



CENTRAL EAST
STROKE NETWORK

www.cesnstroke.ca

A Step-by-Step Approach: Implementing Best Practice Guidelines for Dysphagia & TOR-BSST© Dysphagia Screening

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Dear Dysphagia Champions / Dysphagia Task Force Members,

The Central East Stroke Network (CESN) is pleased to present this step-by-step approach to implementing Heart & Stroke Foundation of Ontario's (2002) Best Practice Guidelines for Dysphagia in acute stroke and TOR-BSST© Dysphagia Screening. This booklet, used in conjunction with Heart & Stroke Foundation's (2005) publication Implementing a Regional Dysphagia Management Strategy: Practical Considerations, information provided by Dr. Rosemary Martino at TOR-BSST© Training for the SLP Dysphagia Expert sessions, and Central East Stroke Network Dysphagia Management Initiative TOR-BSST© Training Script Modules 1 & 2, will assist CESN organizations in implementing Heart & Stroke Foundation's Best Practice Guidelines for dysphagia and evidence-based dysphagia screening for acute stroke patients.

Introducing a change in clinical practice, such as implementation of a new dysphagia screening tool, is not an easy process. This booklet is meant to assist and facilitate by providing valuable information, insights, resources, and templates to use at your hospital site. It is designed to meet a wide spectrum of needs from those in a rural hospital to those in urban and multi-site hospitals. The task for each facility is to customize the resources to meet its particular situation and needs.

It is exciting to work with so many great organizations as this program is turned into practice in hospitals across the CESN. Your participation and leadership as a Dysphagia Champion / Task Force Member is the beginning of improving dysphagia services provided to acute stroke patients.

Sincerely,

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STROKE... know the SIGNS... SAVE a life



Weakness



Trouble
Speaking



Vision
Problems



Headache



Dizziness

What are the major steps for this project?

Initiation Stage

CESN Dysphagia Management Initiative
Heart & Stroke Best Practice Guidelines for Dysphagia
Who is involved in this project?

Planning Stage

Form Local Dysphagia Team
Marketing / Communication
Determine Process at Each Hospital / Develop Supporting Protocols
Prepare for Training

Implementing Stage

Deliver Training
Launch Evaluation Process
Launch Supporting Protocols
Launch Swallowing Screening Teams

Monitoring Stage

Support Swallowing Screening Teams
Evaluation Process

Closing Stage

Debriefing
Report

INITIATION STAGE

- ◆ **CESN Dysphagia Management Initiative**
- ◆ **Heart & Stroke Foundation of Ontario's Best Practice Guidelines for Dysphagia**
- ◆ **Who is involved in this project?**



Central East Stroke Network's Dysphagia Management Initiative

Central East Stroke Network (CESN) developed and sought funding for a Regional Project, the goal of which was to improve recognition and management of dysphagia in acute stroke. The project was developed to assist hospitals within CESN to meet Heart & Stroke Foundation of Ontario's Best Practice Guidelines for Dysphagia (HSFO 2002) and to help realize the vision that "all stroke survivors will have access to rapid and timely screening to minimize the development of complications" (HSFO, 2002, p. 3).

A survey to determine current dysphagia management practice within the Central East Stroke Network was completed. Best practice models, particularly from the pilot sites of Kitchener/Waterloo & Niagara Regions, Quinte Health Care, and Toronto West Stroke Network Long Term Care were carefully reviewed. The contribution of these pilot sites is gratefully acknowledged.

A "Letter of Understanding" which outlines the key deliverables and outcomes of this project was signed by a representative from all participating hospitals (see Appendix A). The target completion date for this project is December 2007 at which time all of the deliverables, outlined in the "Letter of Understanding" should be in place at each participating hospital.

Heart & Stroke Foundation's Best Practice Guidelines for Dysphagia

The 9 Best Practice Guidelines for dysphagia in acute stroke are:

1. “Maintain all acute stroke survivors NPO until swallowing ability has been determined. NPO prohibits the administration of oral medications, water and ice chips. Intravenous fluids may be required. Regularly perform mouth-clearing or oral care procedures, using a minimal amount of water, to prevent colonization of the mouth and upper aerodigestive tract with pathogenic bacteria.
2. Screen all stroke survivors for swallowing difficulties as soon as they are awake and alert. A registered nurse, registered practical nurse or other swallowing team member, trained to administer swallowing screening tests and interpret results should perform the screening.
3. Screen all stroke survivors for risk factors for poor nutritional status within 48 hours of admission. A registered nurse, registered practical nurse or other swallowing team member, trained to administer nutritional screening tests and interpret results, should perform the screening.
4. Assess the swallowing ability of all stroke survivors who fail the swallowing screening. The assessment includes a clinical bedside examination and, if warranted by the clinical signs, an instrumental examination. A speech-language pathologist should:
 - a. assess the stroke survivor’s ability to swallow food, liquid and medications
 - b. determine the level of risk of dysphagia complications, including airway obstruction, aspiration of food and liquid and inadequate nutrition and hydration
 - c. identify associated factors that might interfere with adequate oral nutrition and hydration or lead to aspiration-related complications, such as impaired motor skills, cognition or perception
 - d. recommend appropriate individualized management, which may include changes in food or fluid consistency, feeding strategies, swallowing therapy, oral care regimens and possibly referral to other health care professionals

In addition, the stroke survivor’s physician may monitor hydration status, initiate appropriate laboratory investigations and order supplementary intravenous fluid administration

5. Provide feeding assistance or mealtime supervision to all stroke survivors who pass the screening. An individual trained in low-risk feeding strategies should provide this assistance or supervision.
6. Assess the nutrition and hydration status of all stroke survivors who fail the screening. A dietitian should:
 - a. assess energy, protein and fluid needs
 - b. recommend alterations in diet to meet energy, protein and fluid needs
 - c. support alterations in food texture and fluid consistency, based on the assessment by a

speech-language pathologist or swallowing team

7. Reassess all stroke survivors receiving modified texture diets or enteral feeding for alterations in swallowing status regularly. After the acute stroke management phase, usually the first week after the stroke, reassess patients at minimum intervals of once every 2– to 3–months during the first year after the stroke and then every 6 months thereafter. The severity of swallowing impairment and the rate of improvement may alter the reassessment schedule.

8. Explain the nature of the dysphagia and recommendations for management, follow-up and reassessment upon discharge to all stroke survivors, family members and care providers.

9. Provide the stroke survivor or substitute decision maker with sufficient information to allow informed decision making about nutritional options. Consider the wishes and values of the stroke survivor and family concerning oral and non-oral nutrition when developing a dysphagia management plan.”

(HSFO, 2002, pp. 5-6)

Who is involved in this project?

Central East Stroke Network Regional Speech Language Pathologist

The CESN Regional Speech-Language Pathologist (SLP) is the project leader & coordinator, responsible for achieving the objectives. The Regional SLP provides organization, support, and facilitation to dysphagia champions and regional task force members.

Central East Stroke Network Regional Program Manager

The CESN Regional Program Manager provides supervision and strategic direction to the Regional Speech-Language Pathologist for the planning, implementation and evaluation of the dysphagia management initiative.

CESN District Stroke Coordinators

The CESN District Stroke Coordinators provide support for implementation of best practice and input regarding project strategy. They also provide an important communication link between the Regional Speech-Language Pathologist and key stakeholders within the various districts involved in the project.

CESN Dysphagia Project Advisory Committee

The advisory committee provides strategic direction to the Regional Speech-Language Pathologist for the planning, implementation and evaluation of the dysphagia management initiative.

Dysphagia Site Champions

Dysphagia Champions assist the Regional Speech-Language Pathologist with planning, implementing and sustaining dysphagia screening with stroke patients at their organizations. They provide local support to Regional SLP including assistance with communication, information gathering, recruiting swallowing team members, scheduling training sessions, and evaluating the dysphagia program. Dysphagia champions are also members of the Regional Dysphagia Task Force.

Regional Dysphagia Task Force

The Regional Dysphagia Task Force, made up of dysphagia champions from the 4 participating districts (Simcoe, HKPR, York and Durham), will help plan for implementation of Heart & Stroke Foundation of Ontario's Best Practice Guidelines for the recognition and management of dysphagia in acute stroke at participating organizations throughout the Central East Stroke Network. Regional task force members participate in planning and carrying out steps necessary to prepare participating organizations for implementation of best practice guidelines for dysphagia. This includes forming swallowing screening teams, use of an evidence-based swallowing screen, and development of supporting protocols.

Swallowing Screening Team Trainer

The swallowing screening team trainer is a Speech-Language Pathologist who must undergo the TOR-BSST© (Toronto Bedside Swallowing Screening Test©) Training for the SLP Dysphagia Expert course with Dr. Rosemary Martino, author and copyright holder of the tool (refer to

<http://swallowinglab.uhnres.utoronto.ca> for more information). The trainer is then responsible to train swallowing screening team members as well as complete competency evaluations.

Swallowing Screening Team Members

Swallowing screening team members are comprised of registered nurses, registered practical nurses, and allied health professionals who have undergone special training in dysphagia and have been trained to implement and interpret the TOR-BSST© swallowing screen to identify the presence or absence of dysphagia in stroke survivors.

PLANNING STAGE

- ◆ **Form “Local Dysphagia Teams”**
- ◆ **Marketing & Communication**
- ◆ **Determine Procedure at your Hospital / Develop Supporting Protocols**
- ◆ **Prepare for Training**



Step 1 Form Local Dysphagia Team

You have been identified as a “Dysphagia Champion” and/or “Dysphagia Task Force Member” for this project by your organization. It will be helpful and likely necessary that you build a local dysphagia team at your hospital with relevant disciplines represented. Therefore your first step is to identify clinical and administrative departments that must be informed of the clinical practice change in dysphagia screening as well as those that must be involved in planning for implementation of dysphagia screening.



To determine who needs to be on your team ask yourself the following questions:

- Who do I need to help me with this process at my hospital?
- Who needs to know about this change in clinical practice?
- What are the institutional guidelines to follow?
- Who needs to approve decisions made? (e.g. Professional Practice Council, Pharmacy & Therapeutics Council; Medical Advisory Council, ...)

The chart on the following page may be helpful as you form your team. Once your team has been identified, arrange a meeting to educate and seek consensus on the need for dysphagia screening and strive to achieve active participation in this project. The team will then be prepared to provide input and be involved in making decisions regarding the implementation of evidence based dysphagia screening.

Your agenda for the first meeting might include:

1. **Introduction of Committee Role** – E.g. *“I am the leader for this implementation project; however there is still a need for to make decisions on how we can tailor the implementation for what works best for our hospital. That is where you come in. When forming this group, we tried to form a committee with broad representation that can*

make strategic decisions for this project. However, we expect that after a few meetings this group will narrow to a smaller working group who will operationalize the decisions made.”

2. **Introduction of dysphagia management project** - *provide an overview of the project and the evidence that it is based upon.*

3. **Guided discussion for purpose of making decisions regarding implementation of TOR-BSST© dysphagia screening** – “You each have a flowchart in front of you. This flowchart represents the basic process that we will be following. It is our job today to look at each of these items and determine what their impact is as well as determine how they will be achieved at this hospital. I will introduce questions or points of discussion for each item and we will keep referring back to this flowchart so please keep it in front of you.” (See Step 2 Determine procedure at your hospital / develop supporting protocols for information on questions that will need to be addressed by the committee.)

Dysphagia Team Chart

Determine which of the following disciplines or departments should be involved in planning for implementation of dysphagia screening as well as those that need to be informed of the change in clinical practice.

DEPARTMENTS / DISCIPLINES / UNITS	INVOLVED	INFORMED	DESCRIPTION OF INVOLVEMENT REQUIRED
Hospital Administration			
Physicians			
Speech-Language Pathology			
Nursing / Nurse Managers			
Nurse Practitioner / Advanced Practice Nurse			
Clinical Educator			
Clinical Nutrition			
Occupational Therapy			
Physiotherapy			
Emergency			
Medical Units			
Surgical Unit			
Intensive Care Unit			
Nephrology Unit			
Oncology Unit			
Stroke Unit			
Maternal/Child Unit			
Psychiatry Unit			
Medical Records			
Information Technology			
Pharmacy			
Professional Practice Council			
Other			

Step 2 *Determine Procedure at Your Hospital Develop Supporting Protocols*

Your local dysphagia team will need to make decisions on the process that will work best at your hospital as well as determine which supporting documents will be required.

Decision Making

Consider the unique characteristics and needs of your hospital as you answer the following questions. Answering these questions will help to ensure that necessary supports are in place as you move forward to successfully implement dysphagia screening.

1. Is swallowing screening within 24 hours feasible? What do we need to accomplish this?
2. How will patients be flagged for NPO until swallowing screening is completed?
3. If a patient fails screening what do we need to do to ensure that a Speech-Language Pathologist swallowing assessment is completed? Can a clinical assessment be accessed? Can a videofluoroscopic assessment of swallowing be accessed?
4. How will patients be flagged for NPO until swallowing assessment?
5. If a patient is NPO awaiting assessment, how will we manage a delay for Speech Language Pathology assessment of more than 24 hours (e.g. due to weekend or long weekend)?
6. Can an NG tube be inserted for medications and nutrition if a screen is failed? Can an IV be inserted for medications and hydration?
7. If a patient passes the swallowing screen what texture will they be placed on? For example, do we want an intermediate texture for 1 day (3 meals) observation before a regular diet? Will they be observed for a further 3 meals?
8. How will staff find a trained screener when needed?
9. How will staff arrange a physician's referral to a Speech-Language Pathologist when screening failed?
10. How will we remove any other swallowing tools that were previously in use and ensure they aren't used with stroke patients in the future?
11. How will we communicate with other hospitals if a patient is repatriated to their home hospital before or after screening is completed?
12. Will anything change with screening if an outbreak occurs?
13. How do we educate the patient and family about this process?

You may find it helpful to use a flow chart as you organize the process at your hospital. Three examples of completed flowcharts may be found in Appendix B. As you develop your flow chart consider how you will accomplish each step, which documentation is needed, what is the necessary process?

Supporting Documentation

It may be necessary or desirable to adjust wording of your hospital's Ischemic Stroke Pathway and/or Physicians Routine Orders to include references to TOR-BSST© swallowing screening.

Several sample documents have been created and can be found in the Appendices to assist you in your planning:

Sample wording for:

- Ischemic Stroke Pathway including Physician’s Routine Orders—see Appendix C
- Swallowing Screening Protocol—see Appendix D
- Guidelines for use of TOR-BSST© - see Appendix E

Protocols developed or amended will need to go through appropriate committees for approval (e.g. Professional Practice, Pharmacy and Therapeutics, Medical Advisory Councils). After determining the appropriate committees and the order in which they must be approached for approval, then request that the issue be placed on those council agendas. Note that this may be a prolonged process and so early planning is recommended.

Forms

Any forms placed on the chart, including the TOR-BSST© screening form, will likely need to be reviewed and approved by your local “forms committee” or medical records department.

TOR-BSST© Form Copyright

A package of original TOR-BSST© forms are provided to SLPs who attend TOR-BSST© training with Dr. Martino. If you require more forms you must contact Dr. Martino’s office to request more as this is a copyrighted form.

If your organization requires minor changes to the TOR-BSST© form (e.g. addition of hospital logo), then you will require approval for this from Dr. Martino. Email your request to Dr. Martino’s office.

For facilities that use electronic documentation (e.g. Meditech), there are samples of electronic TOR-BSST© forms that have been developed and approved by Dr. Martino on her website. Any electronic TOR-BSST© form that is developed will require final copyright approval from Dr. Martino prior to being used. Please contact Dr. Martino’s office for details.

In order to help inform team members of the TOR-BSST© copyright requirements, a TOR-BSST© Copyright Fact Sheet has been developed (Appendix F). It is recommended that facilities ensure that all applicable team members are aware of and have access to this information.

Step 3 Marketing / Communication Plan

All stakeholders must be educated about dysphagia screening and the new clinical process. Mechanisms for soliciting feedback should be put in place to ensure effective implementation of dysphagia screening.

How do you gain physician support for dysphagia screening?

Suggestions:

1. Recruit a physician to be a member of the implementation planning team.
2. Address physician concerns directly. Attend physician meetings to inform regarding the new clinical process, seek input, and answer questions. Emphasize that dysphagia screening is best practice and is supported by best evidence available at this time.
3. Send an information letter to all physicians. See Appendix G for a sample letter to physicians in order to introduce the project.

How do you gain broad support for dysphagia screening?

Suggestions:

1. Institute an educational program to heighten awareness of the benefits of dysphagia screening for both staff and patients.
 - a. Post flyers
 - b. Provide lunch and learn
 - c. Give brief in-services at nursing stations
2. Ensure appropriate representation on your planning team.

A sample communication plan is included on the following pages of this document. This communication plan may be tailored to meet the needs of your hospital site. Several communication tools have been developed and are available for your use. Samples of these tools are included in the appendices and are referenced on the communication plan. Your organizational development department and clinical nurse educators may be helpful in adjusting this plan to meet the specific needs of your hospital site.

Remember to continually inform and solicit feedback from all parties who may potentially be affected by the new clinical process.



Communication Plan

	EVENT	MESSAGE	AUDIENCE	TACTIC	APPENDIX
<input checked="" type="checkbox"/>	Introduction	<ul style="list-style-type: none"> Description CESN commitment Expectations Deliverables 	<ul style="list-style-type: none"> Administration Decision makers 	<ul style="list-style-type: none"> Letter of understanding 	A
<input type="checkbox"/>	Introduction	<ul style="list-style-type: none"> Best practice information new clinical practice your role 	<ul style="list-style-type: none"> Physicians 	<ul style="list-style-type: none"> Letter to Physicians 	G
<input type="checkbox"/>	Introduction	<ul style="list-style-type: none"> Best practice information new clinical practice your role 	<ul style="list-style-type: none"> Swallowing Screening Teams Multidisciplinary Team Physicians Best Practice Committee Managers Professional Practice Council Nursing Council 	<ul style="list-style-type: none"> PowerPoint presentation (approx 15 min) 	H
<input type="checkbox"/>	Awareness	<ul style="list-style-type: none"> Best practice dysphagia information 	<ul style="list-style-type: none"> All Patient/family 	<ul style="list-style-type: none"> Posters (printed or electronic) 	I, J, K
<input type="checkbox"/>	Recruiting Ongoing Support	<ul style="list-style-type: none"> Be a part of best practice 	<ul style="list-style-type: none"> Nursing Allied health 	<ul style="list-style-type: none"> Posters (printed or electronic) 	I, J
<input type="checkbox"/>	Patient/family awareness	<ul style="list-style-type: none"> Dysphagia in stroke Screening best practice 	<ul style="list-style-type: none"> Patient Family 	<ul style="list-style-type: none"> Brochure 	L
<input type="checkbox"/>	Ongoing support	<ul style="list-style-type: none"> Screening Best Practice 	<ul style="list-style-type: none"> Nursing Allied Health 	<ul style="list-style-type: none"> Brochure for screener - quick reference guide 	M
<input type="checkbox"/>	Ongoing support	<ul style="list-style-type: none"> Screening Best Practice 	<ul style="list-style-type: none"> Nursing Allied Health 	<ul style="list-style-type: none"> Flow Chart Contact list for trained screeners 	B N
<input type="checkbox"/>	Ongoing support	<ul style="list-style-type: none"> Screening Best Practice 	<ul style="list-style-type: none"> Nursing Allied Health 	<ul style="list-style-type: none"> Pocket Card - quick reference 	O

Step 4 Prepare for Training Swallowing Screening Teams

The next step is for your local dysphagia team to make decisions regarding the training process and how it will work best at your hospital. The questions below should be considered while keeping in mind the unique characteristics and needs of your hospital. It may be helpful to familiarize yourself with the CESN TOR-BSST© Training Model (see **CESN booklet “TOR-BSST© Training Script: Modules 1 and 2”**) and training checklist (Appendix P).

Decisions to be made prior to training

1. How many staff will be trained to be screeners?
2. Which units will have trained screeners?
3. Which unit will training start on?
4. Will staff be paid for their time / replaced during training? Which budget will provide this? Who must authorize this expenditure?
5. Who has information regarding the best days / times to schedule training?
6. How many people will be in each training session?
7. Will we use both the 4-hour training module (required) and the 4-hr supplementary training?
8. Do we want 2 x 4-hour sessions or 1 x 8-hour session for training?
9. How will we recruit dysphagia teams?
(E.g. Ask for volunteers? Appointed by Nurse Manager? ...)
10. If an outbreak occurs will training be affected?

For more information on planning for training, please refer to the booklet **“CESN TOR-BSST© Training Script Modules 1 and 2”** (available only to SLPs who have received training to teach the TOR-BSST©) which includes information on:

- TOR-BSST© Training Model
- Sample Script for Learning Modules 1 & 2
- Information on Ordering Handouts from HSFO
- Sample resources to assist your planning:
 - Letter to accompany training manuals
 - CESN training checklist
 - Sign-in sheets
 - Handout on “Preparing to be a Swallowing Screening Team Member”
 - Training Evaluation form – Modules 1 & 2

In order to be effective, and to help to ensure that lessons learned in training are translated into actual practice, it is recommended that training be based upon the principles of adult learning, knowledge translation and interprofessional education, including the following principles:

- respect learners as adults¹
- minimize the use of lecture¹
- use the participants' experiences¹
- be interactive²
- provide interprofessional education where "two or more professions learn with, from and about each other to improve collaboration and the quality of care"³

It is therefore highly recommended that in addition to the required 4-hour TOR-BSST© screening training (Modules 1 & 2) training also include an additional 4-hour training module based on the training manuals. This training module has been developed and is expected to be available in the near future.

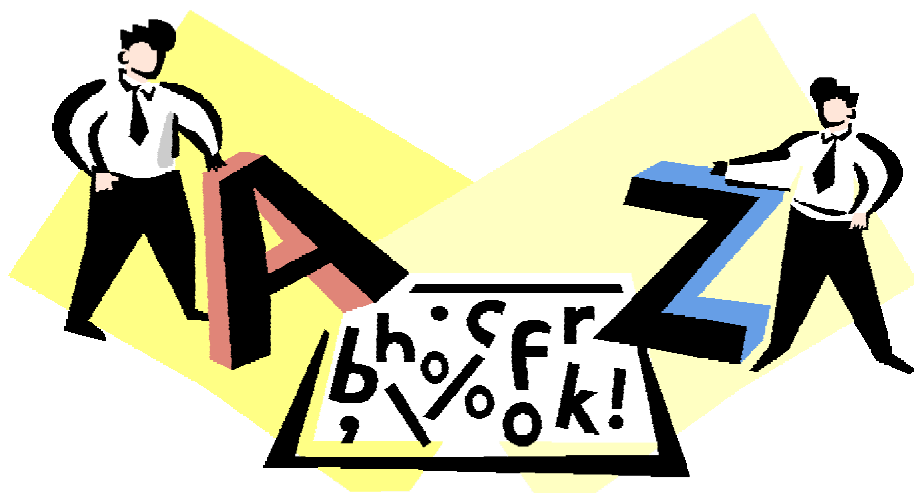
¹ LaLonde, TL (2004) Using adult learning principles to increase training effectiveness. NALP Bulletin, October 2004. Retrieved from http://www.akina.biz/perspectives/pdf/using_adult_learning_principles.pdf on April 8, 2008.

² Grimshaw J, Thomas R, MacLennan G, Fraser C, Ramsay CR, Vale L, Whitty P, Eccles MP, Matowe L, Shirran L, Wensing M, Dijkstra R & Donaldson CI (2004). Effectiveness and efficiency of guideline dissemination and implementation strategies. Health Technology Assessment 8(6).

³ CAIPE (2002) as cited by Canadian Interprofessional Health Collaborative (2007). CIHC Statement on the definition and principles of interprofessional education. Retrieved from http://www.cihc.ca/resources-files/CIHCStatement_IPE_Final.pdf on April 8, 2008.

IMPLEMENTING STAGE

- ◆ **Deliver Training**
- ◆ **Launch Evaluation Process**
- ◆ **Launch Supporting Protocols**
- ◆ **Launch Swallowing Screening Teams**



Step 1 *Deliver Training*

Speech-Language Pathologists who have completed the TOR-BSST© Training for the SLP Dysphagia Expert course with Dr. Rosemary Martino, will deliver training following the CESN TOR-BSST© Training Model ([see CESN TOR-BSST© Training Script Modules 1 & 2](#)). Use the CESN TOR-BSST© presentation checklist (Appendix P) to ensure that you are prepared for training day.

Step 2 *Launch Evaluation Process*

In order to evaluate CESN dysphagia management initiative effectiveness an evaluation model was developed. Evaluation methods were identified based on the “Framework for Program Evaluation” proposed by Heart & Stroke Foundation of Ontario in their publication *Implementing a Regional Dysphagia Management Strategy: Practical Considerations* (2005, p 11). The “CESN TOR-BSST© Evaluation Model” is outlined in Appendix Q.

Step 3 *Launch Supporting Protocols*

Ensure that the protocols that were developed during the planning stage are fully implemented and that all staff is aware of this change in clinical process. You may need to adjust your communication plan at this stage. Documentation to support implementation may include:

- NPO sign (see Appendix R) which may be placed at bedside for patients who are awaiting swallowing screening, who have failed swallowing screening and are awaiting swallowing assessment, or who have a recommendation for NPO following swallowing assessment.
- Monitoring Oral Intake Sign (see Appendix S) which may be placed at the bedside of patient’s who have passed the TOR-BSST© swallowing screen to notify staff and family that the patient’s swallowing is being monitored for any difficulty.
- Swallowing Monitoring Record (see Appendix T) which may be used to structure the monitoring period and ensure that observations during the monitoring period are communicated.
- Swallowing Information Transfer Sheet (see Appendix U) which may be used when a patient is transferred either to another unit within the hospital, or repatriated to a home hospital, to ensure that appropriate information regarding swallowing status is communicated.
- TOR-BSST© Results Stickers (see Appendix V) which may be used to communicate the results of the TOR-BSST© screen to physicians.

Step 4 *Launch Swallowing Screening Teams*

Ensure that all swallowing screening team members are aware of:

- The TOR-BSST© launch date so that they are prepared to be called upon for swallowing screening.

- Location of TOR-BSST© screening forms and other supporting documentation (NPO sign etc.)
- Process to be followed if a swallow screen is failed
- Process to be followed if a swallow screen is passed
- Consider developing a “TOR-BSST© kit” that contains all of important documentation (e.g. TOR-BSST© form, flowsheet, NPO signs, Monitoring Oral Intake Signs, TOR-BSST© stickers, Copyright Fact Sheet, copy of Protocol, etc.)

Ensure that all staff (physicians, nursing, allied health) are aware of:

- The process so that stroke patients are maintained NPO until swallowing screening takes place and if screening is failed.
- How to locate a swallowing screening team member (see sample TOR-BSST© Screener Call Checklist – Appendix N)
- How to refer for an SLP swallowing assessment and RD nutritional assessment.

Ensure that support for swallowing screening teams is available in the event that they have questions regarding the process. Provide a contact name, number and email address. If possible, provide a pager number, particularly for the initial stage of implementation.

Ensure that a plan for sustaining the swallowing screening process is in place to ensure that swallowing screening continues consistently for all acute stroke patients. This plan should include ongoing communication and education. (E.g. Include TOR-BSST© information at staff orientation sessions, consider developing a TOR-BSST© newsletter to provide reminders and updates, provide lunch and learn sessions, etc.).

MONITORING STAGE

- ◆ **Support Swallowing Screening Teams**
- ◆ **Evaluation Process**



Step 1 *Support Swallowing Screening Teams*

Continue to provide support to swallowing screening teams. Ensure that they have contact information to address any questions or concerns. Ensure that they are aware of supporting documentation developed. For example, your supporting documentation may include:

- Brochure to provide support / education to patient and family (see Appendix L)
- Poster to provide education to staff, patient and family (see Appendix K)
- Quick reference guide for swallowing screening team members (see Appendix M)
- NPO sign (see Appendix R)
- Monitoring Oral Intake sign (see Appendix S)
- Swallowing Monitoring Record (see Appendix T)
- Swallowing Information Transfer Sheet (see Appendix U)

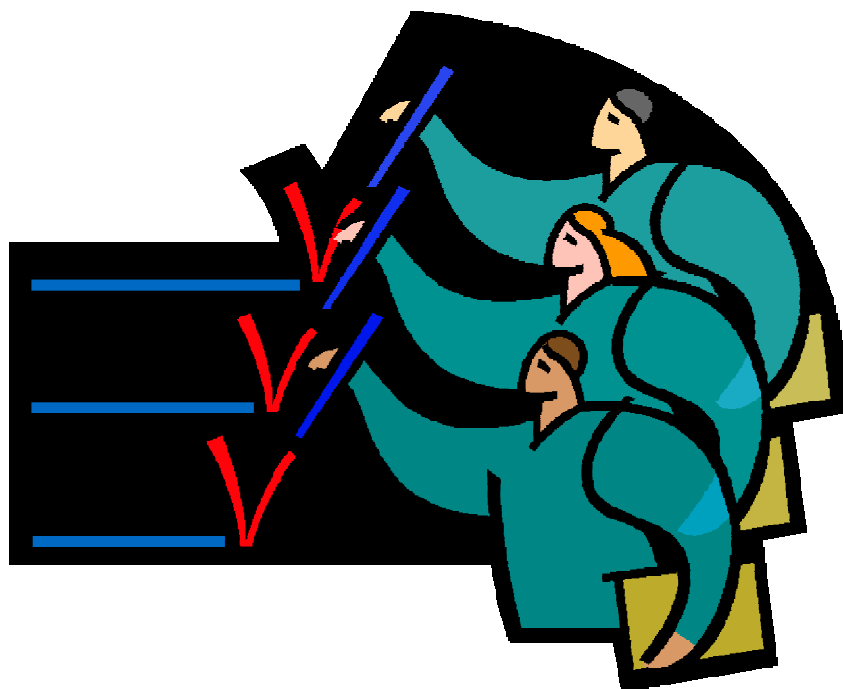
Continue to increase awareness with all hospital staff (physicians, nursing, allied health) regarding this new clinical process. Suggestions include presentations at lunch and learn sessions, presentation at rounds, presentation at new-hire orientation, posters etc.

Step 2 *Evaluation*

- Continue evaluation process outlined in the Implementing Stage.
- Identify needs for further education.

CLOSING STAGE

- ◆ **Debriefing**
- ◆ **Report**



Step 1 Debriefing

Dysphagia champions will be contacted for feedback throughout the term of the project. Champions are also encouraged to communicate your hospital-specific needs and provide feedback throughout the duration of this project to:

Donelda Moscrip
Regional Speech Language Pathologist
Central East Stroke Network
Royal Victoria Hospital
201 Georgian Drive
Barrie, ON
L4M 6M2

Phone: 705-728-9090 ext 46312
Email: moscripd@rvh.on.ca

Step 2 Report

A final report will be prepared at the conclusion of this project for the CESN Steering Committee.

REFERENCES

Heart and Stroke Foundation of Ontario (2006). Management of Dysphagia in Acute Stroke: An Educational Manual for the Dysphagia Screening Professional.

Heart and Stroke Foundation of Ontario (2005). Implementing a Regional Dysphagia Management Strategy: Practical Considerations

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Martino R, French B (2007). TOR-BSST© training for the SLP dysphagia expert. Videoconference presentation April 3, 2007.

Martino R, Silver F, Teasell R, Bayley M, Nicholson G, Streiner DL, Diamant NE (in press). The Toronto Bedside Swallowing Screening Test (TOR-BSST©): development and validation of a dysphagia screening tool for patients with stroke. *Stroke*

APPENDICES

Appendix A - “Letter of Understanding”



March 7, 2007

To: All acute hospital sites within the Central East Stroke Network
(Simcoe, Muskoka, York, Durham, Haliburton, Kawartha and Pine Ridge)

Re: Central East Stroke Network – Dysphagia Initiative

The Central East Stroke Network has committed to a one-year project to develop and implement a regional model for improving recognition and management of dysphagia at hospital sites within the Central East Stroke Network (Simcoe, Muskoka, York, Durham, Haliburton, Kawartha, and Pine Ridge). To assist organizations with this process, funding in the amount of \$5,000 for participating hospital sites will be provided. This funding may be used to cover costs associated with the program as determined by the organizations.

In order to disburse this funding a commitment to meet the following criteria must be made.

- **Evidence based screening tool** - The TOR-BSST© screening tool is an example of an evidence-based screening tool that is now available. The advisory committee for this project will look at other screening tools individually to determine whether they meet the level of evidence required for inclusion in this project.
- **Education for dysphagia and screening tool for “swallowing teams”** – For those sites that adopt the TOR-BSST© screening tool, an education program has been developed by the author of that tool. Speech-language pathologists will attend a course which will accredit them to train front-line staff on use of the screening tool. The Central East Stroke Network will sponsor the cost of this training course at \$500 per SLP for no more than one SLP per hospital site. Individuals will then be identified in each hospital to act as dysphagia screeners and training of those individuals will take place. Sites that adopt another evidence-based screening tool will be supported to develop an appropriate training program.
- **Screening tool implemented** – The Central East Stroke Network Regional Speech-Language Pathologist will work with a dysphagia task force in each district (populated by hospital employees) in order to plan for and take steps necessary to ready hospitals for this implementation. As part of this planning, protocols will be developed or reviewed and amended as needed in order to ensure that best practice guidelines for stroke patients are met.
- **Plan for sustaining screening process for stroke patients** – Hospitals will be assisted in developing a plan for sustaining this change in clinical practice. The dysphagia task force will work on plans for communication, follow-up training sessions for screeners, etc. in order to ensure that the screening process continues as an effective dysphagia management strategy for acute stroke patients.
- **Evaluation process to monitor effectiveness of strategy** – The details of this process will be determined by the regional advisory committee for this project.

The Central East Stroke Network will provide direction and leadership throughout the term of this project and will facilitate organizations in this process using a regional approach.

If the above are shown to be already fully in place then \$5000 will be disbursed to the organization with the understanding that the organization will participate on a Regional Best Practice for Aphasia Committee.

If the above are not already in place then \$5000 will be disbursed upon receiving a commitment from the organization to ensure the above is delivered. Organization commitment will be needed to support staff that participate in planning and training sessions; support any necessary changes in clinical practice in order to ensure

- 2 -

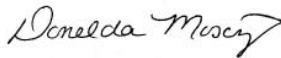
Heart & Stroke Foundation of Ontario's best practice guidelines for dysphagia with acute stroke survivors are met; and to ensure that organization support is provided to the new clinical process post-implementation.

If your organization wishes to participate in the project as outlined, please indicate below and return by March 19, 2007. Please contact Donelda Moscrip at (705) 728-9090 ext. 46770 or moscripd@rvh.on.ca if you have any questions.

Sincerely,



Cheryl Moher
Regional Program Manager
Central East Stroke Network



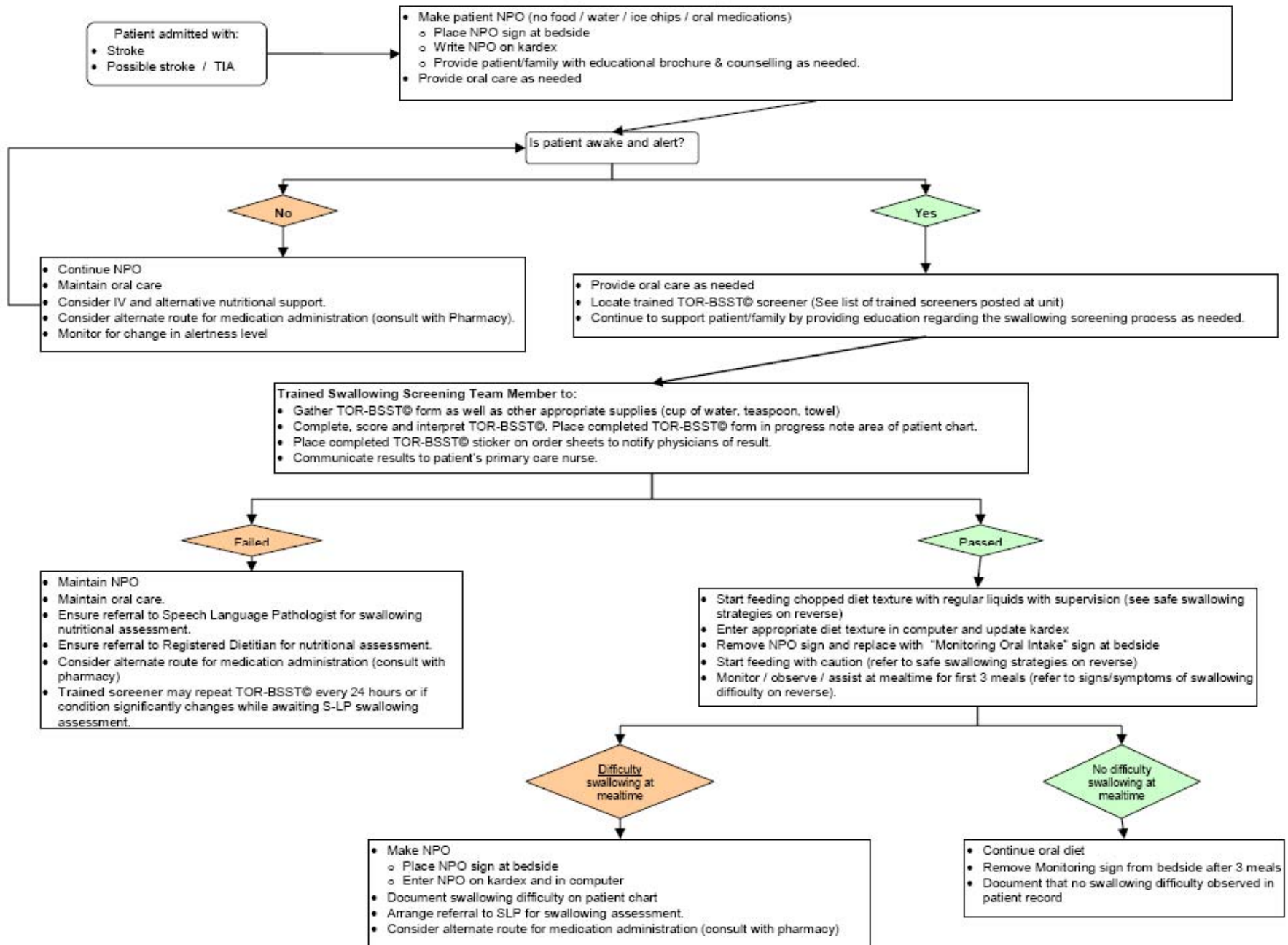
Donelda Moscrip
Regional Speech-Language Pathologist
Project Manager – CESN Dysphagia Initiative
Central East Stroke Network

_____ wishes to participate in the project as outlined above.	
Hospital (please print) _____	
Name (please print) _____	
Title _____	
Signature _____	Date _____

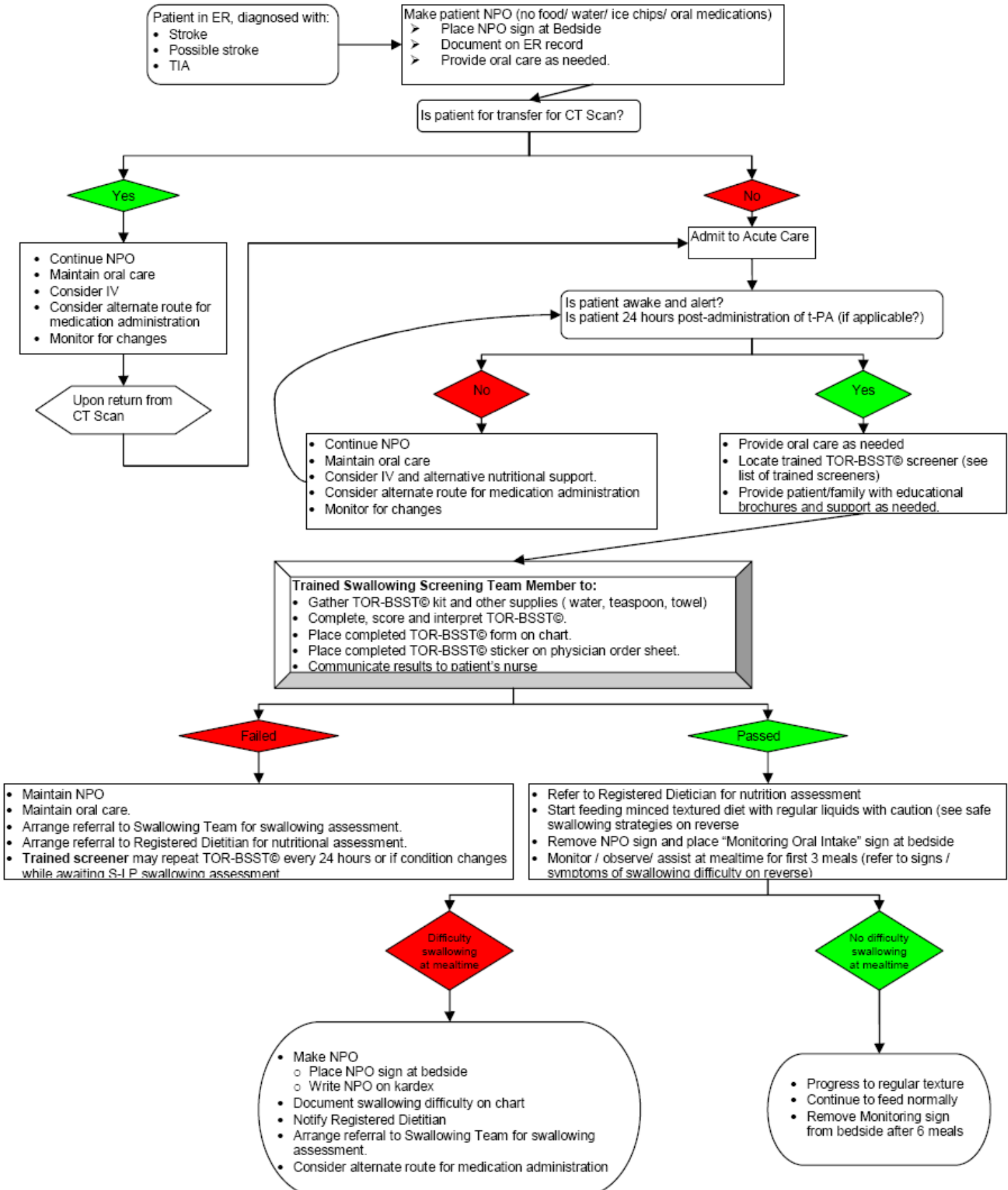
Appendix B - Flowsheet Samples

Please see sample flowsheets on the next three pages.
Please also see reverse side of flowsheet on page 36.

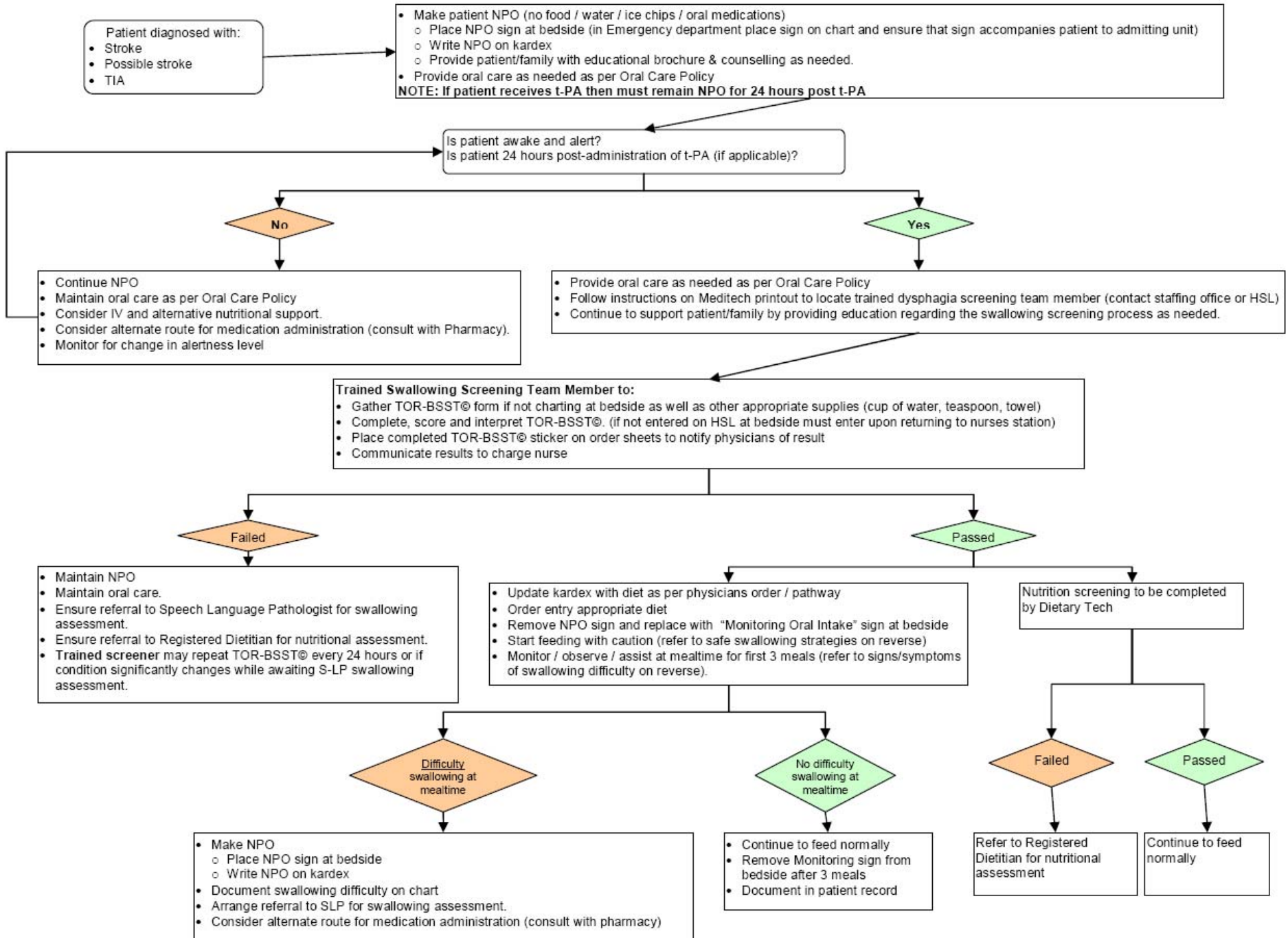
TOR-BSST[®] Swallowing Screening for Acute Stroke Patients



TOR-BSST® Swallowing Screening for Acute Stroke Patients



TOR-BSST© Swallowing Screening for Acute Stroke Patients



Back page of Flowsheet

Safe Feeding Practices

Observe the stroke survivor eating during mealtime. Encourage the use of the following strategies to increase swallowing safety.

- Ensure that the stroke survivor is seated in an upright position with head tilted slightly forward. Use pillows to support as needed. When possible, seating in a wheelchair or chair during meals is preferred.
- Present a maximum of 1 teaspoon per bite
- Use a slow rate of presentation
- Allow adequate time between bites of food
- Encourage the stroke survivor to take 2 or more swallows per bite
- Alternate liquids and solids, but never combine them in the same bite
- Talk conversationally with stroke survivor during oral intake, but time responses so that the stroke survivor does not reply with food/liquid in mouth
- Ask stroke survivor in which order food/liquid should be presented
- Advise stroke survivor of what food/liquid is being presented
- Provide visual or verbal cues for opening mouth, chewing and swallowing
- Check for pocketing and residue after feeding.
- Discontinue feeding if any difficulties are noted.

Signs / Symptoms of Swallowing Difficulty

If any of the following signs/symptoms of swallowing difficulty are observed then arrange for a referral to Speech-Language Pathology for a swallowing assessment:

- Inability to take food from a spoon cleanly or drink from a cup without spillage
- Inability to close lips firmly
- Reduced saliva production - dry appearance to mouth; difficulty when eating dry foods
- Poor taste sensation - complaints of taste of food; refusal to eat
- Reduced ability to chew solid foods
- Pocketing of food in spaces between the gums and cheeks
- Difficulty moving food in mouth - tongue pumping to initiate swallowing or food stays at the front of mouth
- Food or drink running from nose
- Excessive secretions, drooling - inability to swallow secretions causing appearance of excessive saliva
- Slowness in triggering swallowing
- Reports of a sticking sensation in the throat
- Throat clearing, coughing, choking when eating or drinking
- Weak cough when eating or drinking
- Effortful swallowing; gulping
- Changes in voice quality - wet, gurgly, hoarse sounds when eating or drinking
- Breathing difficulties - shortness of breath during or after meals.

Adapted from Heart & Stroke Foundation of Ontario (2006). Management of Dysphagia in Acute Stroke: An Educational Manual for the Dysphagia Screening Professional.

Appendix C - Sample wording for Ischemic Stroke Pathway and Physicians Routine Orders

Sample wording for Ischemic Stroke Pathway

Clinical Component	Emergency	First 48 hours	Day 3 to 7
Nutrition Fluids	<ul style="list-style-type: none"> • NPO until TOR-BSST© swallowing screen completed (within 24 hours or as soon as patient consistently awake and alert); • If passes – monitor first 3 meals, implement low risk feeding strategies, complete nutritional screen. • If fails – maintain NPO until swallowing assessment, notify MRP, SLP and RD • Provide brochure “Information on swallowing difficulty in stroke-like symptoms for patients and their families” • IV fluids as ordered ... 	<ul style="list-style-type: none"> • If patient failed the TOR-BSST© ensure swallowing assessment by SLP and nutrition assessment by Dietitian • Determine diet texture and recommendations for feeding based on swallowing assessment. • Diet and texture as per orders and as appropriate by assessments and risk factors • Healthy heart diet 	<ul style="list-style-type: none"> • If patient failed the nutritional screen ensure nutrition assessment by Dietitian • Videofluoroscopic assessment of swallowing if indicated • Consider enteral feeding if oral intake is inadequate or swallowing compromised • Reassess IV fluids

Sample wording for Routine Physician’s Orders Post t-PA Infusion

- NPO for 24 hours followed by TOR-BSST© swallowing screen.

Sample wording for Routine Physician’s Orders – Ischemic Stroke

- NPO (no food, liquid, po meds) until TOR-BSST© swallowing screen completed or if patient fails this screen
 - if patient passes screen start Healthy Heart Diet (chopped texture, regular liquids)
 - if patient passes screen start Healthy Heart Diet (plus any other therapeutic diet and/or texture) _____
 - IV fluid of _____ at _____ mL/hr

Appendix D - Sample wording for Swallowing Screening Protocol

PURPOSE:

To implement policy and procedures that facilitate management of dysphagia in acute stroke which meets Heart & Stroke Foundation of Ontario's Best Practice Guidelines for Dysphagia in Acute Stroke (2002).

POLICY:

In accordance with Heart & Stroke Foundation of Ontario's Best Practice Guidelines for Dysphagia in Acute Stroke (2002), all patients diagnosed with stroke, suspected stroke or TIA will be maintained NPO (no food, liquid, ice chips or oral medications) until their swallowing ability has been determined. A validated, evidence-based formal dysphagia screen, the Toronto Bedside Swallowing Screening Test, (TOR-BSST©) will be the tool used to determine increased risk for dysphagia. All patients who pass the dysphagia screen will receive oral nutrition and mealtime supervision or feeding assistance using low risk feeding strategies. All patients who fail the dysphagia screen will be maintained NPO and will be referred to Speech-Language Pathology for a full swallowing assessment.

PROCEDURE:

1. Keep patient NPO (no food, liquid, ice chips or oral medications) until TOR-BSST© dysphagia screen is complete.
 - a. Primary care nurse is to ensure:
 - i. NPO sign is placed at bedside
 - ii. Order entry for NPO is completed
 - iii. Note indicating NPO is written on the kardex
 - iv. Patient/family are informed and given brochure on swallow screening and other education / counseling as needed
2. The dysphagia screen will be completed by a trained TOR-BSST© dysphagia screener.
 - a. TOR-BSST© screener will be located by Team Leader. A list of trained screeners will be located on each unit.
 - i. Is there a trained screener on the patient's unit?
 - ii. If no trained screener is on the patient's unit, then page float pool (pager number)
 - iii. If trained screener not available from float pool then refer to list of trained screeners from other units.
3. The TOR-BSST© screen will be completed:
 - a. before any oral intake (including medications)
 - b. within 24 hours of admission to hospital or as soon as patient is awake and alert.
 - c. TOR-BSST© form will be completed signed and placed in the patient chart
 - i. Medical, ICU, Rehab: place form in patient chart in the CONSULT section
 - ii. Emergency: use electronic TOR-BSST© form
 - d. Verbally notify Charge Nurse of results
 - e. Place "TOR-BSST© completed sticker" indicated "Passed" or "Failed" on physician's order sheets.

4. TOR-BSST© Screen Passed:
 - a. Order entry for diet as (texture)
 - b. Write diet texture on kardex
 - c. Write need for monitoring during oral intake and use of low risk feeding/swallow strategies on kardex in NURSING INTERVENTIONS
 - d. Place “Monitoring Oral Intake” Sign at Bedside
 - e. Monitor patient for 3 meals. Document on “Monitoring Record”. Place Monitoring record on chart once completed.
 - f. If no swallowing difficulty is observed during the 3 meal monitoring period, then upgrade to Regular diet including any therapeutic diet needs i.e.) diabetic/renal after 24 hours.
 - g. Document diet upgrade in chart
 - h. Write new diet texture on kardex
 - i. Monitor for an additional 3 meals. Document on “Monitoring Record”. Place Monitoring record on chart once completed.
 - j. Obtain physician referral for Speech Language Pathology to complete a swallowing assessment if the patient is observed to have swallowing difficulty or any swallow concerns arise during 3-6 meal monitoring period as indicated on the “Monitoring Record”.

5. TOR-BSST© Screen Failed:
 - a. Keep patient NPO (including water, ice chips and oral medications)
 - b. Ensure bedside NPO sign in place.
 - c. Ensure NPO is entered into Meditech system and on kardex
 - d. Notify physician:
 - i. Request referral to Speech Language Pathologist for swallowing assessment
 - ii. Request order for continuing NPO or diet as per swallow assessment
 - iii. Request consideration of IV for hydration and nasogastric tube if oral medications are required immediately
 - e. Enter dysphagia medication consult with pharmacy re: non-oral or nasogastric tube medication administration
 - f. Primary care nurse to reinforce need to maintain NPO with patient/family

6. Once physician order for swallow assessment by Speech-Language Pathologist is obtained:
 - a. Enter order into Meditech
 - b. Page/call Speech-language Pathologist to confirm referral

Appendix E - Sample wording for Guidelines for use of TOR-BSST©

The TOR-BSST© swallowing screen will only be used by a trained swallowing screening team member.

1. The TOR-BSST© swallowing screen will be implemented on any patient whose primary admitting diagnosis is Stroke.
2. All acute stroke patients will be maintained NPO until the TOR-BSST© swallowing screen has been completed, as indicated by the physician's orders
3. The TOR-BSST© Swallowing screen will be completed on all Stroke patients who are not candidates for t-PA within 24 hours. Acute Stroke patient's who receive t-PA will be maintained as NPO for 24 hours and then screened for swallowing difficulty using the TOR-BSST©.
4. If the patient fails the TOR-BSST© then it can be repeated the next day. Nursing may use this swallowing screening tool at any time during the hospital stay to help identify a change in the patient's swallowing status.
5. If the patient fails the TOR-BSST© a physician's referral to Speech-Language Pathology for a swallowing assessment will be initiated.
6. If the patient passes the TOR-BSST© an order for a _____ diet will be obtained and the patient will be monitored for swallowing difficulty for the first three meals.
7. All patients / family members will receive the "Swallow Screening Brochure" and further education as needed.

Appendix F – Copyright Fact Sheet



TOR-BSST© Copyright Fact Sheet

_____ hospital has been provided with the copyrighted TOR-BSST© form and TOR-BSST© training modules and has been granted permission for their use in this hospital under the following conditions:

- Only TOR-BSST©-Trained Speech-Language Pathologist Dysphagia Experts are permitted to train screeners in how to use the TOR-BSST©.
- Only Health Care Professionals who have undergone training by a TOR-BSST©-Trained Speech-Language Pathologist Dysphagia Expert are permitted to be a member of the TOR-BSST© Swallowing Screening Team and use the TOR-BSST© with patients.
- Training for TOR-BSST© Screening Team members must utilize the training Modules provided by Dr. Martino.
- Information from the TOR-BSST© form and training modules must not be shared, except in very broad terms, with other organizations.
- The modified TOR-BSST© form attached has been approved and permission granted to reproduce this form. No other modifications to this form are allowed without approval of the copyright holder, Dr. Rosemary Martino.

If you would like additional details regarding the copyright agreements or if you have any questions or concerns, please contact _____, TOR-BSST©-Trained SLP Dysphagia Expert at extension _____.

Appendix G -Sample Information letter for physicians

See Sample Letter to physicians on following page.



**CENTRAL EAST
STROKE NETWORK**

www.cesnstroke.ca

CENTRAL EAST STROKE NETWORK

Enhanced District Stroke Centre - Royal Victoria Hospital
201 Georgian Drive, Barrie, Ontario L4M 6M2

705.728.9090

To: Physicians,

Re: Managing Dysphagia for Acute Stroke Patients

Dysphagia affects approximately 50% of stroke survivors and is a significant contributor to morbidity and mortality post-stroke due to complications such as aspiration pneumonia, malnutrition and dehydration.

To ensure that stroke patients throughout Ontario receive appropriate dysphagia management, Heart & Stroke Foundation of Ontario developed a set of standards for dysphagia management. These best practice guidelines include maintaining all acute stroke patients NPO until a validated, evidence-based swallowing screening test (TOR-BSST© or Toronto Bedside Swallowing Screening Test©) has been completed. This screening test will identify those patients who may safely be placed on a diet versus those who should remain NPO and be referred for a comprehensive swallowing assessment by a Speech-Language Pathologist.

Central East Stroke Network (CESN) has provided funding and assistance to help implement these dysphagia standards by December 2007 at hospital sites throughout the CESN. Health care professionals will receive training and become members of swallowing screening teams, that will use the TOR-BSST© with acute stroke patients.

Once this project is fully implemented the new clinical process will be:

1. All acute stroke patients will be maintained NPO until the TOR-BSST© is completed.
2. The TOR-BSST© will be completed by a trained swallowing screening team member once the stroke survivor is awake and alert.
3. All patients who fail the swallowing screen will be maintained NPO and referred to a Speech-Language Pathologist for a full swallowing assessment and to a Registered Dietitian for a nutritional assessment.
4. All patients who pass the swallowing screen will be placed on an oral diet and will be supervised or assisted at mealtime using low-risk feeding techniques.

Physician support for implementation of best practice is needed to ensure that:

- Acute stroke patients are maintained NPO until the TOR-BSST© is completed.
- Patients who fail the screen are maintained NPO until a swallowing assessment is completed by a Speech-Language Pathologist.
- Early consideration is given to alternative route of administering hydration, nutrition and medications for patients who fail the swallowing screen.

For more information about this project, please contact Donelda Moscrip, Regional Speech-Language Pathologist, Central East Stroke Network, MoscripD@rvh.on.ca

STROKE... know the SIGNS... SAVE a life



Weakness



Trouble
Speaking



Vision
Problems

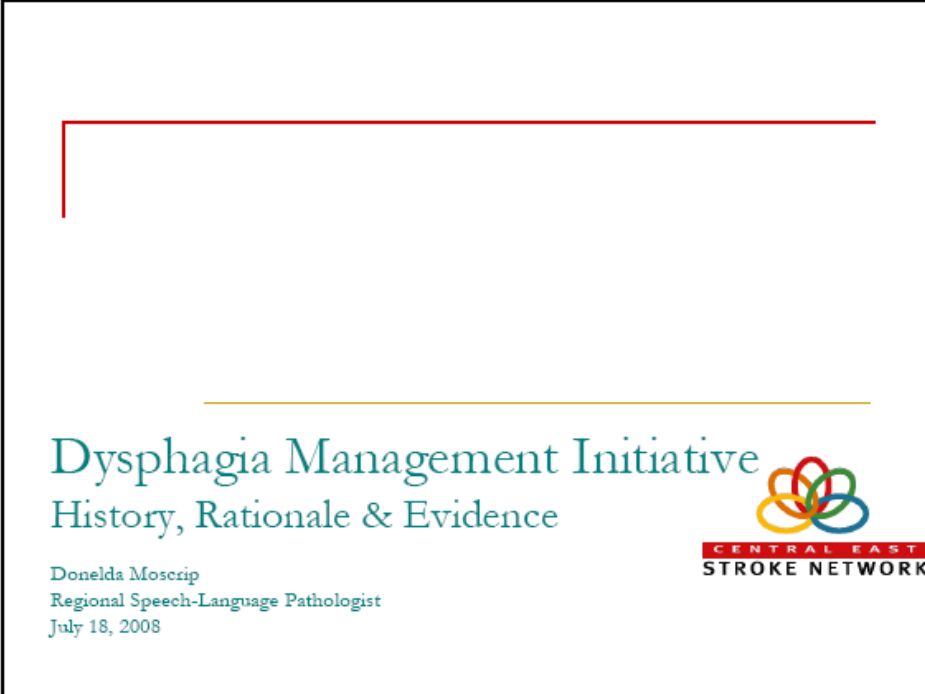


Headache



Dizziness

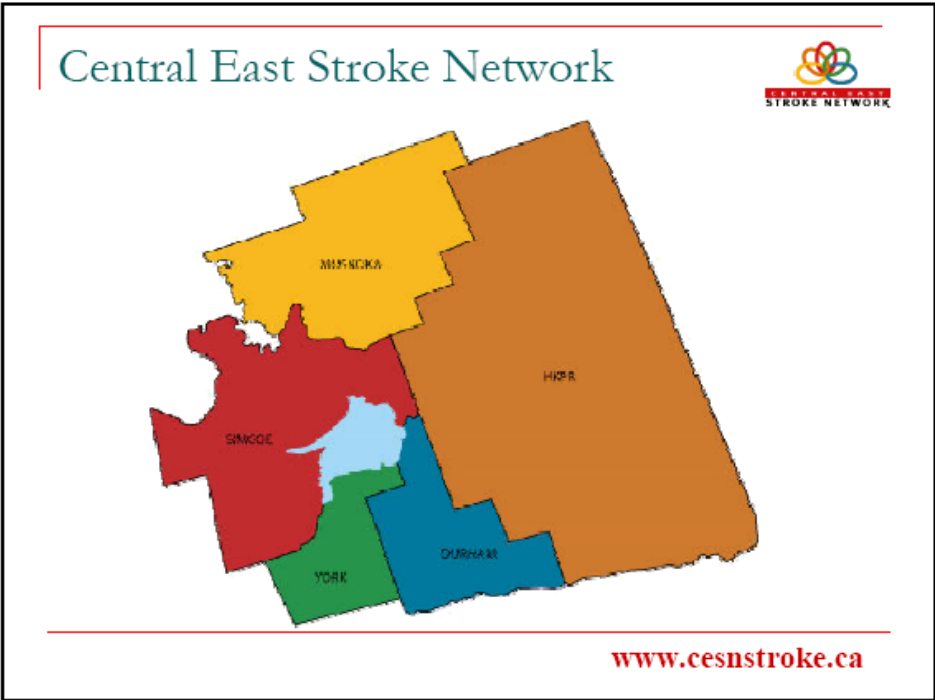

Appendix H - PowerPoint Presentation (15 minutes)



A PowerPoint slide with a white background and a black border. At the top, there is a red L-shaped line. Below it, a thin yellow horizontal line. The main title is "Dysphagia Management Initiative" in a large teal font, followed by "History, Rationale & Evidence" in a smaller teal font. To the right of the title is the Central East Stroke Network logo. Below the title, the presenter's name "Donelda Moscrip" is listed, followed by her title "Regional Speech-Language Pathologist" and the date "July 18, 2008".


Dysphagia Management Initiative
History, Rationale & Evidence

Donelda Moscrip
Regional Speech-Language Pathologist
July 18, 2008



A PowerPoint slide with a white background and a black border. At the top left, the text "Central East Stroke Network" is written in teal. At the top right is the Central East Stroke Network logo. The main content is a map of the Central East region of Ontario, divided into five colored areas: Simcoe (red), Huron (orange), York (green), Durham (blue), and Mississauga (yellow). At the bottom right, the website address "www.cesnstroke.ca" is written in red.

Central East Stroke Network



MISSISSAUGA
SIMCOE
YORK
DURHAM
HURON

www.cesnstroke.ca

Dysphagia and Stroke



- Stroke can affect the ability to swallow when:
 - Muscles involved in chewing, swallowing or breathing are affected
 - Alertness and attention are affected
 - Independence for eating has been affected



Dysphagia Management Initiative Goal



To improve recognition and management of dysphagia in acute stroke.

- To assist hospitals within CESN to meet Heart and Stroke Best Practice Guidelines for Dysphagia (2002)
- Implementation of an evidence-based dysphagia screening test.

Dysphagia Management Initiative Rationale



Based upon evidence:

- Complications of Dysphagia
- Impact of Early Intervention (Dysphagia Screening)
- Heart & Stroke's Best Practice Guidelines (2002)
- Validation of a Dysphagia Screening Test

Dysphagia Management Initiative Evidence - Complications of Dysphagia



To reduce risk of complications, we need to address dysphagia in the stroke population.

- Dysphagia affects as many as 55% of stroke survivors (Martino et al, 2005).
- Stroke patients with dysphagia are 3 times more likely to have pneumonia than stroke patients alone (Martino et al, 2005).
- When stroke patients with dysphagia are aspirators they have an 11 times greater relative risk of developing pneumonia (Martino et al, 2005).

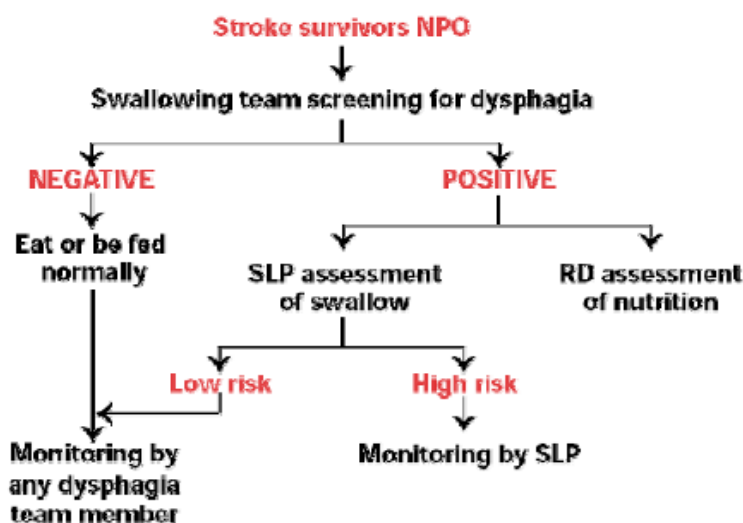
Dysphagia Management Initiative Evidence – Impact of Early Intervention



Early intervention through dysphagia screening will alter health outcomes.

- Martino et al (2000) - 80% relative risk reduction of developing pneumonia due to dysphagia screening.
- Hinchey et al (2005) - pneumonia rates were 2.4% at sites with a formal dysphagia screening protocol versus 5.4% at sites with no formal screening.

Dysphagia Management Initiative Evidence – Heart & Stroke Best Practice Guidelines



HSFO, 2002

Dysphagia Management Initiative Evidence – Screening Test Validation



- The Toronto Bedside Swallowing Screening Test (TOR-BSST©): Development and Validation of a Dysphagia Screening Tool for Patients with Stroke.
 - Sensitivity 91.3%, Specificity 66.7% (across all settings)
 - In Acute Patients – NPV 93.3%
 - In Rehab Patients – NPV 89.5%

Martino et al. (in press)

- HSFO supported a pilot project on development of an implementation model for dysphagia screening of stroke survivors using TOR-BSST©.



TOR-BSST©

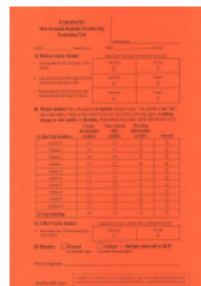


- Provides an accurate method to identify increased risk of dysphagia in acute stroke patients.
- S-LPs fully assess only those with positive test results.

TOR-BSST©



- A simple and brief screening tool for dysphagia following stroke.
- It has two main components
 - 1) An oral-peripheral examination with two features 
 - 2) A water swallowing test with the volume controlled to tsp amounts for 10 swallows and one swallow of water from a cup. 



•Pass/fail responses for each item.

•Failure on any one item indicates a positive screen result → increased risk for dysphagia

•High ratings for ease in administration, scoring and interpretation.

Who should be trained to use TORBSST®?



Health Care Professionals

- Physicians
- RNs / RPNs
- Allied Health

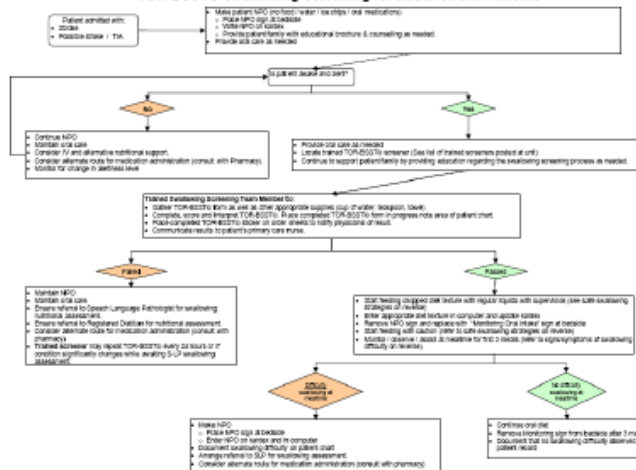


In particular, those members of the team that see the patient early in the admission to hospital.

How will this work at our hospital?



TOR-BSST® Swallowing Screening for Acute Stroke Patients



Dysphagia Management Initiative Expected Outcome



- Implementation of an evidence-based validated dysphagia screening tool (TOR-BSST©) to be used with acute stroke patients.
- Formation and education of swallowing screening teams.
- Improved compliance with Heart & Stroke Foundation of Ontario's Best Practice Guidelines for Dysphagia (2002)
- Improved staff satisfaction with dysphagia services.
- Improved staff knowledge, skills and awareness of their role in management of dysphagia patients.
- Realization of Heart & Stroke Foundation of Ontario's vision that "all stroke survivors will have access to rapid and timely screening to minimize the development of complications" (2002, p. 3).

Questions



References

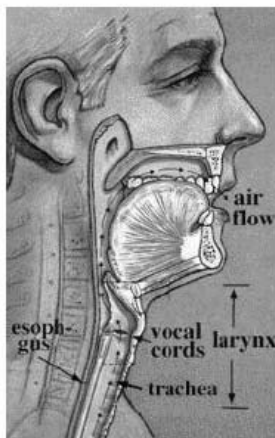


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- Martino R, Foley N, et al. (2005). Dysphagia after stroke: Incidence, Diagnosis and Pulmonary Complications. *Stroke* 36: 2756-2763
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- Martino R, French B (2007). TOR-BSST® training for the SLP dysphagia expert. Videoconference presentation April 3, 2007.
- Martino R, Knutson P (2007). TOR-BSST® training for the SLP dysphagia expert. Videoconference presentation June 5, 2007.

Appendix I – Poster



Dysphagia Screening in Acute Stroke



**TOR-BSST©, a new swallowing screening test
for acute stroke patients is coming soon!**

Watch for more information and an opportunity to be
trained as a member of the Swallowing Screening Team.

For more information contact _____ at ext. _____

Appendix J – Poster



How can we meet Heart and Stroke Foundation of Ontario's Best Practice Guidelines for Dysphagia?

- ✓ Maintain all acute stroke survivors NPO until swallowing ability has been determined.
- ✓ Regularly perform oral care procedures.
- ✓ Screen all stroke survivors for swallowing difficulty as soon as they are awake and alert using the *TOR-BSST© swallowing screen*.
- ✓ If swallowing screen is failed, maintain NPO status & notify Speech-Language Pathology who will complete a full swallowing assessment.
- ✓ If swallowing screen is passed, place patient on a (texture) diet. Provide feeding assistance / mealtime supervision using low risk feeding strategies.



Are you interested in learning more about:

- TOR-BSST© training?
- Dysphagia, oral care and low risk feeding strategies?

For further information contact _____ at extension _____
or email _____.

Appendix K – Poster



Did you know that over 50% of stroke patients have swallowing difficulty?

To reduce the risk of complications such as dehydration, malnutrition and pulmonary compromise (aspiration pneumonia) (Hospital name) follows Heart and Stroke Foundation of Ontario's Best Practice Guidelines for Swallowing.

- ✓ After a stroke, patients are kept without food or drink until they are screened for swallowing difficulty using the TOR-BSST© swallowing screen.
- ✓ If the swallowing screen is failed, the patient continues to be kept without food or drink and is referred for a full swallowing assessment by a Speech-Language Pathologist.
- ✓ If the swallowing screen is passed, the patient will be allowed some food and drink and will be monitored for swallowing difficulty.

Appendix L – Patient / Family Brochure

See brochure on following two pages

Can I have food or drink before my swallowing screen and/or swallowing assessment is completed?

Until the swallowing screening, and if necessary, swallowing assessment occur you should not have anything to eat or drink and you should not take medications by mouth due to the risk of complications such as pneumonia. Remember, not all swallowing difficulties are easily apparent. You may not realize you have swallowing difficulty!



Your doctor may consider placing an IV and an NG tube to provide you with nutrition, hydration and medications until your swallowing is fully assessed.

How can family members help?

If your family member is able to eat (has passed the swallowing screen)

- Help him/her follow the swallowing care plan (ask your nurse or speech pathologist for more information),
- Follow diet texture recommendations.
- If you notice any difficulty with swallowing or are concerned about adequate intake, be sure to let your nurse know.



- If your family member is not able to eat (is not ready for swallowing screening or has failed the swallowing screening)
- Help keep good oral hygiene
 - Ensure that other family members and friends follow the “nothing by mouth” recommendation by not giving the patient food or drink.
 - Talk to your physician about what options are available until your family member is able to take food and liquid orally.

Management of Patients with Stroke



Information on Swallowing Difficulty with Stroke-like Symptoms:

For Patients and their Families



CENTRAL EAST
STROKE NETWORK



Why do I need my swallowing screened?

Swallowing difficulties (also known as dysphagia) commonly occur after a stroke. In fact, as many as 50% of stroke survivors have swallowing difficulty, particularly within the first few days after a stroke occurs.

Swallowing difficulty can lead to many complications including dehydration, malnutrition and lung infection (aspiration pneumonia). For that reason, it is very important that every person who has a stroke have their swallowing screened before taking any food or liquid by mouth.

Stroke survivors who are not fully awake and alert are not ready to have their swallowing screened.

What happens during a swallowing screen?



The Toronto Bedside Swallowing Screening Test[®] (TOR-BSSST[®]) will be given by a trained health care professional. This swallowing screen will include examination of your oral cavity, tongue movement, voice quality and may include swallows of water from a teaspoon and cup.

If you pass the swallowing screen you will be able to have some food and drink by mouth, as well as take your medications orally.

If any signs of swallowing difficulty are detected the screening will end and a full swallowing assessment by a Speech-Language Pathologist will be completed as soon as possible.

When will I have a swallowing assessment?



If you fail the swallowing screen you will be referred to an expert in swallowing difficulty for a comprehensive swallowing assessment. A Speech-Language Pathologist is the professional who has special training to assess and treat swallowing difficulties.

Speech-Language Pathologists are staffed Monday to Friday from 8am to 4pm. If your swallowing difficulty is identified in the evening, on the weekend, or during a statutory holiday your swallowing assessment will occur on the next day that the Speech-Language Pathologist is working.



Appendix M – Brochure – Quick Reference for Screeners

See brochure on following two pages

Heart & Stroke Foundation BEST PRACTICE GUIDELINES

Provide feeding assistance or mealtime supervision to all stroke survivors who pass the screening. An individual trained in low-risk feeding strategies should provide this assistance or supervision. (HSFO, 2002)

Low-Risk Feeding Strategies

Encourage self-feeding. If unable, provide hand-over-hand support from an eye-level position. If full feeding assistance is needed provide using low-risk feeding strategies as follows:



- Ensure calm environment and minimize distractions.
- Check to ensure correct diet type has been provided.
- Position with torso at a 90° angle to the seating plane, aligned in mid-position with neck slightly flexed. Support with pillows if necessary.
- Perform mouth care before each meal.
- Feed from an eye-level seated position.
- Use metal teaspoons. Never use plastic for feeding individuals with bite reflexes.
- Use a slow rate of feeding and offer a level teaspoon each time.
- Place liquids in a wide-mouth cup or glass or in a cut-down nosey cup.
- Ensure that swallowing has taken place before offering any additional food/liquid.
- Observe for any signs or symptoms of swallowing problems during and for 30 minute after the meal.
- Perform mouth care after each meal.
- Position comfortably upright for at least 30 minutes after each meal to promote esophageal clearance and gastric emptying and to reduce reflux.
- Monitor oral intake.
- Document patient's intake, any changes in swallowing status and self-feeding problems (HSFO 2002, p. 9 –10).

Signs/Symptoms of Swallowing Difficulty

- Chewing for a long period of time or taking a long time to eat a meal
- Complaints of food getting stuck in the throat
- Coughing or choking while eating
- Delay or absence of laryngeal ("Adam's apple"/thyroid cartilage) elevation with swallowing
- Drooling or excessive secretions
- Excessive tongue movement, tongue thrusting or poor tongue control while eating
- Facial weakness
- Hoarse or breathy voice
- Pocketing of food in the cheek, under the tongue or sticking to the hard palate
- Recurrent aspiration pneumonia
- Regurgitation through the nose, mouth or tracheostomy tube
- Reluctance to eat
- Reluctance to eat specific food consistencies
- Slurred speech
- Spitting food out of the mouth
- Wet or gurgly voice after eating or drinking; frequent throat clearing (HSFO 2005, p. 8).



Consult a Speech-Language Pathologist if any of the above signs/symptoms are observed.

References:

- Heart and Stroke Foundation of Ontario publications:
- Improving Recognition and Management of Dysphagia in Acute Stroke: A Vision for Ontario, 2002.
- Management of Dysphagia in Acute Stroke: Nutrition Screening for Stroke Survivors, 2005.
- Management of Dysphagia in Acute Stroke: An Education Manual for the Dysphagia Screening Professional, 2006.



Management of Patients with Stroke Identification and Management of Dysphagia



Quick Reference Guide For TOR-BSSST © Swallowing Screeners



**CENTRAL EAST
STROKE NETWORK**



Screening & Nutrition in Acute Stroke

Dysphagia affects approximately 50% of stroke patients. Swallowing difficulties can result in aspiration and reduced intake of solids and liquids leading to potentially serious complications of pneumonia, malnutrition and dehydration.



Heart & Stroke Foundation BEST PRACTICE GUIDELINES

Maintain all acute stroke survivors NPO until swallowing ability has been determined (including oral medication, water, ice chips). IV fluids may be required. Regularly perform mouth-clearing or oral care procedures. (HSFO 2002)

Mouth Care Procedures

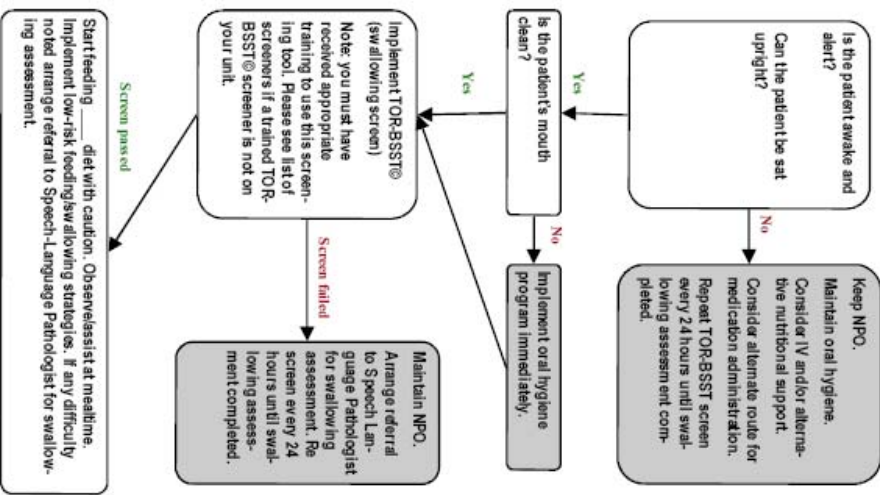
- Remove, clean and store dentures in clean water.
- Every morning and at bedtime, clean mouth with toothbrush and toothpaste. If possible, use a suction toothbrush.
- Swab the oral cavity with an alcohol-free antiseptic.
- Perform mouth care before each meal to remove bacteria.
- Perform mouth care after each meal to remove food debris.
- Use an oral moisturizer after mouth care if the patient is NPO or has a dry mouth. If severe dysphagia use only plain water for moisturizer. (HSFO 2002, p 12-13)



Heart & Stroke Foundation BEST PRACTICE GUIDELINES

Screen all stroke survivors for swallowing difficulties as soon as they are awake and alert. A swallowing screening team member trained to administer swallowing screening tests and interpret results should perform the screening. Assess the swallowing ability of all stroke survivors who fail the swallowing screening. (HSFO, 2002)

Swallowing Screen Decision Making



Heart & Stroke Foundation BEST PRACTICE GUIDELINES

Screen all stroke survivors for risk factors for poor nutritional status within 48 hours of admission. A swallowing team member trained to administer nutritional screening tests and interpret results, should perform the screening.

Assess the nutrition and hydration status of all stroke survivors who fail the screening. (HSFO, 2002)

Nutrition Screening

1. "Assess the stroke survivor's physical appearance. Does the stroke survivor appear undernourished?"
2. Assess recent weight loss. Does the stroke survivor or family report an unplanned weight loss of 2.5 kg (5 lb) in the past month or 4.5 kg (10lb) in the last 6 months?
3. Assess recent nutritional intake. Does the stroke survivor or family report any of the following concerns in the last month?
 - Continuous loss of appetite
 - Shortness of breath
 - Difficulty chewing or swallowing
 - Inability to buy food or prepare meals
 - Nausea, vomiting or daily diarrhea
 - Multiple food allergies or restrictions.
4. Does the stroke survivor's medical history include any of the following conditions: uncontrolled diabetes, kidney disease, recent major surgery, recent diagnosis of cancer, liver disease or AIDS? (HSFO, 2005, p. 14)



If yes to any of the questions, please refer to a Registered Dietitian for assessment of nutrition.

Appendix N – TOR-BSST© Screener Call Checklist



TOR-BSST© Screener Call Checklist

1. Check whether a trained TOR-BSST© dysphagia screening team member is on patient's unit. See attached list of trained TOR-BSST© dysphagia screeners.

IF NO TRAINED SCREENER IS AVAILABLE FROM PATIENT'S UNIT WITHIN 1 HOUR:

2. Page float pool for trained TOR-BSST© dysphagia screener:

Pager # _____

**IF NO RESPONSE OR TRAINED SCREENER IS NOT AVAILABLE
FROM THE FLOAT POOL WITHIN 1 HOUR:**

3. Check whether a trained TOR-BSST© dysphagia screening team member is available on another unit. See attached list of trained TOR-BSST© dysphagia screeners.

**IF NO RESPONSE OR TRAINED SCREENER IS NOT AVAILABLE
FROM ANOTHER UNIT WITHIN 1 HOUR:**

4. Page Respiratory Therapist to see if a trained TOR-BSST© dysphagia screening team member is available.

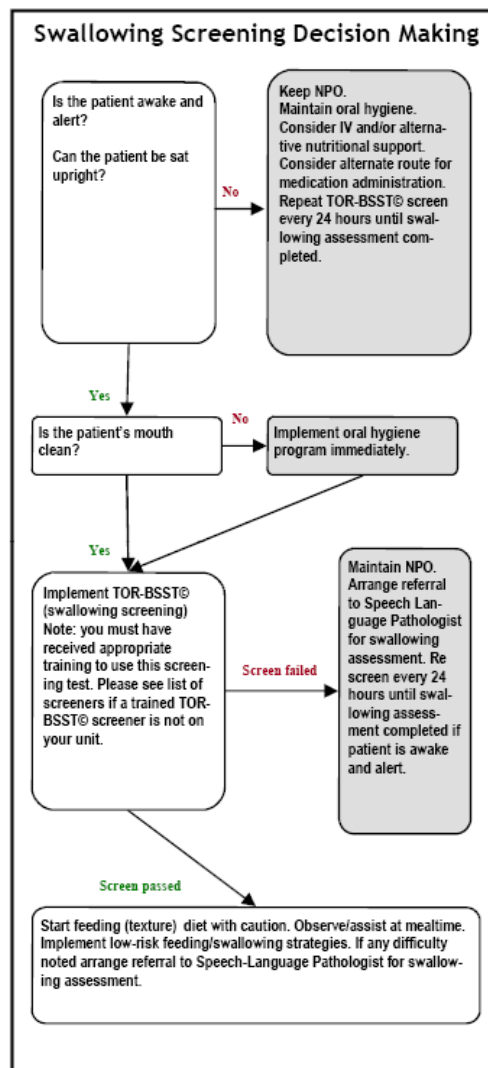
Pager # _____

Name (LAST, first)	Profession	Unit / Department	Extension	Pager
	(please select)	(please select)		
	RN	Emergency		
	RPN	Rehab		
	RD	Float Pool		
	OT	All		
	PT	CCU		
	RT	(please select)		
	Other	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		
	(please select)	(please select)		

Appendix O – Quick Reference Card



- Signs of Swallowing Difficulty**
- Prolonged/excessive chewing
 - Complaints of food stuck in throat
 - Coughing/choking/frequent throat clearing while eating
 - Wet/gurgly voice after eating/drinking
 - Delay/absence of laryngeal ("Adam's apple") elevation with swallowing
 - Drooling or excessive secretions
 - Excessive tongue movement/thrusting or poor tongue control while eating
 - Facial weakness / slurred speech
 - Hoarse or breathy voice
 - Pocketing of food (cheek, under tongue, on hard palate)
 - Recurrent aspiration pneumonia
 - Regurgitation through nose, mouth or trach tube
 - Reluctance to eat / specific food consistencies
 - Spitting food out of the mouth
- Consult a Speech-Language Pathologist if any of the above sign/symptoms are observed.



Appendix P – CESN Training Checklist

Please see the Central East Stroke Network Training Checklist on the following two pages.

One Month (or more) before training session

- Ensure that hospital specific screening process is well defined.
- Determine budget for training (i.e. which budget will funding come from to pay screeners for their time during training; estimate number of screeners that can be trained based on highest salary x number of hours for training session).
- Determine number of swallowing screeners to be trained.
- Determine number of training sessions to be held.
- Order booklets from Heart & Stroke Foundation. You will need one copy for each screener of the following:
 - a. Management of dysphagia in acute stroke: an educational manual for the dysphagia screening professional (REQUIRED)
 - b. Management of dysphagia in acute stroke: nutrition screening for stroke survivors (REQUIRED)
 - c. Improving Recognition and Management of Dysphagia in Acute Stroke: A vision for Ontario (booklet) (SUGGESTED)
 - d. Improving Recognition and Management of Dysphagia in Acute Stroke: A vision for Ontario (2-page sheet) (SUGGESTED)
 - e. RNAO: Stroke Assessment Across the Continuum of Care (SUGGESTED)
 - f. Folders (SUGGESTED)
 - g. Pens (SUGGESTED)
- Set training dates.
- Reserve room for training session (Ensure adequate seating / tables for all participants).

- Recruit swallowing screeners or have potential swallowing screeners appointed/identified by managers
- Determine budget for catering training sessions.
- Decide on and order snacks/lunch (suggest Heart Healthy).
- Reserve computer with CD drive to run presentations.
- Reserve projector for computer.
- Reserve projection screen.
- Reserve speakers/amplification for presentation (computer speakers).
- Obtain flip chart, paper and markers (if desired).

1 week (or more) before training session

- Send confirmation of training date along with the Heart & Stroke Training manuals to participants. Ask for manuals to be reviewed prior to training and to bring manuals to the training session.
- Review and amend presentation scripts as needed
- Ensure that you have training CDs and that they work in your computer ahead of time.

1 day before

- Prepare sign-in sheet with participants' names.
- Prepare certificates of attendance for each participant. (Template provided by Dr. Martino)
- Ensure all handouts copied (1 for each participant)

- Learning Module One handout
- Learning Module Two practice forms
- “Preparing to be a Swallowing Screening Team Member”
- Course evaluations for Modules 1&2
- Training quiz
- Assemble folders with above and Heart & Stroke pen
- Ensure that you have an envelope to collect:
 - Completed TOR-BSST© forms (from Module 2)
 - Evaluations

Day of training

- Arrive early to set up
- Place room directional signs as needed
- Ensure equipment running properly
 - computer
 - Training CD with password
 - projector
 - speakers
- Ensure flip chart with markers set up (if desired)
- Have available enough drinking water, cups and teaspoons for all participants for TOR-BSST© practice
- Set presentation on title slide and project onto screen
- Place folder with assembled handouts at participants’ seat
- Have trainees sign-in as they arrive.

Training

- Presentation of Module 1
- Presentation of Module 2
- Discussion of process at your hospital
- Presentation of Module 3 (Optional / Highly Recommended)
- Review handout
 - “Preparing to be a Swallowing Screening Team Member” at the end

of the training session. This handout explains the steps involved in becoming a TOR-BSST© screener. As you go through the steps the trainees can place a check mark beside the completed steps (1 - 3). The 4th box will remain blank to reinforce that there is one more step - two competency observations with a real patient. This gives you an opportunity to explain this process and how it will work at your site. This handout is for the screener to keep as a reference.

- Ask participants to complete training evaluations. Hand in upon completion.
- Upon handing in surveys and evaluations give trainees their Certificate of Completion. (Note: you may wish to withhold Certificates until competency observations are complete).

After training

- Arrange and complete competency evaluations.
- Monitor successes, challenges, and barriers during implementation process.
- Problem solve for improved procedures at your facility.

Appendix Q – CESN Evaluation Model

Evaluation Components:

- ◆ Statistics on number and composition of staff who have completed training and competency observations in order to be TOR-BSST© Swallowing Screening Team members.
- ◆ Training evaluations.
- ◆ Comparison of pre- and post-training staff satisfaction survey.
- ◆ Comparison of pre- and post-training staff dysphagia knowledge survey.
- ◆ Information collected on chart review.
- ◆ Confirmation of procedures in place to ensure continued competency over time of dysphagia screeners.
- ◆ Confirmation of procedures in place to ensure communication of dysphagia screening policies to new staff.

Evaluation Process:

Prior to training

- ◆ Upon identification of swallowing screening team trainees, give each trainee a cover letter (see Appendix R) with pre-training surveys attached for completion (satisfaction and knowledge & skills).
- ◆ Forward all completed surveys to Donelda for evaluation.
- ◆ If pre-training surveys are not completed prior to training day, the surveys will have to be completed at the beginning of the training session. Please allow approximately 20 minutes at the start of the session to complete these 2 surveys.

Training day

- ◆ At the end of the training session ensure that trainees complete and hand in:
 - ◆ training evaluations
 - ◆ post-training knowledge & skills survey
- ◆ Forward all completed surveys and evaluations to Donelda for marking and evaluation.
- ◆ Immediately following Competency Evaluation
- ◆ Provide trainees with post-training satisfaction survey and request that it is returned ASAP.
- ◆ Upon receipt of completed surveys please forward to Donelda for evaluation.
- ◆ Advise Donelda of number and composition (i.e. RN, RD, OT, Emergency, Rehab Unit, etc.) of staff who have completed training and competency evaluation.

Following Implementation

- ◆ Complete chart review (see Appendix S) on all patients admitted with stroke post-implementation. Forward completed chart reviews to Donelda for evaluation. Suggestions for who may complete the chart reviews include:
 - ◆ Any swallowing screening team member
 - ◆ An assistant (e.g. Communication Disorders Assistant) who understands the TOR-BSST© screening process
 - ◆ Other health care professional
- ◆ Report to Donelda on procedures in place to ensure continued competency over time of dysphagia screeners and to ensure communication of dysphagia screening policies to new staff.

Appendix Q-1 – Cover letter for Surveys



**CENTRAL EAST
STROKE NETWORK**

www.cesnstroke.ca

CENTRAL EAST STROKE NETWORK

Enhanced District Stroke Centre - Royal Victoria Hospital
201 Georgian Drive, Barrie, Ontario L4M 6M2
705.728.9090

Dear _____,

You are confirmed for attendance at training session for TOR-BSST© swallowing screening teams.

Time: _____

Location: _____

Enclosed are the following:

1. Heart & Stroke Foundation publication entitled “Management of Dysphagia in Acute Stroke: An Educational Manual for the Dysphagia Screening Professional”.
2. Booklet from Heart & Stroke Foundation publication entitled “Management of Dysphagia in Acute Stroke: Nutrition Screening for Stroke Survivors”

In preparation for your training session please review these two manuals.

Please bring these booklets with you to the training session.

Thank you for participating in the training session and agreeing to be a member of the Swallowing Screening Team!

Donelda Moscrip
Regional Speech-Language Pathologist
MoscripD@rvh.on.ca

STROKE... know the SIGNS... SAVE a life



Weakness



Trouble
Speaking



Vision
Problems



Headache



Dizziness

Appendix Q-2 – Chart Review



Dysphagia Screening Initiative Chart Review

Complete on all Stroke Survivors post TOR-BSST© Implementation

Hospital Site _____

Date of chart review _____ (dd/mm/yy)

Date of patient's stroke _____ (dd/mm/yy)

Does/did patient have reduced level of alertness? yes no

Date patient noted as awake and alert _____ (dd/mm/yy)

Was patient maintained NPO (no food, no water, no oral medications) until TOR-BSST© dysphagia screen completed? yes no

If no, what did patient receive orally prior to screen? Food Liquid Meds.

Summarize any details of circumstances as noted on chart (e.g. physician order for oral medications, family gave sips, etc.)

Date TOR-BSST© dysphagia screen administered to patient _____ (dd/mm/yy)

Was TOR-BSST© dysphagia screen administered by trained screener? yes no

Was TOR-BSST© screen passed? yes no

If TOR-BSST© screen passed:

Date diet started _____ (dd/mm/yy)

Diet type and texture ordered _____ (e.g. heart healthy diabetic minced)

If TOR-BSST© screen failed:

Was patient maintained NPO after failing screen? yes no

Date patient referred to SLP for swallowing assessment _____ (dd/mm/yy)

Date patient referred to RD for nutrition assessment _____ (dd/mm/yy)

Date swallowing assessment completed by SLP _____ (dd/mm/yy)

Date nutrition assessment completed by RD _____ (dd/mm/yy)

Please forward completed chart reviews to:
Donelda Moscrip, Regional Speech Language Pathologist
Central East Stroke Network
Royal Victoria Hospital
201 Georgian Drive
Barrie, Ontario L4M 6M2

Appendix R – NPO Sign



The sign features the Central East Stroke Network logo in the top left corner. The logo consists of three interlocking loops in red, yellow, and green, with the text 'CENTRAL EAST STROKE NETWORK' and the website 'www.cesnstroke.ca' below it. To the right of the logo, the letters 'NPO' are written in a large, blue, serif font. Below 'NPO' is the text '(NIL PER OS)' in a smaller, blue, sans-serif font. In the center of the sign is a red circle with a diagonal slash through it, containing a blue glass of water and a hamburger. Below this icon, the text 'No food, drink or oral medications.' is written in a large, black, serif font. Underneath that, the phrase 'No food gifts please!' is written in a blue, italicized, serif font. At the bottom of the sign, a paragraph of text in red, sans-serif font reads: 'Please do not provide any food or drinks to this patient as testing of swallowing ability is not complete or patient is currently unable to swallow safely.'

Appendix S - Monitoring Oral Intake Sign

MONITORING ORAL INTAKE



This patient is being monitored for swallowing difficulties.

- Please ensure the following strategies are implemented at mealtime.
- Please note any swallowing difficulties on patient chart. **If any difficulties are noted please discontinue feeding and notify Speech-Language Pathologist & Physician.**

Strategies

Diet Texture: _____ with regular liquids

Medications: Pills taken one at a time with sips of water

1. Ensure patient is **awake and alert**.
2. Ensure patient is **seated in an upright position during meal and remains upright for 30 minutes after meal**.
3. Present a maximum of **1 teaspoon** per bite.
4. Eat / feed **slowly**.
5. Allow adequate time between bites of food.
6. Encourage **2 or more swallows** per bite.
7. **Alternate liquids & solids** (but not combined in same bite).
8. Ensure patient does not talk with food/liquid in mouth.
9. Check for pocketed food in cheeks at the end of meal.

Thank you!

Meal #1

Meal #2

Meal #3

date

date

date

- Breakfast
 Lunch
 Dinner

- Breakfast
 Lunch
 Dinner

- Breakfast
 Lunch
 Dinner

Appendix U - Swallowing Information Transfer Sheet

Swallowing Information Transfer Sheet (for use when TOR-BSST[®] indicated)

(addressograph)

Date: _____

TOR-BSST[®] swallowing screen completed?

- YES (attach copy of completed TOR-BSST[®])
 NO

Reason not completed:

- patient not sufficiently awake and alert
 - patient refused
 - other _____

*** "NO" response indicates patient should continue NPO until either passes TOR-BSST[®] swallowing screen or has full swallowing assessment.**

TOR-BSST[®] result:

- PASSED
*** Indicates patient may eat normally with supervision. Monitor for any swallowing difficulties.**
- FAILED
*** Indicates patient should be kept NPO until full swallowing assessment is completed (no food/liquid/ice chips/oral medications).**

If TOR-BSST[®] failed:

Was swallowing assessment (by SLP) completed?

- YES
*** Please refer to current SLP recommendations regarding diet texture and safe swallowing strategies.**
- NO
*** Indicates referral to SLP for swallowing assessment needed. Please seek physician referral for same. Maintain NPO status until swallowing assessment completed.**

 (Signature)

