MANUAL FOR FEEDING AND SWALLOWING MANAGEMENT IN LONG-TERM CARE FACILITIES

MANITOBA
September 2010

Manitoba

Regional Health Authorities

Assiniboine • Brandon • Burntwood • Churchill • Central • Interlake • Norman • North Eastman • Parkland • South Eastman • Winnipeg

TABLE OF CONTENTS

Section 1	**Guide to the Use and Maintenance of the Manual**		**1**
	1-1	Introduction	2
	1-2	Purpose	2
	1-3	Scope	3
	1-4	Intended Use	3
	1-5	Organization	4
	1-6	Maintenance	4
Section 2	**Policy Statements**		**5**
	2-1	Swallowing and Feeding Assessment	6
	2-2	Education	7
Section 3	**Procedures and Guidelines – Swallowing Disorders**		**9**
	3-1	Swallowing Disorders	10
	3-2	Residents Who Are At Risk of Experiencing Feeding and/or Swallowing Disorders	12
	3-3	Complications Associated with Feeding Difficulties or Swallowing Disorders	13
	3-4	Screening Tool to Identify Swallowing Disorders and Determine Appropriate Diet Texture and Viscosity	13
Section 4	**Procedures and Guidelines – Feeding Difficulties**		**15**
	4-1	Feeding Difficulties	16
	4-2	Description of Indicators of Potential Feeding Difficulties	16
	4-3	Indicators of Feeding Difficulties	19
Section 5	**Procedures and Guidelines – Referral**		**21**
	5-1	Referral Guidelines	22
	5-2	Oral Feeding and Swallowing Difficulties – Decision Referral Guidelines	23
Section 6	**Procedures and Guidelines – General Safe Feeding**		**25**
	6-1	General Safe Feeding	26
	6-2	Oral Hygiene	29
	6-3	Feeding a Resident	32
	6-4	Residents Who Eat Independently	33
	6-5	Quality of Life	33
Section 7	**Procedures and Guidelines – Managing Feeding and Swallowing Problems**		**35**
	7-1	Managing Feeding and Swallowing Problems	36
	7-2	Feeding a Resident	36
	7-3	Assistive Devices for Physical Limitations	39
	7-4	Promote Independence	40
	7-5	Important Observations During and After Eating	40

Section 8 **Procedures and Guidelines – Nutritional Management** **43**
8-1 Nutritional Management 44
8-2 Texture Modification 44
8-3 Modification of Fluid 47
8-4 Other Factors to Consider with Texture Modified Diets 49

Section 9 **Procedures and Guidelines – Choking** **51**
9-1 Choking 52
9-2 Unconscious Resident 52
9-3 Follow-up Post Choking Event 53

Section 10 **Procedures and Guidelines – Ongoing Monitoring** **55**
10-1 Ongoing Monitoring 56

Section 11 **Glossary of Terms** **57**
11-1 Glossary of Terms Used 58

Section 12 **Appendices** **63**
Appendix A Oral Hygiene Instructions 64
Appendix B Meal Observation Forms 71
Appendix C Recommended Foods for Texture Modified Diets 79
Appendix D Sample Menus – Texture Modified Diets 82
Appendix E Categories of Fluid Viscosity 84

Section 13 **Reference List** **85**
13-1 Cited References 86
13-2 Additional References 87

Section 14 **Reference Material** **91**
TTMD: Test of Texture Modified Diets 92

ACKNOWLEDGEMENTS

The revision of this manual was made possible through the collaborative efforts of the following members of the working group:

Roxie Eyer, RD, Chair	Manitoba Health
Patti Chegwin, RN	Assiniboine Regional Health Authority
Amber English, SLP	Assiniboine Regional Health Authority
Grace Murray, RD	Assiniboine Regional Health Authority
Amy Noto, RD	Brandon Regional Health Authority
Shauna Sanderson, SLP	Brandon Regional Health Authority
Kathleen Hodgins	Burntwood RHA
Kari Dyck, SLP	Central Regional Health Authority
Rochelle Heinrichs, SLP	Central Regional Health Authority
Jo-Anne Metcalfe, RD	Central Regional Health Authority
Agnieszka Piatkowska, RD	North Eastman Regional Health Authority
Michelle Mason, RD	NorMan Regional Health Authority
Sarah Ansine, SLP	South Eastman Regional Health Authority
Elizabeth Hopkins, RD	South Eastman Regional Health Authority
Angela Forrest Kenning, SLP	Winnipeg Regional Health Authority
Jennifer Graham, OT	Winnipeg Regional Health Authority
S. Prince, OT	Winnipeg Regional Health Authority
Jean Helps, RD	Winnipeg Regional Health Authority
Shelley Irvine Day, SLP	Winnipeg Regional Health Authority
Kelly Tye Vallis, SLP	Winnipeg Regional Health Authority

Special thanks to:

Mary Bertone, RDH	University of Manitoba
Mickey Wener, RDH, MEd	University of Manitoba
Ellen Ross, RDA	University of Manitoba
Carol Yakiwchuk, RDH, BScDH	University of Manitoba (formerly)

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

SECTION 1

GUIDE TO THE USE AND MAINTENANCE OF THE MANUAL

1-1 INTRODUCTION

1.1.1 Age-related changes and concomitant disease processes predispose individuals to feeding and/or swallowing difficulties, which may result in choking and/or aspiration, especially during food and fluid intake. While estimates vary, documented prevalence of swallowing difficulties (or dysphagia) in the elderly is 12-60%. Disease processes, such as stroke, can increase prevalence as high as 90%[1]. Additionally, it is estimated that 40% of personal care home (PCH) residents who require assistance with eating have dysphagia[2].

1.1.2 Managing feeding and/or swallowing disorders requires the input of several disciplines; therefore, this manual was developed through the coordinated efforts of representatives from targeted disciplines including speech language pathology, clinical nutrition, occupational therapy, and nursing.

1-2 THE PURPOSE OF THE MANUAL

1.2.1 Provide pertinent information for staff of the Regional Health Authorities (RHA) with the responsibility of feeding and/or supervising the feeding of residents with the potential for experiencing feeding and/or swallowing difficulties. The goal is to reduce the risk of choking and aspiration in affected residents, while maximizing quality of life, and maintaining adequate nutrition and fluid intake.

1.2.2 Provide consolidated information pertaining to feeding and swallowing management in a form and manner which may be easily referenced.

1.2.3 Aid the training and increase the efficiency of PCH staff (including students and volunteers) by providing pertinent information in a readily accessible form.

1-3 SCOPE

1.3.1 The manual contains policy and procedure interpretations relate to the management of feeding and swallowing difficulties within PCHs.

1.3.2 The manual is designed to educate and guide PCH staff in the provision of feeding and swallowing interventions reflective of best practice in a consistent and equitable manner throughout Manitoba's PCHs.

1.3.3 The guidelines, information, policy statements, and procedures outlined in the manual are subject to ongoing review and update, as required, to ensure their relevance in view of changing circumstances.

1.3.4 The manual is not a comprehensive procedural document. Rather, it should be viewed as an adjunct to other relevant, current (within five years) basic procedural references (e.g. books, manuals, journal articles).

1-4 INTENDED USE OF THE MANUAL

1.4.1 RHAs will find the manual useful to increase staff awareness of the basic principles associated with feeding and swallowing management interventions for those PCH residents who are experiencing, or are at risk of developing, feeding/swallowing difficulties.

1.4.2 RHAs may use the information contained herein as a guide for staff education. Any of the sections may be photocopied for quick reference by staff to increase their ability to provide safe care to residents.

1-5 ORGANIZATION OF THE CONTENT

The content of the manual is divided into fourteen sections.

Section 1	Guide to the Use and Maintenance of the Manual
Section 2	Policy Statements
Section 3	Procedures and Guidelines – Swallowing Disorders
Section 4	Procedures and Guidelines – Feeding Difficulties
Section 5	Procedures and Guidelines – Referral
Section 6	Procedures and Guidelines – General Safe Feeding
Section 7	Procedures and Guidelines – Managing Feeding and Swallowing Problems
Section 8	Procedures and Guidelines – Nutritional Management
Section 9	Procedures and Guidelines – Choking
Section 10	Procedures and Guidelines – Ongoing Monitoring
Section 11	Glossary of Terms
Section 12	Appendices
Section 13	Reference List
Section 14	Reference Material:

TTMD: Test of Texture Modified Diets

1-6 MAINTENANCE OF THE MANUAL

1.6.1 Manitoba Health will coordinate the activities surrounding updating the manual.

1.6.2 The full manual shall be reviewed and updated at least every five years by a working group with representation from the RHAs and relevant professional designations.

SECTION 2
POLICY STATEMENTS

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

2-1 SWALLOWING AND FEEDING ASSESSMENT

2.1.1 On or before admission, the facility will obtain current resident information regarding swallowing status, feeding requirements and diet. This may include information from these sources:

a) Referring facility – Acute Care / PCH

b) Resident/Family

c) Continuing Care Case Coordinator

d) Family Physician

e) Details of any documented swallowing assessment or plan

2.1.2 Within 72 hours of admission, a member of the health care team [e.g. Registered Nurse (RN), Registered Psychiatric Nurse (RPN), Licensed Practical Nurse (LPN), Registered Dietitian (RD), Occupational Therapist (OT)] will complete a meal observation screening that addresses both feeding and swallowing abilities.

a) Responsible health care team members may vary by RHA and are defined by RHA policy.

b) Comparable tools may be used.

Refer to Appendix B for examples of screening forms.

2.1.3 Residents who exhibit any of the indicators of feeding and/or swallowing difficulties are assessed by the health care team. Referral for further assessment to the appropriate discipline may occur, as defined by RHA policy.

2.1.4 Based on the assessment results, a management plan for identified feeding and swallowing difficulties will be developed and implemented by the health care team. Refer to Sections 6, 7 and 8 of this manual.

2.1.5 Ongoing monitoring is essential and will be conducted in accordance with the needs of the individual resident by the health care team. Refer to Section 10.

2.1.6 In the event that a resident's feeding and/or swallowing difficulties are not satisfactorily resolved with the current care plan, further discussion with the resident and/or family/proxy, physician, and health care team is required.

a) The discussion shall include concerns relating to ethical issues, quality of life, risk factors associated with the feeding and/or swallowing disorder, available options for further assessment (including those outside the RHA), and possible outcomes of such further assessment.

b) The outcome of these discussions and planned actions to address the risk must be documented in the care plan.

2.1.7 All documentation will be timely, will comply with established RHA policy, and will include, but not be limited to:

a) All screening and assessment results (including the Meal Observation Screening Form), management plans, incidents, interventions, and discussions with the resident and/or family/proxy,

b) Documentation of the informed decision(s) of the resident and/or family/proxy regarding acceptance of the management plan.

2-2 EDUCATION

2.2.1 Required Basic Knowledge of Staff Responsible for Feeding or Coaching* Residents

a) Indicators of swallowing and feeding difficulties.

b) General safe feeding practices.

c) Managing feeding and swallowing problems.

d) Purpose of diet texture and fluid viscosity modifications.

e) Facility policy in the management of choking incidents.

* Coaching refers to the direction provided, for example verbal prompts, to residents by staff, students, or volunteers, during meals.

2.2.2 The expected depth of staff knowledge of and competency in feeding and swallowing management will be appropriate to the staff category (e.g. RN, LPN, health care aide (HCA), etc.), areas of responsibility, and previous education and training. Staff includes students and volunteers who may assist residents during meals or snacks.

2.2.3 The RHA will ensure that

a) Each facility accesses a SLP or other swallowing specialist (refer to Section 11 – Glossary of Terms) to provide training to designated members of the health care team (see 2.1.2) on the administration of swallowing screening tools (such as the Test of Textured Modified Diets) and the management of feeding and/or swallowing difficulties.

b) If a SLP or other swallowing specialist is not readily available, a designated staff educator will be trained by a SLP or other swallowing specialist to provide the training on the required basic knowledge related to the management of feeding and/or swallowing difficulties to the designated facility staff.

c) Inservice education is provided in the RHAs on an annual basis for designated staff responsible for regional training to ensure ongoing proper use of the swallowing screening tools.

d) All existing staff is responsible for communicating appropriate food selection to residents and family, supervising the dining rooms, and feeding or coaching residents receive appropriate inservice education related to general safe feeding practices, management of feeding and swallowing problems and choking events and texture and consistency modified diets.

e) All regional resources relevant to feeding and swallowing are reviewed and updated as required or at a minimum every five years, e.g. educational material and assessment tools.

2.2.4 Family Members and Friends

The RHA will have a process to ensure that family members or friends who feed residents (or offer foods to residents within or outside of the PCH) are offered education on safe feeding practices which includes appropriate food and fluid selection.

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

SECTION 3

PROCEDURES AND GUIDELINES

SWALLOWING DISORDERS

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

3-1 SWALLOWING DISORDERS

Each health care team member who feeds residents is responsible for identifying those residents who have difficulty swallowing. In order to do this efficiently and effectively, one must first have a basic understanding of how a normal swallow is accomplished.

3.1.1 The act of swallowing is a complex combination of voluntary and involuntary movements. It is the product of approximately 50 paired muscle movements and involves virtually all levels of the central nervous system. Swallowing begins with the placing of food or liquid into the mouth and ends once the material enters the stomach.

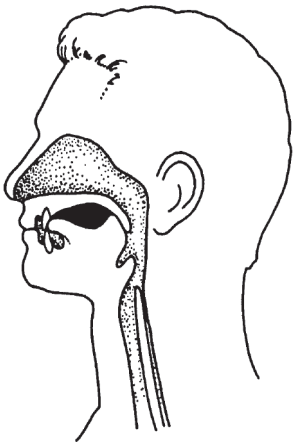
3.1.2 A swallowing impairment may occur as a result of a variety of medical conditions, structural/anatomical changes or damage and/or congenital abnormalities. A swallowing impairment may present acutely such as after a cerebrovascular accident (stroke) or may develop more gradually, as occurs with dementia.

3.1.3 A swallowing impairment may occur within any one or combination of the three stages of swallowing. Symptoms of the swallowing impairment will vary depending upon the area of abnormality/damage or medical condition.

3.1.4 There are **three main stages** in the swallowing process.

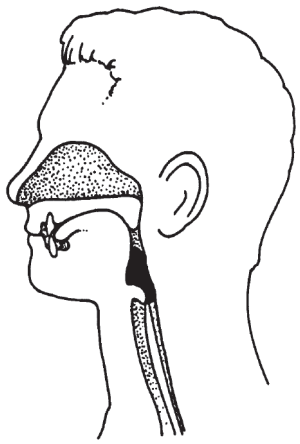
a) Oral Stage

- The purpose of the Oral Stage is to prepare the food or liquid for the swallow.
- Foods and liquids are swallowed differently.
- Food is chewed (masticated), mixed with saliva, and formed into a cohesive food ball (bolus). The food bolus is then moved to the back of the mouth with a front-to back squeezing action, performed primarily by the tongue.



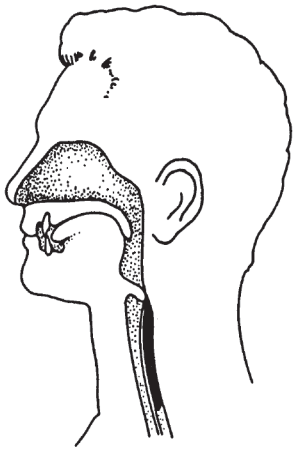
- With liquids, the bolus is held very briefly between the tongue and the roof of the mouth before moving towards the back of the mouth.
- The length of this voluntary stage varies with the type of food or liquid.

b) Pharyngeal Stage



- The purpose of the Pharyngeal Stage is to protect the airway.
- This involuntary stage begins with the pharyngeal swallowing response. The bolus enters the upper throat area (above the larynx). Several actions then occur almost simultaneously: the soft palate elevates to close off the nasal passageway; the hyoid bone (Adam's apple) moves to allow the epiglottis to invert and close off the trachea (airway); and the cricopharyngeal (upper esophageal) sphincter opens. At the same time, the tongue base moves backwards and approximates with the posterior pharyngeal wall as it moves forward.
- These actions help guide the bolus downward to the esophagus.
- This stage of the swallow takes approximately 1-2 seconds to complete and is the part of the swallow that is often referred to as the "swallow reflex".

c) Esophageal Stage



- The purpose of the Esophageal Stage is to transfer the bolus from the pharynx to the stomach.
- The bolus enters the esophagus (the tube that transports the food directly to the stomach) via the cricopharyngeal sphincter and is moved to the stomach through the peristaltic squeezing action of the esophageal muscles.

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

3-2 RESIDENTS AT RISK OF EXPERIENCING FEEDING DIFFICULTIES AND/OR SWALLOWING DISORDERS[3, 4, 5]

Residents may have one or a combination of conditions that may contribute to feeding and/or swallowing impairments and that may be temporary, progressive or chronic.

Any new diagnosis or change in an existing condition may impact a resident's swallowing ability. Reassessment is essential.

The list below, while not intending to be all-inclusive, is indicative of the complexity of the issue.

3.2.1 Normal Aging

a) Decreased saliva production leads to xerostomia (dry mouth) which not only makes food harder to chew and swallow but also impacts the fit of dentures.

b) Sensation of thirst decreases which may lead to dehydration.

c) Fewer taste buds detecting sweet and salty but sensitivity for bitter and sour remain. Food is less palatable.

d) Esophageal sphincter weakens; reflux may result.

e) Gastric emptying slows, which contributes to poorer food intake later in the day.

f) Tongue mass and strength decrease which makes it harder to control food and clear the mouth.

g) Facial muscles atrophy, which reduces the control of food in the mouth and may lead to food pocketing in the cheeks.

h) Cough reflex weakens, which may contribute to silent aspiration.

3.2.2 Neurological

a) Acquired – CVA (stroke), head/spinal cord trauma, infection (e.g. polio), anoxia

b) Congenital – Cerebral palsy, muscular dystrophy

c) Degenerative – Parkinson's, Multiple Sclerosis, A.L.S., Huntington's, Alzheimer's and other dementias

3.2.3 Physical/Structural Diseases or Injuries

a) Any condition causing injury/damage to anatomical structures including trauma, surgical intervention for disease management (e.g. cancer)

3.2.4 Psychogenic

a) Psychiatric diagnosis/history which may include dementias (noted in 3.2.2) or other psychiatric conditions which may impact food intake/perceptions.

b) Developmental delay

3.2.5 Medications

Many types of medications may impact the swallowing process. It is, therefore, important to review a resident's prescribed medications as a part of the overall assessment. In the PCH population, some of the more relevant types include:

a) Antipsychotics (Haldol, thorazine)

b) Antidepressants

c) Neuroleptics

d) Antiparkinsonian drugs (artane, Sinemet)

e) Antihypertensives (beta blockers, diuretics, anticoagulants)

f) Anti-anxiety drugs (valium)

g) Antihistamines (Benedryl, Dimetapp)

h) Antibiotics (tetracycline)

3-3 COMPLICATIONS ASSOCIATED WITH FEEDING DIFFICULTIES OR SWALLOWING DISORDERS

Residents with feeding difficulties and/or swallowing disorders, if not properly managed, may be at risk for developing a variety of complications.

Dehydration	Delayed wound healing
Malnutrition	Decubitus ulcers
Aspiration pneumonia	Reduced resistance to infections
Weight loss	Urinary tract infections
Reduced muscle strength	Constipation
Choking	Reduced comfort/quality of life

3-4 SCREENING TOOL TO IDENTIFY SWALLOWING DISORDERS AND DETERMINE APPROPRIATE DIET TEXTURE AND VISCOSITY

3.4.1 Indicators of Swallowing Disorders

A meal observation screening form that identifies indicators of a swallowing disorder must be completed within 72 hours of the resident's admission to the PCH and at any time a swallowing impairment is suspected. It may also be used for subsequent re-screening of the resident's status in this functional area.

3.4.2 Review the resident's medical chart and/or other reported observations for indicators that identify a swallowing disorder. These may include any of the following:

a) Pain or discomfort associated with eating.

b) Symptoms of malnutrition and dehydration.

c) Concern expressed by the interdisciplinary team, resident or family about a swallowing difficulty.

d) A mechanical alteration of the mouth and/or throat.

e) Persistent, problematic secretions.

f) Recurrent incidents of pneumonia.

g) History of choking incident (obstructed airway).

3.4.3 Observe the resident **during a meal** for the presence of any indicators of a swallowing disorder. Indicators include:

a) Regular coughing or clearing of the throat at meals.

b) Pocketing of food in the mouth after swallowing.

c) Repetitive tongue-rocking from front to back.

d) Frequent and significant food loss from the mouth.

e) Wet, gurgly vocal quality or breath sounds after swallowing food or liquid.

f) Loss or decreased ability to chew current diet.

g) No swallowing response or delayed swallow (more than 5 seconds to swallow after chewing or multiple swallows for each bite).

h) Taking longer than 20 minutes to eat.

i) Mealtime resistance

3.4.4 If any indicators of a swallowing disorder are present, further assessment is required. If a SLP or other swallowing specialist is not readily available, Part II and III of the TTMD or another comparable tool should be used to determine necessary modifications to diet texture and viscosity.

- The TTMD, found in Section 14 of this manual, is a practical and easy to use tool that is recommended to identify residents with swallowing difficulties; to determine an appropriate texture and viscosity modified diet; and to determine appropriate referrals to SLP or other swallowing specialist.
- The gag reflex cannot be used to predict the presence or adequacy of a swallow.
- Syringe feeding should never be used unless recommended by a SLP or other swallowing specialist, following an in-depth swallowing assessment.

3.4.5 Develop a management plan. Refer to Sections 6, 7 and 8 of this manual.

3.4.6 If the swallowing problems are not satisfactorily resolved after the management plan has been implemented, consider further interventions as outlined in the policy statement 2.1.6 of this manual.

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

SECTION 4

PROCEDURES AND GUIDELINES

FEEDING DIFFICULTIES

4-1 FEEDING DIFFICULTIES

4.1.1 By determining individual strengths and limitations, each resident can be provided with the tools to promote independence and participation in feeding. Screening of resident's eating abilities and, as indicated, further assessment by an OT or physiotherapist (PT) will provide information about the resident's physical and functional status relative to eating.

4.1.2 A resident's ability to independently eat, need for partial assistance, or need for full feeding can be determined using known indicators of feeding difficulties, as described in Section 4.2 of the manual.

4.1.3 An assessment of resident feeding abilities should be completed by a designated member of the health care team, as defined by RHA policy, within 72 hours of admission. The "Indicators of Feeding Difficulties" checklist (Section 4.3 of the manual) is an example; a comparable checklist may be used. The checklist may be subsequently used for re-assessment.

4-2 DESCRIPTION OF INDICATORS OF FEEDING DIFFICULTIES

4.2.1 Physical Status

Physical status encompasses the total assessment of the resident's physical abilities and the limitations in terms of eating and/or feeding caused by various disease processes or debility.

a) Limitations in joint range of movement in the upper extremities can affect a resident's ability to move food and fluids from the table to the mouth.

b) Limitations in manual dexterity affect a resident's ability to grasp utensils and cups/glasses (e.g. muscle contractures).

c) Limitations in oral motor control relevant to weakness in the lips, cheeks and tongue.

d) Fatigue level/activity tolerance impacts whether or not the resident has enough energy to eat independently. Discussion with the resident regarding priority activities in the case of limited energy is essential. The resident may choose to expend energy at mealtimes or conserve it for other activities.

e) Pain may interfere with a resident's feeding ability. Pain can be defined as discomfort related to disease processes such as joint swelling (e.g. arthritis). Discomfort can also be related to posture, skin integrity, and positioning.

4.2.2 Perceptual Motor Status

Perceptual motor status is the integration of sensory input into meaningful information to be used by the brain to respond to and interact with one's environment.

a) A resident's perceptual motor status may be impaired if he/she

- Neglects one side of the environment i.e. the place setting, a limb or hand.
- Is unable to recognize utensils/objects related to mealtime and their intended use.
- Is unable to feed self spontaneously or with cueing.
- Is unable to sequence tasks.

b) Sensory functions such as hearing, vision, touch (ability to distinguish hot/cold), taste and smell all have an impact on the resident's ability to interpret his/her environment. Residents should have their glasses, dentures and hearing aids in place, if necessary, to allow for maximum function. Visual impairments and the ability to distinguish between hot and cold add significantly to the safety issues associated with independent feeding by the resident.

4.2.3 Positioning

Positioning refers to the resident's ability to maintain the head and trunk in an upright position independently or with support. The ability to swallow is automatically compromised without this upright position.

a) Residents who are unable to maintain the head, trunk, and hips in midline for the duration of the meal require a seating assessment by OT or PT to determine adaptive seating needs.

b) The ability to maintain proper head/body position is important for swallowing safety.

c) Other factors such as table-to-seat height and distance from seat to table may warrant an assessment by OT.

4.2.4 Functional Status

Functional status is the resident's ability to participate within the environment with maximum independence, comfort and dignity. A resident's functional level is influenced by several factors.

a) Physical impairment, cognitive impairment and motivation may impact on the resident's independence in self-feeding.

b) The resident's level of independence with meal set up. The ability to open packages, cut food, remove lids, hold utensils, and manage finger foods should be observed for difficulties.

4.2.5 Other Relevant Factors

Many additional factors may impact the task of feeding and, thereby, the level of independence with which a resident can complete the task. Such factors should be considered when determining dining room seating plans.

a) Behaviours – Restlessness, anger, confusion, decreased motivation, and impulsivity, for example.

b) Cognition – The resident's capabilities in terms of concentration, memory, insight, and the ability to follow one, two or three step commands.

c) Communication – A resident's ability to communicate personal needs verbally or non-verbally and the ability to understand the caregiver.

d) Length of time a resident takes to eat a meal and the volume of a meal consumed may be indicative of functional problems.

- A resident who eats too quickly or too much at a time may indicate a safety issue.
- A resident who consumes a small amount of food unassisted may indicate poor health, fatigue, decreased cognition or poor appetite.

e) Dining room seating plan – Aim to maximize safety and enjoyment of the meal.

4.2.6 If any of the above indicators are present, develop a management plan using the guidelines contained in Sections 6 and 7 of the manual.

4.2.7 A referral to an OT (or PT), as defined by RHA policy, should be considered to address any areas of impairment, to promote the safe feeding of all residents and to ensure maximum independence and correct posture.

4-3 INDICATORS OF FEEDING DIFFICULTIES

A. Physical Status **Impairment present**

- Able to hold utensils n
- Able to co-ordinate hand to mouth movement n
- Able to use both hands n
- Able to complete the meal with no evidence of fatigue n
- Oral motor control weakness evident n
- Sensory aids such as glasses, dentures, hearing aids required n
- Potential source of pain evident n
- Other: (mobility, tremor/spasticity, contractures) n

_____

_____

_____

B. Perceptual Motor Status **Impairment present**

- Able to recognize and correctly use objects related to mealtime n
- Able to locate objects bilaterally n
- Able to sequence tasks n
- Able to self feed with no cueing n
- Evidence of other sensory impairment (vision, hearing, touch) n

C. Positioning (for the duration of the meal) **Impairment present**

- Able to maintain head, trunk and hips in midline n
- Able to maintain head position n
- Issues re: table or seat height are evident n

D. Functional Status **Impairment present**

- Able to independently manage components of the meal, i.e. meal set-up, utensils, cups n
- Physical/cognitive function n

E. OTHER FACTORS (comment as necessary)

_____

_____

_____

_____

Date _____ Signature _____

SECTION 5

PROCEDURES AND GUIDELINES

REFERRAL

5-1 REFERRAL GUIDELINES

5.1.1 Identify the resources in your facility/region that are available to further assess the resident and assist in developing a plan of care, for example:

a) Nurse

b) Physician

c) Dietitian

d) Occupational Therapist

e) Speech Language Pathologist

f) Pharmacist

g) Physiotherapist (for positioning)

5.1.2 Residents, who have been assessed as having feeding and/or swallowing difficulties, should be referred to the available interdisciplinary team members so that a plan of care can be developed.

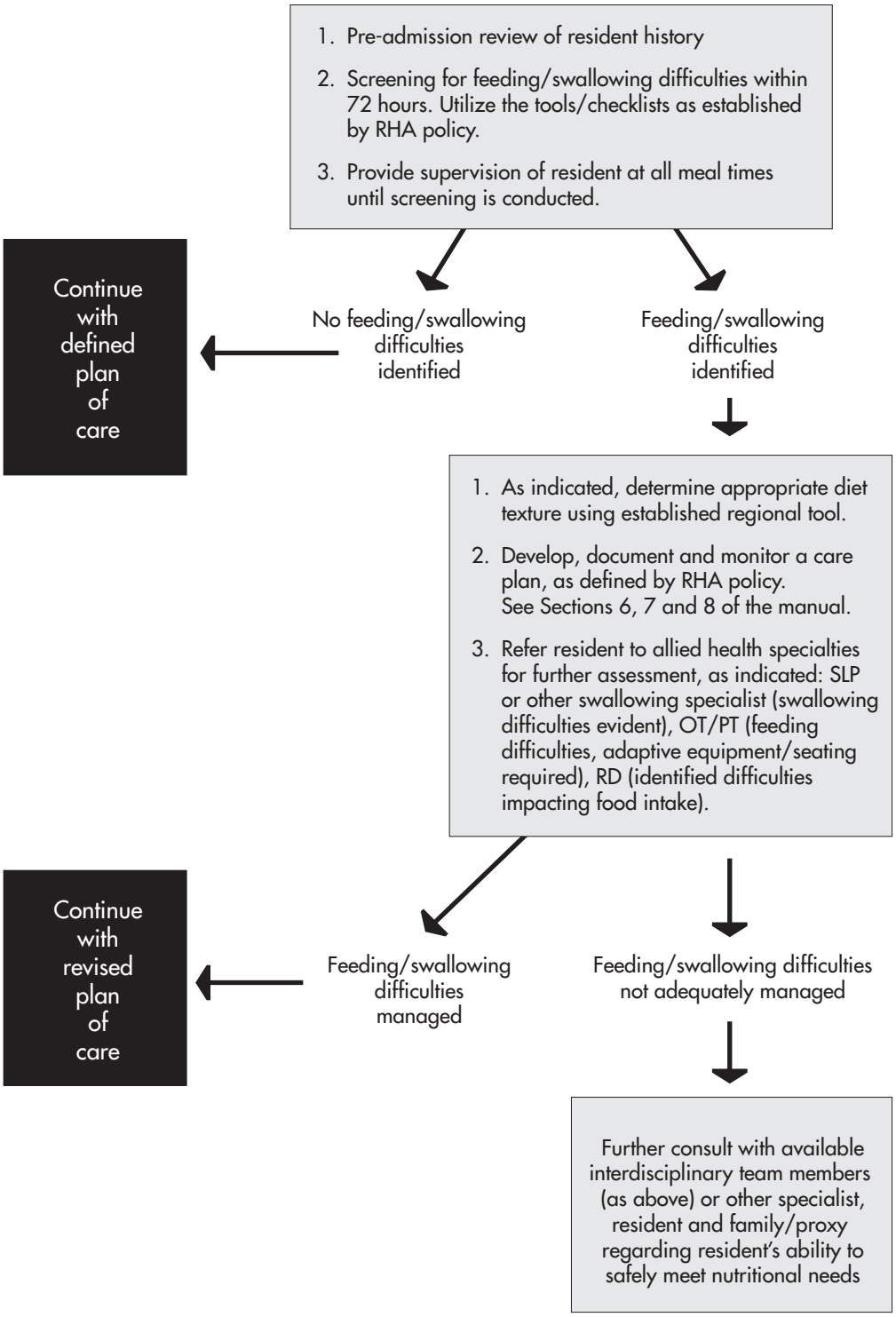
5.1.3 Residents may continue to have feeding and/or swallowing difficulties even after a plan of care has been developed and implemented by the interdisciplinary team. These residents should be referred to their physician to determine further intervention through discussions with resident and family/proxy regarding further investigations/treatments.

Refer to the Oral Feeding and Swallowing Difficulties Decision Referral Guidelines in Section 5-2.

5-2 ORAL FEEDING AND SWALLOWING DIFFICULTIES – DECISION REFERRAL GUIDELINES

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010



Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

SECTION 6

PROCEDURES AND GUIDELINES

GENERAL SAFE FEEDING

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

6-1 GENERAL SAFE FEEDING

These general strategies should be applied to **all residents** whether or not they are exhibiting any swallowing problems:

6.1.1 Confirm the resident's care plan as it pertains to feeding and swallowing.

a) Note any changes to the care plan specific to diet texture and fluid viscosity prior to initiating the meal.

b) Note any changes in the resident that may impact ability to participate in the meal process, for example, recent illness or changes in swallowing ability.

6.1.2 Readiness to eat

a) In order to eat safely, the resident must be awake and alert.

b) Monitor the resident for signs of fatigue which may indicate assistance is required. This may include hand over hand assistance to maximize independence.

c) Provide the resident with reminders, as required, to support independent eating. This is especially relevant for residents with dementia.

6.1.3 Environment

a) Keep the environment free of distraction. Turn off radios and televisions in the dining area.

b) Focus on the resident at mealtime. Limit unnecessary or unrelated conversation between staff members.

c) Maintain a pleasant atmosphere in the dining area, for example, adequate lighting, room décor, familiar smell (e.g. coffee perking)

6.1.4 Dentures

a) Label all dentures with the resident's name.

b) Ensure the resident's dentures fit well. Ill-fitting dentures pose a risk as they may create or magnify existing chewing and swallowing problems. In the absence of a proper fit, discourage their use during eating or drinking.

c) If denture adhesives are used to improve retention:

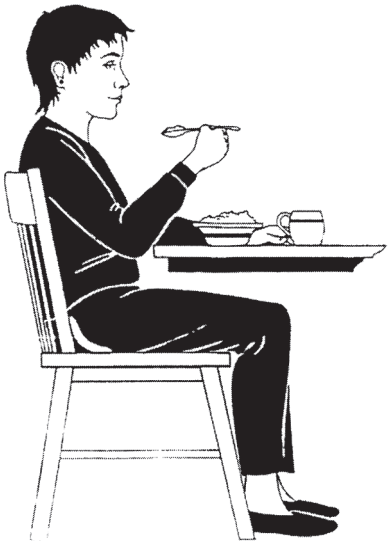
- Powdered versions are preferable.
- Use only zinc-free products. Denture creams containing zinc have been linked to neuropathy.
- If the resident has a known swallowing problem, the oozing of cream denture adhesives from under the denture presents a potential swallowing/choking risk.
- Denture adhesives must be removed daily during mouth care.

d) Consult a denturist or dentist to have dentures relined, or replaced, as necessary.

e) Alter diet texture to softer foods until the dentures are adjusted and can again be safely worn during meals.

6.1.5 Positioning for Safe Feeding:

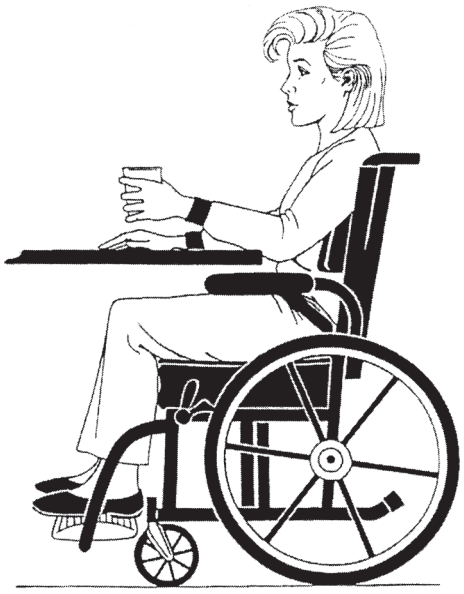
Proper positioning of the resident is automatically advantageous in allowing a safe and efficient swallow. Diagrams below illustrate positions commonly used.



a) In a chair

- Position hips, knees, and ankles as close to 90 degrees as possible.
- Position legs slightly apart with feet firmly supported on the ground or a footstool if feet cannot reach the ground.
- Maintain head, trunk and hips in midline.
- Maintain head in neutral position. Refer to diagrams in Section 7.2.4.
- Support arms at an appropriate height, i.e. shoulders relaxed and loose at sides and elbows at 90 degrees flexion.
- Ensure appropriate chair to table height to facilitate and maintain correct positioning.

b) In a wheelchair



- Seating in a wheelchair is intended to achieve the same positioning as sitting in a chair.
- Each seating system has been specifically selected based on the needs of the resident to accomplish the correct posture.
- Utilize each component part (e.g. lateral trunk supports, head supports, cushions, lap trays) during meal times to provide the resident with optimum support for independent or assisted feeding.
- Place the resident's feet on the foot pedals if the resident's feet do not reach the ground.

c) Sitting in a bed

- Fully elevate the head of the bed so the resident is seated as upright as possible, utilizing pillows, wedges, rolls, etc. to support the midline posture.
- Position the resident's head in midline in neutral position.
- Place pillows under the resident's knees or at the side for added support to the trunk.
- Keep the resident's hips at 90 degrees by adjusting the bed, supporting the knees with pillows, or by having the resident bend his knees and place feet flat on the bed.
- Place the tray on the bedside table, in front of the resident.

6.1.6 After oral intake

Maintain the resident in an upright position for 30-60 minutes after any oral intake, **including medications**, in order to aid digestion and reduce the risk of reflux.

6-2 ORAL HYGIENE

6.2.1 Oral hygiene includes:

a) Assessing the mouth for any lesions, irritations, or other obvious problems.

b) Brushing the teeth, gums, palate, inside of cheeks, and tongue.

c) Ensuring dentures are cleaned and properly positioned in the mouth.

6.2.2 Oral hygiene, ideally, should be completed first thing in the morning, after all meals and snacks, and at bed-time. However, completing oral hygiene in the morning after breakfast and at bed-time is most critical to maintain oral health.

a) Assess, upon admission and quarterly thereafter, the resident's level of ability to complete oral care independently and provide assistance as required.

b) Physical or cognitive limitations may make oral care difficult to complete independently.

6.2.3 For residents who wear dentures:

a) After eating, remove dentures (full and partial) and rinse to remove food particles.

b) Brush dentures thoroughly twice daily, in the morning and before bed.

c) Remove dentures at night to let tissues rest, or for 4-6 hours during the day.

d) Disinfect dentures daily in a denture cup with water and disinfecting tablet.

e) When the use of denture tablets presents a safety issue for the resident (see Cautions – 6.2.10), **following a thorough cleaning**, dentures may be soaked in cool water or air dried overnight.

- Water does not reduce bacteria on the dentures.
- If air drying dentures in the absence of thorough cleaning, any remaining debris will become hard and difficult to remove.

6.2.4 Maintaining and/or encouraging all residents to maintain excellent oral hygiene should become a goal of the healthcare team. Good oral hygiene:

a) Helps to control the amount and type of oral bacteria in the saliva and reduces plaque accumulation, incidence of dental decay, severity of periodontal (gum) disease, and bacterial, viral and fungal oral infections.

b) Enhances oral comfort, taste acuity, mastication, speech and swallowing, and socialization with others due to reduction of mouth odour.

6.2.5 Oral disease and poor oral hygiene present significant health concern.

a) Research findings continue to support a correlation between poor oral health and systemic conditions such as cardiovascular disease, diabetes mellitus, and respiratory diseases[6,7,8,9,10,11,12].

b) There is a strong link between poor oral hygiene and development of aspiration pneumonia.

- Research shows that 41% of individuals who are dependent on others for feeding and oral care develop aspiration pneumonia.
- Residents who do not brush their teeth, or brush only occasionally, are significantly more likely to develop aspiration pneumonia.
- Individuals with aspiration pneumonia have a significant increase in the number of decayed teeth, which retain more bacteria than a healthy, smooth tooth.
- A systematic review provides evidence that rates of pneumonia are in fact reduced by interventions that improve oral hygiene[13].

6.2.6 Many medications and systemic diseases contribute to xerostomia, or dry mouth. A dry mouth increases a resident's risk for dental decay, periodontal disease and oral infections, in addition to making chewing and swallowing more difficult. Daily use of mouth moisturizers and non-foaming toothpastes can help to alleviate dryness and make the resident more comfortable. Mouth moisturizers can be used prior to eating to aid swallowing.

6.2.7 When providing mouth care for residents with dysphagia, care should be taken to reduce aspiration by having the resident in a safe feeding position (section 6.1.4).

a) Use a very small 1/2 pea-sized amount of non-foaming toothpaste and 'mop up' liquids and debris as you proceed.

b) If suction is available, a suction toothbrush effectively removes liquids and debris as you brush.

6.2.8 Sores or lesions in the mouth, particularly thrush (candidiasis), can negatively impact swallowing, especially if there is pain and discomfort. Mouth breathing, dry mouth, wearing dentures, and antibiotics encourage the development of candidiasis in the mouth. If this extends far into the throat, it may cause so much discomfort that the resident cannot swallow.

a) Candidiasis must be treated with prescription topical and/or systemic antifungal medications.

b) Dentures need to be disinfected and treated and toothbrushes replaced during and after treatment to prevent re-infection.

6.2.9 Oral care provided by oral health professionals is an essential part of the resident's care plan. Each resident should receive dental care from oral health professionals on a routine preventative basis and as needed. In RHAs where arranging dental care is the responsibility of family, communication of resident needs is imperative.

6.2.10 Cautions:

- When working with residents who are cognitively impaired, products such as denture tablets, toothpastes, and rinses must be securely stored so they are not readily accessible to the resident. Ingestion of denture tablets by residents with dementia has resulted in fatality.
- Some individuals are allergic to the persulfates in denture tablets.

Refer to Appendix A – Oral Hygiene Instructions for further information.

6-3 FEEDING A RESIDENT

6.3.1 When feeding a resident in a chair, wheelchair or bed, the assistant should be at eye level (preferably seated) in front of the resident.

a) The resident's neck should not be hyper-extended. Standing above the resident while feeding can cause hyperextension of the neck which opens the airway and increases the risk of aspiration.

b) There should be no need for the resident to turn or raise the head or body.

c) The food should be placed in front of the resident.

6.3.2 Feed the resident slowly.

a) Watch the person's "Adam's apple" to make sure the person has fully swallowed before presenting more food or liquid. The Adam's apple rises up and down when we swallow.

b) If unable to see the movement, of the "Adam's apple", gently feeling for that movement while the resident is swallowing is required.

c) If the movement has not occurred, the resident has NOT swallowed, even if no food remains in the mouth. Refer to Section 7.3.3 for strategies to help elicit a swallow.

6.3.3 Check for pocketing of food.

6.3.4 Give 1/2 to one teaspoon sized bites and small sips of liquid at a time. A teaspoon or fork may be used to feed, as long as the amount of food is no more than a 1/2 or one teaspoon in size.

6.3.5 Food should be placed in the middle of the resident's mouth unless one side is weaker than the other (See Section 7 – Managing Feeding and Swallowing Problems, for more details).

6.3.6 Offer alternate sips of liquid after every 2-3 bites of food, unless otherwise directed by a SLP or other swallowing specialist.

a) Alternating sips of liquid and bites of food helps to clear food residue from the mouth and throat.

b) Ensure the resident's mouth is cleared of food before offering a sip of liquid. If not, the liquid may wash particles of food down into the throat and result in coughing or choking.

6.3.7 Avoid using fluids to "wash food residue down" as this will create a mixed consistency bolus that may not be well managed by the resident. Ensure negligible food remains in the resident's mouth prior to offering fluids.

6.3.8 Make sure the temperature of the food is appropriate.

6.3.9 Inform the resident the food you are offering before each mouthful. We instinctively prepare ourselves for the food or liquid that we are about to consume. The verbal cue is especially important if the resident cannot see the food being offered.

6.3.10 Avoid mixing the food items together unless the resident requests this. Most people prefer to be fed one item of food at a time.

6-4 RESIDENTS WHO EAT INDEPENDENTLY

6.4.1 If the resident is eating too quickly, employ the following techniques:

a) Remind the resident to slow down

b) Place a large card with the words "slow down" or "eat slowly" next to the plate.

c) Ask the resident to count to five (silently) between bites and sips.

d) Remove food or liquid between bites and sips.

e) Provide only one food item at a time.

f) Place your hand gently over the resident's to prevent him/her taking another bite until the last one is gone.

6-5 QUALITY OF LIFE

Consideration of quality of life when developing a safe eating plan for all residents is essential.

6.5.1 Ask the resident what are preferred food and beverages whenever possible.

6.5.2 Keeping food items distinct enables the resident to benefit from the taste and texture of each, which may help to maximize the enjoyment of meals and, as a result, overall food intake. Taste fatigue is minimized.

6.5.3 Remember, meal time is about much more than nourishment and should be an enjoyable experience for the resident.

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

SECTION 7

PROCEDURES AND GUIDELINES

MANAGING FEEDING AND SWALLOWING PROBLEMS

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

7-1 MANAGING FEEDING AND SWALLOWING PROBLEMS

The guidelines outlined in Section 6 – General Safe Feeding are applicable for residents who exhibit feeding or swallowing problems. Section 7 details further interventions and strategies to supplement that general information.

7.1.1 Environment

a) Residents who have feeding or swallowing problems need to apply their full concentration to eating. Therefore, special consideration must be given to the environment as it can significantly impact the resident's swallow safety and nutritional intake.

b) In some cases, residents who are easily distracted may benefit from facing away from the rest of the diners in the area to further reduce distractions and enhance their ability to focus on the meal.

7-2 FEEDING A RESIDENT

Refer to Section 6.3.

7.2.1 If the resident is using a straw, the caregiver can pinch off the straw to help control the sip size.

- Residents usually take more liquid at a time from a straw than when drinking from a cup.
- With a straw, it may be more difficult to control the liquid in the mouth.
- The use of straws should be monitored closely and only provided if small sips can be ensured.

7.2.2 Place food in the middle of the resident's mouth unless one side of the mouth is weaker than the other. If one-sided oral weakness is present employ the following strategies:

a) Place food in the stronger side of the mouth.

b) Apply gentle pressure with your hand (or resident's) to the weak cheek while the resident is chewing. This will help to keep the food on the stronger side of the mouth and reduce pocketing of food.

c) Coach the resident to use the tongue to clear pocketed food from the weaker side of the mouth.

d) Do not offer more food until the mouth is cleared.

7.2.3 If the resident has not swallowed a bite of food for a prolonged period, employ these strategies to help elicit a swallow:

a) Empty Spoon Technique – Without providing any additional food, place a cold empty teaspoon into the resident's mouth (keep a teaspoon handy in a glass of ice).

- The presence of the cold empty teaspoon can sometimes elicit a reflexive swallowing action. Any food that was already in the mouth will therefore be swallowed.
- When placing the empty teaspoon, try exerting **slight** downward pressure with the spoon on the person's tongue to add additional sensory stimulation.

b) Verbally coach the resident to swallow the food.

c) Gently stroke the resident's neck to encourage swallowing (**do not** apply any pressure on the throat itself).

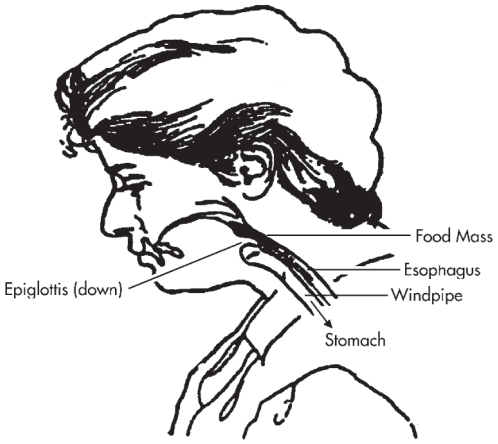
7.2.4 Head extension during eating and drinking must be avoided (See diagram – Incorrect Swallowing Position). To assist the resident to maintain a downward or neutral chin posture, employ the following:

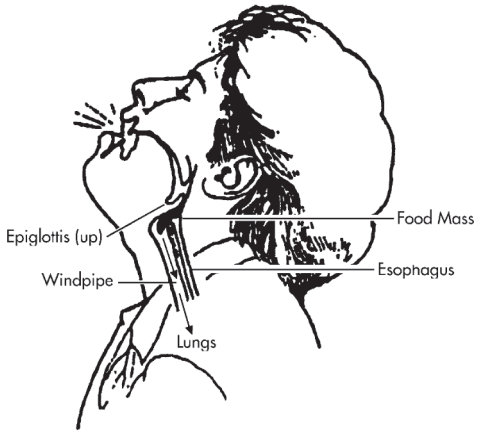
a) Cut-out cups (also known as nosey cups) for drinking:

- Allow the resident to tip the cup to a steep angle without extending the head back. The resident should be instructed to sip from the "high side" of the cup.
- May be purchased. Cutting away a Styrofoam cup is not recommended practice: the Styrofoam can crumble and pose a swallowing risk; Styrofoam can be difficult for residents to hold.
- May be used in combination with a "chin tuck" (see caution below).

b) Chin tuck while eating (See diagram – Correct Swallowing Position)

- This position for eating is **only** recommended following an assessment by a SLP or other swallowing specialist.
- Some residents with swallowing problems have difficulty holding the food in their mouths while chewing and it begins to fall over the back of their tongue and into the throat before they are ready to swallow. This can result in the food being aspirated, or may cause a blockage.
- A chin tuck position, if recommended, may help keep the food in the mouth until the resident is ready to swallow it.





Correct Swallowing Position **Incorrect Swallowing Position**

7.2.5 Allow for rest periods throughout the meal.

a) Residents with swallowing problems have weaker than normal mouth and throat muscles and may need short breaks throughout the meal to maintain their strength for swallowing.

b) Watch the resident with swallowing problems carefully for these signs of fatigue as the meal progresses:

- Reduction in chewing ability
- Shortness of breath
- Increased coughing or throat clearing
- Increased amounts of food falling from the mouth
- Mouth open posture between bites of food
- Increased pocketing of food
- Decreased alertness

c) If fatigue is a problem, try providing the resident with small meals and snacks throughout the day rather than three large meals. This will allow the resident to rest between meals and snacks and may result in better overall nutritional intake. Consult the dietitian to develop a specialized meal plan.

7.2.6 Encourage extra swallows between bites and sips of food.

a) The resident may not be able to clear all the food or liquid from the throat after one swallow.

b) If food residue builds up in the throat between swallows, it can overflow into the airway where it can be aspirated. This usually (although not always) results in coughing or a wet voice quality.

c) Encourage the resident to take "dry swallows" (i.e. swallow without taking any more food or liquid into the mouth) which will help to clear the throat of any residual food.

7-3 ASSISTIVE DEVICES FOR PHYSICAL LIMITATIONS

Assistive devices are specialized to the unique needs of each resident and, therefore, OT assessment is required for initiation and ongoing monitoring of the device(s).

7.3.1 Impaired trunk control

Specialized seating to facilitate trunk control may include: moulded back supports, lateral trunk supports, lap belts, cushions to maintain the hips and thighs in midline position, wheelchair tray, forearm trough, foot support, or tilt-in-space chair.

7.3.2 Impaired head control

A variety of headrest arrangements can be added to both manual and tilt wheelchairs. A soft collar or other support device can be considered for ambulatory residents.

7.3.3 Weak grasp

Utensils with lightweight built up handles; wrist splints; cuff utensil holder; and cups with large handles or two handles may aid the resident with independent eating.

7.3.4 Limited range of motion in upper extremity joints and hand

Long handled utensils; adjustable table height; soft, lightweight, built up, angled, or swivel utensils may be used.

7.3.5 Poor or Compromised Coordination

Weighted utensils; weighted cuffs or wrist weights; scoop dishes; lipped plates; non-breakable dishes; plate guards; non-spill cups or cups with lids; and soft straws may be of assistance.

7.3.6 Use of one hand only

Scoop dishes; lipped plates; plate guards; heavy weight plates; plates with suction bottom; "Dycem"; and adaptive utensils may assist the resident with independent eating.

7.3.7 Impaired sensation in hands

The use of insulated cups as well as reduced temperature of beverages and close supervision with hot liquids may be beneficial and reduce risk of burn to the resident.

7.3.8 Impaired vision

The use of contrasting colours may improve the resident's ability to distinguish between the table, plates, glasses, cutlery, food and liquids.

7-4 PROMOTE INDEPENDENCE

Promoting independence at mealtimes can increase the enjoyment of meals and, therefore, add to the quality of life. Examples of interventions that may be valuable include:

7.4.1 Offer food items for the resident to facilitate maximum mealtime independence, for example:

a) Cut up foods, such as roast meats

b) Spread bread/toast with butter, jam, etc.

c) Put crackers in soup

d) Finger foods

7.4.2 Serve food items in dishes that are appropriate to the residents needs, such as soup or hot cereal in a mug.

7.4.3 Provide easily opened containers where there is a need to provide this type of food service, such as in areas where tray service is necessary.

7-5 IMPORTANT OBSERVATIONS DURING AND AFTER EATING

Observation of any of the following indicators on a regular basis warrants, further referral and intervention. (Refer to Section 2-1 – Swallowing and Feeding Assessment) for further direction.

7.5.1 A wet, gurgly vocal quality or coughing throughout the meal.

a) A wet or gurgly vocal quality or coughing through the meal may indicate that food or liquid is sitting on the vocal folds and may be aspirated.

b) Encourage the resident to clear the throat and/or cough if the voice sounds wet or gurgly. Use verbal or visual cues (demonstrate) as necessary.

c) Usually, if food or liquid touches the vocal folds it results in coughing. However, individuals with swallowing difficulties often have reduced sensation and will not cough even when aspirating food and liquid through their vocal folds. This is called “silent aspiration” because, other than observing it via a video fluoroscopic swallow study (performed by a SLP or other swallowing specialist), there is no way to confirm that silent aspiration is occurring.

d) If any indicators of swallowing difficulty are regularly observed with any consistency of food or liquid, that consistency should be avoided.

7.5.2 Observe the resident's rate of breathing before, during and after the meal.

a) Normally, we automatically hold our breath when we swallow in order to close and protect the airway from food and liquid.

b) An increase in respiratory rate may indicate that the resident is either aspirating throughout the meal or becoming very fatigued.

c) Residents who are weak or who have swallowing problems may have difficulty holding their breath, resulting in a disruption of the breathing and swallowing patterns. This can result in food inhalation or aspiration.

d) Provide the resident with several small meals and snacks throughout the day, rather than three larger meals, to help to alleviate fatigue and potential swallowing difficulties.

e) The food and liquid consistency that is provided may also need to be reconsidered. Generally, softer, minced, or pureed foods require less energy to eat and may be easier and safer for these residents. Thick liquids may require more energy to consume but, from a safety perspective, may provide benefit. However, consideration should be given to the impact that altering diet texture and consistency has on the resident's quality of life and nutritional/fluid status.

7.5.3 Monitor body temperature

A spike in body temperature after eating may be a sign that the resident has aspirated food or liquid. Body temperature may be a means of determining whether or not further investigation is required.

7.5.4 Note increases in chest congestion and/or secretions

a) An increase in chest congestion and/or secretions may be a sign of aspiration.

b) If foreign bodies such as aspirated food and liquid enter the lungs, the lungs react by increasing congestion.

c) Congestion and/or secretions should be monitored carefully and any signs of changes reported to the physician.

d) Recurrent chest infections or pneumonias can be related to recurrent aspiration.

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

SECTION 8

PROCEDURES AND GUIDELINES

NUTRITIONAL MANAGEMENT

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

8-1 NUTRITIONAL MANAGEMENT

The diet provided to residents in long term care (LTC) must:

a) Be safe for the resident to consume.

b) Be of an appropriate texture and consistency.

c) Meet the nutritional requirements of the resident.

d) Accommodate individual preference and cultural considerations.

8-2 TEXTURE MODIFICATION

8.2.1 Texture modified foods may be required for a number of reasons:

a) Chewing or swallowing difficulties.

b) Reduced strength, coordination or endurance.

c) Loss of cognitive ability, if that loss has impacted mealtime functioning.

8.2.2 "Texture" is an umbrella term that includes a number of food characteristics. All of the properties listed below must be considered when determining within which modified texture diet a particular food may be offered.

a) Cohesive – how well a food holds together.

- A certain amount of cohesiveness is important to allow food to be manipulated in the mouth with ease, in preparation for swallowing.
- Foods which demonstrate a lack of cohesiveness may not be well tolerated and may need to be excluded or modified in the diets of those with difficulty swallowing.
- Examples: American rice, coconut, green or wax beans

b) Adhesive – how sticky a food is.

- Foods with strong adhesive qualities may not be well managed by those with limited or impaired oral muscle strength and control.
- Example: peanut butter

c) Particle size – the size of any pieces in a mixture.

- With increasing difficulties with swallowing, there is the need to provide foods of finer particle size.
- The hardness of the food must also be considered as a component of particle size.
- For example, a soft/easy to chew diet, may offer soft foods in solid form and harder foods of finer particle size.

d) Crunch – the force with which a food crumbles, cracks or shatters.

- Hard candy or breadsticks are examples of foods which require significant force to shatter.
- Consideration of how easily foods crumble is an important factor in diet development.

e) Hardness – how much force is needed to change the shape of food between the teeth or between the tongue and roof of the mouth.

- The evaluation of hardness helps to determine which foods need to be provided in finer particle size or which need to be excluded from a diet category.
- For example, a roasted meat may be provided in finer particle size and a bagel may be excluded from more texture modified diets.

In developing the range for texture modifications, the above factors need to be considered. These factors have even greater importance the more diets are modified. There is no one best diet for individuals who have swallowing difficulties.

8.2.3 Accommodating Residents' Needs

To accommodate residents' needs the following is required:

a) Individual assessment to determine the most appropriate diet texture. This assessment is typically conducted by a frontline nurse or RD but may be conducted by a SLP or other swallowing specialist or TTMD tester[1], as defined by RHA policy.

b) Availability of a range of modifications of the regular diet, which may include:

- **Cut Up** – For residents who have deficits in upper extremity function: generally, all foods are included, if cut into bite-sized pieces.
- **Soft (Easy to Chew; Stage 3)** – For residents who are able to chew soft textures: foods are soft and moist.
- **Soft Minced (Easy to Chew with Minced Meats; Stage 3 Modified)** – For residents who are able to chew some but not all soft textures: similar to soft except meats and tougher vegetables and fruits are minced.
- **Minced (Ground/Minced; Stage 2)** – For residents who can tolerate a minimum amount of easily chewed foods: foods are moist, cohesive and easily formed into a bolus. Particle size is <6mm. Indicated for mild to moderate dysphagia.

1 The role of TTMD tester has been renamed to TTMD facilitator in the TTMD: Test of Texture Modified Diets, A Feeding and Swallowing Management Program for Long-Term Care, 8/1/2010 Manitoba Edition.

- **Total Minced (Modified Minced; Stage 2 Modified)** – For residents who cannot tolerate any foods that require chewing but do not require all foods of homogenous texture: foods as in minced diet except all baked products are pureed or slurried for those who cannot tolerate same.
- Pureed (Stage 1) – For residents with significant impairments who cannot perform bolus formation, controlled manipulation or mastication: all foods are a smooth, homogenous, thick semi-liquid consistency with no coarse or hard textures. Particle size is <1mm. Indicated for moderate to severe dysphagia in any phase.

It is important to note that terminology may differ between RHAs; alternate names are noted in the above list. Refer to the diet description to ensure that the appropriate texture is selected.

Refer to Appendix C for a detailed description of foods to allow/avoid within each diet texture category.

Refer to Appendix D for sample menus.

8.2.4 Nutritional Content of Texture Modified Diet

a) Input from an RD is necessary when developing the texture categories.

b) The nutritional content of texture modified diet may decrease as a result of:

- The processing the food undergoes: adding liquids to pureed foods can make them less nutrient dense per volume.
- The elimination of certain foods or food types.

c) The texture modified diet must be of comparable nutritional value to the regular diet. Wherever possible, all foods included in a regular diet should be included in texture modified diet.

d) A nutritionally adequate and consistent texture modified diet requires the use of specially developed, standardized recipes, especially for pureed foods.

e) Commercially prepared texture modified food products are available for purchase. Where the demand for texture modified products is low, this may be the most efficient and consistent, when compared to in-house prepared products.

8-3 MODIFICATION OF FLUID

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

Thin fluids move more quickly than thick. Residents who lack oral strength, sensitivity or coordination may not easily control thin fluids. As a result, two possible consequences may occur:

* Thin fluids enter the throat before the resident is ready to swallow resulting in coughing, an obvious indication of difficulty.

* Fluid is silently aspirated if the individual has reduced sensation in the throat. Overt signs, such as coughing, may not be evident.

However, it is equally important to note that thickened fluids are not always safer to swallow and their appropriateness depends on the resident's specific swallowing impairments. Residents should not receive fluids that are thicker than necessary. Residents for whom thickened fluids are recommended require an individualized assessment/referral to the appropriate discipline, as defined by RHA policy. However, an RD should be involved in order to address any nutritional issues that may arise as a result of the provision of the thickened fluids.

8.3.1 Categories of fluid viscosity

a) As with texture, a range of fluid viscosities should be available, but may vary by site and region. This range may include :

- **Thin** – 1-50 cP; no restriction with all fluid consistencies allowed
- **Nectar** – 51-350 cP; no fluids thinner than nectar-thick allowed
- **Honey** – 351-1750 cP; no fluids thinner than honey-thick allowed.
- **Pudding** – >1750 cP; only pudding-thick consistency fluids allowed.

Refer to Appendix E for a more detailed description of the categories of fluid viscosity.

b) Appropriate fluid viscosity ranges may be provided by:

- Ready to use commercially thickened products, which are advantageous as they provide a consistent product with the desired viscosity.
- Adding commercial thickening agents such as powdered or gel thickeners to fluids.
- Using fluids that are thick without modification, such as apricot nectar, tomato juice, thick soups and some nutritional supplements (e.g. Resource 2.0®).
- Thickening fluids using common food products such as pureed banana in juice or flour or cornstarch solution cooked into soups.

c) Input from a RD is necessary in developing the fluid viscosity categories.

d) Standardized recipes are necessary to ensure optimal quality control: products, available equipment and site-specific parameters such as humidity may affect final product.

- Monitoring and re-evaluation of the product is required when changes such as product brand or equipment occur as the final product may be impacted.

8.3.2 Meeting Hydration Needs

Generally, in the LTC population, meeting hydration needs can be a challenge with the prevalence of dehydration estimated at 30%[14].

a) Dysphagia adds a significant risk factor for dehydration.

b) Additional risks for dehydration in the LTC population include, for example, reduced thirst response, decline in renal function, malnutrition, diabetes mellitus, reduced mobility, purposeful restriction, difficulty accessing adequate sources of fluid without assistance, and dementia[15].

c) Individual assessment of fluid requirement and development of a meal pattern is essential to ensure a resident's hydration needs are met.

- A general guideline of 1500 ml (6-8 oz cups or 12-4 oz cups) of fluid per day is recommended with volume adjustment based on individual resident assessment.
- Recommended daily fluid intake has been estimated based on average intakes: 2.7 L per day for females and 3.7 L per day for males (80% derived from fluids)[16].
- Environmental factors as well as level of physical activity impact daily fluid requirements.

d) Ongoing monitoring, including recording and calculating all fluid intake of the resident, helps ensure the established plan is and remains effective.

e) Hydration needs are particularly difficult to achieve if thickened fluids are required because:

- Preparing thickened fluids within the facility food service may result in an inappropriate or inconsistent final product[17] (as compared to commercially prepared products). This may result in the resident having to consume a greater volume of fluid to meet required needs.
- Some residents may find thickened fluids less palatable than regular fluids and, as a result, consume less[18].

f) Alternative sources of fluid are often necessary. Fluid sources that are typically readily accepted include thickened pureed or strained soups, hot cereals, and pudding.

g) Encourage the resident to take all fluids provided at and between meals.

8-4 OTHER FACTORS TO CONSIDER WITH TEXTURE MODIFIED DIETS

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

8.4.1 Foods of mixed consistencies.

a) Mixed consistency foods contain a solid and a liquid together, for example, soup containing pieces, cereal and milk, and preserved fruit in juice.

b) Mixed consistency foods are often particularly challenging for a resident with swallowing problems to control in the mouth and should be avoided.

c) Residents who receive thickened fluids should not be provided with mixed consistency foods unless the fluid in the item is of the appropriate viscosity.

d) Assessment of tolerance to this particular type of food is needed prior to inclusion in the diet.

8.4.2 Diabetes Mellitus

a) Thickening agents have the potential to increase the overall carbohydrate content of the diet which may impact control of blood glucose levels.

b) Monitor blood sugars and consult with a RD to help ensure appropriate use of thickening agents and consideration of their carbohydrate contribution to the meal plan.

8.4.3 Physiologic decrease in food intake with aging

a) In addition to the physiological changes that occur with aging and impact appetite and food intake, dysphagia contributes to the decline in oral intake and the enjoyment of eating[19].

b) If a resident is fatigued and/or dissatisfied with the texture-modified diet, the appetite may be negatively impacted.

c) An individualized meal plan, with potential alterations in amounts, types and textures of foods, developed by the RD is necessary to maximize intake.

d) A meal pattern of small meals and between meal snacks may be effective.

e) The need for nutritional supplements must be considered.

8.4.4 Quality of Life Issues

Mealtimes are often the highlight of the day for residents in LTC. Therefore, making mealtimes as pleasurable as possible is essential. This can be more difficult for the resident requiring a texture and/or fluid modified diet. Colourful and attractive presentation of all foods and modifying rather than excluding foods can assist to improve table appeal of the meals served.

a) Consider all aspects of mealtimes, environment as well as actual food provided to enhance quality of life.

b) Ensure residents' rights to make informed choices about their wellbeing are considered. This includes diet as well as alternative options for nutrition such as tube feeding.

c) Ensure resident and family are aware of the need for diet modification.

d) Accommodate resident and family wishes for the diet as much as possible while balancing the best therapeutic interventions.

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

SECTION 9

PROCEDURES AND GUIDELINES

CHOKING

9-1 CHOKING

Choking is the partial or complete blockage of the airway. Complete blockage can lead to death in less than five minutes.

9.1.1 Emergency procedures must be applied immediately if the intervention is to be effective.

9.1.2 The RHA ensures that

a) Trained personnel are immediately at hand to perform emergency procedures using the guidelines as procedures as outlined by RHA policy.

b) Those who feed residents are able to perform the necessary steps in managing airway obstruction, (including abdominal thrusts).

c) All required equipment is available, in working order and stored within easy access of each room where residents eat or are fed.

d) Suctioning equipment is checked and documented on a routine basis (e.g. weekly) as defined by RHA policy.

e) Infection control procedures are followed in the care of all equipment.

9-2 UNCONSCIOUS RESIDENT

9.2.1 In situations where the resident becomes unconscious during a choking event, the nurse in charge coordinates the required interventions as defined by the guidelines and policies of the RHA.

9.2.2 LTC facilities attached to acute care centres may have the availability of an emergency response team.

9.2.3 In LTC facilities that are not attached to an acute care centre, an ambulance is called when the resident becomes unconscious.

9.2.4 The nurse in charge notifies the physician and the resident's family of the incident.

9.2.5 Intervention may include cardiopulmonary resuscitation (CPR).

9.2.6 LTC standards and policies specific to each RHA (e.g. supportive care, end of life care etc.) are followed, as are health care directives and do not resuscitate (DNR) orders, if indicated.

9.2.7 Advance directives as well as other pertinent information should be sent with the ambulance personnel where possible.

9-3 FOLLOW-UP POST CHOKING EVENT

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

9.3.1 A resident who has experienced a choking event requires assessment for possible aspiration or injury.

a) For at least three days, monitor the resident's vital signs for early signs of respiratory infection and auscultate the chest for adventitious sounds.

b) Investigate any complaints of pain, discomfort, or difficulty swallowing.

9.3.2 A resident who has experienced a choking event (especially if repeated events occur) would benefit from reassessment to determine if a change in functional capacity has occurred. This may include:

a) Meal observation screen

b) TTMD

c) Referral to a SLP or other swallowing specialist.

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

SECTION 10

PROCEDURES AND GUIDELINES

ONGOING MONITORING

10-1 ONGOING MONITORING

10.1.1 Modification of Plan as Resident's Abilities Change

a) It is expected that residents' feeding and swallowing abilities may either improve or decline over time.

b) Regular monitoring of a resident's feeding and swallowing abilities, as outlined in RHA policy, is essential to ensure that the care plan reflects the current condition of the resident.

c) More frequent assessments/interventions may be necessary as a degenerative condition progresses.

SECTION 11
GLOSSARY OF TERMS

11-1 GLOSSARY OF TERMS USED

Abdominal thrusts: Formerly known as the Heimlich Manoeuvre – A series of abdominal thrusts, which increase pressure within the chest. Abdominal thrusts are used when food or a small object blocks a person's airway. This manoeuvre may force the object up and out of the airway just as coughing does.

Adam's apple: See "Larynx".

Airway: The passage from the nose and mouth that allows air to reach the lungs. It includes the throat, voice box and windpipe.

Airway obstruction: Commonly referred to as choking in persons who are conscious. Obstruction means that something is blocking a person's airway and preventing air from reaching the lungs. The tongue, food, small objects or swelling in the throat may obstruct the airway. An obstruction may be partial or complete.

- Partial: The person's airway is not completely blocked. The person may have a weak cough and breathing may be uneven or difficult.
- Complete: There is no air exchange. On observation, the person cannot breathe, talk or cough. The person may turn bluish-grey from a lack of oxygen.

Aspiration: Saliva or food, liquid, or other foreign matter enters the passageway to the lungs.

Aspiration pneumonia: Pneumonia caused by inhaling a foreign substance into the lungs.

Bolus: The mass of liquid or chewed food formed into a shape or ball in the mouth.

CentiPoise (cP): CentiPoise is a unit of dynamic viscosity: a measure of a fluid's resistance to flow. Thicker fluids have higher cP values.

Chin tuck: A position, which may facilitate safer swallowing for some individuals. The chin tuck involves the resident tucking the chin to the chest while swallowing. This helps to protect the airway and control food or liquid for some individuals. The chin tuck position for eating is only recommended following an assessment by a SLP or other swallowing specialist.

Choking: The airway is blocked by an object such as food. An individual who is choking is unable to cough to clear the airway.

Cognition: The brain's ability to store, process, retrieve, and manipulate information. The level of cognition can have a negative impact on an individual's ability to eat independently.

Communication: An individual's ability to effectively communicate his/her own needs verbally or non-verbally and ability to understand the caregiver.

Concentration: An individual's ability to attend to all the mealtime tasks for the length of the meal.

Co-ordination: The body's ability to execute movement in a smooth pattern in relation to the functional task. Impaired gross motor co-ordination refers to impaired movement of the large muscle groups, which control the larger joints (e.g. hips and shoulders). Impaired fine motor co-ordination refers to the impaired movement of the smaller muscle groups of the hands that are crucial to independent eating. Eye\hand co-ordination is the brain's ability to respond to visual input and execute smooth integrated movements related to the visual stimuli.

Cut-out cup (nosey cup): A cup with a special cut-out for the nose area which allows users to drink easily without tipping the head back.

Dysphagia: Difficulty chewing or swallowing which may be the result of reduced muscle strength, sensation, or awareness of "how to swallow". Dysphasia may be due to neurological dysfunction, dementia, generalized weakness, or tracheostomy (feeding) tube placement. Many individuals with dysphagia are unaware of any difficulty with their swallowing. Food or liquid may enter the airway (aspiration) and these individuals may not cough or clear their throat to remove this material (silent aspiration). This can lead to aspiration pneumonia, choking, or respiratory failure.

Esophageal stage: The food enters the esophagus (the tube that transports the food directly to the stomach). The bolus is moved to the stomach by a squeezing action of the throat muscles.

Esophagus: A muscular canal which carries food and liquid from the pharynx to the stomach during swallowing.

Extension: Tilting or extending outward, as when the head tilts backward or the tongue protrudes. Opposite of flexion.

Feeding: The placement of the food in the mouth prior to the initiation of the swallow.

Flexion: Tilting or bending inwards, as when the head bends forward to protect the airway. Opposite of extension.

Gag reflex: A brainstem reflex elicited by contact of a foreign object with the back of the tongue, soft palate, or pharynx. A gag reflux results in contraction of the pharynx to push the object up and out of the pharynx or to prevent entrance into the pharynx. This neuromuscular action is the opposite of the neuromuscular coordination used in swallowing. The gag reflex cannot be used to predict the presence or adequacy of a swallow. The gag is protective for refluxed material from the esophagus and stomach. A gag will not be elicited by food being swallowed unless the individual exhibits a strong dislike for the food, which then becomes a foreign stimulus.

Insight: The understanding of limitations and its impact on safe feeding.

Larynx: A structure lined with mucous membrane connected to the upper end of the trachea and to the pharynx below the tongue and the hyoid bone. It is an essential sphincter guarding the entrance into the trachea and functions secondarily as the organ of voice.

Mastication: Chewing and manipulation of food in the mouth prior to swallowing. Mastication requires adequate oral musculature and mandibular and maxillary (lower and upper jaw) movement.

Memory: The ability to remember and recall stored information.

Occupational Therapist (OT): A professional who has a master's degree specializing in the promotion and maintenance of an individual's independence with activities of daily living. OTs educate and assist individuals with seating and positioning and provide adapted utensils to facilitate feeding. The title "Registered Occupational Therapist" is protected by provincial legislation; only qualified practitioners can use the OT designation. OTs in Manitoba are governed by the College of Occupational Therapists of Manitoba and the Occupational Therapists Act of Manitoba (2005).

Oral stage: The food is chewed or manipulated, mixed with saliva and formed into a cohesive bolus/ball. It is then moved backward to the pharynx by the tongue.

Perceptual motor status: The integration of sensory input into meaningful information to be used by the brain to respond and interact with one's environment.

Pharyngeal stage: Stage of swallowing that begins at the tonsils. It includes the pharyngeal swallow response, pharyngeal peristaltic action, and upward movement of the larynx (for airway protection). The stage ends at the point where the pharynx enters the esophagus.

Pharyngeal swallow response: Follows the oral stage. The pharyngeal swallow begins when the bolus is near or behind the faucial arches (narrow passage at the rear of the mouth).

Pharynx: The passageway that connects the nose to the airway for breathing and the mouth to the esophagus for swallowing.

Physiotherapist: A professional who has completed a bachelor's degree in Medical Rehabilitation in Physical Therapy. A physiotherapist evaluates, restores and/or enhances physical function and independence. The College of Physiotherapists of Manitoba regulates the practice of physiotherapy in Manitoba. The terms "physiotherapist" and "physical therapist" can be used interchangeably.

Pocketing: Food or liquid remaining in the mouth after the swallow. Food may be left on the tongue, in the cheek, on the roof of the mouth, or between the teeth and the cheeks. Pocketing is an indication that the muscles and sensation in the mouth are not adequate for chewing and swallowing.

Positioning: Body and head positions that assist in swallowing food or that reduce the dangers of aspiration caused by dysphagia.

Range of motion (ROM): The ability to move a joint through the full typical normal range. Normal ROM is determined by the joint structure and is affected when the disease process affects the joint structures as well as the surrounding muscles and tendons.

Reflux: A backward or return flow of material from the stomach into the esophagus.

Registered Dietitian (RD): A professional who has completed a bachelor's degree, specializing in human nutritional sciences, as well as an accredited dietetic internship in a hospital or community setting. The RD is responsible for the provision of optimal nutritional care utilizing Medical Nutrition Therapy. The title "Registered Dietitian" is a title protected by provincial legislation; only qualified practitioners can use the RD designation. RDs in Manitoba adhere to the Registered Dietitian Act (2002), Registered Dietitians Regulations (2004) and College of Dietitians of Manitoba Bylaws (2006).

Silent aspiration: A term referring to food or liquid entering an individual's airway without an observable response by the individual, such as coughing or throat clearing, to clear the material from the airway.

Slurried: A method of modifying the texture of some foods whereby a mixture of liquid and thickener is poured over a food, allowing the food to become softer. Slurried foods are usually grain products such as soft rolls, bread (crusts removed), muffins, pancakes, cookies, or crackers that do not contain nuts, seeds, or other particulates.[20]

Speech-Language Pathologist (SLP): A professional with a master's degree, educated in the anatomy and physiology of the speech and swallowing mechanism. Some SLPs specialize in swallowing assessment and management. By evaluating the individual's speech, language, cognitive-communication, and swallowing skills, the SLP determines what communication or swallowing problems exist and the best way to treat them.

Swallowing: A process referring to the entire act of deglutition from placement of food in the mouth through the oral and pharyngeal stages of the swallow until the material enters the esophagus through the cricopharyngeal juncture.

Swallowing disorder: See "Dysphagia".

Swallowing specialist: A professional who has successfully completed extensive coursework in the anatomy and physiology of normal and abnormal swallowing as well as supervised clinical experience in the assessment and management of dysphagia. Swallowing specialists are also skilled in performing video fluoroscopic swallow studies. In Manitoba, these individuals are most often speech-language pathologists.

TTMD tester: A healthcare professional who is trained to administer the Test of Textured Modified Diets (TTMD) to help determine the appropriate diet texture/fluid consistency for an individual experiencing dysphagia and who participates in the development of the individualized dysphagia management plan. Note: The TTMD, August 2010 Manitoba Edition has redefined the role of "TTMD tester" to as "TTMD facilitator". Refer to the TTMD for details.

Trachea: A tube-like portion of the respiratory tract that connects the larynx with the bronchial parts of the lungs. This is also referred to as the "windpipe".

Video fluoroscopy: The use of a fluoroscope x-ray machine to produce moving x-ray images which are videotaped, allowing close examination of the resident's swallowing process.

SECTION 12
APPENDICES

APPENDIX A

ORAL HYGEINE INSTRUCTIONS

Recommended equipment and storage:

1. For all residents: gloves, towel, wipe-all gauze, paper towel, water-based lip lubricant, soft, small-headed toothbrush
2. Toothpaste options for residents with teeth: a very small amount (1/2 pea-sized) of fluoride toothpaste or gel, preferably non-foaming, or non-alcoholic fluoride mouthwash,
3. Options for cleaning between teeth: proxabrush, end tuft brush, sulca brush, floss-piks, floss.
4. For residents with dentures: denture cup, denture disinfectant tablet (see precaution in section 6.2.10), denture brush, liquid soap, or denture paste.
5. Other helpers may include: mouth props (i.e. disposable from Specialized Care, handle of a second toothbrush with a large, round rubberized handle), or a rolled up face cloth), suction toothbrush, swabs for removing debris (not effective for cleaning teeth).
6. Mouth care supplies should not be stored in closed containers or cupboards. Rinse and air dry products after each use.

After ALL meals and snacks, the resident or caregiver should complete oral hygiene in the following manner:

1. Greet resident and explain what you will be doing.
2. Wash your hands.
3. Put on protective gloves.
4. Protect resident's clothing by placing a towel over resident's shoulders/chest.
5. Remove debris (if necessary) from mouth with either gauze or a swab.
6. Follow guidelines noted below specific to residents with either natural teeth or dentures, as appropriate.

For residents with natural teeth:

1. Lubricate the lips.
2. Moisten the toothbrush in water, removing any excess. Apply a small amount of appropriate toothpaste or dip bristles in mouthwash. For mouthwash, shake off or blot excess liquid.
3. Using small circular motions, gently, but firmly, brush all surfaces of teeth, gums, tongue, roof of mouth, and cheeks.
4. To reduce aspiration, mop up as you go along with wipe-all gauze or use suction if available.
5. Lubricate the lips.
6. Rinse toothbrush thoroughly, tap out liquid, and stand upright to dry. Use same method for any other oral hygiene tools.
7. Remove gloves and wash hands.

For Residents with Dentures:

1. Lubricate the lips.
2. Remove dentures.
3. Dip toothbrush in water or non-alcoholic mouthwash.
4. Shake off excess water or mouthwash.
5. Gently brush all mouth tissues with toothbrush.
6. Using a denture brush and liquid soap or denture paste, clean dentures. Rinse thoroughly and either soak or return to resident.
7. For soaking, place denture cleansing tablet in cup and add enough cool water to fill and completely cover dentures. Keep dentures out of the resident's mouth overnight or for 4-6 hours/day to promote tissue health. Rinse the dentures thoroughly under running water prior to replacing them in the resident's mouth.

   Note: When the use of denture tablets presents a safety issue for the resident (see Cautions – 6.2.10), **following a thorough cleaning**, dentures may be soaked in cool water or air dried overnight.

   - Water does not reduce bacteria on the dentures.
   - If air drying dentures in the absence of thorough cleaning, any remaining debris will become hard and difficult to remove.

8. Lubricate the lips.
9. Rinse toothbrush and denture brush thoroughly, tap out liquid, and stand upright to dry.
10. Remove gloves and wash hands.

IMPORTANT NOTES

1. Do not put any liquids or toothpaste, other than that described earlier, in the mouth of a resident who has a swallowing problem.
2. Make note of any changes in oral tissue (e.g. white or red areas) as well as complaints from the resident regarding sore areas in the mouth. Notify physician if sores are seen.
3. Make note of any problems with the resident's dentures (ill-fit, fractures, sharp edges, missing teeth) and report for repair.
4. Instructions regarding oral hygiene should be included in resident's and family's education regarding dysphagia.

Oral Fact Health Sheets

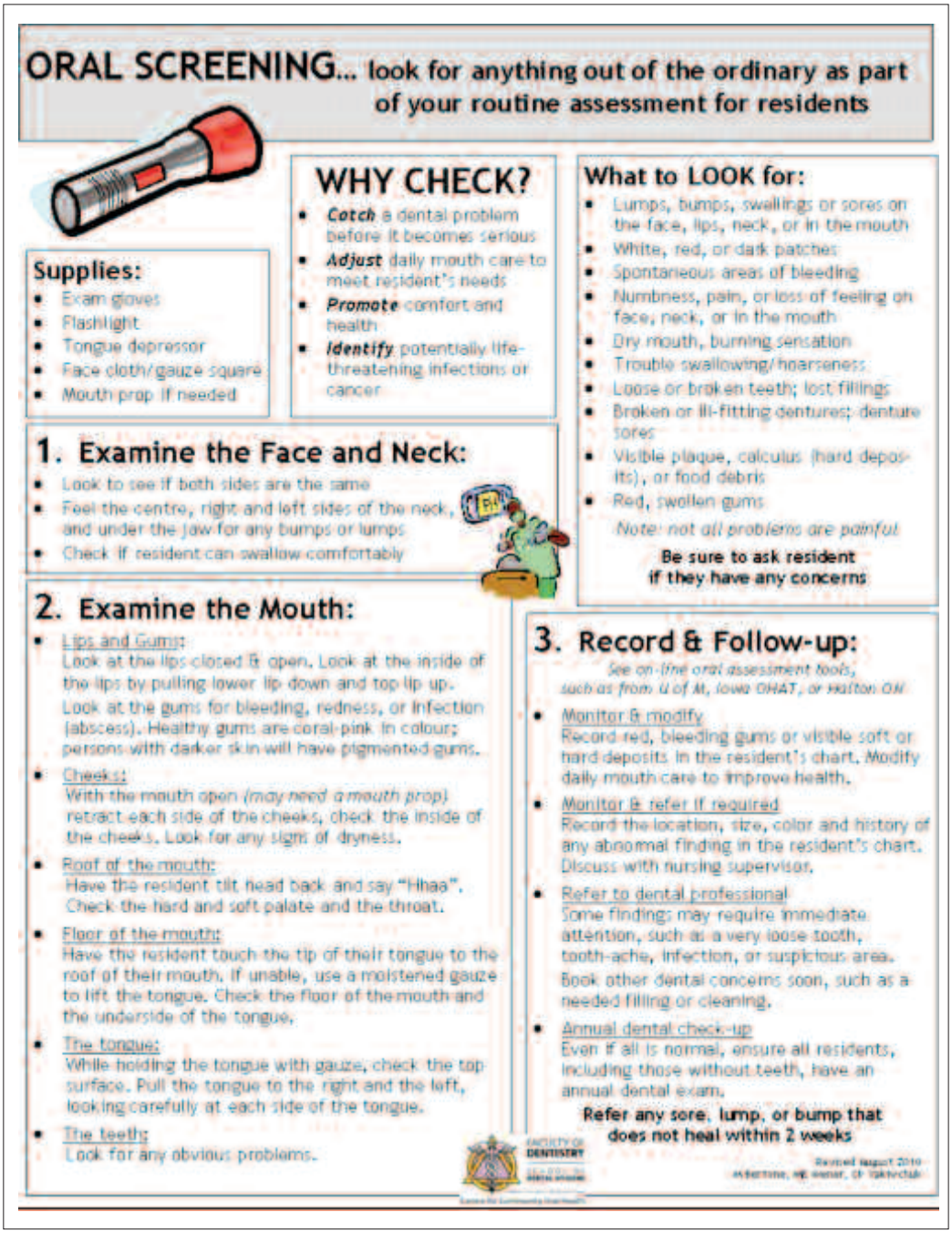
The oral facts health sheets have been distributed as inclusions in the Manual for Feeding and Swallowing Management in Long Term Care Facilities, Manitoba September 2010. The facts sheets and additional resources are available at http://www.umanitoba.ca/dentistry/ccoh/ccoh_longTermCare.html.

Oral facts health sheets contributors:

Mickey Wener, RDH, MEd, Dental Hygienist, Faculty of Dentistry, University of Manitoba

Carol Yakiwchuk, RDH, BScDH, Dental Hygienist, formerly of the Faculty of Dentistry, University of Manitoba

Mary Bertone, RDH, Dental Hygienist, Faculty of Dentistry, University of Manitoba



ORAL SCREENING... look for anything out of the ordinary as part of your routine assessment for residents

Supplies:

- Exam gloves
- Flashlight
- Tongue depressor
- Face cloth/gauze square
- Mouth prop if needed

WHY CHECK?

- ***Catch*** a dental problem before it becomes serious
- ***Adjust*** daily mouth care to meet resident's needs
- ***Promote*** comfort and health
- ***Identify*** potentially life-threatening infections or cancer

What to LOOK for:

- Lumps, bumps, swellings or sores on the face, lips, neck, or in the mouth
- White, red, or dark patches
- Spontaneous areas of bleeding
- Numbness, pain, or loss of feeling on face, neck, or in the mouth
- Dry mouth, burning sensation
- Trouble swallowing/hoarseness
- Loose or broken teeth; lost fillings
- Broken or ill-fitting dentures; denture sores
- Visible plaque, calculus (hard deposits), or food debris
- Red, swollen gums

Note: not all problems are painful

Be sure to ask resident if they have any concerns

1. Examine the Face and Neck:

- Look to see if both sides are the same
- Feel the centre, right and left sides of the neck, and under the jaw for any bumps or lumps
- Check if resident can swallow comfortably

2. Examine the Mouth:

- Lips and Gums:
  Look at the lips closed & open. Look at the inside of the lips by pulling lower lip down and top lip up. Look at the gums for bleeding, redness, or infection (abscess). Healthy gums are coral-pink in colour; persons with darker skin will have pigmented gums.
- Cheeks:
  With the mouth open *(may need a mouth prop)* retract each side of the cheeks, check the inside of the cheeks. Look for any signs of dryness.
- Roof of the mouth:
  Have the resident tilt head back and say "Hhaa". Check the hard and soft palate and the throat.
- Floor of the mouth:
  Have the resident touch the tip of their tongue to the roof of their mouth. If unable, use a moistened gauze to lift the tongue. Check the floor of the mouth and the underside of the tongue.
- The tongue:
  While holding the tongue with gauze, check the top surface. Pull the tongue to the right and the left, looking carefully at each side of the tongue.
- The teeth:
  Look for any obvious problems.

3. Record & Follow-up:

See on-line oral assessment tools, such as from U of M, Iowa OHAT, or Halton ON

- Monitor & modify
  Record red, bleeding gums or visible soft or hard deposits in the resident's chart. Modify daily mouth care to improve health.
- Monitor & refer if required
  Record the location, size, color and history of any abnormal finding in the resident's chart. Discuss with nursing supervisor.
- Refer to dental professional
  Some findings may require immediate attention, such as a very loose tooth, tooth-ache, infection, or suspicious area. Book other dental concerns soon, such as a needed filling or cleaning.
- Annual dental check-up
  Even if all is normal, ensure all residents, including those without teeth, have an annual dental exam.

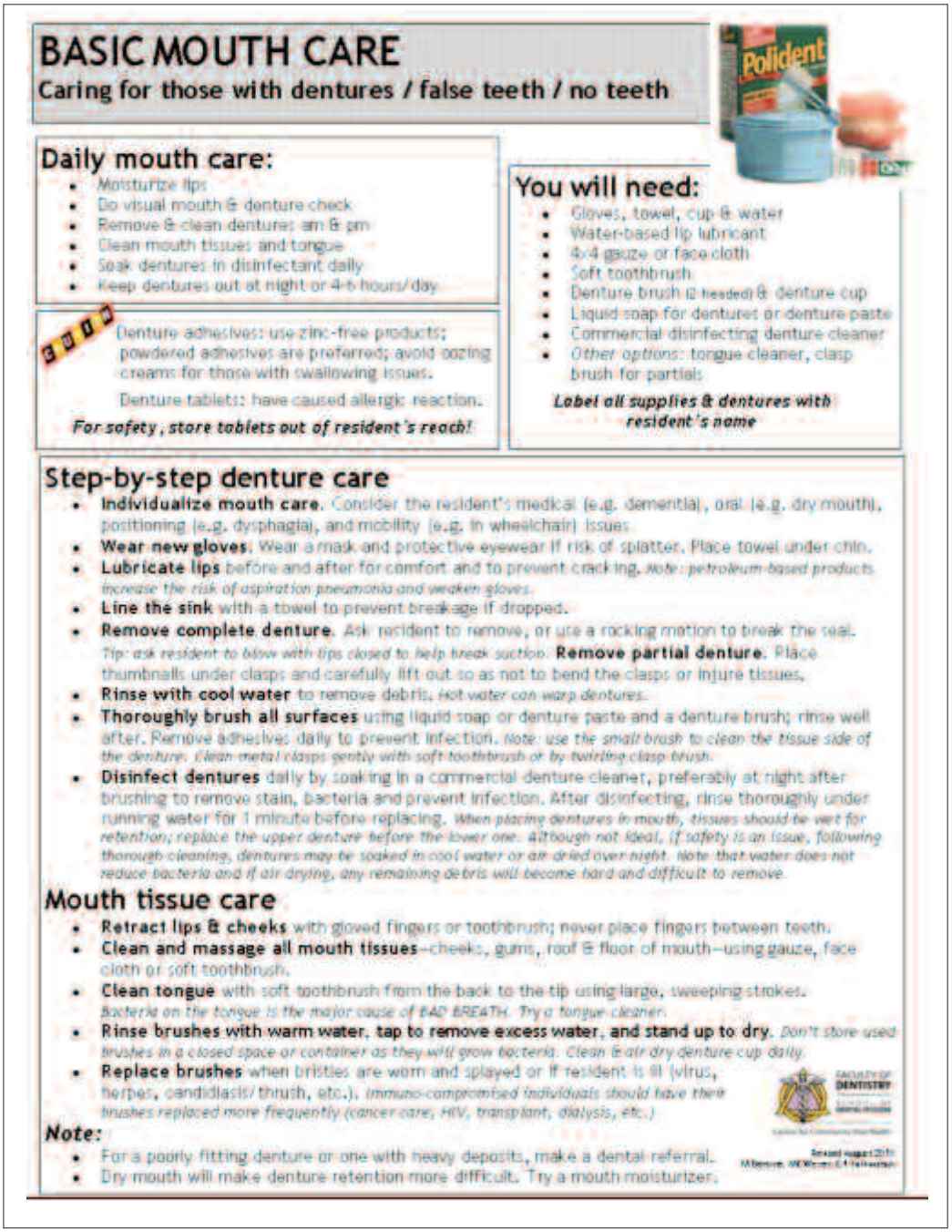
Refer any sore, lump, or bump that does not heal within 2 weeks

FACULTY OF DENTISTRY

Revised August 2010

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010



BASIC MOUTH CARE

Caring for those with dentures / false teeth / no teeth

Daily mouth care:

- Moisturize lips
- Do visual mouth & denture check
- Remove & clean dentures am & pm
- Clean mouth tissues and tongue
- Soak dentures in disinfectant daily
- Keep dentures out at night or 4-6 hours/day

Denture adhesives: use zinc-free products; powdered adhesives are preferred; avoid oozing creams for those with swallowing issues.

Denture tablets: have caused allergic reaction.

For safety, store tablets out of resident's reach!

You will need:

- Gloves, towel, cup & water
- Water-based lip lubricant
- 4x4 gauze or face cloth
- Soft toothbrush
- Denture brush (2 headed) & denture cup
- Liquid soap for dentures or denture paste
- Commercial disinfecting denture cleaner
- *Other options:* tongue cleaner, clasp brush for partials

Label all supplies & dentures with resident's name

Step-by-step denture care

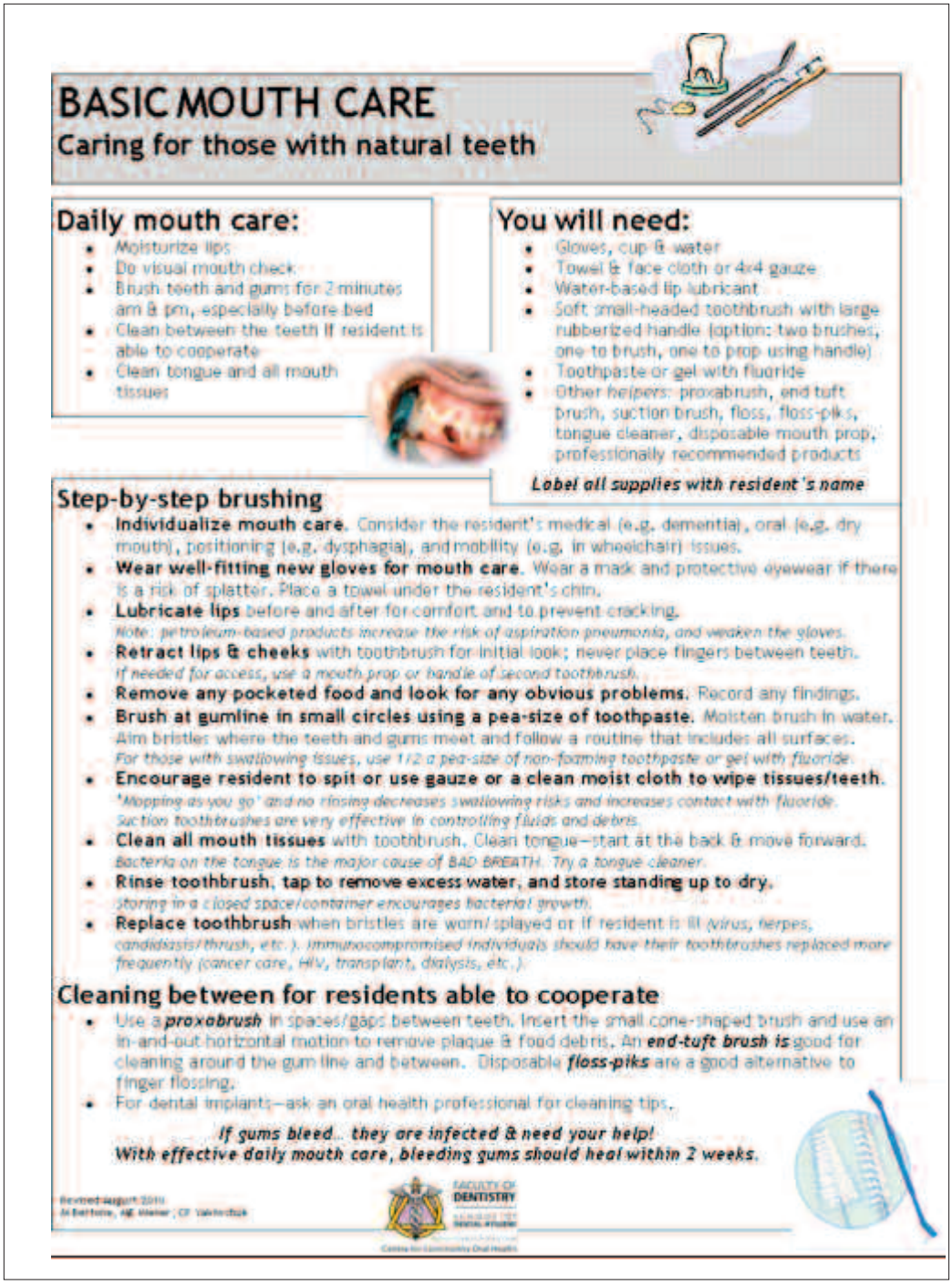
- **Individualize mouth care.** Consider the resident's medical (e.g. dementia), oral (e.g. dry mouth), positioning (e.g. dysphagia), and mobility (e.g. in wheelchair) issues.
- **Wear new gloves.** Wear a mask and protective eyewear if risk of splatter. Place towel under chin.
- **Lubricate lips** before and after for comfort and to prevent cracking. *Note: petroleum-based products increase the risk of aspiration pneumonia and weaken gloves.*
- **Line the sink** with a towel to prevent breakage if dropped.
- **Remove complete denture.** Ask resident to remove, or use a rocking motion to break the seal. *Tip: ask resident to blow with lips closed to help break suction.* **Remove partial denture.** Place thumbnails under clasps and carefully lift out so as not to bend the clasps or injure tissues.
- **Rinse with cool water** to remove debris. *Hot water can warp dentures.*
- **Thoroughly brush all surfaces** using liquid soap or denture paste and a denture brush; rinse well after. Remove adhesives daily to prevent infection. *Note: use the small brush to clean the tissue side of the denture. Clean metal clasps gently with soft toothbrush or by twirling clasp brush.*
- **Disinfect dentures** daily by soaking in a commercial denture cleaner, preferably at night after brushing to remove stain, bacteria and prevent infection. After disinfecting, rinse thoroughly under running water for 1 minute before replacing. *When placing dentures in mouth, tissues should be wet for retention; replace the upper denture before the lower one. Although not ideal, if safety is an issue, following thorough cleaning, dentures may be soaked in cool water or air dried overnight. Note that water does not reduce bacteria and if air drying, any remaining debris will become hard and difficult to remove.*

Mouth tissue care

- **Retract lips & cheeks** with gloved fingers or toothbrush; never place fingers between teeth.
- **Clean and massage all mouth tissues**—cheeks, gums, roof & floor of mouth—using gauze, face cloth or soft toothbrush.
- **Clean tongue** with soft toothbrush from the back to the tip using large, sweeping strokes. *Bacteria on the tongue is the major cause of BAD BREATH. Try a tongue cleaner.*
- **Rinse brushes with warm water, tap to remove excess water, and stand up to dry.** *Don't store used brushes in a closed space or container as they will grow bacteria. Clean & air dry denture cup daily.*
- **Replace brushes** when bristles are worn and splayed or if resident is ill (virus, herpes, candidiasis/ thrush, etc.). *Immuno-compromised individuals should have their brushes replaced more frequently (cancer care, HIV, transplant, dialysis, etc.)*

Note:

- For a poorly fitting denture or one with heavy deposits, make a dental referral.
- Dry mouth will make denture retention more difficult. Try a mouth moisturizer.



BASIC MOUTH CARE

Caring for those with natural teeth

Daily mouth care:

- Moisturize lips
- Do visual mouth check
- Brush teeth and gums for 2 minutes am & pm, especially before bed
- Clean between the teeth if resident is able to cooperate
- Clean tongue and all mouth tissues

You will need:

- Gloves, cup & water
- Towel & face cloth or 4x4 gauze
- Water-based lip lubricant
- Soft small-headed toothbrush with large rubberized handle (option: two brushes, one to brush, one to prop using handle)
- Toothpaste or gel with fluoride
- Other *helpers*: proxabrush, end tuft brush, suction brush, floss, floss-piks, tongue cleaner, disposable mouth prop, professionally recommended products

Label all supplies with resident's name

Step-by-step brushing

- **Individualize mouth care.** Consider the resident's medical (e.g. dementia), oral (e.g. dry mouth), positioning (e.g. dysphagia), and mobility (e.g. in wheelchair) issues.
- **Wear well-fitting new gloves for mouth care.** Wear a mask and protective eyewear if there is a risk of splatter. Place a towel under the resident's chin.
- **Lubricate lips** before and after for comfort and to prevent cracking.
  Note: petroleum-based products increase the risk of aspiration pneumonia, and weaken the gloves.
- **Retract lips & cheeks** with toothbrush for initial look; never place fingers between teeth.
  If needed for access, use a mouth prop or handle of second toothbrush.
- **Remove any pocketed food and look for any obvious problems.** Record any findings.
- **Brush at gumline in small circles using a pea-size of toothpaste.** Moisten brush in water. Aim bristles where the teeth and gums meet and follow a routine that includes all surfaces.
  For those with swallowing issues, use 1/2 a pea-size of non-foaming toothpaste or gel with fluoride.
- **Encourage resident to spit or use gauze or a clean moist cloth to wipe tissues/teeth.**
  'Mopping as you go' and no rinsing decreases swallowing risks and increases contact with fluoride.
  Suction toothbrushes are very effective in controlling fluids and debris.
- **Clean all mouth tissues** with toothbrush. Clean tongue—start at the back & move forward.
  Bacteria on the tongue is the major cause of BAD BREATH. Try a tongue cleaner.
- **Rinse toothbrush, tap to remove excess water, and store standing up to dry.**
  Storing in a closed space/container encourages bacterial growth.
- **Replace toothbrush** when bristles are worn/splayed or if resident is ill (virus, herpes, candidiasis/thrush, etc.). *Immunocompromised individuals should have their toothbrushes replaced more frequently (cancer care, HIV, transplant, dialysis, etc.).*

Cleaning between for residents able to cooperate

- Use a ***proxabrush*** in spaces/gaps between teeth. Insert the small cone-shaped brush and use an in-and-out horizontal motion to remove plaque & food debris. An ***end-tuft brush is*** good for cleaning around the gum line and between. Disposable ***floss-piks*** are a good alternative to finger flossing.
- For dental implants—ask an oral health professional for cleaning tips.

If gums bleed... they are infected & need your help!
With effective daily mouth care, bleeding gums should heal within 2 weeks.

FACULTY OF DENTISTRY

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

APPENDIX B

Meal Observation Forms

The forms in this appendix are provided as a reference. Facilities may choose to modify the forms provided or use them in their original format. Each meal observation screening form may be administered by HCA or professional staff as designated.

Some forms in this appendix look exclusively at feeding and/or swallowing. Care must be taken to ensure the meal observation *addresses both feeding and swallowing issues*.

The following sample forms are provided:

- Brandon Regional Health Authority Long Term Care Eating Screen
- ARHA Meal Observation Screening Form
- NEHA Long Term Care Meal Observation and Screening Tool
- Winnipeg Regional Health Authority Meal Observation Screening Form

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

Brandon Regional Health Authority
Brandon, Manitoba
LONG TERM CARE

PART I: EATING SCREEN

☐ **INITIAL SCREEN**
☐ **RE-SCREEN**

Completed by Health Care Aide

Current diet: _____ (check with kitchen staff)

Liquids are (check one): ☐ thin ☐ nectar ☐ honey ☐ pudding

Assistance received during meal: ☐ none ☐ partial ☐ total

Devices in use during eating screen (please check all that apply): ☐ plateguard ☐ nosey class

☐ two handled cup ☐ straw used to drink liquids ☐ Other:_____

		Breakfast Date: _____		Lunch Date: _____		Dinner Date: _____	
What to watch for:		**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Section A	1. Does resident cough or clear their throat often when eating or drinking?						
	2. Does resident cough after meals? (Up to 30 mins after)						
	3. Does resident have problems chewing?						
	4. Does food remain in mouth after swallowing?						
	5. Does resident drool or spills food from mouth when eating?						
	6. Is the resident slow to swallow or hold food in mouth?						
	7. Does resident's voice sound gurgly after eating?						
Section B	8. Is resident eating less than ¾ of meal?						
	9. Is the resident drinking less than 1 cup with meals?						
	10. Does resident take a long time to eat? If yes specify how long _____						
	11. Is resident's behaviour a problem at meals?						
Section C	12. Does the resident have problems sitting upright during meals?						
	13. If resident can feed him/herself, does he/she have problems holding cup, glass, knife, fork or spoon?						

Name of Screener (please print) _____

Comments: **Breakfast:** _____
Lunch: _____
Supper: _____

To Be Completed By Nurse

☐ No problems identified on any sections A, B or C of eating screen (file on resident's chart)
☐ Problems identified for one or more meals in sections A, B, or C, initiate consults below & file on resident's chart

Consults to be initiated: Section A: ☐ TTMD Tester Section C: ☐ OT
Section B: ☐ RD Other consults: ☐ _____

Nurse's Signature: _____ Date: _____

ARHA MEAL OBSERVATION SCREENING FORM

Adapted from Wawanesa Health Centre, North Eastman Region &
Deer Lodge Centre TTMD Part I

To be completed by staff assisting resident *at* meal time

□ ***Initial Assessment*** □ ***Reassessment*** ***Diet Type_____***
(Nurse Only)
Diet content: Breakfast_____
Dinner_____
Supper_____

	Breakfast		***Lunch***		***Supper***	
Section I: Swallowing Abilities	*YES*	***NO***	*YES*	*NO*	*YES*	*NO*
1. Does the resident cough when eating solids?						
2. Does the resident cough when drinking regular fluids?						
3. Does the resident cough after a meal?						
4. Does the resident drool?						
5. Does food remain in the mouth after swallowing?						
6. Does the resident sound gurgly?						
7. Is the resident slow when beginning to swallow?						
8. Does the resident forget to swallow?						
9. Does the resident have difficulty chewing?						
Section II: Feeding Abilities						
10. Does the resident eat less than ½ of meal within 30 minutes?						
11. Does the resident have difficulty holding : Cup., glass						
Knife, Fork, Spoon						
12. Does the resident require total assistance with eating?						
13. Is the resident easily distracted?						
14. Does the resident fall asleep during the meal?						
15. Does the resident . ... Turn head away?						
Spit out food?						
Push food away?						
Push staff away?						
Talk/shout excessively?						
Play with food?						
Spill food when eating?						
16. Does the resident have difficulty holding head upright for meals?						
17. Does the resident have difficulty sitting upright for meals?						
Date ***Initials & Title***						

If answered "yes" to any question in Section I, forward copy to TTMD Tester: Date: _____
If answered "yes" to any of the above, forward copy to Dietitian: Date: _____
Comments: _____

Recommend Referral (**to be completed by dietitian):** □ **OT** Date: _____
□ **SLP** Date: _____
□ **MD** Date: _____

Section I: Swallowing Abilities Definitions

1 & 2. ***Cough or clear the throat frequently when eating or drinking***: Watch the resident and record any instances of coughing or throat clearing during the meal. This is an indication that food and/or liquid may be entering the airway. There may be a delay of several seconds before a cough occurs. Even weak or ineffective coughs/throat clears should be noted. ***This would be significant especially if the Resident does not cough normally.***

3. ***Cough frequently after a meal:*** This item should be checked off if noted on more than one occasion following a meal. If coughing occurs after a meal routinely it may be that the person is coughing on material that has not been fully swallowed during the meal and is remaining in the throat. ***This would be significant especially if the Resident does not cough normally.***

4. ***Spill or drool food from the mouth while eating:*** It should be noted when food or liquid falls from, or cannot be contained in the mouth. It is normal for individuals to lose small amounts of food or liquid from their mouth occasionally, however, when the resident is either unaware of the loss of food or cannot prevent food loss, she/he may be at an increased risk for swallowing problems.

5. ***Food remaining in the mouth after swallowing:*** The resident's mouth should be checked throughout the meal to determine the presence/absence of food. Generally, if ½ of the mouthful or more remains in the mouth, it is considered abnormal. The term "pocketing food" refers to a significant amount of the food or liquid remaining in the mouth after the swallow. The food or liquid may be left in the mouth, on the tongue, in the cheek or between the teeth and the cheeks. A small amount of food residue in the mouth is considered normal.

6. ***Sound gurgly or wet after swallowing food or liquid:*** Listen to voice immediately after a swallow of food or liquid for a wet/gurgly sound. If this happens, the resident should be encouraged to cough/clear throat and then re-swallow.

7& 8 ***Hold food or liquid in the mouth for a long time before swallowing:*** During the swallow, watch the Adam's apple ***move*** up and down. Until this happens, the resident has not swallowed. Count the amount of time it takes in seconds for the resident to swallow. If it is more than 30 seconds or if the resident does not swallow at all, check this item.

15. ***Have difficulty chewing food:*** Inadequate chewing can be identified by food loss from the mouth, removal of pieces of food which have not been chewed, resident indicating that food is difficult to chew, or an abnormally long time taken to chew each mouthful.

Section II: Feeding Abilities Definitions

11. ***Have difficulty using cup/knife/fork/spoon:*** The resident is not able to hold the cup/knife/fork/spoon or to lift these items to mouth without spilling food each time.

13. ***Have difficulty paying attention while eating:*** The resident requires frequent reminders to continue eating or attempts to leave the table before having finished the meal.

16. ***Turns head away:*** The resident intentionally turns head away from the food several times during a meal.

17. ***Have other behaviours which interfere with eating:*** The resident has other behaviours such as anxiety, frustration, or restlessness which makes it difficult for the resident to eat or be assisted with feeding.

18. ***Have difficulty holding head upright for the whole meal:*** The resident's head falls to the side or tips backwards or falls forward. For safe feeding the resident should be able to hold head straight with the chin pointed towards but not resting on the chest.

19. ***Have difficulty sitting upright:*** Resident leans to the side or forwards or slides down when seated or must hold onto the chair armrests to stay upright. The resident is able to site upright but complains of discomfort sitting in the chair by the end of the meal.

Comments: ie. Amount consumed or behaviors/habits observed.

NEHA LONG TERM CARE
MEAL OBSERVATION & SCREENING TOOL
Adapted from Wawanesa Health Centre &
Deer Lodge Centre TTMD Part I.

To be completed within 72 hours of admission on ALL residents.

☐ Admission observation ☐ Follow up observation for any change e.g. improvement or deterioration.

Type of diet & fluids observed: _____ Revised May 20, 2003

✔ yes or no as appropriate.	Breakfast		Lunch		Supper		COMMENTS
Part A- Swallowing **[HCA, Nurse, Dietitian]**	Yes	No	Yes	No	Yes	No	
Regular coughing or clearing of throat with fluids?							
Regular coughing or clearing of the throat with solids?							
Food remaining in the mouth after swallowing?							
Spills or drools food from the mouth while eating?							
Wet, gurgly voice after swallowing food or liquid?							
Difficulty chewing food?							
Holds food or liquid in mouth and does not swallow?							
Part B – Feeding **[HCA, Nurse, Dietitian]**							
Difficulty holding own cup, utensils?							
Spills food frequently from cup, utensils?							
Requires some assistance to eat meal?							
Requires total assistance to eat at most times.							
Behaviour at meals is a problem?							
Feeding position of resident is a problem.							
OBSERVER INITIALS							
DATE OF OBSERVATION							

Part C - Medical Indicator of Swallowing Difficulty **[Nurse only]**	Yes	No
Persistent , problematic secretions		
Recurrent chest infections		
History of choking incident (requiring suctioning or obstructed airway clearing).		
Other:		

Part A & C – If any 'yes' or an improvement from previous observation, consult with a TTMD tester to proceed to Parts II and III of the TTMD to ensure that the diet texture is corrected.
Part B – If any 'yes' indicators consider referring to OT. Some management is likely required.

NURSE

☐ No change in present nutrition plan management.

☐ Modifications required to nutrition plan. Refer to: Oral Feeding Management Decision / Referral Guideline.

Comments

Forward original to dietitian.

SIGNATURE DATE

DIETITIAN

☐ No problems identified / no change needed.

☐ Recommendations

Dietitian to file in resident's chart.

SIGNATURE DATE

DIRECTIONS FOR USE OF THE LONG TERM CARE MEAL OBSERVATION & SCREENING TOOL

ADMINISTERING THE TOOL

- The Meal Observation & Screening Tool should be completed
  - Within 72 hours of admission on ALL new residents.
  - When a feeding / swallowing change has occurred.
- Parts A & B may be completed by a HCA, Dietitian or nurse. A nurse completes part C and recommendations.
- Ensure that the type of diet and fluid is written at the top of the tool example: modified minced with nectar-thickened fluids.
- One meal only need be observed unless factors were evident that the meal taken was not representative of a meal the resident would normally consume for example: the resident was ill, the resident was very anxious or upset, the resident was not used to one particular food, etc.

RESULTS

- The nurse is responsible for assessing the feeding and/or swallowing issues and if changes are required to nutritional management. The Oral Feeding Management Decision / Referral Guideline offers decision guidelines.
- Feeding Concerns- Refer to Refer to Section 6 & 7 of Manitoba Health Manual for feeding & Swallowing management in Long Term Care Facilities, October 2001 for management ideas. An OT consult may be required.
- Dysphagia Concerns- Refer to Section 6 & 7 of Manitoba Health Manual for feeding & Swallowing management in Long Term Care Facilities, October 2001 for management ideas.
- If there are any indicators checked for Part B & C texture modifications may have to be made. The nurse will consult with the Dietitian and make a referral to either the Dietitian or nurse trained in administering the Test for Texture Modified Diet (TTMD). Ideally, the TTMD is done within 7 days of the request. In the mean time, the charge nurse can temporarily change texture.
- The completed Meal Observation & Screening Tool will be sent to the Dietitian. It is the Dietitian's responsibility to ensure that the tool gets placed into the resident's chart. The Dietitian will consult with the nursing team regarding his/her recommendations.
- ALL documentation is done in the notes and care plan as applicable.

Revised November 20, 2002

Winnipeg Regional Health Authority | Office régional de la santé de Winnipeg

MEAL OBSERVATION SCREENING FORM

☐ Initial Assessment ☐ Reassessment

Circle one: B=Breakfast, L=Lunch, D=Dinner • Make sure resident is wearing dentures, glasses and hearing aids • Record the liquid and food texture provided • Observe the resident for an entire meal • Please date and initial the form in the appropriate column	B L D Diet texture: thick/thin:	B L D Diet texture: thick/thin:	B L D Diet texture: thick/thin:

Section I: Swallowing Abilities

Does the resident:	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
1. Cough or clear the throat frequently when eating solids?	☐	☐	☐	☐	☐	☐
2. Cough or clear the throat frequently when drinking?	☐	☐	☐	☐	☐	☐
3. Cough frequently after a meal?	☐	☐	☐	☐	☐	☐
4. Spill or drool food from the mouth while eating?	☐	☐	☐	☐	☐	☐
5. Have difficulty chewing food?	☐	☐	☐	☐	☐	☐
6. Have food remaining in the mouth after swallowing?	☐	☐	☐	☐	☐	☐
7. Sound gurgly or wet after swallowing?	☐	☐	☐	☐	☐	☐
8. Hold food or liquid in the mouth for a long time before swallowing?	☐	☐	☐	☐	☐	☐

Section II: Feeding Abilities

Does the Resident:	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
9. Require total assistance for feeding?	☐	☐	☐	☐	☐	☐
10. Have difficulty using: (circle as indicated) cup/knife/fork/spoon?	☐	☐	☐	☐	☐	☐
11. Fall asleep during the meal?	☐	☐	☐	☐	☐	☐
12. Have difficulty holding his/her head upright for the whole meal?	☐	☐	☐	☐	☐	☐
13. Have difficulty sitting upright?	☐	☐	☐	☐	☐	☐
14. Have difficulty paying attention while eating?	☐	☐	☐	☐	☐	☐
15. Turn his/her head away?	☐	☐	☐	☐	☐	☐
16. Spit out food?	☐	☐	☐	☐	☐	☐
17. Push food / staff away (circle as indicated)?	☐	☐	☐	☐	☐	☐
18. Have other behaviors, which interfere with eating?	☐	☐	☐	☐	☐	☐
19. Eat less than ½ of meal within 30 minutes?	☐	☐	☐	☐	☐	☐
Date/Initial:						
Comments:						

Reviewed by (Nurse/Other Professional)_____Date:_____

Recommendations: (to be completed by Nurse/Other Professional) _____

Recommended Referrals (To be completed by Nurse/Other Professional)

☐ Dietitian ☐ Occupational Therapist ☐ Speech-Language Pathologist

Section I: Swallowing Abilities Definitions

1. & 2. Cough or clear throat frequently when eating or drinking – Watch the resident and record any instances of coughing or throat clearing during the meal. This is an indication that food and/or liquid may be entering the airway. There may be a delay of several seconds before a cough occurs. Even weak or ineffective coughs/throat clears should be noted. This would be significant especially if the Resident does not cough normally.
3. Cough frequently after a meal - This item should be checked off if noted on more than one occasion following a meal. If coughing occurs after a meal routinely it may be that the person is coughing on material that has not been fully swallowed during the meal and is remaining in the throat. This would be significant especially if the Resident does not cough normally.
4. Spill or drool food from the mouth while eating – It should be noted when food or liquid falls from, or cannot be contained in the mouth. It is normal for individuals to lose small amounts of food or liquid from their mouth occasionally, however, when the resident is either unaware of the loss of food or cannot prevent food loss, s/he may be at an increased risk for swallowing problems.
5. Have difficulty chewing food – Inadequate chewing can be identified by food loss from the mouth, removal of pieces of food which have not been chewed, resident indicating that food is difficult to chew, or an abnormally long time taken to chew each mouthful.
6. Food remaining in the mouth after swallowing – The resident's mouth should be checked periodically throughout the meal to determine the presence/absence of food. Generally, if ½ of the mouthful or more remains in the mouth, it is considered abnormal. The term "pocketing food" refers to a significant amount of the food or liquid remaining in the mouth after the swallow. The food or liquid may be left on the tongue, in the cheek, on the roof of the mouth, or between the teeth and the cheeks. A small amount of food residue in the mouth is considered normal.
7. Sound gurgly or wet after swallowing food or liquid – Listen to voice immediately after a swallow of food or liquid for a wet/gurgly sound. If this happens, the resident should be encouraged to cough/clear throat and then re-swallow.
8. Hold food or liquid in the mouth for a long time before swallowing - During the swallow, watch the Adam's apple move up and down. Until this happens, the resident has not swallowed. Count the amount of time it takes in seconds for the resident to swallow. If it is more than 30 seconds or if the resident does not swallow at all check this item off.

Section 11-Feeding Abilities Definitions

10. Have difficulty using cup/knife/fork/spoon – The resident is not able to hold the cup/knife/fork/spoon or to lift these items to mouth without spilling food each time.
12. Have difficulty holding head upright for the whole meal – The resident's head falls to the side or tips backwards or falls forward. For safe feeding the resident should be able to hold head straight with the chin pointed towards but not resting on the chest.
13. Have difficulty sitting upright – Resident leans to the side or forwards or slides down when seated or must hold onto the chair armrests to stay upright. The resident is able to sit upright but complains of discomfort sitting in the chair by the end of the meal.
14. Have difficulty paying attention while eating – The resident requires frequent reminders to continue eating or attempts to leave the table before having finished the meal.
15. Turn his/her head away – The resident intentionally turns head away from the food several times during a meal.
18. Have other behaviors which interfere with eating – The resident has other behaviors such as anxiety, frustration or restlessness which makes it difficult for the resident to eat or be assisted with feeding.

APPENDIX C

Recommended Foods for Texture Modified Diets

Texture Modification	Vegetables and Fruits	Grain Products	Milk and Alternatives	Meats and Alternatives	Added Fats	Other
Cut up	**Allow** All cut into small pieces unless the food is eaten out of hand. **Avoid** None	**Allow** All cut into small pieces unless the food is eaten out of hand. **Avoid** None	**Allow** All cut into small pieces unless the food is eaten out of hand. **Avoid** None	**Allow** All cut into small pieces unless the food is eaten out of hand. **Avoid** None	**Allow** All cut into small pieces unless the food is eaten out of hand. **Avoid** None	**Allow** Provide soup in a mug. Cut all desserts into small pieces unless the food is eaten out of hand. **Avoid** None
Soft[i]	**Allow**[ii] Juices; canned or soft-ripened fruit; most soft cooked vegetables (fork- mashable or minced if tough); shredded lettuce **Avoid** Fruit/vegetables with stringy or tough skins or seeds; corn; non-tender cooked vegetables; hard raw vegetables and fruit; dried fruit and nuts	**Allow** Most soft, moist foods; rice **Avoid** Dry or chewy breads, toast, baked goods; (hard bagels, hard bread sticks); coarse dry cereals and crackers (granola, crackers with seeds); baked goods containing nuts and seeds	**Allow** Most **Avoid** Hard, dry cheeses	**Allow** Soft, moist, bite-sized meat/fish/poultry without skin; tougher meats minced with gravy/sauce; tuna/salmon/egg salad without chunks of vegetables; soft cooked eggs; smooth peanut butter; soft tofu; well cooked legumes **Avoid** Dry, tough meat/fish/poultry; chunky peanut butter	**Allow** Most **Avoid** None	**Allow** Well cooked soups; all soft desserts **Avoid** Crisp, stringy, coarse, chewy foods such as nuts/seeds, popcorn, chips. Chewy desserts such as caramel and hard candies
Soft Minced[i]	**Allow** Juices; canned or soft-ripened fruit without seeds or tough skins (minced if tough); most soft cooked vegetables without seeds or tough skins (fork- mashable or minced if tough **Avoid** Same as soft diet; shredded lettuce	**Allow** Same as soft diet. **Avoid** Same as soft diet.	**Allow** Same as soft diet. **Avoid** Same as soft diet.	**Allow** Same as minced diet. **Avoid** Same as minced diet except smooth peanut butter may be allowed.	**Allow** Same as soft diet. **Avoid** Same as soft diet.	**Allow** Same as soft diet. **Avoid** Same as soft diet.

Texture Modification	Vegetables and Fruits	Grain Products	Milk and Alternatives	Meats and Alternatives	Added Fats	Other
Minced[i]	**Allow** Cooked, soft, mined vegetables (no seeds or skins); soft cooked potatoes mashed or fork-mashable without skin or crispiness; canned, drained, minced fruit (no seeds or skins); soft ripe banana **Avoid** Fibrous, non-tender or rubbery cooked vegetables (corn, peas, broccoli, cabbage, Brussels sprouts, asparagus); vegetables with skins/seeds; dried fruit; pineapple; coconut; skins/seeds; nuts; juice with pulp	**Allow** Hot/cold cereals with little texture (e.g. cornflakes) softened in milk; bottom pie crust/ crumb on cobbler if soft and made with allowed ingredients; soft bread and baked goods made with allowed ingredients; soft, bite-sized or minced pasta; soft dumplings in gravy/sauce; soft pancakes, well moistened with syrup or sauce **Avoid** Rice; dry or chewy bread, toast, crackers; whole grain dry or coarse cereals	**Allow** Milk (consider fluid order); smooth yogurt or yogurt containing fine bits of fruit; pureed or small curd cottage cheese; processed or grated cheese; smooth pudding or custard **Avoid** Hard cheese cubes or slices	**Allow** Minced meat/ poultry/fish with gravy/sauce; tender fish (no bones), cut into bite-sized pieces, with gravy/sauce; casseroles (no rice), minced or soft, moist and cohesive with bite-sized pieces; tuna/ salmon/egg salad without raw vegetables; scrambled, poached or soft-cooked eggs with moisture added (sauce or margarine/ butter); soft tofu; well cooked, minced, moist legumes **Avoid** Peanut butter; nuts; seeds	**Allow** Most **Avoid** Those with coarse or chunky additives	**Allow** Pureed or strained soups with allowed ingredients (thickened based on fluid order); smooth condiments. Easily chewed desserts: smooth pudding and custard; soft. Moist cake and cookies; ice cream; sherbet **Avoid** Consider fluid order; crisp, hard, stringy, course or chewy foods that are difficult to chew.
Total minced[i]	**Allow** Same as minced diet. **Avoid** Same as minced diet.	**Allow** Same as pureed diet except soft, bite-sized pasta may be allowed. **Avoid** Same as pureed diet.	**Allow** Same as minced diet. **Avoid** Same as minced diet.	**Allow** Same as minced diet. **Avoid** Same as minced diet.	**Allow** Same as minced diet. **Avoid** Same as minced diet.	**Allow** Same as minced diet. **Avoid** Same as minced diet.

Texture Modification	Vegetables and Fruits	Grain Products	Milk and Alternatives	Meats and Alternatives	Added Fats	Other
Pureed[i]	**Allow** Cooked/ canned and pureed vegetables and fruits without lumps, tough skins or seeds; smooth mashed potatoes **Avoid** Raw vegetables and fruit except smooth mashed banana; juice with pulp	**Allow** Smooth hot cereal with a pudding-like consistency (pureed if lumpy and added milk based on fluid order); pureed or slurried bread, baked goods, pancakes; pre-gelled slurried breads or baked goods; well-cooked pasta, dressing, rice when purred into an entrée **Avoid** All dried cereals and any cooled cereals with lumps, seeds, chunks; oatmeal	**Allow** Milk (consider fluid order); smooth yogurt; pureed cottage cheese; smooth pudding or custard **Avoid** Cheese except as allowed or when pureed into an entrée	**Allow** Most when pureed with gravy/sauce; cohesive casseroles with gravy/sauce added as needed; pureed legumes **Avoid** Peanut butter; eggs unless pureed	**Allow** Most except those to avoid. **Avoid** Those with coarse or chunky additives	**Allow** Pureed or strained soups (thickened based on fluid order); smooth condiments Smooth pudding and custard; ice cream; sherbet; pureed baked goods such as cake or pie **Avoid** Consider fluid order; any foods that require chewing.

i Test of Texture Modified Diet (TTMD) terminology. Alternate terminology is listed in section 8.2.3 (b).

ii In all diet categories, "Allow" only when processed according to standards for the specific diet. Individual items may or may not be allowed within each diet order based on assessment by the health care team members, compliance with established therapeutic diet modifications, or as chosen by the resident/designate with appropriate documentation according to RHA/facility policy.

APPENDIX D

Sample Menus – Texture Modified Diets – Day One

Note: "Soft Minced" texture is not included in the sample menu table. It is a combination of soft and minced menu items. Refer to Appendix C.

Meal	Diet Type				
	Regular	**Soft**	**Minced**	**Total Minced**	**Pureed**
Breakfast	Stewed Prunes	Pureed Prunes	Pureed Prunes	Pureed Prunes	Pureed Prunes
	Peanut Butter	Smooth Peanut Butter	Cottage Cheese	Cottage Cheese	Pureed Cottage Cheese
	Applesauce Muffin with Margarine	Applesauce Muffin with Margarine	Applesauce Muffin with Margarine	Pureed Applesauce Muffin with Margarine	Pureed Applesauce Muffin with Margarine
	Red River Cereal	Cream of Wheat	Cream of Wheat	Cream of Wheat	Cream of Wheat
	Milk	Milk*	Milk*	Milk*	Milk*
	Coffee	Coffee*	Coffee*	Coffee*	Coffee*
Lunch	Cream of Tomato Soup	Cream of Tomato Soup	Cream of Tomato Soup	Cream of Tomato Soup	Cream of Tomato Soup
	Sliced Turkey Sandwich	Turkey Salad Sandwich	Turkey Salad Sandwich	Minced Turkey with Gravy	Pureed Turkey with Gravy
				Mashed Potato	Mashed Potato
	Tossed Salad with Dressing	Jellied Salad	Jellied Salad	Minced Green Beans	Pureed Green Beans
	Canned Peaches	Diced Canned Peaches	Minced (or Pureed) Canned Peaches	Minced (or Pureed) Canned Peaches	Pureed Canned Peaches
	Milk	Milk*	Milk*	Milk*	Milk*
	Tea	Tea*	Tea*	Tea*	Tea*
Supper	Chicken Stir Fry	Chicken Stir Fry (With Minced Chicken and Soft Vegetables)	Minced Chicken Stir Fry with Mashed Potatoes	Minced Chicken Stir Fry with Mashed Potatoes	Pureed Chicken Stir Fry with Mashed Potatoes
	Boiled Rice	Boiled Rice			
	Brownie	Brownie (no nuts)	Brownie (no nuts)	Chocolate Pudding	Chocolate Pudding
	Milk	Milk*	Milk*	Milk*	Milk*
	Tea	Tea*	Tea*	Tea*	Tea*

***** Consideration of the fluid viscosity needs of the resident is required.

Sample Menus – Texture Modified Diets – Day Two

Meal	Diet Type				
	Regular	**Soft**	**Minced**	**Total Minced**	**Pureed**
Breakfast	Juice	Juice*	Juice*	Juice*	Juice*
	Boiled Egg/ Bacon	Soft Boiled Egg	Soft Scrambled Egg	Soft Scrambled Egg	Pureed Scrambled Egg
	Toast with margarine/jam	Soft Toast with margarine/jelly	Soft Toast with margarine/jelly	Pureed Toast with margarine/jelly	Pureed Toast with margarine/jelly
	Corn Flakes	Corn Flakes	Corn Flakes softened in Milk	Oatmeal – 1 to 2 bowls	Oatmeal – 1 to 2 bowls
	Milk	Milk*	Milk*	Milk*	Milk*
	Coffee	Coffee*	Coffee*	Coffee*	Coffee*
Lunch	Vegetable Soup	Vegetable Soup	Pureed Vegetable Soup	Pureed Vegetable Soup	Pureed Vegetable Soup
	Tuna Noodle Casserole	Tuna Noodle Casserole	Minced Tuna Noodle Casserole	Minced Tuna Noodle Casserole	Pureed Tuna Noodle Casserole
	Cooked Broccoli	Soft Cooked Green Beans	Minced Green Beans	Minced Green Beans	Pureed Green Beans
	Dinner Roll with Margarine	Dinner Roll with Margarine	Dinner Roll with Margarine	Pureed Bread	Pureed Bread
	Strawberry Flovoured Mousse	Strawberry Flovoured Mousse	Strawberry Flovoured Mousse	Strawberry Flovoured Mousse	Strawberry Flovoured Mousse
	Milk	Milk*	Milk*	Milk*	Milk*
	Tea	Tea*	Tea*	Tea*	Tea*
Supper	Roast Beef with Gravy	Minced (or finely shaved) Roast Beef with Gravy	Minced Roast Beef with Gravy	Minced Roast Beef with Gravy	Pureed Roast Beef with Gravy
	Boiled Potato	Boiled Potato	Mashed Potato with Gravy	Mashed Potato with Gravy	Soft Mashed Potato with Gravy
	Cooked Carrots	Soft Cooked Carrots	Minced Carrots	Minced Carrots	Pureed Carrots
	Apple Crisp	Apple Crisp with Soft Topping	Apple Crisp with Soft Topping and Minced Fruit	Apple Crisp with Soft Topping and Minced Fruit	Pureed Apple Crisp
	Milk	Milk*	Milk*	Milk*	Milk*
	Tea	Tea*	Tea*	Tea*	Tea*

***** Consideration of the fluid viscosity needs of the resident is required.

APPENDIX E

Categories of Fluid Viscosity

Fluid Viscosity Category[iii]	Description	Allowed Fluids	Notes
Thin	1-50 centiPoise (cP)	No restrictions	Consider mixed consistencies based on diet order or individual assessment (e.g. soups may need to be blended or strained, canned fruit may need to be drained).
Nectar-Thick	51-350 cP Line spread measurement 3.7-6.5 cm depending on fluid type	All fluids thickened to nectar thickness Naturally thick items such as apricot nectar, tomato juice, thick/ blended soups and 2 kcal/ml oral nutritional supplements are allowed	Items that turn into a thin liquid at room temperature are avoided, such as: ice cream, sherbet, frozen milkshakes, frozen yogurt, gelatin. Naturally thick beverages that do not meet the nectar-thick definition are not allowed, for example, oral nutritional supplements less than 2 kcal/mL.
Honey-Thick	351-1750 cP Line spread measurement 1.4-3.6 cm depending on fluid type	All fluids thickened to honey thickness	Commercially pre-thickened products such as pre-thickened water, juice, milk, coffee and magic cups® available from Nestle, Hormel or Sysco Brand are advantageous. When adding powder or gel thickeners, follow manufacturer's instructions for select fluid types. Thicken all fluids including milk on cereal, blended soup, beverages (meals, snacks and medication pass) to proper thickness; strain canned fruit and prepare as per diet order. All fluids are smooth, homogenous, without lumps or pulp. Avoid foods which readily release water during consumption, e.g. watermelon, oranges.
Pudding-Thick	>1750 cP pudding thickness	All fluids thickened to	

iii Test of Texture Modified Diet (TTMD) terminology.

SECTION 13
REFERENCE LIST

13-1 CITED REFERENCES

1. Morris, H. (2006). Dysphagia in the elderly-a management challenge for nurses. *British Journal of Nursing* (Mark Allen Publishing), 15(10), 558-562.
2. Brady, Anne, MS, CCC-SLP. (2008). Managing the Patient with Dysphagia. *Home Healthcare Nurse*, 26 (1), 41-6.
3. Dysphagia Manual – Riverview Dysphagia Team (Revised 2007)
4. Swallowing and the Elderly: Lecture Series, Excellence in Care of Older Adults, WRHA, 2009.
5. Paik, N. (2008). Dysphagia. Retrieved January 31, 2010 from http://emedicine.medscape.com/article/324096-overview.
6. Locker D, Matear D. Oral disorders, systemic health, well-being, and the quality of life: A summary of recent research evidence. 2001. Toronto: Community Health Services Research Unit. Available at www.caphd-acsdp.org/oh-summa.pdf.
7. Lux JA, Lavigne, SE. Your mouth – Portal to your body (Part I). Canadian Dental Hygienists Association position paper on the links between oral health and general health. *Probe* 2004, 38(3): 114-134.
8. Lux JA, Lavigne SE. Your mouth – Portage to your body (Part II). Canadian Dental Hygienists Association position paper on the links between oral health and general health. *Probe* 2004, 38(4): 155-171.
9. Lux J. Review of the Oral Disease-Systemic Disease link Part I: Heart disease, diabetes. *Can J Dent Hygiene* 2006, 40(6): 288-302, 342.
10. Lux J. Review of the oral disease-systemic disease link Part II: preterm low birth weight babies, respiratory disease. *Can J Dent Hygiene* 2007, 41(1):8-19.
11. Petersen PE and Puska, P. The world oral health report. World Health Organization, Geneva 2003. Available at http://www.who.int/oral_health/publications/report03/en/.
12. Terpenning MS, Taylor GW, Lopatin DE, Kinder Kerr C, Dominguez L, Loesche WJ. Aspiration pneumonia: dental and oral risk factors in an older veteran population. *J Amer Geriatric Soc* 2001, 49(5): 557-563.
13. Azarpazhooh A, Leake JL. Systematic review of the association between respiratory diseases and oral health. *J Periodontol* 2006, 77: 1465-1482.
14. Leibovitz, A. *et al*.2007. Gerontology 53: 179-183. Dehydration among long term care elderly patients with oropharyngeal dysphagia.
15. Wotton, K., Crannitch, R., Munt, R. 2008. *Contemporary Nurse* 31: 44-56. Prevalence, risk factors and strategies to prevent dehydration in older adults.
16. Panel on Dietary Reference Intakes for Electrolytes and Water. Institute of Medicine of the National Academies Press. Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate. 2005. National Academies Press, Washington, D.C.

17. McCormick *et al*. 2008. *Age and Aging*. 37: 714-718. The efficacy of pre-thickened fluids on total fluid and nutrient consumption among extended care residents requiring thickened fluids due to risk of aspiration.

18. Mentes, J. 2006. *Journal of Gerontological Nursing*. 32(1): 13-19. A typology of oral hydration.

19. Position of the American Dietetic Association: Liberalization of the diet prescription improves quality of life for older adults in long term care. *JADA*. 2005. 105: 1955-1965.

20. Nestle Nutrition. Preparing foods for a pureed diet. On-line. Accessed July 20, 2010 http://www.nestlenutritionstore.com/Assets/pdf/pureeing-tips.pdf.

13-2 ADDITIONAL REFERENCES (Alphabetical listing)

Adult Feeding and Management, Swallowing Disorders & Choking Management, An Orientation Package for Staff Working in Acute and Long Term Care Facilities in North Eastman Region, North Eastman Regional Health Authority, September 1999.

American Dietetic Association/Dietitians of Canada. *Manual of Clinical Dietetics, 6th edition*. Dietitians of Canada, Canada (2001).

Boczko, F. & Feightner, K. (2007). Dysphagia in the older adult: the roles of speech-language pathologists and Occupational therapists. *Topics in Geriatric Rehabilitation*, 23(3), 220-227.

Broniatowski, Michael, MD, FACS, Sonies, Barbara C., PhD, Rubin, John S., MD, FACS, FRCS, Bradshaw, Charles R., MBBS, FRCR, Spiegel, Joseph R., MD, FACS, Bastian, Robert W., MD, FACS, Kelly, James H., MD, FACS. Current Evaluation and Treatment of Patients with Swallowing Disorders. *Otolaryngology-Head & Neck Surgery*. 1999, Vol. 120, No.4, 464-473.

Brown, Lisa. Fit to Eat (A nutritional support healthcare assistant is making a huge impact at Derby City General Hospital).

Budke J, Mertz Garcia J, Chambers E. Comparison of thickened beverages using line spread measurements. *Journal of the American Dietetic Association* 10: 1532-1535 (2008).

Carnaby-Mann G, & Lenius K. (2008). The bedside examination in dysphagia. *Physical Medicine and Rehabilitation Clinics of North America* 11, 19(4): 747-768

Cichero, J.A.Y. (2006). *Dysphagia: foundation, theory and practice*. Chichester, England, John Wiley & Sons LTD.

Cleary, Stuart (2009) .Using environmental interventions to facilitate eating and swallowing in residents with dementia. *Canadian Nursing Home*, 20, (2), 5-12.

Dahl, WJ. *Texture modified foods: A manual for food production for long-term care facilities*. Dietitians of Canada, Canada (2004).

Daniel, M.S., Strickland, R., *Occupational Therapy Protocol Management in Adult Physical Dysfunction*, Aspen Publishers, Gaithersburg, Maryland 1992.

Domenech, Edgar, MD and Kelly, James, MD. Swallowing Disorders. *Medical Clinics of North America: 1999 January*; Vol. 83, No.1, 97-113.

Dorner, B. and Associates. (Nutrition Consulting Service, Inc.) *Puree Pizazz*. Professional Printing & Publishing, Inc., Rossier, L.A., 1990.

Dysphagia, Feeding Safety Guide, A Multidisciplinary Approach, Patricia Page (editor), Greater Victoria Hospital Society, 1988.

EATing Program, Baycrest Centre for Geriatric Care, December, 1995.

Easterling, C.S., & Robbins, E. (2008). Dementia and Dysphagia. *Geriatric Nursing*, 29, 4, 275-285.

Eisenstadt, E.S. (2010). Dysphagia and aspiration pneumonia in older adults. *Journal of the American Academy of Nurse Practitioners*, 22 (2010), 17-22.

Finestone, Hillel M., MD,FRCPC, Fisher, James, MCISc, Greene-Finestone, Linda S., RD, MSc, Teasell, MD, FRCPC, Craig, Ian D., MD, FRCPC. Sudden Death in the Dysphagic Stroke Patient -A Case of Airway Obstruction Caused by A Food Bolus. *American Journal of Physical Medicine Rehabilitation* 1998 November/December, No.6, 550.

Food for Thought: A comprehensive approach to improve feeding practices in chronic care; *Emergency Procedures/Equipment*, 34, 1993.

Gonzalez-Fernandez, M. & Daniels, S.K. (2008). Dysphagia in stroke and neurologic disease. *Physical Medicine and rehabilitation Clinics of North America*, 19(4) 867-888.

Griffith, R. (2008). Best practice guidelines for medication-related dysphagia. *Nursing and Residential Care*, 10, 4, 180.

Groher, Michael E., PhD, and McKaig, T. Neil, MS, CCC/SLP. Dysphagia and Dietary Levels in Skilled Nursing Facilities. *Journal of American Geriatric Society* 1995, 43: 528-532.

Hansell, Diana E., MS, RN, ARN, Heinemann, Denise, Dr.PH, RN, Improving Nursing Practice with Staff Education: The Challenges of Dysphagia. *Gastroenterology Nursing*. 1996, Vol. 19, No.6, 201-206.

Hayes, Jane Christine. Current Feeding Policies for Patients with Stroke. *British Journal of Nursing*. 1998, Vol. 7, No.10, 580-8.

Heart & Stroke Foundation. (1993) Cardiopulmonary Resuscitation. *CPR Resource for Basic Life Support*, 17-22.

Humbert, I.A., & Robbins, E. (2008).Dysphagia in the elderly. P*hysical Medical Rehabilitation Clinics of North America*, 19, 4, 853-866.

Hutchins, B. *Managing Dysphagia. An Instructional Guide for the Resident and Family, Resident's Handbook*, 1991.

It Takes Time To Eat, Resource Guide, B.C. Ministry of Health, Nutrition Branch, Preventive Services B.C., Ministry of Health, 1515 Blanshard Street, Victoria, B.C.

Klasner, M.A., CCC – Sp, Reg. OSLA; *Managing Swallowing Difficulties Associated with Huntington's Disease*, Huntington Society of Canada.

Langmore, S.E., Terpenning, M.S., Schork, A., Chen, Y., Murray, J.T., Lopatin, D., & Loesche, W. (1998). Predictors of aspiration pneumonia: How Important is Dysphagia? *Dysphagia* 13, 69-81.

Logemann, Jeri A., PhD. Screening, Diagnosis and Management of Neurogenic Dysphagia. *Seminars in Neurology*. 1996 December, Vol. 16, No.4, 319-27.

Logemann, Jeri A., *Evaluation and Treatment of Swallowing Disorders*. 1983, pro-ed, Austin Texas.

Lux, I & Nask, K. *Continuous Quality Improvement in the Clinical Management of Dysphagia*. (1991) Northern Speech Services Inc.

Managing Dysphagia in Palliative Care. *Professional Nurse* 1999 April, Vol.14, No.7, 489.

Marik, P.E. & Kaplan, D. (2003). Aspiration pneumonia and dysphagia in the elderly. *Chest*. 124 (1). Retrieved from http://chestjournal.chestpubs.org/content/124/1/328.full

Martin, J, Blackhouse, J. *Good Looking, Easy Swallowing*. JKC Foundation, Unley, South Australia. 1993.

Matsuo, K & Palmer, J.B.(2008). Anatomy and physiology of feeding and swallowing: normal and abnormal. *Physical Medical Rehabilitation Clinics of North America*, 19, 4, 691-707.

McHale, Jeanne M., Phipps, Marion A., Horvath, Kathy, Schmetz, Joseph. Expert Nursing Knowledge in the Care of Patients at Risk of Impaired Swallowing. *Journal of Nursing Scholarship*. 1998, Vol. 30, No.2, 137-142.

Morris H. Dysphagia: implications of stroke on swallowing. *Nursing and Residential Care* 2008 08, 10(8): 378.

Murry, T & Carrau, R., (2006). *Clinical Management of Swallowing Disorders*. San Diego: Plural Publishing, Inc.

Paik, N. (2008). Dysphagia. Retrieved January 31, 2010 from the World Wide Web: http://emedicine.medscape.com/article/324096-overview.

National Dysphagia Diet Task Force. *National dysphagia diet: Standardization for optimal care*. Chicago, IL: American Dietetic Association (2002).

Paterson, W.G., BSc, MD, FRCPC. Dysphagia in the Elderly. *Canadian Family Physician*. 1996: 42, 925-932.

Platt, J. & Mclnnes, K. *A self-directed program for feeding certification: Practical Management of Dysphagia in a Geriatric Setting*. 1995. St. Peter's Hospital, Hamilton, Ontario.

Prentice, Dawn and Rogers Schofield, Sonia. An evaluation of a Self-Directed Program for Feeding Certification. *Perspectives*. 1997 Summer. Vol. 21, No.2.

Ramage, Kathleen, Ross, Donna and Hadden, William. Assessing Fluid Intake of Residents with Oro-Pharyngeal Dysphagia. *Canadian Nursing Home*. 1998 November/December, Vol. 9, No.4, 14-20.

St. Peter's Hospital, Task Force Report: Food for Thought: A comprehensive approach to improve feeding practices in chronic care. (1993).

Shemansky C.A.; Choking: Clear and Present Danger for the Elderly; *Geriatric Nursing* March / April 1991, 70.

Smithard, D.G., Dias, R. Subjective Swallowing Difficulties Following Stroke: A Questionnaire Survey. *Clinical Rehabilitation*. 1997, Vol. 11, P. 350-352

Sister Kenny Institute Rehabilitation Publication, *Dysphagia* (#706), Sister Kenny Institute, Minneapolis, Minnesota, 1980.

Steele, Catriona M., MHSc, S-LP(C), Greenwood, Carol, PhD., Ens, Irene, RN, MN, Robertson, Carol, RD, BA, BAA, Seidman-Carlson, Rhonda, RN, BA. Mealtime Difficulties in a Home for the Aged: Not Just Dysphagia. *Dysphagia* 12: 43-50 (1997).

Strowd L, Kyzima J, Pillsbury D, Valley T, Rubin BR. Dysphagia dietary guidelines and the rheology of nutritional feeds and barium test feeds. *Chest* 133: 1397-1401 (2008).

Swallowing and the Elderly Excellence in Care of Older Adults: Lecture Series, Excellence in Care of Older Adults, WRHA, 2009.

Travers, Patricia L., MS, RN. Poststroke Dysphagia: Implications for Nurses. *Rehabilitation Nursing*. 1999 March/ April, Vol. 24, No.2, 69-73.

Trombly, C.A., *Occupational Therapy for Physical Dysfunction (3rd edition)*, Williams & Wilkins, Baltimore, Maryland, 1989

Weiseke, A., Bantz., Siktberg., Dillard, N. (2008). Assessment and early diagnosis of dysphagia. *Geriatric Nursing*, 29, 6, 376-383.

Wood, Paulette, Emick-Herring, Brenda. Dysphagia: A Screening Tool for Stroke Patients. *Journal of Neuroscience Nursing*. 1997 October, Vol. 29, No.5, 325-329.

SECTION 14

TEST OF TEXTURE MODIFIED DIETS (TTMD)

Manual for Feeding and Swallowing Management in Long-term Care Facilities

September 2010

TTMD: Test of Texture Modified Diets

A Feeding and Swallowing Management Program for Long-Term Care
8/1/2010 Manitoba Edition

Shelley Irvine Day, Angela Forrest Kenning, Kelly Tye Vallis, Suzanne (Patterson) Bell, Shauna Nevistiuk Sanderson.

The TTMD: Test of Texture Modified Diets is a stand-alone document distributed in conjunction with the Manual for Feeding and Swallowing Management in Long Term Care Facilities, Manitoba September 2010.

The TTMD 8/1/2010 Manitoba Edition and its contents are the responsibility of the three primary authors.