

# Understanding your child's videofluoroscopy swallow study report

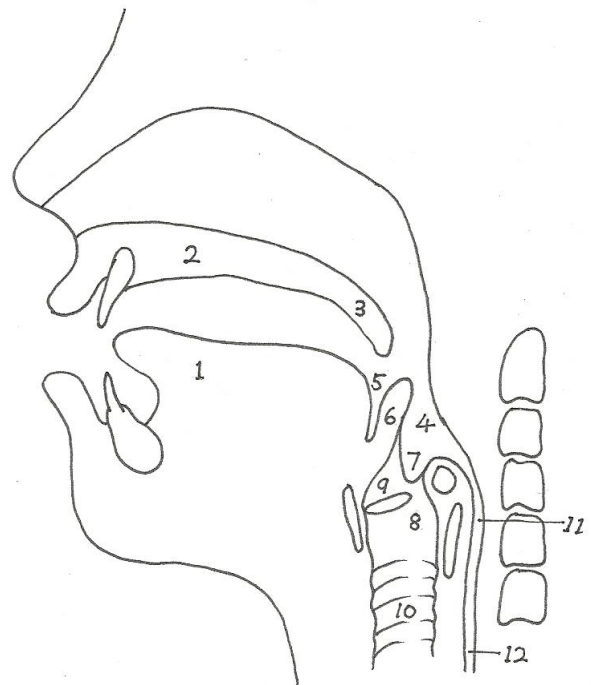
This leaflet will explain some of the words used by the speech and language therapist (SLT) in the letter sent out after the videofluoroscopy swallow study. The recommendations introduce some of the ways that your child's problems with swallowing can be managed. If you have any questions or concerns, 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 pharynx and oesophagus to the stomach.

This is a diagram of the inside of the mouth and throat. You might find it useful to refer to when reading the information in this leaflet.

- 1 Tongue
- 2 Hard palate (roof of the mouth)
- 3 Soft palate (soft tissue at the back of the roof of the mouth)
- 4 Pharynx or throat (tube that connects the mouth and nostrils to the gullet)
- 5 Valeculae (depression below the root of the tongue)
- 6 Epiglottis (cartilage flap attached at the top of the larynx)
- 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 (tube connecting the larynx to the lungs)
- 11 Upper oesophageal sphincter (muscular ring at the entrance to the oesophagus to reduce the risk of food coming back up)
- 12 Gullet or oesophagus (tube connecting the pharynx to the stomach)



## Swallowing phases

Swallowing involves three phases:

### 1. Oral phase

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

### 2. Pharyngeal phase

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

### 3. Oesophageal phase

This phase is when the bolus is moved through the oesophagus 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 swallow study. These could include:

- **Aspiration** (when food, drink, saliva or refluxed food or drink enters the trachea). This can happen before, during or after the swallow. This may stimulate a cough, which may or may not clear the airway. Aspiration can also be silent with no immediate coughing, although 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 overspill / 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 a delay, 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** (food or drink left behind in the mouth (oral residue) or the throat (pharyngeal residue) after the first swallow). This might not be cleared with more 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 can only enter the back of the nasal cavity. This is called nasopharyngeal reflux. Alternatively it may come out of the nose, and this is called nasal regurgitation. This can be uncomfortable and may also fall back down into the pharynx and airway.

- **Epiglottal undercoating / laryngeal penetration** (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, but stays above the level of the vocal cords, this is called penetration. When penetration happens, there is a high risk that food or drink will also at times be aspirated.
- **Oesophageal dysmotility** (food that 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** (food or drink moving 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** (stomach contents moving up the oesophagus). 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:

- **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 medication to improve swallowing (although 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.

### Contact us

If you have any questions or concerns about a videofluoroscopic swallow study, please call one of the SLTs, **phone:** 020 7188 6232 or 020 7188 3992, Monday to Friday, 9am-5pm.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit [www.evelinalondon.nhs.uk/leaflets](http://www.evelinalondon.nhs.uk/leaflets)

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