

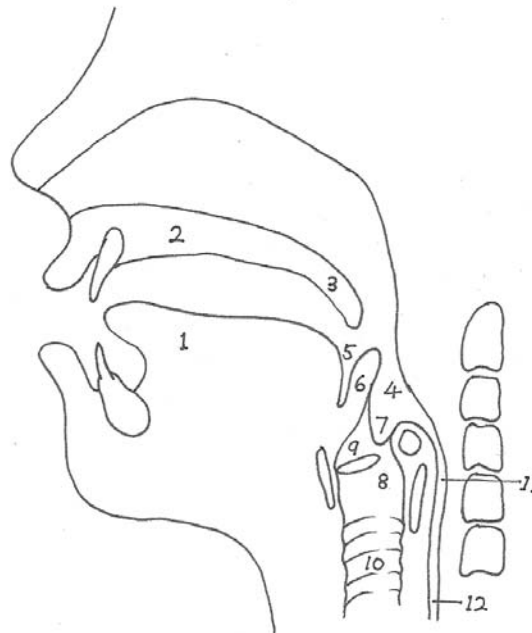
Understanding your child's videofluoroscopic swallow study report

This leaflet is given to you during your child's appointment in order to explain some of the words used by the speech and language therapist (SLT) in the letter sent out following the videofluoroscopic swallow study. The preliminary recommendations introduce some of the ways that your child's problems with swallowing can be managed. If you have any further questions or concerns, please speak to your SLT.

What happens during swallowing?

Swallowing is a series of movements that prepares food and fluid in the mouth, and then delivers it through the throat (pharynx) and oesophagus (a tube also known as the gullet that connects the stomach and throat) to the stomach.

This is a diagram of the inside of the mouth and throat. You may find it useful to refer to when reading the information that follows.



- (1) **Tongue**
- (2) **Hard palate:** The roof of the mouth
- (3) **Soft palate:** Soft tissue at the back of the roof of the mouth
- (4) **Pharynx:** A tube or cavity that connects the mouth and nostrils to the gullet
- (5) **Valleculae:** A depression below the root of the tongue
- (6) **Epiglottis:** A cartilage flap attached at the top of the larynx or voice box
- (7) **Pyriform sinuses:** Recesses on either side of the entrance to the larynx

- (8) **Larynx:** The voice box, which is located at the top of the airway
- (9) **Vocal cords:** Two membranes which vibrate when speaking and move together when swallowing. This movement is a protective mechanism to stop food or drink entering the airway. The vocal cords are located in the voice box.
- (10) **Trachea:** A tube connecting the larynx or voice box to the lungs
- (11) **Upper oesophageal sphincter:** A muscular ring at the entrance to the oesophagus to reduce the risk of food coming back up
- (12) **Gullet or oesophagus:** A tube connecting the throat or pharynx to the stomach

Swallowing phases

Swallowing involves three phases:

1. Oral phase

The oral phase is the part of the swallow that occurs in the mouth. During this phase the food is prepared for swallowing. Food is chewed and made into a paste-like mix of food and saliva, or one amount of drink, called a bolus. When the bolus is ready it is moved to the back of the mouth. A person can consciously control this phase.

2. Pharyngeal phase

The pharyngeal phase is the part of the swallow that occurs in the throat. The prepared food or drink has to pass through the throat without entering the airway. During swallowing the voice box (larynx) lifts up and closes, and the epiglottis flap comes down to cover the airway (trachea). We can make ourselves swallow, but once it has been triggered we cannot stop the swallow.

3. Oesophageal phase

The oesophageal phase is when the bolus is moved through the oesophagus or gullet to the stomach. The oesophagus squeezes the food downwards in a series of waves. This cannot be controlled consciously.

What can go wrong with swallowing?

Things can go wrong at one or more stages of swallowing. The SLT will discuss with you the problems affecting your child's swallowing, based on the results of their videofluoroscopic swallow study. These could include:

- **Aspiration** is when food, drink, saliva or refluxed food or drink enters the trachea (the airway leading to the lungs). This can happen before, during or after the swallow. Aspiration may stimulate a cough, which may or may not clear the airway. Aspiration can also be silent with no immediate coughing, though there may be some other subtle signs like eye watering, or face colour change. Aspirated food, drink, saliva or refluxed food or drink that has not been cleared with coughing may lead to chest infections or pneumonia (pus in the lungs).
- **Premature spillage of bolus / passive overflow / passive leak:** Uncontrolled spilling of food or drink from the mouth into the pharynx before the child is ready to swallow. This increases the risk of aspiration as the airway is open at this point, and food or drink could fall into the airway.
- **Piecemeal deglutition / swallows:** A single bolus is divided into smaller portions so that multiple swallows are needed to clear the mouth.
- **Pooling and delayed swallow:** Food or drink collects in the pharynx before a swallow is triggered. If there is some hold-up, this is considered to be a delayed swallow. This increases the risk of aspiration as the airway is open at this point, and food or drink could fall into the airway.

- **Residue:** This refers to food or drink left behind in the mouth (oral residue) or the throat (pharyngeal residue) after the initial swallow. This may or may not be cleared with further clearing swallows. Residue increases the risk of aspiration as the airway is open in between swallows and food or drink may fall into the airway.
- **Nasopharyngeal reflux / regurgitation:** Food or drink enters the nose from the throat. This can happen because the soft palate does not close against the back wall of the pharynx during the swallow or because the movement is uncoordinated. Food or drink may only enter the back of the nasal cavity; this is called nasopharyngeal reflux. Alternatively it may come out of the nose; this is called nasal regurgitation. This can be uncomfortable and may also fall back down into the pharynx and airway.
- **Epiglottal undercoating / laryngeal penetration:** Epiglottal undercoating occurs when food or drink is seen underneath the epiglottis, which indicates that food or drink is moving towards the airway. If the food or drink moves more deeply into the top of the larynx stays above the level of the vocal cords, this is called penetration. When penetration occurs, there is a high risk that food or drink will also at times be aspirated.
- **Oesophageal dysmotility:** Dysmotility means that food does not move down the oesophagus towards the stomach as quickly as it should. The risk is that food or drink may build up in the oesophagus all the way back into the pharynx after multiple swallows. Some of this food or drink is then at risk of spilling over into the airway.
- **Intra-oesophageal reflux or retrograde movement:** Intra-oesophageal retrograde movement means that food or drink moves back up the oesophagus before it reaches the stomach. This can cause spilling over into the airway if the food or drink moves all the way into the throat.
- **Gastro-oesophageal reflux:** Gastro-oesophageal reflux refers to stomach contents moving up the oesophagus and these can spill over into the airway if they move all the way into the throat. Stomach contents contain acid and so severe reflux can cause pain (heartburn).

What can be done to reduce the risk of aspiration?

The SLT will have given you advice on managing your child's eating and drinking as part of the videofluoroscopic swallow study, and the advice will be included in the written report. This will be tailored to the particular swallowing difficulties your child has. For most children the options to reduce risk include the following:

- **Positioning** – having your child's body, head and neck in the correct position may help to reduce the risk of food or drink going down the wrong way
- **Textures** – changing the texture of food and drink may help it to move safely through the mouth and throat.
- **Feeding techniques** – the pacing of feeding and the use of special cups or spoons may help your child to develop safer swallowing.

For children with conditions affecting the anatomy of the airway (who are being cared for by an ENT surgeon), some operations may help change the way a child swallows. However, for most children with neurological conditions there is no surgery or specific medications prescribed to improve swallowing (though some medications may have an impact on swallowing).

For some children it may not be possible to reduce the risk of aspiration and tube feeding may be recommended for some or all food and drink.

Summary of preliminary findings and recommendations

These recommendations may be modified in the clinic letter following further examination of the images.

SLT's name:	Contact number:
Summary of preliminary findings from videofluoroscopy	
Recommendations	
Signed & dated:	

Contact us

If you have any questions or concerns about a videofluoroscopic swallow study, please contact one of the speech and language therapists on 020 7188 6232 or 020 7188 3992 (Monday to Friday, 9am to 5pm).

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.evelinalondon.nhs.uk/leaflets

Evelina London Medicines Helpline

If you have any questions or concerns about your child's medicines, please speak to the staff caring for them or contact our helpline.

t: 020 7188 3003 10am to 5pm, Monday to Friday **e:** letstalkmedicines@gstt.nhs.uk

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk
t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

Language Support Services

If you need an interpreter or information about your care in a different language or format, please get in touch:

t: 020 7188 8815 **e:** languagesupport@gstt.nhs.uk

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

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t: 0800 731 0319 **e:** members@gstt.nhs.uk **w:** www.guysandstthomas.nhs.uk/membership

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