



Position Paper

Fibreoptic Endoscopic Evaluation of Swallowing (FEES): The role of speech and language therapy

2015

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1. Introduction

This is the revised and updated position paper for FEES. Since publication of the original RCSLT FEES position paper in 2005, and the revised version in 2008, consistent concerns have been raised by RCSLT members, which have been identified as:

1. Lack of training courses
2. Limited numbers of level 2/3 FEES trained clinicians across the UK
3. Lack of access to training and supervision for therapists and departments wanting to establish local FEES services (see point 2) and possibly limited funding to pay for external training and supervision
4. Lack of disseminated knowledge about the existence of established FEES practitioners and clinics across the UK

There is a need to update the position paper in light of new evidence from research and improvements to technology and services becoming more widespread.

2. Purpose and intention

The purpose of this document is to provide comprehensive best practice guidance for speech and language therapists (SLTs) in the professional use of the instrumental assessment FEES.

It incorporates an evidence-based approach, clear statements on the clinical, procedural and technical aspects of the procedure while also encompassing the purpose, suitability and documentation of FEES.

The document also sets out a FEES training and competency framework; detailing the knowledge and skills required to gain competence and safely perform FEES procedures.

The main target populations are SLTs working in the field of dysphagia, collaborative professionals such as ENT surgeons, SLT service managers and commissioners of services for the patients (from any listed in the suitability section 8).

Guidance for Fiberoptic Endoscopic Evaluation of Swallowing with Sensory Testing (FEESST) using an air pulse delivery device is not included in the scope of this position paper. However, reference is made to FEESST studies in the supporting literature for their contribution to the FEES evidence base and the emphasis on the need to include sensory assessment in FEES.

3. Methodology

3.1 Working group

A working group of experts was established to update the position paper. Three members were involved in the development of the previous versions of the document.

The use of a working group enabled the responsibility of the work to be shared, maximised the use of different member's expertise and encouraged broader ownership of the resulting guidelines.

The group was made up of SLTs working across a range of clinical specialities; including adults with learning disabilities, settings and geographical areas. All have considerable experience in FEES.

The working group was made up of members with previous experience in writing similar documentation on behalf of the RCSLT and the majority of the group have carried out research using this type of methodology.

During the initial scoping stage of the process, group members were allocated sections of the 2008 version to review and asked to outline any issues and draft proposals to address these. Although each section was coordinated by the person nominated, this was considered a collaborative process and proposals put forward were all open for discussion and debate.

Through the creation of the working group and member consultation stage, there was representation across the UK countries.

3.2 Literature search

A search of the literature was undertaken using the PICO methodology (Patient, Intervention, Comparison and Outcome); this methodology consists of four components:

- The Patient (service user) situation, population and/or problem of interest
- The main Intervention under investigation or action
- A Comparison intervention, which is an alternative intervention or action (if relevant)
- The desired clinical Outcome, including a time frame if relevant

Relevant Medical Subject Headings (MeSH) terms were used to search the databases and the search terms were based on the following:

P	dysphagia; deglutition disorders; swallow/swallowing; and dysphagia aetiologies (head and neck, stroke, critical care, paediatrics, etc.)
I	endoscopy; FEES (full and abbreviated term); evaluation; examination; assessment
C	Videofluoroscopy
O	safety, reliability, efficacy, cost and direct/indirect clinical outcomes including pneumonia, length of stay, nutrition, non-oral feeding

The databases searched were Medline, Embase and Cochrane Review. Papers were reviewed for their relevance to this position paper under the following categories:

- Safety
- Reliability
- Efficacy
- Outcomes
- Cost
- Training and competency development
- Use of FEES with specific clinical groups
- Effect of the nasendoscope on swallowing

3.3 Appraisal of the evidence

Each paper was appraised for its research design and methodology, and its contribution to the FEES literature.

Only papers where FEES formed the main focus of the paper were included. To that end, those where FEES was a peripheral issue (e.g. where FEES was used as the examination tool but the aim of the paper did not include anything directly related to FEES) were excluded.

The quality of the research and methodology formed the basis of the selection (rather than the levels of evidence as few level one papers have been published on FEES).

For example, the research design; and whether this was appropriate to fulfil the study aims; the clarity of the methodology and whether the study could be replicated easily; the clarity of the results and analysis and whether the statistical methods were clear and appropriate; and whether the conclusions could be supported by the research design and results.

3.4 Writing the position paper

During the first face-to-face meeting, the working group agreed the scope and the project plan. Each member of the working group was designated a section of the existing position paper to review and provide feedback to the rest of the group. A lead author was assigned and subsequent meetings were largely held by conference call.

Prior to the development of the first draft, a conference call was held to consider and agree appropriate representation for the working group and to develop a stakeholder map. Three paediatric specialist SLTs and two ENT surgeons were invited to act as advisers.

The lead author wrote the first draft and circulated it to the working group for feedback; this feedback was then incorporated into the draft.

3.5 Member consultation

The RCSLT members were invited to take part in the member consultation. RCSLT staff were informed that the draft position paper was available for this consultation period and were asked to disseminate accordingly. Also specifically invited to take part in the consultation were the RCSLT dysphagia advisers, the Research and Development Reference group, relevant CENs and all RCSLT Board members. (For full representation please see appendix J.)

The working group received the membership's collated feedback from the RCSLT project coordinator, discussed the comments by conference call and drafted changes to the paper as appropriate. All decisions for approval or rejection of submitted comments were tracked and stored appropriately for evidence.

3.6 External consultation

The working group specified which professionals outside of the RCSLT membership base should be consulted with. SLTs based in other countries that are well known for their work in FEES; including those responsible for the early pioneering work in developing FEES and those with a considerable research output in FEES were approached.

Views were not sought of the voluntary sector as the working group could not determine which volunteer organisations would be appropriate.

The amended draft was then sent for wider stakeholder consultation. As with the consultation with the profession the feedback was collated and sent to the working group, who reviewed the comments together, making appropriate amends to the position paper.

3.7 Consultation with service users

A former patient acted as a service user adviser throughout the development of the position paper.

4. Key recommendations

- i. It is the position of the RCSLT that FEES is within the scope of practice for SLTs with expertise and specialist training and should be performed as part of a multidisciplinary team approach to dysphagia management.
- ii. There is mounting FEES evidence to support its validity in aspiration detection and dysphagia management, suitability across a wide range of patients, influence on outcomes such as earlier oral intake and impact on tracheostomy weaning, and procedure safety. More research is needed by SLTs to demonstrate the value of FEES and the positive effect on patient outcomes in order to assist SLTs in developing and securing FEES services.
- iii. Practitioners performing FEES should develop indicators to continuously monitor and evaluate the appropriateness, efficacy and safety of the procedures conducted.
- iv. FEES should not be considered a replacement for videofluoroscopy, but rather a complementary assessment. Where possible, the choice of instrumental assessment should be guided by clinical indications, rather than available resources. Managers and fundholders should support SLTs to achieve this thereby enabling equity of access for dysphagia patients.
- v. The suitability and safety of FEES should be assessed on an individual patient basis with careful consideration of the risks and benefits, paying particular attention to the need for medical assistance for high-risk patients.
- vi. FEES is an invasive procedure which carries some risks to the patient and therefore needs to be performed in a safe environment, in an appropriate clinical setting with suitable equipment and two appropriately trained personnel.
- vii. Due to the invasive nature and potential risk of choking, SLTs performing FEES must undergo regular training in basic life support and CPR.
- viii. SLTs must undertake appropriate training to perform FEES and have individual professional responsibility for achieving the appropriate level of training and for competency maintenance.
- ix. The numbers of procedures for training represent the minimum requirements for the SLT to achieve competency. It is the responsibility of the individual therapist to recognise when further training is required

5. Context

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 (1988). It involves the trans-nasal insertion of a fiberoptic 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.*

Whilst FEES encompasses two distinct roles (the endoscopist and the assessing clinician), good communication and collaboration is essential for the procedure to be optimal.

SLTs use FEES to assess swallowing and not to make a medical diagnosis.

6. Evidence base

A review of the published FEES literature was conducted. The majority of the publications were from peer-reviewed journals. Publications were selected for review on the basis that they contributed to the FEES knowledge base in specific categories, namely efficacy, safety, impact of the nasendoscope on swallowing, outcome and reliability. Publications not specific to these aspects of FEES or those which did not contribute further knowledge of the procedure itself were excluded, i.e., those where FEES was utilised but was not the main focus of the paper. This included publications describing the use of FEES with specific clinical groups.

This review does not claim to be an extensive systematic review, nor are the publications critically appraised in detail as this is not the focus of this position paper.

The majority of the published evidence related to FEES is level 4 or 5, with a small number of level 2 and 3 publications. There is a need for level 1 and 2 evidence to support the use of FEES. However, the challenges of carrying out this level of research are recognised. The lack of clinicians and raters with the required expertise to rate FEES examinations for research purposes presents the most significant challenge, as well as limited funding for research.

A number of studies have reported that FEES is a valid tool for detecting aspiration, penetration and pharyngeal residue when compared with Videofluoroscopy (Langmore SE et al, 1991; Perie S et al, 1998; Wu CH et al, 1997; Kelly AM et al, 2006, 2007; Rao N, 2003).

Other studies have described using FEES across the spectrum of clinical populations including: paediatrics (Sitton M et al, 2011; Link DT et al, 2000; Willging JP, 1995); stroke (Warnecke T et al, 2006, 2009; Leber SB, 2002); traumatic brain injury (Leder SB, 1999); progressive disease (Amin MR et al, 2006; Leder SB, 2004); critical care (Hales PA et al, 2008; McGowan SL et al, 2011; Ajemian MS et al, 2001); cervical spinal cord injury (Wolf and Meiners, 2003); and head and neck cancer (Denk DM et al, 1997; Schindler A et al, 2010; Deutschmann MW et al, 2013).

The following is a summary of selected key papers:

6.1 Efficacy of FEES in clinical settings

McGowan SL et al, 2007

This small case series demonstrated that FEES can be used to assess the swallowing function and safety in tracheostomised patients with the cuff inflated and that the presence of the inflated cuff does not necessarily preclude effective

swallowing. The authors showed that using FEES with this population can result in early introduction of oral intake.

Hales PA et al, 2008

FEES detected aspiration missed during clinical assessment of swallowing in this study of 25 tracheostomised patients on an intensive care unit. The authors conclude that FEES is a useful tool for assessing swallowing and guiding tracheostomy weaning in this vulnerable population.

Rodriguez KH et al, 2007

This paper examined one parameter commonly scored from a FEES examination, the pharyngeal squeeze manoeuvre. The authors demonstrated that the manoeuvre is reliable if rated as a binary measure (normal or abnormal) rather than on a graded scale (normal, diminished, absent). This is a good example of a simple evidence-based application of FEES scoring to optimise reliability of FEES interpretation.

Fuller SC et al, 2009

The authors examined whether the Pharyngeal Squeeze Manoeuvre (PSM) scored during FEES correlates with the pharyngeal constrictor ratio scored from videofluoroscopy. They concluded that the PSM is a valid measure of pharyngeal constrictor strength and therefore pharyngeal constriction during swallowing.

6.2 Safety

Both FEES and FEESST are safe procedures with a reported low incidence of complications (Langmore SE, 2001; Aviv JE et al, 2000; Cohen et al, 2003). A survey carried out in 1995 on the safety of FEES found that of 6,000 procedures, there were only 27 cases of adverse effects (see 1.5.2) (Langmore SE, 2001). 3.7% of FEES procedures were aborted compared with 3.1% of videofluoroscopy procedures due to side effects such as gagging or aspiration requiring suctioning (Langmore SE, 2001).

Aviv JA, 2000

The authors completed 500 FEESST examinations on 253 patients. They reported no incidence of vasovagal response or laryngospasm and a low (0.6%) incidence of self-limiting epistaxis.

Cohen, 2003

This paper had a similar methodology to the previous report. 349 FEESST examinations were completed on 305 patients. A 1.1% incidence of self-limiting epistaxis was reported. There were no reported vasovagal, laryngospasm or

airway obstruction episodes. Pre and post examination heart rate did not significantly differ.

Warnecke T et al, 2009

300 consecutive acute stroke patients underwent FEES within 72 hours of stroke. The authors reported no bradycardia, tachycardia or laryngospasm. The incidence of epistaxis was higher than previous reports (6%) all reportedly self-limiting.

6.3 Effect of the nasendoscope on swallowing

Suiter DM et al, 2007

14 normal subjects aged 23-83 underwent simultaneous FEES and videofluoroscopy. The subjects' swallowing was examined during videofluoroscopy with and without the nasendoscope inserted (with randomised sequencing). There was no difference in swallow duration, penetration-aspiration scale scores or the number of swallows required to clear the bolus between the two test conditions. The authors acknowledge the small sample size with low statistical power.

6.4 Outcome

Aviv JE, 2000

126 participants underwent FEESST or videofluoroscopy to guide their swallowing management. There were no reported significant differences in the incidence of pneumonia or the pneumonia-free interval over the course of one year. The authors acknowledge the relatively low numbers and uneven sex/diagnosis distribution between the two groups. Despite the title, participants were allocated to FEES or videofluoroscopy arm based on the day of the week they attended clinic rather than true random allocation. The authors conclude that either examination provides an effective tool for assessing and managing dysphagia although FEESST is less costly and more convenient.

Warnecke T et al, 2009

153 acute CVA patients underwent FEES, which was scored using the Fibreoptic Endoscopic Dysphagia Severity Scale (FEDSS) which grades severity of dysphagia and recommends prescriptive intake accordingly. The FEDSS Score was strongly correlated with the modified Rankin score of degree of independence at three months post stroke. The FEDSS also correlated with the necessity for intubation and the incidence of pneumonia.

6.5 Reliability

There is limited literature examining reliability of FEES. There are multiple factors that may affect the reliability of FEES interpretation including:

- The lack of validated and standardised rating scales and terminology
- Variable image quality due to equipment, experience of endoscopist and patient variables
- Lack of clinical information
- Level of experience of the assessing clinician

A number of studies have indicated that FEES has good intra- and inter-rater reliability, although a limited number of parameters were evaluated (Kelly AM et al, 2006, 2007; Colodny N, 2002; Logemann JA et al, 1998).

Colodny N et al, 2007

Examined reliability of the Penetration Aspiration Scale when used with FEES. 79 swallows across the range of Penetration Aspiration Scale ratings were rated by four independent SLTs. The inter- and intra-rater reliability scores ranged from moderate to excellent and the authors concluded that PAS can be used reliably as part of the FEES examination.

Kelly AM et al, 2006; Kelly AM et al, 2007

Fifteen SLTs independently rated penetration-aspiration and residue from FEES and videofluoroscopy recordings. The results demonstrated good reliability for both intra-rater and inter-rater scoring of the penetration-aspiration scale and moderate inter-reliability for residue scoring on FEES.

Like FEES, videofluoroscopy is a subjective evaluation of swallowing. The reliability of videofluoroscopy has been examined and discussed in a number of publications (Scott A et al, 1998; Kuhlemeir KV, 1998; Bonnie Martin-Harris et al, 2008).

These publications highlighted that the reliability of videofluoroscopy scoring of swallowing parameters can be improved through the use of standardised rating scales and peer rating. Replication of these studies with FEES would be useful to examine whether FEES scoring can be optimised through the same methods. Until then, SLTs are advised to apply the videofluoroscopy evidence base to FEES practice by rating FEES procedures with other FEES-trained SLTs where possible and using available standardised ratings scales.

7. Purpose of FEES

As with any instrumental evaluation, FEES should be preceded by clinical swallowing evaluation (Johnson PE et al, 2003).

FEES should not be considered a replacement for videofluoroscopy or any other instrumental dysphagia evaluation. Where possible the choice of instrumental assessment should be guided by clinical indications, rather than by available resources (including cost, equipment and staff availability) (See Appendix B).

The indications for FEES may include (Langmore SE, 2001):

- 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
- Potential impact of laryngopharyngeal abnormalities on tracheostomy weaning
- Secretion management and sensation
- Airway protection as it relates to swallowing function
- Swallowing of foods/fluids
- Safety of oral feeding
- Postures, strategies and manoeuvres
- Optimum delivery of bolus consistencies and sizes

- Therapeutic techniques
- Need for onward referral

(See Appendix B for a detailed description of the indications for FEES.)

8. Suitability of FEES

FEES may be suitable for use with the following dysphagic patient groups. This list is non-exhaustive.

- Acquired neurological disorders
- Traumatic brain injury
- Benign and malignant head and neck disorders
- Critical care, i.e., tracheostomised and/or ventilated patients
- Respiratory disorders
- Spinal cord injury
- Neuro-degenerative
- Burns and trauma
- Paediatrics
- General medical
- Elderly

9. Safety

9.1 High risk and vulnerable patient populations

When considering performing a FEES examination, the SLT must always consider possible contraindications. 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 Section 10, Documentation and Legal Framework).

Caution should be exercised with the following patient groups as the nature of their disorders 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 or anaesthetist/intensivist is present for these patient groups due to technical scoping challenges and the associated risk of harm to the patient:

- Base of skull/facial fracture
- Severe/life threatening epistaxis within the last six weeks
- Trauma to nasal cavity secondary to surgery or injury within the last six weeks
- Sino-nasal and anterior skull base tumours/surgery
- Nasopharyngeal stenosis
- Craniofacial anomalies
- Hereditary haemorrhagic telangiectasia

Caution should be exercised when performing nasendoscopy on patients with limited pharyngeal or laryngeal space or significant airway limitation due to the presence of large volume disease such as cancer. In these instances, SLTs should have a low threshold for requesting assistance from a physician competent in endoscopy for FEES, e.g., ENT or anaesthetist/intensivist.

We recommend proceeding with caution when carrying out FEES on other high risk groups. The SLT planning the FEES procedure should consult with the referring medical physician prior to undertaking the FEES examination and request the presence of a medical doctor if deemed necessary for safe practice.

High risk groups include:

- Severe movement disorders and/or severe agitation
- Vasovagal history
- Cardiac instability

This is a non-exhaustive list.

SLTs should perform nasendoscopy for FEES on children only when they have undertaken specialist training under an endoscopist competent to train in paediatric nasendoscopy (e.g., ENT or a specialist paediatric SLT with extensive paediatric nasendoscopy experience). A paediatric nasendoscope must be available for use with this population.

9.2 Adverse effects of the procedure

FEES is a safe procedure when performed by appropriately trained personnel in a safe environment. There are possible complications. The following have been reported:

- Patient discomfort. Although quite common, discomfort should be mild if the procedure is administered competently.
- Epistaxis. Nose bleeds are unusual despite FEES being performed on many patients on anticoagulant medications (Langmore SE, 2001).
- 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 (Langmore SE, 2001).
- Allergy to topical anaesthesia (see section 9.5 "Anaesthesia and decongestants").
- Laryngospasm. This is unlikely if the nasendoscope is adequately distanced from the larynx (Langmore SE, 2001).
- Gagging and/or vomiting.

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

9.3 Equipment, personnel and environment

FEES is a safe assessment of swallowing when performed with the appropriate equipment. It is essential that both audio and video of the procedure is recorded and documented. A good-quality flexible nasendoscope, light source, camera and monitor will enable clear and effective visualisation of the laryngopharynx (see Appendix C).

Access to suction must be within immediate proximity and oxygen equipment must be readily available. Pulse oximetry may be required to monitor oxygen saturation levels and patient distress during the procedure.

Resuscitation equipment and a medical doctor should be readily accessible, i.e., a fully-equipped crash trolley and a medical doctor should be located within the same building.

FEES should be performed in an appropriate clinical setting. This may be on a hospital ward, rehabilitation unit, on the intensive care unit or in a designated clinic. FEES may be practised safely in the community, for example, hospices, GP surgeries or nursing homes provided that the safety aspects, as set out in this position paper, are adhered to.

A minimum of two persons is required to safely and effectively carry out the procedure: one to perform nasendoscopy for FEES and the other to perform the assessing clinician role (see Section 11, Training and Competency). This may involve two FEES competent SLTs or one FEES competent SLT and a practitioner competent in nasendoscopy for FEES, e.g., anaesthetist, ENT. If needed, a Level 3 SLT FEES practitioner can perform FEES assessment and endoscopy for FEES simultaneously (only if trained and highly experienced in performing endoscopy for FEES and always with the assistance of a nurse or other health care practitioner).

9.4 Decontamination and infection control

Disease transmission is possible via contact of equipment contaminated by saliva, blood and other bodily fluids. Disinfection and storage of clinical equipment should adhere to universal, local and institutional infection control policies (e.g., Trust guidelines, British Association of Otolaryngologists guidelines) (Dept. of Health, 2013; ENT UK, 2010) to avoid cross infection. Endoscope use should be recorded according to local guidelines to ensure traceability.

Appropriate precautions should be taken if substances hazardous to health are to be used for equipment decontamination.

SLTs are advised to check local infection control guidelines on the use of ice chips (see Appendix C).

There may be exceptional circumstances (e.g., in VCJD) where additional precautions are required. SLTs should adhere to local infection control policies.

9.5 Anaesthesia and decongestants

FEES should be performed without anaesthesia where possible as the use of anaesthesia may compromise sensory aspects of the swallow. Although there is some evidence that this is not the case in normal swallowing (Johnson PE et al, 2003), further investigation into the effects of local anaesthetic on swallowing in dysphagic patients is required before similar conclusions can be drawn and applied to clinical practice.

A local anaesthetic and/or decongestant may be used in cases where the procedure is not tolerated and is deemed to be necessary and in the patient's best interests. This should be applied topically to the nose and not sprayed to avoid distribution of the anaesthetic agent to the laryngopharynx.

There is good evidence that the use of local anaesthetic does not increase the comfort and tolerance of fiberoptic nasendoscopy (Frosh AC et al, 1998; Leder SB et al, 1997; Singh, 1997). Lubrication gel applied to the nasendoscope should be sufficient to minimise discomfort in most cases. SLTs are entitled to administer topical anaesthesia under Patient Group Directions.

The Human Medicines Regulation 2012

The qualified health professional who may administer or supply medicines under a patient group direction are SLTs. They can only do so as named individuals. (See: <http://www.legislation.gov.uk/ukxi/2012/1916/schedule/16/made>) SLTs should be aware of possible contraindications and adverse reactions.

9.6 Food colouring

Use of pale fluids and foods is advised to optimise contrast against mucosa and secretions. Drops of blue or green food dye may be added to secretions, food and liquids to facilitate visualisation although this is not always necessary (Leder SB et al, 2005). 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 recommended due to its reported adverse effects (Prashant R et al, 2010).

Apply caution with the use of dye with these patients due to the potential risk of dye absorption (ASHA, 2005):

- Coeliac
- Burns
- Sepsis
- Inflammatory bowel disease
- Renal failure
- Trauma and shock

The use of food dye is contraindicated in patients with known allergy to food dye.

9.7 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 consumables (see Appendix C) should be disposed of in accordance to local infection control policy.

9.8 Incident reporting

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

9.9 Basic life support and resuscitation

Due to the invasive nature of the procedure and potential risk of choking, SLTs involved in performing FEES must undergo regular training in basic life support and CPR. This training should be completed in accordance with trust requirements. For SLTs working in community trusts or independently, this training should be completed annually.

10. Documentation and legal framework

The physician or surgeon overseeing the patient's care should be made aware of the intention to perform FEES by the SLT. It is good practice to provide the rationale for the procedure. The intention and results of the FEES examination should be documented by the SLT. Reports should be completed and communicated clearly and promptly.

10.1 Patient and carer information, and consent

Patients should be fully informed about the FEES procedure prior to the examination. Information should be given in verbal and written form and include the nature, purpose and likely effects of the examination (see Appendix D). An aphasia-friendly version should be available (Appendix E).

Access to interpreting services may be required for people who do not speak English. Patient data and information, including photographs, should be stored, communicated, and labelled according to local and national guidelines and data protection legislation, for example, Dept. of Health NHS codes, 2009. Specific consent should be obtained for the storage of recordings and any other use of recorded images (e.g., for teaching or publication).

FEES is an invasive procedure that carries some risks and hence consent should be obtained prior to the examination in accordance with local and/or best practice guidelines. Where the patient is unable to give or withhold consent (e.g., dementia), it may still be appropriate to proceed with treatment if it is considered clinically necessary and in the best interest of the individual. Such decisions are governed by legislation and should be taken under advice and within the context of a multidisciplinary team (Mental Capacity Act, 2005; NHS Executive, 2001; Dept. of Health, 2009). Consent policy must be reviewed regularly and adapted in light of regular local and national changes.

10.2 Rating

Structured rating formats are available (Langmore SE et al, 2001; Colodny N, 2002; Murray J, 1999; Rosenbek JC et al, 1996) (see Appendix F for sample airway protection, penetration-aspiration and secretion-rating scales and (see Appendix I for a sample rating form).

10.3 Audit

FEES services should be audited for clinical efficacy, safety and impact on patient outcomes on a regular basis within a local clinical governance framework. Appendix F includes standardised rating scales against which to measure against and this repeatable tool will show change over time.

11. Training and competency

FEES is an invasive procedure that carries some risks to the patient. In order to obtain full clinical privileges to perform FEES independently, SLTs must undertake appropriate training as set out in this position paper.

Assessment and validation of competence is required as SLTs undergoing FEES training may overestimate their own level of competence. The assessment and validation should be carried out by a Level 2 or Level 3 FEES practitioner (as per section 11.10 of this position paper). A similar inability for professionals to self-rate their competence levels accurately has been demonstrated in medical staff, with a tendency for lower skilled practitioners to rate themselves inaccurately as competent (Benadom EM et al, 2011; Davis et al, 2006; Hodges B et al, 2001).

SLTs working within a Trust or department must ensure that approval has been given by their employer and manager with recognition of competence to perform the procedure. Use of FEES must be documented in the SLTs job description (Appendix G).

11.1 Verification of competency attained

Endoscopy competency will be verified by a competent endoscopist. Assessing clinician competencies will be verified by an experienced FEES clinician (level 2 with 50 FEES examinations completed at this level or level 3). A competency checklist and log are attached (Appendix H).

Competency verification may be from a supervisor outside the trainee SLT department's own Trust or department. Help should be readily and easily available from the named supervisor after verification whilst making the transition to independent practice.

11.2 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 (ideally a minimum of one per month) along with engaging in peer reviewed activity and joint rating of FEES recordings.

It is recommended that an individual maintains a FEES log if practice is sporadic. There is an individual professional responsibility to review competencies for FEES if the procedure has not been performed for one year.

If an SLT is returning to practice after an extended break (12 months or longer) competencies should be checked by a FEES competent supervisor and signed off.

This verification may be provided by a supervisor external to the SLT's own Trust or employer.

11.3 Knowledge and skills

SLTs referring for FEES

SLTs working in dysphagia who refer for FEES examinations but are not undertaking FEES competency training requires knowledge of:

- Appropriate referral and patient selection
- Indications and contraindications
- Comparison with videofluoroscopy
- Local mechanisms of referral

SLTs undertaking FEES training

Underpinning the knowledge and skills required to perform FEES as the assessing clinician, the SLT will have achieved core competencies in dysphagia. Each SLT is ethically and professionally responsible for achieving the appropriate level of training to perform FEES competently.

The core pre-requisite knowledge and skills for the assessing clinician are:

- Post-graduate 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 advised)
- Knowledge of the indications and contraindications for different instrumental evaluations
- Relevant local and national dysphagia guidelines and policies (refer to RCSLT dysphagia webpage)
- Ideally, SLTs undertaking FEES training should be competent in videofluoroscopy. This is to ensure that SLTs practising FEES are knowledgeable about the indications, contraindications, benefits and

limitations of both videofluoroscopy and FEES. This will enable appropriate referral for FEES and videofluoroscopy, rather than selecting FEES or videofluoroscopy on the basis of examination availability. It will also ensure that SLTs practising FEES are comprehensively trained in all aspects of dysphagia practice and are not limited in their clinical knowledge and practice.

If competence in videofluoroscopy is not achieved prior to undertaking FEES training, the following minimum pre-requisites are required:

- Observation of a minimum of five live videofluoroscopy procedures carried out by a SLT competent in videofluoroscopy, with joint rating of the procedures. For specialist SLTs, the majority of these examinations should be performed on patients within the trainee SLTs clinical specialty
- Joint rating of five previously recorded videofluoroscopy examinations. These should be rated with an SLT competent in videofluoroscopy

The endoscopist should have advanced clinical knowledge of normal and disordered anatomy and physiology for respiration, airway protection and swallowing.

11.4 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 SLTs
- Request a second opinion from ENT when anatomical variation is suspected, including suspicion of pathology
- Know when and how to re-evaluate the swallow

- Use FEES as a biofeedback and teaching tool

11.5 Skills required to perform FEES

The Endoscopist (SLT)

- Operate, maintain and disinfect the equipment needed for an endoscopic evaluation
- Insert and manipulate the scope in a manner which minimises discomfort and risk and optimises the view of the laryngopharynx
- Insert and manipulate the scope around nasogastric tubes, nasal speculums/cannulae
- Apply topical anaesthetic/decongestant if required (see section 9.5)

The Assessing Clinician (SLT)

- 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

11.6 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)
- E-learning
- Simulation training for nasendoscopy
- Attendance at established FEES clinics
- Attendance at ENT clinics for nasendoscopy practise
- Mentoring by suitably trained and experienced practitioner
- 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)

11.7 Training structure

Listed below are the minimum requirements for the SLT to achieve competency. There are separate competencies for the distinct roles of the endoscopist and the assessing clinician. If the SLT clinician aims to become competent in both roles, both sets of competencies should be fully completed.

It is the responsibility of the individual therapist to recognise when further training is required. The actual number of procedures required to achieve competency may be significantly more than the minimum specified in this document.

This will be reviewed and agreed with the supervisor on a continual basis during the training process in accordance with the needs, job requirements and clinical setting and speciality. It is the trainee's responsibility to ensure that some of the training procedures are carried out within their own area of clinical speciality.

11.8 Endoscopy performed by an SLT

- Observation of a minimum of two nasendoscopy procedures performed on patients by a competent endoscopist
- Successfully passing the nasendoscope through the nose and into the pharynx a minimum of five times on patients under the direct supervision of a competent endoscopist
- Successfully performing nasendoscopy for the purposes of FEES on patients under direct supervision of a competent endoscopist 10 times
- Cleaning and disinfecting the scope according to local infection control policies
- Administering topical anaesthetic/nasal decongestant when required

11.9 The assessing clinician (SLT)

- Observation of five FEES examinations carried out on patients by a SLT competent in FEES
- Rating of five previously recorded FEES examinations on patients 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 (see Appendix I for sample rating form)

- Carrying out and interpreting a minimum of 10 FEES procedures on patients under the direct supervision of a SLT competent in FEES
- Completion of the competency checklist with sign-off by named supervisor (see Appendix H)

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

We acknowledge that at the time of writing this update, the availability of formal FEES training opportunities and established FEES clinics nationally remains limited.

11.10 Levels of competency and expertise for the SLT endoscopist

A SLT can perform endoscopy for FEES once the competencies have been completed. However, the SLT endoscopist should seek supervision and support from a level 3 SLT with extensive experience in performing nasendoscopy for FEES or a medical practitioner when performing FEES on complex cases. Determining whether a case is 'complex' will also be guided by whether it is outside the SLT's usual clinical caseload and field of expertise.

Examples of complex cases include patients who are ventilator-dependent and tracheostomised, have highly disordered anatomy, are highly anxious or have severe respiratory compromise. This list is non-exhaustive and excludes high risk patients for whom an ENT surgeon should perform the endoscopy for FEES (see section 11.3).

11.11 Levels of competency and expertise for the assessing clinician

The clinician will be expected to display the following levels of competency:

11.11.1 Level one

- The practicing clinician has pre-requisite knowledge and skills (see section 11.3)

- The clinician is undergoing training to become competent in FEES (as defined in section 11.3)

11.11.2 Level two

- Competent to perform FEES independently, i.e., without direct supervision has the knowledge and skills and has achieved competencies outlined in sections 2.1 and 2.3. Performs FEES on complex cases with supervision from a level 3 clinician. Examples of complex cases include patients who are ventilator-dependent and tracheostomised, have highly disordered anatomy, are highly anxious or have severe respiratory compromise. This list is non-exhaustive (see levels of competency and expertise for the SLT endoscopist)
- Once the SLT clinician has completed 50 examinations post completion of training at level 2 (i.e., in addition to the training examinations required to reach level 2), he/she can supervise and train level 1 SLT clinicians in non-complex cases

11.11.3 Level three

- Expert practitioner
- Can supervise and train others including complex cases
- Can perform FEES assessment and endoscopy for FEES simultaneously (only if trained and highly experienced in performing endoscopy for FEES and always with the assistance of a nurse or other health care practitioner)
- Has performed a minimum of 150 FEES assessments post completion of training, i.e., carrying out and interpreting the procedure
- Performs FEES on complex cases independently

This document is the RCSLT's official statement of professional practice for SLTs using FEES. Adherence to its content and recommendations are the professional responsibility of the individual therapist. Proof of adherence to this will be required should a malpractice claim be brought. Failure to comply with the details of this position paper may amount to a breach of acceptable professional conduct.

RCSLT acknowledges that professional practice continues to grow and develop. Members should contact RCSLT for advice about any areas of practice development relevant to this policy.

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13. Appendices

Appendix A - FEES protocol

Appendix B - Indications for selecting FEES or Videofluoroscopy

Appendix C - Equipment and consumables

Appendix D - Sample patient information forms

Appendix E - Sample consent forms

Appendix F - Rating scales

Appendix G - Business case for setting up a FEES service

Appendix H - RCSLT FEES competencies form and log

Appendix I - Sample rating form

Appendix J – Stakeholder consultation

Appendix A - The 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", "Paul is tall" - retract base of tongue
- Strained high pitch on /i/ or pitch glide to top of pitch range - 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/

Observe epiglottic retroflexion on dry swallowing

4. Laryngopharyngeal sensation

Tasks:

- Observe briskness and adequacy of glottic closure (laryngeal adductor reflex) or other response such as a cough, grunt or patient withdrawal in response to light touch of the scope against the base of tongue, posterior pharyngeal wall and/or the right and left aryepiglottic folds
- During the FEES observe response to secretions, residue, penetration and aspiration (see Appendix)

FEESST may be used to assess sensation

5. Secretions

Use secretion rating scale (see Appendix F). If the patient is unable to manage secretions introduce one drop of blue or green dye onto the tongue and observe dry swallowing.

(Appendix A cont...)

Part B. Bolus presentation

If safe, proceed with trials of the following:

Ice chips (according to local guidelines), normal liquids, stage 1 liquids, stage 2 liquids, stage 3 liquids, diet textures C, D and E, solid foods and mixed consistencies. The order and variety of trials administered 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 (note: whiteout is not seen when using some types of nasendoscopes)
- Evidence of fatigue
- 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 the patient to observe the examination to facilitate understanding of swallowing, recommendations, and to learn therapeutic interventions.

Appendix B - Indications for selecting FEES or Videofluoroscopy (VF)

Indications for VF	Indications for FEES
<ul style="list-style-type: none"> • Comprehensive, evaluation of all three stages of swallowing physiology. • Evaluation of base of tongue retraction, hyolaryngeal elevation and anterior movement, upper oesophageal sphincter opening. • Measurement of impact of therapeutic interventions on swallowing physiology, e.g., Mendelsohn manoeuvre, chin tuck. • Cervical oesophageal dysfunction suspected, e.g., pouch, regurgitation, symptoms of food sticking. • Estimation of amount of aspiration. • Tracheo-oesophageal fistula suspected. • Vague symptoms, unknown medical diagnosis. 	<ul style="list-style-type: none"> • Evaluation of secretion management, wet voice. • Concerns regarding laryngopharyngeal anatomy, laryngeal integrity. • Vocal fold dysfunction suspected, dysphonic. • Measurement of impact of therapeutic interventions, e.g., Supraglottic swallow, effortful swallow. • Measure effects of fatigue. • Assess with real food, fluid, medications. • Need for biofeedback. • Patient medically unstable, in ICU, tracheostomy cuff-inflated. • Patient unfit for VF: unable to

<ul style="list-style-type: none">• Unfit, unwilling for FEES.	<p>maintain sitting balance, contractures, neck halo, medically unstable.</p> <ul style="list-style-type: none">• High risk of aspiration where administration of a bolus/contrast is contraindicated.
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(Bastian R 1991; Kidder TM 1994; Langmore SE 2001; see also the Royal College of Speech and Language Therapists Videofluoroscopy Policy Statement 2007)

Appendix C - Equipment and consumables

Equipment

- Fibreoptic nasendoscope (with/without air or suction ports)
- Light source
- Camera
- Recording source
- Monitor
- Microphone
- Trolley
- Printer
- Air pulse generator (if using FEESST)
- Suction
- Oxygen
- Sterilising equipment

Consumables

- Food and fluid
- Ice chips (according to local guidelines)
- Food dye (green or blue)
- Gauze
- Q-tips
- Spoons
- Straws
- Cups

- Aprons
- Eye protection
- Gloves
- Tissues
- Lubrication gel
- Alcohol, decontamination wipes
- Defog spray/wipes
- EndoSheath (according to local guidelines)
- Topical anaesthetic/decongestant

Appendix D - Patient information

Fibreoptic Endoscopic Evaluation of Swallowing (FEES) Clinic

Sample information sheet

You have been given an appointment to attend the FEES Swallowing Clinic. This is a clinic co-ordinated by _____, speech and language therapist. This information sheet provides you with some information about the clinic.

1. Why have I been given an appointment in the clinic?

You have been referred to the speech and language therapy department because you have had some difficulties swallowing or have had surgery or other treatment that may affect your swallowing. The speech and language therapists are trained to assess and treat swallowing problems. The FEES examination enables us to assess your swallowing. It also enables us to try different foods and/or different techniques to help you swallow more effectively.

2. What happens during the assessment?

A team of two people will carry out the examination. This team will be made up of a speech and language therapist and a doctor, two speech and language therapists or a speech and language therapist with another member of the team such as a nurse or healthcare assistant. Other members of staff, such as a physiotherapist may also be present.

You will be asked to sit in a comfortable chair. If you are currently in hospital, the assessment will be carried out while you are in bed or sitting in a chair. A small, flexible endoscope will be placed into one nostril and moved through your nose. When the end of the endoscope is positioned just beyond the back of the nose, a clear view of your throat is obtained. You will be able to see your throat (including your vocal cords) on the television monitor if you choose. You may be

given some food and liquid to swallow. This is dyed with a small amount of blue or green food dye to enable a clear view of your swallowing. Your swallowing will be observed and recorded for analysis at a later time.

3. When will I know the results?

You will be given some basic feedback and advice immediately after the procedure. However, detailed results will only be available when a report has been written. The report will be sent to your doctor and a copy will be filed in your medical notes.

4. Is the procedure safe? Is it uncomfortable?

The procedure is safe and rarely has side effects. At times the passing of the endoscope through the nose causes mild to moderate discomfort. Once the endoscope is positioned above the throat, any discomfort usually recedes.

5. How long will it take?

The procedure takes approximately 10 to 15 minutes. For outpatients, the clinic generally runs on time although you may experience a small delay. Your patience in these circumstances would be appreciated.

6. Can I eat before my appointment?

Unless you have been advised otherwise, you can eat and drink as normal before your appointment. If you are currently feeding through a tube, you can take your feeds as normal up until your appointment time.

7. What happens afterwards?

You can return to the ward or go home immediately after the appointment. If appropriate, a follow-up appointment will be made for you to see the speech and language therapist to discuss the results in more detail, and to give you further advice and exercises to make your swallowing easier. You may also have an appointment made for you to attend the outpatients department.

If you have any questions about the clinic or the procedure, call _____, speech and language therapist on _____ (Monday to Friday).

Appendix E - Sample consent forms

Patient/parental agreement to use audio or visual records

Patient name **Or attach identifier sticker**
Date of Birth
Hospital number

Type of recording made:

- Videofluoroscopy recording
FEES recording
Video recording of assessment/treatment session
Audio recording of assessment/treatment session
Photographs

I consent to the use of the recordings for the following purposes:

For educational purposes within _____(Trust name)

(e.g., student or staff training will remain within _____(Trust name premises)

For teaching purposes external to _____(Trust name)

*(e.g., national/international teaching/training)**

For publication use

(e.g., journal articles, intranet, internet, information leaflets and other published media)

Any recordings used for assessment/treatment planning are deemed part of the patients medical records and will be stored in accordance with Trust guidelines and treated at all times as confidential.

All other recordings will be available for use as indicated above for a period of

After such time the recording will be destroyed or consent for continued use will be obtained.

This consent can be withdrawn at any time by the signatory

**By signing this consent it is understood that ... Trust may not be able to control future use of the material once it has been placed in the public domain.*

Signature:

Date:

Print Name:

Signature of clinician:

Date:

Print name:

Consent has been withdrawn by signatory	<input type="checkbox"/>	Date:	Signed:
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Sample Aphasia friendly consent form

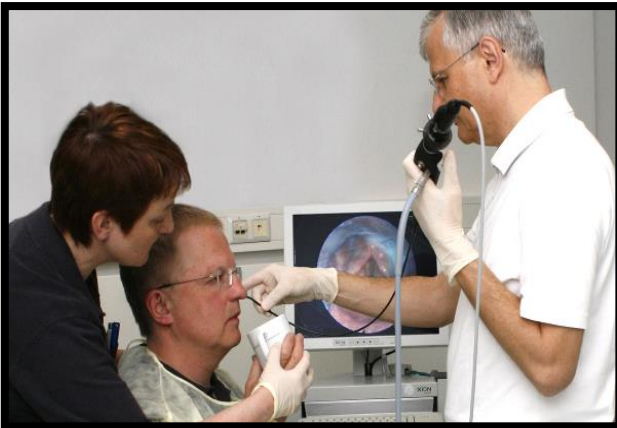
Consent form

Fiberoptic endoscopic evaluation of swallowing (FEES)

Name:

Date:

NHS:



1) I am happy to have a FEES assessment

YES



NO





2) You may show the pictures to other people

YES  NO 

Signature: _____

Signed by proxy: _____

Appendix F - Sample rating scales

Patterns of tight breath holding

Airway protection

(Murray 1999)

Laryngeal closure not achieved
Transient true fold closure
Sustained true fold closure
Transient ventricular fold closure
Sustained ventricular fold closure

Murray (1999) "The Laryngoscopic Evaluation of Swallowing or FEES". In: Manual of Dysphagia Assessment in Adults, 1999, Singular Publishing Company. Updated in personal email communication with Annette Kelly 2012.

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.

Murray (1999) "The Laryngoscopic Evaluation of Swallowing or FEES". In: Manual of Dysphagia Assessment in Adults, 1999, Singular Publishing Company.

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

Rosenbek J, et al. *Dysphagia* 1996; Vol 11: pp93-98.

Appendix G - Business case for setting up a FEES service

It is anticipated each Trust will have a standardised Capital Investment Procedure which must be completed in order to set up a FEES service. When writing a business case to set up a FEES service it will be important to consider all aspects that are listed below. This list is non-exhaustive.

A. Project title, background, strategic context and need

- Needs and demands that are to be addressed and any deficiencies in existing provision
- If possible, quantify needs, demands and deficiencies
- Evidence base for FEES
- It will be necessary to ensure approval has been obtained from the employer/Trust to commence the process of setting up FEES

B. Summary of financial implications

- Include costs associated with:
 - Acquiring equipment
 - Maintaining and repairing equipment, maintenance contract
 - Replacement of equipment when defunct or outdated
 - Potential cost associated with disposal of equipment
 - Ongoing costs of consumables, e.g., decontamination wipes, EndoSheath, food dye, etc.
 - Training SLT staff. The cost of training staff in FEES can be extensive.
 - SLT staffing and administrative support for FEES clinics etc.

C. Environment

- Consider where equipment can be securely stored and secure storing of recordings of FEES
- Determine clinical environments which can be used for FEES. It will be necessary to have access to suction, oxygen, pulse oximetry, resuscitation equipment and medical support within immediate access.

D. Staffing

- Ensure Level 3 FEES practitioners have been identified who are available and willing to carry out the FEES training
- Ensure there are clearly identified links with ENT and that an ENT consultant has been identified who is able to assess the SLTs competence in endoscopy

E. Risks and uncertainties

- Consider risks that the project might face and how these risks will be managed and mitigated

Appendix H - RCSLT FEES competencies form and training logs

The competencies include the clinical, procedural and technical aspects of FEES. Competencies are divided into those required for the roles of the endoscopist and those required for interpretation by the assessing clinician. Additionally, specific competencies have been outlined for critical care and head and neck and paediatric populations.

Name:

Name of supervisor:

Clinical Caseload: General Neuro/Stroke H&N Critical Care

Other (please state)

Date level 1 competencies commenced:

Date level 1 competencies completed:

Date level 2 competencies completed:

Date level 3 competencies completed:

Date returning to FEES practice:

PRE-REQUISITE					
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KNOWLEDGE AND SKILLS FOR FEES					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Post-graduate 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.					
a. Competence in performing videofluoroscopy independently OR b. Knowledge of VFS procedure and interpretation.	<p>If a) as per VFS position paper</p> <p>b) Attendance at VFS clinic.</p> <p>Rate previously recorded VFS procedures with VFS-competent SLT.</p> <p>Discuss cases with mentor</p>	<p>Demonstrates knowledge of limitations and benefits of each assessment</p> <p>Recognise anatomical landmarks and normal/abnormal swallow features</p> <p>Appropriate interpretation of images and appropriate management</p>			

		recommendations			
Knowledge of the indications and contraindications for FEES and VFS.	See VFS position paper and FEES position paper Discuss cases with mentor	Refers appropriately for each assessment			
Relevant local and national dysphagia guidelines and policies.					
REFERRER KNOWLEDGE AND SKILLS					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Knowledge of clinical indicators for VFS and FEES.	RCSLT VFS and FEES policies and literature.	Refers for FEES appropriately following bedside assessment,			

	Discuss cases with mentor. Documentation in case notes.	forming a sound rationale, clinical questions and hypothesis for FEES.			
Knowledge of limitations of FEES.	RCSLT VFS and FEES policies. Discuss cases.	Understands the clinical limitations and benefits of FEES vs. VFS, refers appropriately.			
Knowledge of risks of FEES.	Discuss cases with mentor.	Detects risks from case history, takes precautions, seeks medical advice whether to proceed and explains risks to patient/carer/MDT.			
Knowledge of adverse effects.	Read literature. Log events. Documentation.	Understands and recognises adverse effects, eg, vasovagal response, epistaxis, laryngospasm, reflex syncope.			
ENDOSCOPIST ROLE					
1. Operate, maintain and disinfect					

equipment					
Knowledge	Method of acquisition	Skill observed	Assessment notes Additional evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Knowledge of equipment, FEES system and set-up.	Read manual Operate FEES equipment	Connect and operate equipment, white-balance, focus and lubricate the scope, record and archive recordings and troubleshoot technical problems.			
Knowledge of infection risks.	Read local and national infection control policies Direct observation documentation	Uses decontaminated equipment appropriately, schedules patients according to infection status, follows local scope decontamination and scope tracking procedures.			
2. Insert and manipulate					

endoscope					
Knowledge	Method of acquisition	Skill observed	Assessment notes Additional evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understands endoscope insertion technique to minimise discomfort and maximise view for FEES.	Direct observation	Successfully inserts the scope first time, with minimal discomfort and without complications, eg, epistaxis.			
	Direct observation	Manipulates scope around NG tube maintaining a good view.			
	Direct observation	Applies gel correctly, manipulates the scope to minimise coating with gel, secretions and residue.			
	Direct observation	Correctly applies gel to the endoscope avoiding the scope tip.			
Manages adverse events of scoping.	Live FEES Logs adverse events	Recognises vasovagal response, epistaxis, laryngospasm if they occur and responds			

		appropriately managing patient safety.			
Understands conditions for high vs low scope positioning.	Direct observation	Manipulates the scope to optimise the view of swallow events rapidly manoeuvring between high and low scope positions avoiding structures.			
3. Topical anaesthesia					
Knowledge	Method of acquisition	Skill observed	Assessment notes Additional evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understands risks of anaesthesia.	Read literature	Ensures current Patient Group Directive for use of anaesthesia.			
Understands pros and cons of use of topical anaesthesia.	Direct observation	Correctly administers topical anaesthesia in exceptional circumstances.			

ASSESSING CLINICIAN ROLE					
1. Recognition of anatomical landmarks endoscopically					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Knowledge of normal nasal, pharyngeal and laryngeal structures viewed endoscopically.	Label structures on diagram, DVD clips or live FEES.	Correctly identifies key anatomical structures using correct terminology			
Knowledge of the <i>range of 'normal'</i> structures viewed endoscopically.	Label structures on a range of DVD clips or live FEES, including young and elderly.	Recognises a range of normal variation in anatomical structures.			
2. Recognition of altered anatomy and impact on swallowing					

Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Knowledge of nasal anatomical abnormalities viewed endoscopically.	Read literature. Joint viewings of DVD clips or live FEES. Documentation.	Recognises and describes key abnormal features in the nasal passages, eg, polyps, septal deviation.			
Knowledge of pharyngeal anatomical abnormalities viewed endoscopically.	Read literature. Joint viewings of DVD clips or live FEES. Documentation.	Recognises and describes key anatomical abnormalities in the pharynx, eg, asymmetry, weakness, oedema, trauma.			
Knowledge of laryngeal anatomical abnormalities viewed endoscopically.	Read literature. Joint viewings of DVD clips or live FEES. Documentation.	Recognises and describes key anatomical abnormalities of the larynx, eg, vocal fold palsy, intubation granuloma, oedema, missing structures.			

Impact of altered anatomy on swallow function and safety.	Read literature. Joint viewing of DVD clips or live FEES. Documentation.	Determines the impact of a range of abnormalities on swallow function and safety, recognises when anatomy is beneficial vs. detrimental to swallowing.			
Understanding collaborative role of ENT in FEES.	Read literature. Documentation. Discuss with ENT and mentor, agree direct referral process.	Knows when to seek ENT diagnostic opinion on nasal, pharyngeal and laryngeal abnormalities seen, how to refer and discuss with ENT.			
3. Identification of the elements of a comprehensive FEES examination					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Knowledge of Langmore protocol and any local FEES	Read literature. Demonstrate	Knows the purpose of FEES and the individual elements of the			

protocol.	knowledge of the Langmore protocol in discussion and live FEES.	comprehensive protocol.			
Understands how to adapt the FEES protocol to the individual.	Direct observation.	Able to perform the FEES protocol within the limitations of the patient's behaviour and cognitive status.			
4. Sequencing the examination					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understands the Langmore protocol.	Joint viewing of DVD clips or live FEES. Discussion with mentor. Read literature.	Assesses structures, predicts and describes the impact of anatomical abnormalities on swallow function and safety.			
	Live FEES. Discussion with	Performs protocol tasks appropriately and describes abnormalities of			

	mentor. Documentation.	swallow physiology.			
	Live FEES. Discussion with mentor. Documentation.	Sequences the elements of the FEES examination making appropriate decisions concerning oral trials and strategies.			
Significance and severity of secretions and secretion rating scale.	Read literature. FEES clips. Live FEES.	Assesses and describes secretion status including type, origin, location and severity of secretions and predictive significance for swallowing function and safety, rates using scale correctly.			
Knowledge of the Penetration Aspiration scale (PAS) as it applies to FEES.	Read literature. Joint viewing of FEES DVD. Live FEES. Discussion with mentor. Documentation.	Rates PAS correctly, weighs the rating against the patient history, bedside assessment and makes appropriate decisions.			

Knowledge of protocol, bedside assessment findings and research regarding oral trials.	Read literature. Live FEES.	Makes timely and appropriate decisions regarding the order and ceasing of oral trials.			
5. Directing endoscopist to achieve optimum view					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understands the purpose and benefits of high/low scope positions in detecting and evaluating abnormal swallow features.	Live FEES.	Communicates clear instructions to endoscopist optimising the view and exploring abnormal findings.			
6. Interpretation of swallow events					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date	Print name, signature and date (supervisor)

				(trainee)	
Knowledge of the causes and implications of impaired laryngopharyngeal sensation.	Read literature. Live FEES. Documentation.	Detects and describes the cause (e.g., vagus nerve) and effect of impaired sensation from patient response to scope, secretions, residue, penetration and aspiration.			
Knowledge of the causes and implications of residue.	Read literature. Live FEES. Documentation.	Detects and describes the cause, location and severity of laryngopharyngeal residue.			
Knowledge of the causes, severity and implications of penetration and aspiration.	Read literature. Live FEES. Documentation.	Detects and describes the cause and severity of penetration and aspiration, use the PAS correctly and makes appropriate management decisions.			
7. Trialling manoeuvres and strategies					

Knowledge of the effects of strategies on swallow function, e.g., head turn, effortful swallow, supraglottic swallow, and texture modification.	Live FEES. Documentation.	Selects the appropriate strategy to fit the abnormal feature, instructs patient clearly and evaluates the effect of the strategy on reducing residue/aspiration.			
Knowledge of the limitations of certain swallow strategies viewed endoscopically, e.g., Mendelsohn manoeuvre.	Live FEES. Discussion with mentor. Documentation.	Determines if VFS needed instead and refers appropriately.			
8. Effective use of biofeedback					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understands the purpose and benefits of biofeedback.	Read literature. Live FEES.	Effectively uses biofeedback to positively impact on patient/carer/professional			

		insight and compliance with FEES recommendations.			
9. When to end the examination					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understands when to conclude the assessment having reached a definitive conclusion.	Live FEES. Discussion with mentor. Documentation.	Determines when sufficient information has been gleaned to make clear, accurate recommendations concerning dysphagia aetiology, severity and management plan.			
Understands the importance of collaborative decision-making.	Live FEES.	Discusses with endoscopist and reaches agreement when to stop the procedure.			
10. Appropriate dysphagia management					

recommendations and onward referral					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understands the limitations of FEES as a 'snapshot' assessment and makes appropriate dysphagia recommendations accordingly.	Joint viewing of DVD clips or live FEES. Discussion with mentor. Documentation.	Evaluates the FEES findings in the context of previous bedside assessment and medical history.			
	Joint viewing of DVD clips or live FEES. Discussion with mentor. Documentation.	Considers FEES findings alongside ethical issues, patient wishes and best interest feeding decisions.			
Knowledge of the indications for FEES vs. VFS and repeat FEES and timing of further	Joint viewing of DVD clips or live FEES. Discussion with mentor.	Recommends further FEES/VFS review appropriately.			

intervention.	Documentation.				
Understands when further investigation is required by other professionals, e.g., Neurologist, GI, ENT.	Joint viewing of DVD clips or live FEES. Discussion with mentor. Documentation.	Recognises dysphagia aetiology and symptoms on FEES, which require further referral and refers on appropriately.			
11. Safe practice and risk management					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Knowledge of the risks of carrying out FEES as an invasive procedure.	Read RCSLT FEES policy. Live FEES.	Conducts FEES in a safe clinical environment with easy, direct access to a medic, suction, and oxygen.			
Knowledge of the comprehensive FEES protocol and RCSLT policy.	Live FEES, set-up of equipment, materials, infection prevention, medical	Performs FEES optimising patient safety, follows RCSLT protocols.			

	back-up.				
Uses FEES audit and measure outcomes.	Documentation.	Follows local governance guidance and carries out FEES audit.			
Knowledge of national and local consent policy.	Documentation. Case discussion with mentor.	Uses local consent procedure/forms and performs consent considering if FEES is in the patient's best interest.			
Understands the impact of patient anxiety, confusion and cognition on patient safety during the procedure.	Live FEES.	Explains procedure to patient carefully, reassures patient, uses pictorial information, manages patient distress and abandons procedure if patient intolerant.			
Knowledge of adverse effects.	Joint viewing of DVD clips. Live FEES. Logs and documents complications.	Recognises laryngospasm, vasovagal response, epistaxis and reflex syncope and makes appropriate decisions to abort procedure. Keeps a log.			

Understands discomfort associated with FEES.	Direct observation of FEES.	Manages patient anxiety and discomfort and recognise when to stop assessment.			
12. Save, playback and archive recordings					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understand the benefits of repeated, slow motion review for accurate interpretation.	Live FEES.	Reviews recordings repeatedly to reach dysphagia conclusions.			
Understands the importance of saving recordings for training purposes and of confidential archiving.	Direct observation. Follows Trust policy on patient confidentiality and data protection.	Saves, archives and retrieves recordings for later review using a documented system.			

13. Document and communicate findings					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Knowledge of key FEES reporting parameters.	Documentation.	Communicate clearly and concisely key FEES findings verbally, in case notes and in FEES report format.			
Understands the importance of sensitive patient interaction in delivering FEES results.	Direct observation.	Communicates FEES findings honestly, clearly and considerately whilst maintaining dignity with patients.			
Understands the key FEES findings to be reported.	Documentation.	Clearly report recommendations for safety of oral feeding, NGT/PEG, therapy exercises, further instrumental assessment and bedside review.			

ADDITIONAL CRITICAL CARE FEES COMPETENCIES					
Knowledge	Method of acquisition	Skill observed	Additional comments/ evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Knowledge of the clinical utility of FEES in tracheostomy weaning decisions.	Read literature. Discussion with mentor/anaesthetist. Direct observation.	Recognises laryngeal abnormalities which impact on airway and swallow safety, seeks ENT/anaesthetist opinion and discusses options for NG and tracheostomy tube change.			
Understands the importance of timing of initial and repeat FEES in critical care patients according to medical instability, medical plans and tracheostomy/ventilator weaning.	Direct observation. Case discussion with mentor.	Refers appropriately and timely considering patient progress and discusses with medics as needed.			

Understands secretion issues in tracheostomised/critical care patients.	Direct observation.	Interprets secretion status in terms of tracheostomy status, cuff status and implications for swallowing safety.			
Understands the potential impact of intubation, tracheostomy, invasive/non-invasive and prolonged ventilation on swallowing in the critical care caseload.	Direct observation. Reads literature.	Detects abnormalities associated with intubation and tracheostomy, eg, granuloma, vocal fold palsy, myoneuropathy of swallowing, respiratory-swallow incoordination.			
Understands the parameters to manipulate during FEES which might impact on swallow function.	Direct observation.	Adapts the Langmore FEES protocol to include cuff deflation trials, speaking valve trials, ventilation changes and tracheal/subglottic suction with the scope <i>in situ</i> .			
Understands the benefits of FEES in ICU/critical care	Direct observation. Performs training session for	Explains FEES purpose, rationale, procedure, benefits, contribution to tube and oral feeding			

patients.	medics/nurses.	decisions and tracheostomy ventilator weaning, to critical care medical and nursing staff.			
Understands when FEES is unsafe in ICU/critical care patients in liaison with intensivist/anaesthetist, surgeon, neurologist, nursing staff.	Direct observation. Case discussion.	Monitors patient's medical progress, discusses with MDT and makes appropriate decisions on whether to proceed or abandon plan for FEES and aborting procedure.			
Understands the clinical utility of FEES in slow wean tracheostomised cuff-inflated ventilated patients.	Reads literature. Case discussion and documentation.	Performs FEES appropriately and safely in slow wean cuff-inflated patients and monitors outcomes closely.			
Understands the risks of FEES in medically fragile and unstable critical care patients.	Direct observation. Discussion with medic/intensivists.	Monitors patient safety, respiratory/cardiac signs of distress, ensures nursing or medical staff presence and suction availability during FEES.			
Understands the risks and causes of aspiration in	Read literature.	Recognises the risks of fluctuating swallow function in-line with			

ICU/critical care patients and the potential impact on weaning.		instability, the need to modify dysphagia recommendations and need for repeat FEES at critical points, e.g., off ventilation, decannulation.			
ADDITIONAL HEAD AND NECK FEES COMPETENCIES					
Knowledge	Method of acquisition	Skill observed	Additional comments/evidence	Print name, signature and date (trainee)	Print name, signature and date (supervisor)
Understands head and neck anatomy and altered anatomy resulting from tumours, surgical procedures and chemo radiotherapy effects.	Reading. Observing surgery. Observing nasendoscopy in clinics. FEES observation.	Recognises and describes key abnormal features and causes and refers on to ENT appropriately.			
Understands the impact of altered head and	FEES observation.	Tailors FEES examination in light of altered			

neck anatomy on swallowing physiology and function.		anatomy and physiology to optimise swallow.			
Understands indications for FEES pre-treatment to record baseline function and manage swallowing disorders prior to treatment.	Case discussion.	Ensures patient has access to pre-treatment FEES where appropriate.			
Understands need to liaise closely with surgical and oncology team re timing of FEES and risk factors, e.g., neutropenia; suture lines; planned general anaesthetic.	Direct observation. Case discussion.	Communicates effectively with head and neck MDT; gains information from medical notes and directly from surgical/oncology teams.			
Understands the potential impact of tracheostomy on swallowing in head and neck cancer caseload.	Direct observation. Case discussion.	Adapts the Langmore FEES protocol to include cuff deflation, speaking valve trials with scope <i>in situ</i> .			
Understands the benefits of FEES in managing fluctuating	Case discussion.	Plans repeated/staged FEES exams at critical points throughout			

swallowing function during oncology treatment.		treatment pathway.			
Understands secretion, saliva and xerostomia issues in head and neck patients.	Direct observation. Reads literature.	Selects appropriate food consistencies for patients with xerostomia; applies mouth care to ensure lubricated and clean oral cavity before commencing FEES; has suction available.			
Understands the impact of chemo/radiotherapy on swallowing function and the role of FEES throughout chemo/radiotherapy treatment.	Reads literature.	Demonstrates good clinical reasoning in using FEES at appropriate time points during treatment; balances risk management of oral feeding with need for non-oral feeding.			
ADDITIONAL PAEDIATRIC FEES COMPETENCIES					
Knowledge	Method of acquisition	Skill observed	Additional comments/	Print name, signature	Print name, signature and date

			evidence	and date (trainee)	(supervisor)
Understands the importance of child and parental compliance with the procedure.		Communicates the FEES procedure effectively to parents, uses information leaflets and gives reassurance.			
Understands the need for preparation to enable cooperation with scope insertion and success of FEES procedure.	Direct observation.	Prepares the child for the procedure using age appropriate play and materials, e.g., FEES colouring book.			
Understands the FEES protocol will differ for paediatrics.		Adapts FEES protocol to paediatric population, e.g., include age appropriate foods, tastes.			
Knowledge of different scope sizes and which size may be appropriate for infants vs children.		Able to operate an appropriately-sized paediatric fiberoptic nasendoscope.			
Understands the developmental aspects	Direct observation.	Recognises anatomical landmarks.			

of anatomy and physiology viewed endoscopically.	Reads literature.				
Understands the developmental aspects of swallow function will change with child's age.	Read literature.				
Understands the impact of differing aetiologies on views obtained and success of FEES procedure.		Severe micrognathia/retrognathia or pharyngeal lymphatic malformation/tumour will result in no/limited view of supraglottis and glottis.			
Understands the impact of aversive/sensory defensive behaviours and how this will impact on success of FEES procedure and thus the appropriacy as assessment choice.					
Understands typical age range when infants/children are likely to tolerate or co-					

operate with the procedure.					
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Training logs

Assessing clinician

1. Observation of five FEES

Patient details	Comments	Learning outcome	Date	Agreed and signed by supervisor
1.				
2.				

3.				
4.				
5.				

2. Joint rating of five previously recorded FEES

Patient details	Comments	Learning outcome	Date	Agreed and signed by supervisor
1.				
2.				
3.				

4.				
5.				

3. Full fees protocol performed on minimum of 10 dysphagic patients

Patient details	Comments	Learning outcome	Date	Agreed and signed by supervisor
1.				
2.				

3.				
4.				
5.				
6.				
7.				
8.				
9.				

10.				
11.				
12.				
13.				
14.				
15.				

SPEECH & LANGUAGE THERAPIST FEES TRAINEE:

Signed:

Date Competencies Completed:

Print name:

SPEECH & LANGUAGE THERAPIST FEES SUPERVISOR:

Signed:

Date Competencies Completed:

Print name:

ENDOSCOPIST

1. Observe two nasendoscopies

Patient details	Comments	Learning outcome	Date	Agreed and signed by supervisor
------------------------	-----------------	-------------------------	-------------	--

1.				
2.				

2. Successfully pass nasendoscope five times

Patient details	Comments	Learning outcome	Date	Agreed and signed by supervisor
1.				

2.				
3.				
4.				
5.				

3. Successfully pass nasendoscope for the purpose of fees on a minimum of 10 dysphagic patients under supervision

--	--	--	--	--

Patient details	Comments	Learning outcome	Date	Agreed and signed by supervisor
1.				
2.				
3.				
4.				
5.				
6.				

7.				
8.				
9.				
10.				
11.				
12.				
13.				

14.				
15.				

SPEECH & LANGUAGE THERAPIST FEES TRAINEE:

Signed:

Date Competencies Completed:

Print name:

NASENOSCOPY FOR FEES SUPERVISOR:

Signed:

Date Competencies Completed:

Print name

Appendix I - Sample rating form

Speech and language therapy

Fibreoptic Endoscopic Examination of Swallowing (FEES) Report

Date of assessment:

Patient name:		Hospital number:	
DOB:		Consultant:	

Diagnosis:

Treatment history:

Other relevant medical history:

Summary:



IMAGES

Recommendations:

A large, empty rectangular box with a thin black border, intended for recommendations. The text "Recommendations:" is located at the top left corner of the box.

ASSESSMENT INFORMATION

A-D Indicate if Within Normal Limits (WNL), Outside Normal Limits (ONL) or Unable to Assess (UTA). Write comments in box provided.

A NASOPHARYNX & SOFT PALATE

Anatomy		
Symmetry of movement		
Speed of movement		
Range of movement		

B BASE OF TONGUE & OROPHARYNX

Anatomy		
Symmetry of movement		
Speed of movement		
Range of movement		

C HYPOPHARYNX & LATERAL PHARYNGEAL WALLS

Anatomy			
Symmetry			
Speed of movement			
Range of movement			
Pharyngeal squeeze manoeuvre	Circle rating	Present	Absent

D LARYNX & SUPRAGLOTTIS

Anatomy		
Symmetry at rest		

Speed of abduction		
Range of movement		
Symmetry of closure & phonation		
Vocal fold lengthening		
Vertical laryngeal movement		

E AIRWAY PROTECTION (*Murray 1999*)

- Laryngeal closure not achieved
- Transient true fold closure
- Sustained true fold closure
- Transient ventricular fold closure
- Sustained ventricular fold closure

F SECRETION RATING (*Murray 1999*)

- 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 transition in the accumulation of secretions during observation segment.
- 2 Any secretions that change from "1" 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.

G PENETRATION – ASPIRATION SCALE (PAS) (*Rosenbek 1996*)

- 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

H PHARYNGEAL RESIDUE SEVERITY SCALE (PRSS) (Kelly 2006)

0	None	No pharyngeal coating or residue
1	Coating	Coating of the pharyngeal mucosa; no pooling
2	Mild	Mild pooling/residue
3	Moderate	Moderate pooling/residue
4	Severe	Severe pooling/residue

PAS scores

PRSS scores (indicate asymmetry)

Normal Liquid

Stage 1 Liquids
.....

Stage 2 Liquids
.....

Stage 3 Liquids
.....

Texture C Diet
.....

Texture D Diet
.....

Texture E Diet
.....

Solids

Other (eg, tablets)... ..
.....

H MANOEUVRES and STRATEGIES and OUTCOME

Chin tuck.....

Head turn right.....

Head turn left.....

Head tilt right.....

Head tilt left.....

Breath hold.....

Supraglottic swallow.....

Super-supraglottic swallow.....

Effortful swallow.....

Liquids to clear solid residue.....

Other.....

I BIOFEEDBACK

Was biofeedback used? Y/N

If yes, was it helpful? Y/N

Comments

.....

J SENSATION

(Overall impression & comments)

.....

.....

OTHER COMMENTS

.....

.....

.....

Assessing Clinician

Endoscopist

Appendix J – Stakeholder consultation

Member consultation

Key members of the profession were contacted directly by email, Facebook and Twitter and invited to feedback on the document. These included:

- All members of RCSLT boards
- CREST representatives
- HEI's
- Contacts at relevant clinical excellence networks (CENs)
- Relevant RCSLT Advisers
- R & D Network (research champions)
- Current working groups

The membership was also invited to respond via alerts on social media and the RCSLT website.

37 responses were received from across England, Scotland, Wales and Northern Ireland.

RCSLT Hub Region	No of responses
London	6
Wales	2
Scotland	3
Northern Ireland	1
South West	3
North West	2
Yorkshire and Humber	2
North East	2
South Central	3
East Midlands	2
West Midlands	2
East of England	3

Responses were received from members working within a range of different organisations:

Organisation	Sector
University of East Anglia	HEI
University College London Hospitals NHS Foundation	NHS

London Spinal Cord Injury Centre	NHS
Betsi Cadwaladr University Health Board	NHS
Royal Free London NHS Foundation Trust	NHS
Weston Area Health Trust	NHS
UCL Hospitals NHS Foundation Trust	NHS
East Cheshire NHS	NHS
Bradford District Care Trust	NHS
Northern Health and Social Care Trust	NHS
City Hospitals Sunderland	NHS
Northwest London Hospitals	NHS
Southern Health Foundation Trust	NHS
Nottinghamshire County Health Partnerships	NHS
NHS Lothian	NHS
Gloucestershire Care Services NHS Trust	NHS
Sheffield Teaching Hospitals NHS Foundation Trust	NHS
Suffolk Community Healthcare	NHS
NHS Tayside	NHS
North Bristol NHS Trust	NHS
Coventry and Warwickshire Partnership Trust	NHS
Addenbrookes Hospital, Cambridge	NHS
Royal Marsden NHS Foundation Trust	NHS
Frimley Park Hospital NHS Trust	NHS
Coventry and Warwickshire Partnership Trust	NHS
Newcastle Hospitals Trust	NHS
Kings College Hospital	NHS
University Hospital of South Manchester	NHS
Buckinghamshire Hospitals NHS Trust	NHS
Northamptonshire Healthcare Foundation Trust	NHS
NHS Greater Glasgow and Clyde	NHS

Wider stakeholder consultation

Relevant stakeholders were identified by the working group and invited to feedback on the document:

Stakeholder	Stakeholder type	Responded
Susan Langmore	Clinical Professor (Boston)	Yes
Paul O'Flynn	Neck ENT Surgeon	No
Joe Murray	Chief, Audiology/Speech Pathology Service	Yes
Paula Leslie	Professor (University Pittsburgh)	No
Rebecca Hammond	Clinical Service Leader (New Zealand)	Yes
Stephanie Martin	Senior Speech Pathologist	No
Nadine Lawson	Consultant Clinician	No
Patricia Gillivan-Murphy	Clinical Specialist	No
Francis Vaz	ENT Adviser	Yes
Robin Adair	ENT Adviser	Yes