – close during swallowing

8. larynx (or voice box) – rises and moves forward during swallowing because of the hyoid bone

9. pharynx – needs to close with swallowing – leads to shared space with trachea & esophagus

Phases of Swallowing

the oral phase
- is the chewing and gathering of the food bolus – muscles of lips, cheeks and mandibles in use – saliva adds moisture to the food bolus
- when one swallows, the tip of the tongue touches against the back of the teeth

the pharyngeal phase
- lasts less than 2 seconds, the bolus of food is in the pharynx
- the epiglottis closes over

the esophageal phase
- the bolus travels down the esophagus by waves of peristaltic action

► all participants should be given a cookie to eat as each phase is discussed

Effective Swallowing

Sensory Input
- you need to feel it – aroma of food, textures get the salivary juices flowing; also info about taste and temperature
- strokes do affect these functions

Motor Activities
- feeding – muscular coordination of getting food to mouth and have the ability to chew and swallow
- function of muscles of tongue, cheeks and throat in the swallowing phase

Dysphagia
- difficulty or discomfort in swallowing
- affects 50% of stroke survivors

Presbyphagia
- age-related changes in swallowing

Factors Affecting Swallowing

1. Motor control of the tongue and facial muscles
   - stroke survivors with paralysis / weakness of one side leads to drooping / sagging of one side of the fact; drooling – inability to control saliva, food – cannot seal lips tightly, cannot organize food bolus

2. Sensory integrity
   - intact sensory functions particularly with tongue and cheeks

3. Ability to understand and use language
   - use short sentences, speak directly to the client
   - use clear, one-task directions
   - give client time to process what you have told them / asked them to do

4. Cognition
   - are they aware of what you have asked / directed
   - sometimes need to add "motions to words"
   - to stimulate a swallow, put empty spoon on lips, stroke cheek / throat gently

5. Salivary flow
   - stroke survivors may experience **xerostomia** – from decreased salivary flow, from side effects of medications, from less than adequate oral fluid intake

6. Taste and temperature sensitivity
   - have to consider stroke survivor's tastes – may not like spices, bland, etc.
   - stroke survivor may be very sensitive to hot / cold
   - note that above are not unique to the stroke survivors, they may be the client's taste, etc. pre-stroke

► Do the "spit test" as per the Powerpoint

7. Underlying conditions
   - GERD – gastroesophageal reflux disease; heartburn a symptom – gastric juices erode esophagus
   - decreased alertness – from stroke, fatigue or dementia
   - compulsive behaviour – from stroke
   - respiratory complications – from pre-existing COPD
   - sensory deficits – hearing and vision, smell and taste – may or may not be stroke-related
   - abnormal reflexes – usually due to neurologic disorder

- reluctance to eat – is multifactorial – food taste, texture, inability to feed self with dominant hand, depression post-stroke

Types of Dysphagia

is related to the phase of the swallow:

Oral-phase dysphagia
- difficulty manipulating food and forming a bolus

Oral-pharyngeal dysphagia
- delay or abnormality in transfer of bolus from oral cavity to pharynx

Esophageal dysphagia
- inefficient / impaired transfer of bolus through upper esophageal sphincter, down esophagus, and into stomach
- due to obstruction, dysmobility, or cardiac sphincter impairment

Interdisciplinary Dysphagia Team

Speech Language Pathologist – focus is on swallowing issues and communication techniques

Dietitian – focus is on nutrition and hydration

Physician – prescriptive role for team consults and medication regime

Nursing Staff – ADL care and working cooperatively with all team members to develop, implement and evaluate care plan

Occupational Therapist – ADL activities, adaptive devices, seating (wheelchair)

Physiotherapist – mobility issues: transfers, bed mobility, walking – walkers

Stroke Survivor, Family and Care Providers – the support team who provide input to the interdisciplinary team

Dysphagia Screening

- is a formal dysphagia screening program at the Aphasia Institute in Toronto
- SLP's use TOR-BEST Screening (Toronto Bedside Swallowing Screening Test)
- identifies the presence or absence of dysphagia
- identifies risk of complications of dysphagia

- process includes: - listening to your client
  - observing your client
  - listening some more

- as a caregiver you can tell if the client is having "swallowing issues" by observing and listening for:
  - coughing or gagging
  - throat clearing
  - has a wet "gurgly" voice
  - takes a long time to swallow and eat
  - may attempt to swallow several times
  - food pockets in mouth
  - drooling
  - poor chewing
  - complaints of pain, "something sticking"
- and sometimes you hear nothing at all
- if you have concerns, contact the SLP or the trained screener in your institution

Dysphagia Management

- is directed to client (stroke survivor) safety
- is based on the survivor's history, SLP assessment findings, and the client's prognosis
- the objectives are:
  1. to protect the airway from obstruction
  2. to decrease the chance of food or fluid entering the lungs
  3. to ensure adequate nutrition and hydration
  4. to maintain quality of life – as professionals can recommend to clients what they should or should not do – but we cannot force them to comply

Common Special Diets

<u>Pureed foods</u>
- are smooth and homogenous, spoon thick consistency
- examples (for texture consistency) – yogurt, applesauce, mashed potatoes

<u>Minced / moist minced foods</u>
- are soft solid foods that have been chopped to pea-sized particles and are moist enough to form an easy-to-chew bolus

<u>No dry particulates (cookies, pie crust, raw fruit and vegetables)</u>
- are hard to form into a bolus

<u>No bread products</u>
- bread products can be gummy and can stick in client's throat

No mixed consistencies
- food that combines liquids and solids (e.g., fruits in syrup, cereal and milk, soup with vegetables)

No thin fluids
- e.g., water, juice, milk, tea, ice cream, jello

Thickened fluids (proceed with caution . . .)
- are pre-thickened fluids available
- thicken fluids to "nectar"

Foods which may cause reflux
- highly spiced and acidic foods (e.g., coffee, chocolate)

Swallowing Care Plan

- should be posted in the client's room and have the following information available:

1. Positioning information
   - client sitting at 90°, support with pillows / bolsters as required
   - chin should be slightly tucked in

2. Pain management
   - ensure client has received analgesics 20-30 minutes before meal if required

3. Food / fluid texture
   - as ordered
   - can use potato flakes, mashed potatoes to thicken soup

4. Adaptive equipment
   - eating utensils with build-up handles
   - weighted plates, plates / bowls with non-skid bottom and built-in guard on 1 side

5. Feeding technique
   - slow rate of presentation, allowing adequate time between bites of food
   - present 1 tsp. at a time
   - encourage 2 swallows / bite
   - advise client what food you are presenting
   - allow conversation between bites
   - watch for swallowing
   - check for pocketing of food in cheek after feeding
   - alternate liquids and solids, do **not** combine them in the same bite

6. Communication strategy

- use clear, simple directions
- remove distractions (radio, TV, bright sunlight)
- provide visual cues as required

7. Behaviour management
   - stimuli removal as above
   - may have to offer single item at a time
   - may have to limit food serving size presented due to impulsivity of client to cram all available food into mouth

► Participant Feeding Exercise

- have participants feed each other a single size serving of pudding
- they should try standing to feed, over-filled spoons, and then proper sitting and portion sizes
- have participants use a thickener to thicken: 60 ml of juice, carbonated drink, tea – to nectar consistency
- have many spoons available and have students taste different drinks

Complications of Dysphagia

Aspiration
- pneumonia is usually from oral bacteria
- choking: poor positioning; too rapid feeding pace; too much food in mouth

Dehydration
- (see below)

Malnutrition
- (see below)

Increased length of hospital stay
- due to complications

Placement decisions
- LTC, retirement home if not able to manage meals

Social isolation
- eating is a social time – do not want to eat with others if food drops out of mouth

Quality of life issues
- what does the survivor want?
- are they happy?

Dehydration

a survivor / client may be at risk for dehydration if the following exist:

- inability to swallow thin fluids
- refusal to take fluids at meals or at snack
- needs assistance with eating and drinking
- lacks the feeling of thirst
- has communication problems
- has memory problems
- is ill (i.e., GI flu, URI)
- has a fear of incontinence

Signs of Dehydration

- decreased urine output, urine dark, concentrated / or foul smelling
- frequent UTI's
- thick stringy saliva
- constipation
- confusion
- rapid weight loss
- fever
- decreased skin elasticity

Malnutrition

signs and symptoms:

- weight loss
- reduced vitality
- skin breakdown
- impaired wound healing
- reduced resistance to infection

General Feeding Tips and Strategies

- keep client upright at 90° angle during meals, and between 60-90° for at least ONE HOUR after meals
- head slightly flexed forward
- head in midline

- small amounts of food and liquid at a time (think about 1 level teaspoon ONLY) if feeding
- follow recommendations (e.g., double swallow, clear throat, cough, turn to left / right, diet modifications)
- support the legs in bed (pillow under knees) and pillows to prop the body to midline
- slow rate of feeding – don't forget to talk!
- ALWAYS be at eye-level or below – absolutely NO exceptions
- wait for the person to swallow before continuing
- minimize distractions
- KNOW YOUR CLIENT

Mouth and Dental Care

Oral Hygiene

- to remove plaque from teeth, dentures, roof of mouth, tongue and cheeks
- is done with toothpaste and brush before breakfast & at bedtime
- is done with water and brush after meals (and before if dysphagia present)
- especially after last meal
- check for pocketing of food in cheeks
- assist the survivor as required with their oral care

Tools

- soft tooth brush, electric toothbrush
- alcohol-free mouthwash
- if dentures, denture brush
- toothettes are not effective

RESOURCE LIST

Heart and Stroke Foundation of Ontario

For more information or to order any of the following resources please visit the Heart and Stroke Foundation of Ontario website at http://profed.heartandstroke.ca

- Heart and Stroke Foundation of Ontario (2002) Tips and tools for everyday living: A guide for Stroke Caregivers. Heart and Stroke Foundation of Ontario: Toronto online at http://profed.heartandstroke.ca.

- Stroke Network of Southeastern Ontario (2006). Tips and tools for everyday living: A guide for stroke caregivers: "Putting it into practice" video series online at www.strokenetworkseo.ca
  - Video #1 Recognize and React to the Signs and Symptoms of Stroke
    - Used in all 5 workshops
  - Video #2 Communication
    - Used in workshop #5 Communication and Behaviour
  - Video #3 Meal Assistance & Hydration
    - Used in workshop #4 Nutrition, swallowing, feeding and hydration
  - Video #4 Cognitive, Perceptual & Behavioural Problems
  - Video #5 Mobility
    - Used in workshop #3 Mobility

- Risk Assessment: online at www.heartandstroke.ca/assess

- Management of Dysphagia in Acute Stroke. An Educational Manual for the Dysphagia Screening Professional (2006) online at http://profed.heartandstroke.ca/

- Management of Dysphagia in Acute Stroke. Nutrition Screening for Stroke Survivors Ontario Best Practice Guidelines (2006) online at http://profed.heartandstroke.ca/

- Ontario Best Practice Guidelines for Stroke Care. Online at http://profed.heartandstroke.ca/

- Canadian Best Practice Recommendation for Stroke Care: 2006 online at http://www.canadianstrokestrategy.ca/eng/resourcestools/best_practices.html

- Let's Talk About Stroke and other patient education resources
  - Heart and Stroke Foundation of Ontario Health Information Resource Catalogue online at http://www.heartandstroke.on.ca/site/c.pvI3IeNWJwE/b.3829047/k.91D8/Health_Information_Resource_Catalogue.htm

Additional Resources

- Stroke Network of Southeastern Ontario: www.strokenetworkseo.ca
  - Visit this site for additional educational resources and popular resource links

- RNAO (2005). Best Practice Guideline: Stroke Assessment Across the Continuum of Care. Online at www.RNAO.org

- Video: "Hands That Feed." Canadian Forces Production, 1994. Catalogue #: 22-1331H; online at http://www.forces.gc.ca/site/avdb/SearchProd_e.asp?intPage=9&lstMaxHit=200&txtSearchProd=time&txtSearchCatalog=&chkSynopsis=Yes

- Journal Article: Rosemarie King & Patrick Semik. (April 2006). Stroke Caregiving: Difficult Times, Resource Use and Needs During the First 2 Years. Journal of Gerontological Nursing, 32(4), 37-45. online at www.JOGNonline.com

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WORKSHOP 4: Nutrition, Swallowing, Feeding and Hydration

Participant Evaluation Form

1. Using the following scale (1-9), please rate your level of knowledge / skill / experience **BEFORE** today's workshop and **AS A RESULT OF** today's workshop for each of the following statements.

NONE or MINIMAL Knowledge/Skill/Experience			**SOME** Knowledge/Skill/Experience			**EXTENSIVE** Knowledge/Skill/Experience		
1	2	3	4	5	6	7	8	9

Enter a number in the boxes below

How would you rate your:	**BEFORE** the Session	**AS A RESULT OF** the Session
a. Ability to recognize the possible 5 signs and symptoms of a sudden stroke		
b. Understanding of how to react to the sudden signs and symptoms of a sudden stroke		
c. Ability to identify risk factors for having a stroke		
d. Knowledge of how a stroke could effect a stroke survivor's ability to swallow		
e. Knowledge of how to position the stroke survivor for feeding		
f. Knowledge of the roles and functions of the interprofessional team members		
g. Knowledge of feeding techniques for the stroke survivor		
h. Ability to identify feeding and swallowing problems the stroke survivor may experience		

2. Overall, to what extent did this workshop meet your expectations?

_____ Did not meet

_____ To some extent

_____ To a great extent

_____ Exceeded my expectations

3. Was the amount of information presented…

   _____ Too much _____ About right _____ Not enough

4. The length of time for the workshop was…

   _____ Too much _____ About right _____ Not enough

5. What did you find most helpful about the workshop?

   _____

   _____

6. What did you find least helpful about the workshop?

   _____

   _____

7. What is your overall rating of the workshop?

   _____ Excellent _____ Good _____ Fair _____ Poor _____ Very Poor

8. Any other comments:

   _____

   _____

   _____