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**NHSCT Mission Statement**

To provide for all the quality of services we would expect for our families and ourselves
Speech and Language Therapy Department

Fibre-optic Endoscopic Examination of Swallowing (FEES) Use by Speech and Language Therapists Policy

September 2012
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Fibre-optic Endoscopic Examination of Swallowing (FEES) Use by Speech and Language Therapists Policy

1. Introduction

1.1 This policy refers to use of flexible nasendoscopy for the purposes of swallowing assessment by speech and language therapists.

1.2 The aim of this policy is to:
   • To ensure consistency of process and approach within speech and language therapy
   • To ensure adequate training in the use of Fibreoptic Endoscopic Evaluation of swallowing (FEES) to the standards outlines by The Royal College of Speech and Language Therapists (RCSLT)

1.3 This policy should be read in conjunction with the following:
   • Northern Trust Dysphagia policies
   • Northern Trust protocols for the decontamination of flexible endoscopes
   • National policy for instrument traceability
   • National and regional policy on medical devices
   • Local and regional policies on consent
   • Manufacturer’s guidelines on decontamination of the equipment prior to inspection, service or repair.
   • Northern Trust policy on disposal of waste
   • Northern Trust Incident reporting Procedures

1.4 This policy has been developed using:
   • Communicating Quality 3
   • RCSLT Policy on the use of FEES
   • RCSLT Clinical Guidelines
   • South Eastern Health and Social Care Trust Guidelines for the use of FEES
   • Belfast Health and Social Care Trust Guidelines for the use of FEES

1.5 Northern Health and Social Care Trust Ear, Nose and Throat (ENT), Infection Prevention and Control and Day Procedure Unit have been consulted in the development of this policy, it therefore represents a consensus view.

1.6 Medico-legal Issues: Competence is described as an individual’s ability to apply their knowledge, understanding, skills and values within their designated scope of practice. (RCSLT CQ3). Individuals practicing FEES have a responsibility to ensure they meet the competencies as laid out in the RCSLT FEES policy document. Failure to do so may constitute a breach of acceptable professional conduct.
1.7 FEES services will be audited on a regular basis within a local clinical governance framework

1.8 Responsibilities

**Assistant Director of Children’s Services**
It is the responsibility of the Assistant Director to oversee the development and implementation of FEES policy.

**Head of Service/ Service Lead**
It is the responsibility of managers to ensure that staff are aware of this policy, and adhere to the procedure outlined in the policy.

**SLT trained staff**
It is the responsibility of the SLT Team to ensure this policy is reviewed and amended at the review date or prior to this, following new developments/research.

**Staff**
It is the responsibility of staff/manager to ensure that they are aware of this policy.

1.9 Target Audience

This policy is intended only for Speech and Language Therapists (SLTs) trained to carry out the FEES procedure. Other SLTs and staff members may refer to it for information only.

1.10 Equality, Human Rights and DDA

The policy is purely clinical/technical in nature and will have no bearing in terms of its likely impact on equality of opportunity or good relations for people within the equality and good relations categories.

1.11 Alternative formats

This document can be made available on request on disc, larger font, Braille, audio-cassette and in other minority languages to meet the needs of those who are not fluent in English.

1.12 Sources of Advice in relation to this document

The Policy Author, responsible Assistant Director or Director as detailed on the policy title page should be contacted with regard to any queries on the content of this policy.
FEES Information

2.1 Overview

2.1.1 Definition: (FEES) is defined as an endoscopic examination of the pharyngeal stage of swallowing. It incorporates assessment of laryngopharyngeal anatomy and physiology as it relates to swallowing, assessment of swallowing function (saliva and food/fluid) and intervention to determine which postural and behavioural strategies facilitate safer and more efficient swallowing. An extended form of FEES (known as FEESST) incorporates sensory testing.

2.1.2 Aims of the Service:

- To objectively assess the nature of swallowing disorders and associated risks.
- To identify and introduce effective fluid/diet modifications, compensatory strategies or manoeuvres as appropriate to maintain an individual's functional swallowing ability.
- To provide timely and accurate information regarding assessment findings and outcomes to patients, carers and referrers.

2.2 Context

2.2.1 Background: FEES is a recognised tool for the assessment and management of swallowing disorders. It has been carried out by SLTs since its inception and description by Susan E. Langmore in 1988. It involves the trans-nasal insertion of a fibreoptic nasendoscope to the level of the oropharynx/hypopharynx to evaluate laryngopharyngeal physiology, management of secretions and the ability to swallow food and fluids. See Appendix A for FEES protocol. Since its initial description, FEES has been extended to incorporate testing of laryngopharyngeal sensory function in a technique described as FEESST. FEES and FEESST are safe procedures with a low incidence of complications. A number of studies have reported that FEES is a valid tool for detecting aspiration, penetration and pharyngeal residue when compared with videofluoroscopy. Other studies have commented on the benefits of using FEES across the spectrum of clinical populations including paediatrics, stroke, traumatic brain injury, critical care and head and neck cancer.

2.2.2 Purpose of FEES:

The indications for FEES may include:

- Assessing secretion management
- Assessing patients at high risk of aspiration (unsafe for food trials)
- Visualising laryngopharyngeal structures
- Assessing laryngopharyngeal sensation
- Biofeedback/teaching
- Assessing swallow fatigue over time
- Assessing swallowing of specific foods
- Assessing patients who cannot undergo videofluoroscopy (due to immobility, equipment or medical instability)
- Repeated assessment

The outcomes of endoscopic assessment may include evaluation of:
- Anatomy and swallow physiology
- Secretion management and sensation
- Airway protection as it relates to swallowing function
- Swallowing of foods/fluids including residue and risk
- Postures, strategies and manoeuvres
- Optimum delivery of bolus consistencies and sizes
- Therapeutic techniques

2.2.3 Accessing FEES

- As with any instrumental evaluation, FEES should be preceded by clinical swallowing evaluation including case history and swallowing history.²
- FEES should not be considered as a replacement for videofluoroscopy or any other instrumental dysphagia evaluation. The choice of instrumental assessment is guided by clinical indications (see Appendix A)

2.2.4 Multi-Disciplinary Context:

FEES should be performed as part of a multidisciplinary team approach to dysphagia management.

The physician or surgeon overseeing the patient’s care should be made aware of the intention to perform FEES. A medical practitioner may or may not be present during the FEES examination. However, a doctor must be identified and be within easy, immediate access to provide emergency medical backup should a complication arise (see section 2.4.7 Health and Safety).

2.3 SLT Service Pre-requisites

2.3.1 In order to obtain full clinical privileges to perform independent FEES evaluation of swallowing, the SLT clinician must have undertaken the appropriate training as set out in this document.

2.3.2 Use of FEES must be written into the SLT’s individual job description.
2.3.3 Facilities, equipment and consumables

- FEES is a safe assessment of swallowing when performed with the appropriate equipment. It is essential the procedure is recorded (either on video or digitally) and documented. A good-quality, undamaged nasendoscope, light source, chip camera, recording source, microphone and monitor will enable clear and effective illumination of the laryngopharynx and recording of the examination.

- Consumables used in FEES include:
  - Food and fluid
  - Thickening agent
  - Ice chips
  - Food dye (green or blue)
  - Gauze (sterile- single patient use)
  - Cotton buds (sterile- single patient use)
  - Spoons
  - Straws
  - Cups
  - Disposable aprons and gloves
  - Lubrication gel
  - Alcohol wipes
  - Anti-mist spray
  - Sterilising equipment
  - Endosheaths (optional)
  - Topical anaesthetic/decongestant

2.4 Health and Safety

2.4.1 Individuals must be familiar with and comply with local policies and procedures regarding:
- COSHH
- Infection control

2.4.2 First aid and resuscitation

Due to the invasive nature of the procedure, SLTs involved in performing FEES must undergo regular training in first aid and cardio pulmonary resuscitation. Resuscitation equipment and trained personnel (medical, nursing and physiotherapy) should be within easy access i.e., within the building and readily contactable.

2.4.3 Anaesthesia and decongestants

Topical anaesthesia and/or nasal decongestant may be applied to the nasal passages if required. FEES can be performed safely without anaesthesia. Routine use is not recommended as sensory aspects of the swallow may be compromised. Since May 2004 SLTs are entitled to administer topical anaesthesia under patient group directions (document MLX 294)\textsuperscript{18, 19}
however since use is likely to be infrequent it is recommended that a Doctor is called to administer it if required. Lubrication gel applied to the nasendoscope should be sufficient to minimise discomfort in most cases.

2.4.4 Environments
FEES should be performed in an appropriate setting with ready access to a doctor (see 2.2.4). This may be on a hospital ward, rehabilitation unit, on the intensive care unit or in a designated clinic. If FEES is to be used in other environments, such as nursing homes, SLTs must be a level three FEES practitioner (see 4.5), a doctor must be available for immediate assistance (and therefore within the same building), the nursing home and patient’s GP must have given consent and appropriate equipment must be used (see 2.3.3).

2.4.5 Food colouring
Drops of blue or green food dye may be added to secretions, food and liquids to facilitate visualisation. The amount used should be kept to a minimum as it can colour urine and skin. Bottles of dye should be stored appropriately and once opened should be disposed of after three months. The use of methylene blue is not permitted, as it is a biologically active product.

2.4.6 Disposal of food and fluid materials
All used trial foods and fluids should be disposed of appropriately at the end of each FEES procedure. Any used items of consumable equipment (see Section 2.3.3) should be disposed of as clinical waste or as advised by local infection control policy.

2.4.7 Adverse effects of the procedure
FEES is a safe procedure but there are possible complications. The following have been reported:

• Patient discomfort. Although quite common, discomfort is usually mild. Evidence from 500 consecutive endoscopic swallowing evaluations showed 86% of patients rated discomfort as mild-moderate.6
• Epistaxis. Nose bleeds are unusual despite FEES being performed on many stroke patients placed on anticoagulant medications.5
• Vasovagal response. This is unusual and may be related to very high levels of anxiety. Exercise caution if the patient has a history of fainting.
• Reflex syncope. Fainting can occur as a result of direct vigorous stimulation of the nasal/pharyngeal/laryngeal mucosa during endotracheal intubation. The type of stimulation occurring for FEES is much less forceful, hence this complication is rare. However, caution must be exercised in patients with unstable cardiac conditions for whom reflex syncope would result in further risk.5
• Allergy to topical anaesthesia (see “Anaesthesia and decongestants”)
• Laryngospasm. This is unlikely if the nasendoscope is adequately distanced from the larynx.\(^{17}\)

A survey carried out in 1995 by Langmore on the safety of FEES found that of 6000 procedures there were only 27 cases of the adverse effects noted above. Clinicians aborted 3.7% of FEES procedures, compared with 3.1% of videofluoroscopy procedures, due to side effects such as gagging or aspiration requiring suctioning.\(^5\)

As with any swallowing investigation, the examination should be performed with care to avoid the risk of complications arising from severe aspiration.

2.4.8 Indications and contraindications

When considering performing a FEES examination, the SLT must always consider possible contraindications. These are outlined in Appendix B. The rationale for performing FEES on an at-risk patient must be clearly outlined in patient records. Failure to demonstrate and record careful consideration of the risks and benefits to the patient in these circumstances prior to proceeding with the FEES examination may constitute a breach of acceptable professional conduct (See Communicating Quality 3).

2.4.9 Incident reporting

If an adverse reaction occurs during a FEES procedure, appropriate medical assistance should be sought and local incident reporting procedures followed.

2.4.10 Decontamination and infection control (see appendix F and relevant Northern Health and Social Care Trust’s Medical Devices Policies as outlined below).

• Transmission of microorganisms is possible via contact of equipment contaminated by saliva, blood and other bodily fluids. Decontamination and storage of equipment should adhere to regional and the Northern Health and Social Care Trust’s Interim Medical Devices Policy (2012), Decontamination Policy Community Facilities Primary and Social Care (2010), Decontamination Policy Inpatient Facilities (2010) and Decontamination of Naso-Pharyngo-laryngoscopes (without channels) used with Endo Sheaths (2011).

• Patients with known infection status should be seen at the end of the FEES clinic if possible and the nature of the infection documented.

• Appropriate precautions should be taken if substances hazardous to health are to be used for equipment decontamination.
3. Northern Trust FEES Service Process

3.1 Different types of FEES clinics
- FEES is a portable and accessible assessment tool that can be performed in a range of settings, including at bedside, on the intensive care unit or in a designated clinic room for inpatients or outpatients.
- The philosophy of effective team working should be applied to any FEES clinic.
- A minimum of two persons is required to safely and effectively carry out the procedure. This may involve two SLTs (where one acts as the endoscopist) or one SLT and a doctor competent in nasendoscopy.

3.2 FEES Clinic register
A register of all FEES referrals will be kept with the following information:
- *Name, Address, DOB
- *Health and care number, where appropriate
- GP
- *Ward/ Outpatient location
- *Date of referral
- **Date of 1st appointment offered
- Date of assessment
- *Written information provided to patient by referring therapist
- *Confirmation that signed referral form received
- *Consent- Patient
  - Doctor
- *Referring SLT
- **Appointment date
- *Patients Infection Status
- *Current SLT recommendations
- *Medical History
- Sheath used- Y/N
- Batch No.
- Scope used
- Video No
- Endoscopist
- Assessor
- Problems
- Written Information provided to patient after the clinic
- Outcome/ Advice given
- Report sent/ Date

*Will be completed on receipt of referral.
** Will be completed by therapist sending appointment.
The remainder will be completed during the clinic.
3.3 Referral process

- Patients must have a clinical evaluation of swallowing by SLT prior to acceptance of referral.
- Patient selection criteria should be applied (Appendices A & B). Considerations include alertness, posture and likelihood of compliance with recommendations as well as those factors outlined in the appendix.
- The FEES referral form (Appendix C) should be completed.
- Clear rationale must be given for the reason for examination.
- The Doctor responsible for the patient's care should countersign the form.
- If a patient is initially referred as an inpatient and requires FEES following hospital discharge, GP consent must be attained before the examination takes place.
- Consent policy must be reviewed regularly and adapted in light of regular local and national changes.

3.4 Appointment System

- **Inpatients:** In locations where a FEES service is available, patients will be seen within 3 working days of receipt of referral.
- **Outpatients** will be sent an appointment within 5 working days. A copy of the patient information leaflet will be sent with the appointment letter. Outpatients will be given a minimum of one weeks notice. The letter will include the date and time of the assessment with the SLT details and clinic location.
- Appointments will be allocated on an urgent versus routine basis.
- Patients known to be MRSA+ or have other infectious diseases will be allocated the last appointment slot in the clinic.

3.5 Preparation for the examination will include

- Full decontamination and leak testing of the scope (see section 3.5.1 below for details of how to carry out the leak test).
- Preparing the food and fluid consistencies, adding food colouring as appropriate.
- Ensuring medical and patient consent.
- Ensure medical cover is easily available and inform the relevant medic prior to starting the assessment.
- Ensure equipment is in good working order.
- Explaining the process to the patient.
- Completing DHSSPSNI Consent Form 1 with the patient.
- If patient does not have capacity DHSSPSNI Consent Form 4 should be completed and carers informed of the process as a matter of good practice.
3.5.1 **Leak Test**

This is carried out by SLT staff that must follow the procedure outlined below.

To prevent possible damage to the scope carry out a leak test procedure. This should be done prior to use and each immersion in appropriate disinfectant.

- Prepare the endoscope and leakage tester by ensuring the connector for the leakage tester on the endoscope is dry and the connector and the tube of the leakage tester are dry.
- Connect leakage tester with endoscope by turning it 90 degrees clockwise.
- Check that the leakage tester is tightly connected with the endoscope.
- Pump air up to a maximum of 160 mm/mg into the housing of the endoscope.
- If the pressure decreases continuously do not place the instrument into any solution and get scope serviced.
- If pressure does not decrease place endoscope under water keeping leakage tester dry and watch for air bubbles. Continuous bubbles for more than 5 minutes indicate a leak, though small bubbles in the initial phase are meaningless.
- If there is any suspicion of a leak it must be serviced.
- If the endoscope has proven to be intact remove it from the solution and disconnect leakage tester. Never disconnect under water.
- Following leakage testing proceed to cleaning the scope.

3.6 **Carrying out the procedure**

3.6.1 SLT roles within the clinic are as follows:

The Endoscopist (SLT) will:
- Operate and maintain equipment needed for an endoscopic evaluation as per manufacturers instructions
- Insert and manipulate the scope in a manner which minimises discomfort and risk and optimises the view of the laryngopharynx
- Request Doctor to apply topical anaesthetic/decongestant if required (see section 2.4.3)

The Assessing Clinician (SLT) will:
- Direct the patient through appropriate tasks and manoeuvres as required for a complete and comprehensive examination.
- Direct the endoscopist to achieve the desired view
- Monitor the patient’s comfort and safety and know when to discontinue the procedure
- Interpret, communicate and document findings
3.6.2 The following will be adhered to for each examination:
   1. Wash hands thoroughly- pre, and post examination following removal of personal protective equipment.
   2. Use disposable gloves and aprons.
   3. A sterile pack (available from HSDU) should be used at all times.
   4. Slide the endosheath onto the scope
   5. The endoscopist should inspect the nostrils to decide which to pass the scope into
   6. The endoscopist should pass the scope to the hypopharynx
   7. The FEES protocol should be followed (appendix D) recording observations, consistencies, quantities and other relevant information.
   8. The therapist directing the FEES should give feedback to the patient and carer providing written information as appropriate.
   9. The endoscopist should document all relevant information in the register as outlined in section 3.2

3.6.3 Decontamination (also see Appendices F, H and relevant Northern Health and Social Care Trust’s Interim Medical Devices Policy (2012), Decontamination Policy Community Facilities Primary and Social Care (2010), Decontamination Policy Inpatient Facilities (2010) and Decontamination of Naso-Pharyngolaryngoscopes (without channels) used with Endo Sheaths (2011)).

   1. When the procedure is completed straighten tip of scope and remove with care. The sheath must be held in place with the distal end of the scope in contact with the inner surface of the lens end of the sheath during withdrawal of the scope.
   2. Taking care not to contaminate the endoscope, remove and dispose of the sheath in a yellow clinical waste bin.
   3. It is also important to inspect the endoscope to ensure distal end portion of the endoscope is dry. If there is any moisture present this is an indication that they may have been a leak during the endoscopy procedure providing the endoscope was dry when the sheath was installed. If a leak is suspected then the policy for cleaning and decontamination of the endoscope using appropriate trust disinfectant must be followed and a decontamination status form must be completed
   4. If there are no tears present and the distal end portion of the endoscope is dry, change gloves and apron and prepare the multi layered enzymatic deterrent by adding 5-10 ml per litre of lukewarm water. The water should be clear and not cloudy. If it is cloudy more cold water must be added until water goes clear.
NB. Water should be cool/cold for addition of detergent and then warmed up to lukewarm 40-50 degrees. Adding detergent to hot water (60 degrees) will ‘kill’ the enzyme. Dosage rate is manufacturer/product specific. The volume of the container for washing should be known and fill the level on inside of the container or sink, marked in litres and the volume of detergent to be added should be reasonable accurately measured with a pump dispenser or similar.

5. Then fully submerge endoscope in multi layered enzymatic detergent for 5 minutes.

6. Rinse thoroughly with clean lukewarm water.

7. Dry the endoscope thoroughly after rinsing.

8. The endoscope should then be placed in an Automated Endoscopic Reprocessor (AER)/Lancer (as per hospital policy) between each patient. This process take up to 46 minutes depending on water pressure.

9. Ensure all external surfaces of the endoscope are thoroughly dry prior to installing another sheath or storing the scope.

10. Remove gloves and apron and wash hands thoroughly.

11. If three hours have elapsed from the scope was washed in enzymatic detergent prior to it being used again, it is necessary to follow the process for washing it again in detergent prior to it being used. The whole FEES equipment stack should be wiped with approved trust wipes following every FEES.

12. The handset of the scope should be decontaminated between patients.

13. All records should be completed following RCSLT and Northern Trust policies on record keeping.

14. If a patient has a known infectious disease e.g. MRSA the scope should be sent to DPU for full decontamination.

- Record in the FEES recording book that the scope has been decontaminated.

- The scope must be stored on the storage tray on the FEES equipment when not in use. It must be clearly marked whether the scope has been decontaminated or not using the appropriate covers for the storage tray. If a decontaminated scope has been placed in the storage tray the cover needs to be changed prior to a clean scope being placed in the tray. The scope should be wrapped into a ‘clean’ bag before it is placed back into its box.

Optimally all scopes should be decontaminated using a validated and traceable automated process such as AER (Automated Endoscope Reprocessor). However, if Naso-Pharyngo-laryngoscopes cannot be decontaminated using AER then physical decontamination is required. This must be achieved using a
scientifically validated product and must incorporate a system for traceability and staff training, encompassing all stages of the procedure. **Endosheaths must be used** to reduce the transmission of infection.

**A Procedure for manual Decontamination of Naso-Pharyngo-laryngoscopes** (see Appendix I (full policy not detailed within appendix, please see policy library to obtain full policy document)

Endoscopes should be decontaminated as follows using a sporicidal, chlorine dioxide trio wipe system:

**Step 1 Preclean Wipe**
- Wash hands effectively (using 7 step technique) and dry thoroughly;
- Put on personal protective equipment of gloves and apron;
- Take a sachet of **pre clean wipe**, tear sachet and remove the wipe;
- Unfold the wipe and lay out on the palm of your hand;
- Thoroughly wipe the surface until the soil and organic matter have been visibly removed. In cases of heavy soiling more than one wipe may have to be used;
- Discard the wipe and contaminated gloves into the clinical waste bin; Use foot pedal to open bin lid;
- Wash hands and dry thoroughly before moving on to step 2.

**Step 2 Sporicidal wipe**
- Apply a new, clean pair of gloves;
- Take a sachet of **sporicidal wipe**, tear sachet and remove the wipe.
  - Unfold the wipe and lay our on the palm of your hand;
  - Take the lid of the bottle of **Activator Foam and pump two measures of Activator foam onto the wipe**;
  - **Scrunch the wipe** until it is covered with foam and **wait 15 seconds**;
  - Wipe the endoscope surface **including hand set**, until all areas have been covered with the sporicidal wipe NB: All areas of the scope must come into contact with the wipe, at least once;
  - Once the entire surface has been wiped and covered with the sporicidal wipe wait for 30 seconds contact time;
  - Discard the wipe and contaminated gloves into the clinical waste bin. Use foot pedal to open bin lid.
  - Decontaminate hands before moving on to step 3

**Step 3 Rinse wipe**
- Apply a new, clean pair of gloves;
- Take a rinse wipe sachet, tear and remove the wipe;
- Unfold the wipe and lay out on the palm of your hand;
• Thoroughly wipe the entire surface of the scope that has been decontaminated;
• Discard the rinse wipe into the clinical waste bin;
• Dry thoroughly with a lint free cloth (white paper roll) ensuring all external surfaces of the endoscope are thoroughly dry prior to installing another sheath or storing the scope;
• Remove gloves and apron and discard into clinical waste bin
• Wash and dry hands thoroughly.

Traceability
• Document the scope asset ID number in the patient’s notes and departmental equipment traceability record.
• Complete traceability documentation using Trio labelling system.

NB: Suctioning by a chest physiotherapist should be considered in the following conditions
  - when there has been significant aspiration
  - when moderate aspiration has taken place more than once.
  - When there is significant residue in the oral cavity, valleculae and below.

3.7. Interpretation and results

3.7.1 The assessments will be interpreted as per the FEES protocol (Appendix D) and will be rated using the Murray secretion severity rating scale \(^{20}\) and the Rosenbeck Penetration- Aspiration \(^{21}\) scale.

3.7.2 Other relevant rating scales may be used, samples of which can be found in appendix E

3.7.3 Following the FEES as an inpatient, provisional findings must be immediately documented in the medical notes. Additionally the SLT who has carried out the FEES must document the results in the SLT case files within 24 hours of the investigation being performed. Case notes must be dated and signed. A formal report will be sent to both SLT and Medical referral agents and where appropriate other members of the multi disciplinary team, within 2 working days. Where the assessor is a RCSLT level one clinician the report must be countersigned by a level 3 clinician.

3.7.4 Archives: The FEES should always be recorded either on video or digitally and videotapes and storage media labelled and securely stored. Failure to do so may result in a breach of confidentiality.
4. SLT FEES Training Process

4.1 Pre requisite Knowledge and skills
Underpinning the knowledge and skills required to perform FEES, the SLT will have achieved core competencies in dysphagia. Each SLT is ethically responsible for achieving the appropriate level of training to perform FEES competently. Prior to beginning training the SLT manager will be required to sign off the pre-requisite knowledge and skills.

The core pre-requisite knowledge and skills are:
- Postgraduate dysphagia training
- Advanced clinical knowledge of normal and disordered anatomy and physiology for respiration, airway protection and swallowing
- Current and regularly updated skills and knowledge in dysphagia
- Knowledge of swallowing changes over the lifespan
- Experience in working independently with dysphagic patients (minimum three years)
- Competence in performing videofluoroscopy independently
- Knowledge of the indications and contraindications for different instrumental evaluations
- Relevant local and national dysphagia policies e.g., RCSLT Invasive Procedures Guidelines and this document

4.2 Knowledge required to perform FEES
The SLT clinician will be able to:
- Select appropriate patients for FEES
- Recognise anatomical landmarks as viewed endoscopically
- Recognise altered anatomy as it relates to swallowing function
- Identify elements of a comprehensive FEES examination
- Detect and interpret abnormal swallowing findings
- Apply appropriate treatment interventions - postural changes, manoeuvres, consistency selection and modification
- Make appropriate recommendations to guide management
- Make appropriate referral or request second opinion e.g., ENT, neurology, other expert SLT
- Request a second opinion from ENT when anatomical variation is suspected
- Know when and how to re-evaluate the swallow
- Use FEES as a biofeedback and teaching tool

4.3 Methods of acquisition of the knowledge and skills
Competence in FEES may be acquired using a range of learning methods including:
- Didactic/classroom teaching (internal/external)
- Attendance at established FEES clinics
- Mentoring
- Practice interpretation of previously-recorded FEES examinations
- Supervised clinical experience, including observation and guided practice
- Peer review of clinical practice
- Attendance at relevant conferences
- Journal clubs (critical appraisal of the literature)

4.4 Training structure
These are the minimum suggested requirements suggested for the SLT to achieve competency. It is the responsibility of the individual therapist to recognise when further training is required.

- **Equipment users**
  - Northern Trust competencies in the use and cleaning of the equipment must be attained prior to the commencement of FEES training. (Appendix F) This training may be provided by either the Northern Trust Lead Nurse for Endoscopy or a Level 2, current FEES user.

- **Endoscopy performed by an SLT**
  - Observation of a minimum of two nasendoscopy procedures performed by a competent endoscopist
  - Successfully passing the nasendoscope through the nose and into the pharynx a minimum of five times under the direct supervision of a competent endoscopist
  - Successfully performing nasendoscopy for the purposes of FEES under direct supervision 20 times.
  - Cleaning and disinfecting the scope according to local infection control policies
  - Administering topical anaesthetic/nasal decongestant when required

- **The Assessing Clinician (SLT)**
  - Observation of five FEES examinations carried out by an SLT competent in FEES
  - Rating of five previously recorded FEES with a competent SLT. This will take the form of the trainee and the FEES-competent SLT observing the FEES recordings together and the trainee completing a rating scale under direct supervision.
  - Carrying out and interpreting 20 FEES procedures under the direct supervision of a SLT competent in FEES.

Training schedules must be logged and signed by the supervising endoscopist and the trainee.

4.5 Levels of competency and expertise
- **Level one**
  - Has pre-requisite knowledge and skills (see section 4.1.2)
• Undergoing training to become competent in FEES as defined in section 4.4

• Level two
  • Competent to perform FEES independently i.e., without direct supervision
  • Has the knowledge and skills and has achieved competencies outlined in section 4.4
  • Performs FEES on complex cases with supervision

• Level three
  • Expert practitioner
  • Can supervise and train others
  • Can perform FEES assessment and endoscopy for FEES simultaneously (in unusual circumstances only and always with the assistance of a nurse or other health care practitioner)
  • Has performed a minimum of 150 FEES assessments i.e., carrying out and interpreting the procedure.
  • Performs FEES on complex cases independently

4.6 Provision of training

Endoscopy training will be provided by a RCSLT level 3 FEES clinician and/ or an ENT Consultant. FEES interpretation training must be provided by a level 3 FEES clinician.

Prior to the commencement of training the Level 3 FEES clinician must provide documented evidence of their skill level to The Northern Trust Speech and Language Therapy Manager.

4.7 Verification of competency attained
An otolaryngologist or level three SLT FEES practitioner will verify endoscopy competence. An experienced FEES clinician will verify FEES competencies (experienced level two or level three). A competency checklist is attached (Appendix G)

4.8 Maintenance of competencies
SLTs are responsible for maintaining their competency to perform FEES and to ensure the pre-requisites for practice are in place. It is anticipated this would involve regular practice (at least monthly). There is a professional responsibility to review competencies for FEES if the procedure has not been performed for one year.
5. Monitoring and Review of FEES Policy

This policy will be reviewed in 2 years or in light of new evidence or changing guidance from RCSLT or Infection Control.

References

1. Royal College of Speech and Language Therapists: Fibreoptic Endoscopic Evaluation of Swallowing (FEES): The role of speech and language therapy POLICY STATEMENT 2005

2. Royal College of Speech and Language Therapists: Communicating Quality 3. 2006


Appendix A: Indications for selecting FEES or videofluoroscopy (VF)

<table>
<thead>
<tr>
<th>Indications for VF</th>
<th>Indications for FEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Evaluation of all stages of swallowing</td>
<td>• Very high risk of aspiration</td>
</tr>
<tr>
<td>• Evaluation of swallowing physiology: base of tongue</td>
<td>• Evaluation of secretion management</td>
</tr>
<tr>
<td>retraction velopharyngeal closure; hyolaryngeal elevation; pharyngeal contraction upper oesophageal sphincter opening</td>
<td>• Visualisation of altered laryngopharyngeal anatomy/physiology</td>
</tr>
<tr>
<td>• Measuring impact of therapeutic interventions on swallowing physiology</td>
<td>• Impairment of laryngopharyngeal sensation is suspected</td>
</tr>
<tr>
<td>• Upper oesophageal dysfunction suspected</td>
<td>• Extended examination to measure effects of fatigue or therapeutic interventions</td>
</tr>
<tr>
<td>• Suspected aspiration during the swallow</td>
<td>• Evaluation with real food and fluid</td>
</tr>
<tr>
<td></td>
<td>• Biofeedback</td>
</tr>
<tr>
<td></td>
<td>• Need for repeated swallowing examinations</td>
</tr>
<tr>
<td></td>
<td>• Patient medically unfit for VF</td>
</tr>
<tr>
<td></td>
<td>• Patient unable/unsafe to sit</td>
</tr>
</tbody>
</table>

(Bastian, 1991\textsuperscript{23}; Kidder, Langmore et al. 1994\textsuperscript{24}; Langmore, 2001\textsuperscript{5})
Appendix B: Patient Selection

FEES may be suitable for use with the following dysphagic patient groups:
  • Acquired neurological disorders
  • Traumatic brain injury
  • Benign and malignant head and neck disorders
  • Critical care, i.e. tracheostomised and/or ventilated patients
  • Respiratory disorders
  • Spinally injured
  • Neuro-degenerative
  • Burns and trauma
  • Paediatrics (with appropriately-sized nasendoscope)
  • General medical
  • Older people

This is a non-exhaustive list.

Caution should be exercised with the following patient groups as the nature of their disorder may preclude safe assessment. The suitability and safety of FEES should be assessed on an individual basis by the medical team. We recommend that an ENT surgeon is present when FEES is performed on high-risk patients, including those with the following:
  • Severe movement disorders and/or severe agitation
  • Base of skull/facial fracture
  • Recent history of severe/life-threatening epistaxis
  • Sino-nasal and anterior skull base tumours/surgery
  • Nasopharyngeal stenosis

This is a non-exhaustive list.
Appendix C: FEES: Referral /Justification Form

<table>
<thead>
<tr>
<th>Patient Name:</th>
<th>DOB:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>Telephone No:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Medical Diagnosis:**

**Patients Infection Status:** Any history of :
- MRSA: Yes / No *
- C Difficile: Yes / No *
- Other: Yes / No *

Specify:

<table>
<thead>
<tr>
<th>Nursing Home Resident/ Respite: Yes / No *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Reason for Referral:**

<table>
<thead>
<tr>
<th>Main Focus of Study:</th>
<th>Determine safe consistencies</th>
<th>Information to develop rehabilitation plan</th>
<th>Other: Specify:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Concerns re current management:**

**Suspected deficits in swallow from clinical examination:**
- Oral: Pharyngeal:

**Is the patient compliant with SLT recommendations:**
- Yes
- No

If no, do you believe the FEES will result in any change in compliance:
- Yes
- No

If yes, why?:

Please outline any compensatory or rehabilitative strategies you would like to be tried at FEES.

<table>
<thead>
<tr>
<th>Current Regime:</th>
<th>NBM</th>
<th>PEG</th>
<th>NG</th>
<th>TPN</th>
<th>Puree Diet</th>
<th>Mashed Diet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft Diet</td>
<td>Normal Diet</td>
<td>Yoghurty Fluids</td>
<td>Syrupy Fluids</td>
<td>Normal Fluids</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Additional Patient information:

<table>
<thead>
<tr>
<th>Consistently Alert:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seating Position:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swallowing Own Secretions:</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Respiratory Status:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to accept food into mouth:</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nutritional Status:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight Loss:</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Specific dietary requirements:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients Communication Ability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Utensils required:</td>
<td>(please advise patient to bring these to the examination)</td>
<td></td>
</tr>
<tr>
<td>Patients Cognitive Ability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient/ Carer attitude to Dysphagia:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Written info re FEES provided to patient before referral?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes/ No* delete as appropriate</td>
</tr>
</tbody>
</table>

### Other Professionals involved

<table>
<thead>
<tr>
<th>Dietitian</th>
<th>Name:</th>
<th>Address:</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP</td>
<td>Name:</td>
<td>Address:</td>
</tr>
<tr>
<td>Consultant</td>
<td>Name:</td>
<td>Address:</td>
</tr>
<tr>
<td>Other:</td>
<td>Name &amp; Title:</td>
<td>Address</td>
</tr>
</tbody>
</table>

| Patient transport: | Own | Hospital |

### FEES Warranted: Yes  No

Summary of clinical reasons and suggestions made:

Signed: SLT Requesting VF ___________________________ Date:________

Copies to be kept in:

Patient records: FEES referral file: _
Appendix D: FEES Protocol

Part A. Laryngopharyngeal structures- anatomy and physiology

1. Velopharyngeal competency
Tasks: oral and nasal sounds, sentences and dry swallow

2. Pharynx (including base of tongue, epiglottis, valleculae, posterior and lateral pharyngeal walls, lateral channels, pyriform sinuses)
Tasks:
- Puff cheeks: dilate pharynx and open pyriform sinuses
- post-vocalic “l”, retract base of tongue
- strained high pitch on /i/- contraction of lateral pharyngeal walls
- observe general movement during speech and dry swallowing

3. Larynx and supraglottis (including aryepiglottic folds, interarytenoid space, false and true vocal folds, subglottic shelf, proximal trachea)
Tasks:
Observe laryngeal movements during:
- breathing at rest
- gentle and effortful breath hold
- adduction on cough/throat clearing
- sniff
- phonation on /i/

4. Laryngopharyngeal Sensation
Tasks:
Observe briskness and adequacy of glottic closure in response to light touch of the scope against the posterior pharyngeal wall and the right and left aryepiglottic folds
During the FEES observe response to secretions, residue, penetration and aspiration (see Appendix E)

5. Secretions
Use secretion-rating scale (see attached). If the patient is unable to manage secretions introduce one drop of blue dye onto the tongue and observe dry swallowing.

Part B. Bolus Presentation
If safe, proceed with trials of the following:
Ice chips, thin liquids, thick liquids, puree, soft food, solid food, mixed consistencies.
The order may vary.
Observe:
  • amount and location of premature spillage
  • pharyngeal residue
  • penetration and aspiration

Other aspects to be considered:
  • timing of swallowing
  • overall strength of the swallow and whiteout
  • evidence of fatigue
  • timing of glottic closure and reopening
  • regurgitation from proximal oesophagus to hypopharynx

Part C. Therapeutic Interventions
Evaluate the effectiveness of postural modifications, manoeuvres, bolus modifications, compensatory strategies and sensory enhancement on the swallow.

Part D. Biofeedback
Encourage patient to observe the examination to facilitate understanding of swallowing, recommendations, and to learn therapeutic interventions.

All findings/observations should be recorded on the form below:
Fibreoptic Endoscopic Evaluation of Swallowing (FEES) Clinic Whiteabbey Hospital

<table>
<thead>
<tr>
<th>Patient details</th>
<th>Referral Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Doctor:</td>
</tr>
<tr>
<td>Address:</td>
<td>SLT:</td>
</tr>
<tr>
<td>DOB:</td>
<td>Ward/ OP:</td>
</tr>
<tr>
<td>GP:</td>
<td>Date:</td>
</tr>
<tr>
<td></td>
<td>SLT:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagnosis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoscopist:</td>
</tr>
<tr>
<td>Scope used:</td>
</tr>
<tr>
<td>NG or Peg Feeding:</td>
</tr>
<tr>
<td>Tracheostomy:</td>
</tr>
</tbody>
</table>

Observations:

Recommendations:

**Findings:**

<table>
<thead>
<tr>
<th>Oedema</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altered Structure</td>
</tr>
<tr>
<td>Asymmetry</td>
</tr>
<tr>
<td>Velopharyngeal Function</td>
</tr>
<tr>
<td>Sensation Pharynx/ Larynx</td>
</tr>
<tr>
<td>Secretion rating scale</td>
</tr>
<tr>
<td>Spontaneous swallows</td>
</tr>
<tr>
<td>Respiration</td>
</tr>
</tbody>
</table>
### Trials:

<table>
<thead>
<tr>
<th>FOOD</th>
<th>FLUIDS</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biscuit</td>
<td>Smooth pudding</td>
<td>Yoghurt</td>
</tr>
</tbody>
</table>

- Spillage Y/N
- Pooling Y/N
- White out Y/N
- Penetration aspiration scale
- Residue
- Cough
- Spontaneous clearing Y/N
- Reflux Y/N

### Therapeutic strategies:

<table>
<thead>
<tr>
<th>Strategy or Manoeuvre tried</th>
<th>FOOD</th>
<th>2 FLUIDS</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biscuit</td>
<td>Smooth pudding</td>
<td>Yoghurt</td>
<td>Syrup</td>
</tr>
</tbody>
</table>

### Penetration-Aspiration Scale

1. Material does not enter the airway
2. Material enters the airway, remains above the vocal folds, and is ejected from the airway
3. Material enters the airway, remains above the vocal folds, and is not ejected from the airway
4. Material enters the airway, contacts the vocal folds, and is ejected from the airway
5. Material enters the airway, contacts the vocal folds, and is not ejected from the airway
6. Material enters the airway, passes below the vocal folds, and is ejected into the larynx or out of the airway
7. Material enters the airway, passes below the vocal folds, and is not ejected from the trachea despite effort
8. Material enters the airway, passes below the vocal folds, and no effort is made to eject

### Secretion severity rating scale

0. Normal rating: Ranges from no visible secretions anywhere in the hypopharynx, to some transient secretions visible in the valleculae and pyriform sinuses. These secretions are not bilateral or deeply pooled.

1. Any secretions evident upon entry or following a dry swallow in the protective structures surrounding the laryngeal vestibule that are bilaterally represented or deeply pooled. This rating would include cases in which there is a transition in the accumulation of secretions during observation segment

2. Any secretions that change from “1” rating to a “3” rating during the observation period.

3. Most severe rating. Any secretions seen in the area defined as laryngeal vestibule. Pulmonary secretions are included if they are not cleared by swallowing or coughing by the close of the segment.


Appendix E: Sample Rating Scales

Patterns of tight breath holding
1. Breath holding not achieved
2. Transient breath holding with glottis open
3. Sustained breath holding with glottis open
4. Transient true vocal fold closure
5. Sustained true vocal fold closure
6. Transient true and ventricular fold closure
7. Sustained true and ventricular fold closure

Secretion severity rating scale
0. Normal rating: Ranges from no visible secretions anywhere in the hypopharynx, to some transient secretions visible in the valleculae and pyriform sinuses. These secretions are not bilateral or deeply pooled.
1. Any secretions evident upon entry or following a dry swallow in the protective structures surrounding the laryngeal vestibule that are bilaterally represented or deeply pooled. This rating would include cases in which there is a transition in the accumulation of secretions during observation segment.
2. Any secretions that change from “1” rating to a “3” rating during the observation period.
3. Most severe rating. Any secretions seen in the area defined as laryngeal vestibule. Pulmonary secretions are included if they are not cleared by swallowing or coughing by the close of the segment.


Penetration-Aspiration Scale
1. Material does not enter the airway
2. Material enters the airway, remains above the vocal folds, and is ejected from the airway
3. Material enters the airway, remains above the vocal folds, and is not ejected from the airway
4. Material enters the airway, contacts the vocal folds, and is ejected from the airway
5. Material enters the airway, contacts the vocal folds, and is not ejected from the airway
6. Material enters the airway, passes below the vocal folds, and is ejected into the larynx or out of the airway
7. Material enters the airway, passes below the vocal folds, and is not ejected from the trachea despite effort
8. Material enters the airway, passes below the vocal folds, and no effort is made to eject

Appendix F - British Society of Gastroenterology - Guidelines for decontamination of equipment for gastrointestinal endoscopy

(The above guidelines can be obtained by contacting the Policy Author)
## Appendix G: Competency Checklist

### Competency development programme for the assessing clinician (SLT)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Date Achieved</th>
<th>Signed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain “core pre-requisite knowledge and skills” (RCSLT Position Statement FEES)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain “knowledge required to perform FEES” (RCSLT Position Statement FEES)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate knowledge of local policies/guidelines on consent and health and safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe five FEES examinations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate five previously-recorded FEES with supervisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Successfully perform and interpret 20 FEES under direct supervision (see additional competency assessment list)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Competency development programme for the endoscopist (SLT)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Date Achieved</th>
<th>Signed By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read RCSLT Position Statement on FEES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain “core pre-requisite knowledge and skills” (RCSLT Position Statement FEES)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain “knowledge required to perform FEES” (RCSLT Position Statement FEES)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate knowledge of local policies / guidelines on consent and health and safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe two nasendoscopy procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Successfully pass nasendoscopy five times under direct supervision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Successfully perform nasendoscopy for FEES under direct supervision 20 times</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean and disinfect nasendoscope according to local infection control policies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administer topical anaesthetic/nasal decongestant when required</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix H
Xion Medical Operation and Service Manual

(The above operation and service manual can be obtained by contacting the Policy Author)

Appendix I
Decontamination of Naso-Pharyngo-laryngoscopes (without channels) which are used with Endo sheaths

(The above policy is not included within this electronic policy, but can be obtained in the Trust Policy Library)

Appendix J
Decontamination Policy Community Facilities Primary and Social Care

(The above policy is not included within this electronic policy, but can be obtained in the Trust Policy Library)

Appendix K
Decontamination Policy Inpatient Facilities

(The above policy is not included within this electronic policy, but can be obtained in the Trust Policy Library)