

Department of  
**SPEECH THERAPY**

# Caregivers Guide to Swallowing Disorders



# Content Page

I	How Can This Booklet Help You?	3
2	What Happens When You Swallow?	3
3	What is a Swallowing Disorder?	4
4	What are Some Symptoms of a Swallowing Disorder?	4
5	What Happens if You Have Dysphagia?	5
6	Swallowing Assessments	6
7	Types of Feeding	
	• Non-Oral Feeding	7
	• Comfort Feeding	8
	• Transitional Feeding	8
	• Oral Feeding	8
8	Swallowing Rehabilitation	9
9	Types of Swallowing Exercises	
	• Lip Exercises	10 -II
	• Tongue Exercises	12 -I3
	• Oral Stimulation With Cold Flavoured Spoon	14
	• Effortful Swallow	15
	• Masako Manoeuvre	15
	• Base of Tongue Exercises	16
	• Mendelsohn Manoeuvre	17
	• Supraglottic Swallow	17
	• Jaw Opening Against Resistance	17
	• Shaker Exercise	18
10	Oral Care	19
11	Feeding Recommendations	20
12	Feeding Techniques	21

# BEFORE WE BEGIN

## How Can This Booklet Help You?

This booklet aims to provide people with swallowing difficulties and their caregivers with information about swallowing impairment, assessment, management, and basic oral care.

## What Happens When You Swallow?

Swallowing is a complex activity that needs precise control and coordination of the muscles in the mouth, throat and food pipe [oesophagus].

Swallowing can be divided into three phases:

### I. Oral phase – mouth

It involves chewing and moving food or fluid using the teeth, jaw and tongue to form a soft mass that is ready to be swallowed.

### 2. Pharyngeal phase – throat

Food or fluid is pushed from the back of the tongue into the food pipe.

The voice box (larynx) rises and seals off the windpipe (airway) to prevent food or fluid from entering the airway.

### 3. Oesophageal phase – to the stomach

A series of wave-like muscle contractions move the food or fluid down the food pipe into the stomach.

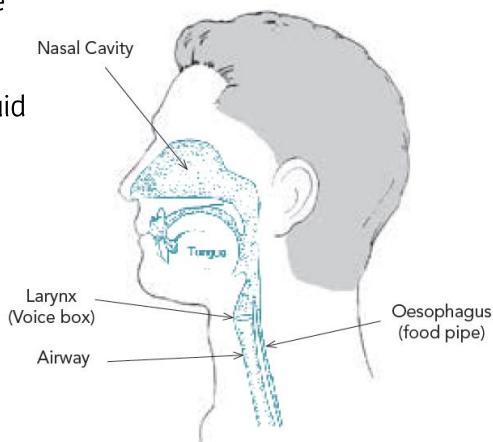


Diagram A: Simplified Anatomy of Head and Neck

# **SWALLOWING DISORDERS**

## **What is a Swallowing Disorder?**

A swallowing disorder, also known as dysphagia, refers to any difficulty in the process of swallowing.

Any breakdown in one or more of the three swallowing phases can result in dysphagia. If you have dysphagia, you may find it difficult to chew food or to transport food or fluids from the mouth to the stomach.

Various medical conditions can cause dysphagia, including:

- Stroke
- Head injury
- Dementia
- Parkinson's disease
- Motor neurone disease
- Head and neck cancer
- Respiratory diseases

It is important to detect dysphagia early so that proper assessment and management can be started..

## **What are Some Symptoms of a Swallowing Disorder?**

Swallowing is a complex activity that requires precise control and coordination of the muscles in the mouth, throat and oesophagus.

Symptoms of swallowing disorder may include:

- Difficulty chewing food
- Frequent throat clearing, coughing or choking during or after swallowing
- Wet or gurgly-sounding voice during or after meals
- Taking a long time to finish a meal
- Shortness of breath during or after meals
- Multiple swallows per spoonful
- Food (residue) left in the mouth after swallowing
- Excessive drooling or food lost from the mouth
- Food or fluid flowing up into the nose
- Pneumonia or chest infection
- Weight loss
- Refusal to swallow

# **OUTCOMES OF SWALLOWING DISORDERS**

## **What Happens if You Have Dysphagia?**

You may experience the following if you have dysphagia:

### **I. Aspiration Pneumonia**

- Aspiration pneumonia is a lung infection that occurs when food or fluid (including saliva) enters your airway or lungs instead of being swallowed into the oesophagus and stomach.
- You are at high risk of aspiration if you have dysphagia.
- Aspiration can be fatal, especially for people who are medically vulnerable, such as those with dementia, reduced respiratory support or individuals who have suffered a stroke.
- One of the goals of managing swallowing disorders is to reduce the risk of developing aspiration pneumonia.

### **2. Malnutrition and Dehydration**

- You may develop a phobia of drinking and eating as a result of choking episodes that may occur when you eat or drink.
- You may also lose your appetite while getting used to the modified food or liquids recommended. This may result in not eating or drinking enough.
- In severe cases, reduced nutritional and fluid intake may cause malnutrition and dehydration.

# **SWALLOWING ASSESSMENTS**

Swallowing assessments are conducted by Speech Therapists.

Assessments will allow your Speech Therapist to identify the method of feeding (oral versus non-oral feeding), the consistency of diet and fluids that you can swallow safely, appropriate feeding strategies and possible therapy.

These procedures may be repeated at a later date to determine if your swallowing has improved after swallowing therapy.

Further types of swallowing assessments include :

## **I. Videofluoroscopy (VFS)**

- VFS assesses your swallowing using an X-ray.
- It checks if food or fluids is entering your airway and/or lungs when you eat or drink.
- You will be seated for this procedure and will be given small amounts of food and fluid of different consistencies mixed with barium sulphate (a non-poisonous substance) to swallow.
- The entire procedure will last approximately 15-20 minutes.

## **2. Fibreoptic Endoscopic Examination of Swallowing (FEES)**

- FEES assesses your ability to swallow by using a scope (a thin, flexible tube with a camera).
- It checks if food or fluids is entering your airway and/or lungs when you eat or drink.
- You will be given small amounts of food and fluids of different consistencies stained with food dye, while the scope is in place.
- The entire procedure will last approximately 20-30 minutes.

# **TYPES OF FEEDING**

## **I. Non-Oral Feeding**

Non-oral feeding is a method of providing nutrition without using the mouth.

Persons with dysphagia can receive nutrition through this method.

Your Speech Therapist may recommend non-oral feeding when the risk of aspiration is high. Non-oral feeding may also be suggested if your oral intake is inadequate to meet your nutritional and hydration needs.

The two most common forms of non-oral feeding are:

### **I. Nasogastric (NG) Tube**

- A feeding tube is inserted through the nose into the stomach.

### **2. Percutaneous Endoscopic Gastrostomy (PEG) Tube**

- A feeding tube is inserted into the stomach during a minor operation.

Both the NG and PEG tubes can be removed when the person is able to swallow safely again.

The required formula milk feeds and feeding schedule are prescribed by the dietitian or the doctor.

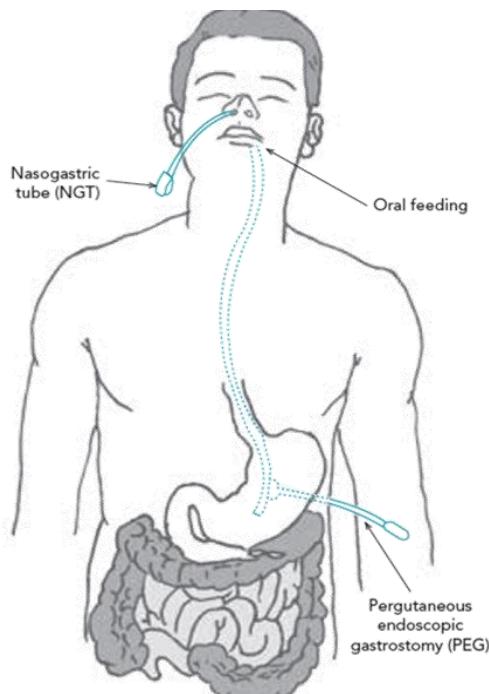


Diagram B: Enteral Feeding Tube Placement

# **TYPES OF FEEDING**

## **2. Comfort Feeding**

Persons with dysphagia on non-oral feeding may be able to take some comfort feeding, as determined by the Speech Therapist.

Small controlled amounts of oral feeding of modified diet and fluid consistencies are fed to provide comfort and improve quality of life.

## **3. Transitional Feeding**

This refers to the progression from non-oral feeding to full oral feeding.

During this process, persons with dysphagia will be allowed to eat modified diet or fluids recommended by the Speech Therapist.

Do note that they may not be able to tolerate full oral feeding at the start and may require top-up of non-oral feeding to ensure adequate intake.

This process may vary depending on the person's condition. As the person's swallowing function improves, the dependence on tube feeding will reduce.

The Speech Therapist will work together with the dietitian to ensure that the person with dysphagia gets adequate nutrition and hydration.

## **4. Oral Feeding**

For persons with dysphagia on full oral or transitional feeding, the Speech Therapists may suggest regular diet or modified diet or fluid consistencies. For more information, refer to 'Feeding Recommendations' (pages I9 and 20).

Please do not feed if any of the following is observed:

- Frequent coughing or throat clearing during or after feeding
- Wet or gurgly voice during or after feeding
- Shortness of breath during feeding
- Distress or drowsiness during or after feeding

# **SWALLOW REHABILITATION**

- Depending on your swallowing impairment and ability, your Speech Therapist will teach you (and your caregiver, if applicable) therapy tasks (refer to box below) to improve your swallowing ability.
- The types and frequency of therapy tasks that should be done regularly will be recommended by your Speech Therapist. During the period of swallowing rehabilitation, you are advised to continue with the feeding method and consistencies recommended before commencing therapy.
- After a period of therapy, your Speech Therapist will reassess your swallowing ability to see if any changes to diet/fluids, feeding methods and/or make appropriate corrections to therapy tasks are needed.

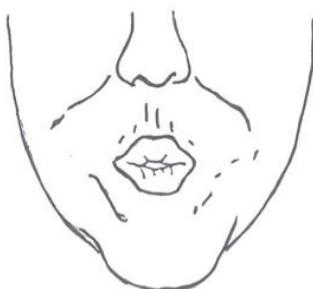
## **Types of swallowing exercises:**

<input type="checkbox"/> Lip exercises	<input type="checkbox"/> Oral stimulation with cold flavoured spoon
<input type="checkbox"/> Tongue exercises	<input type="checkbox"/> Effortful swallow
<input type="checkbox"/> Base of tongue exercises	<input type="checkbox"/> Masako manoeuvre
	<input type="checkbox"/> Mendelsohn manoeuvre
	<input type="checkbox"/> Shaker exercise
	<input type="checkbox"/> Supraglottic swallow
	<input type="checkbox"/> Jaw opening against resistance

# TYPES OF SWALLOWING EXERCISES

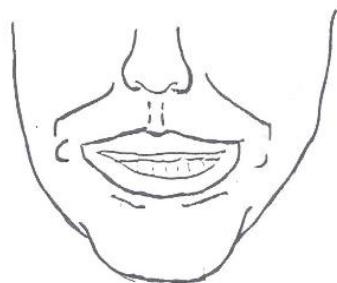
## Lip Exercises

**Exercise 1**



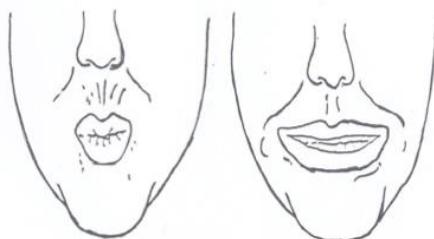
1. Round your lips and say 'woo', then relax your lips.
2. Repeat \_\_\_\_\_ times.

**Exercise 2**



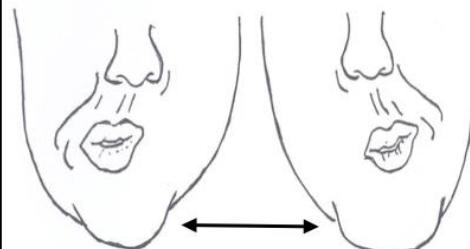
1. Stretch your cheeks by smiling, then relax your lips.
2. Repeat \_\_\_\_\_ times.

**Exercise 3**



1. Round your lips, then spread your lips (say 'woo-eee')
2. Repeat \_\_\_\_\_ times.

**Exercise 4**



1. Purse your lips, then move them to the left and right.
2. Repeat \_\_\_\_\_ times.

# TYPES OF SWALLOWING EXERCISES

## Lip Exercises (Continued)

**Exercise 5**



1. Hold your lips together.
2. Puff up your cheeks. Maintain for \_\_\_\_\_ seconds, then relax.
3. Repeat this \_\_\_\_\_ times.

**Exercise 6**



1. Hold a tongue depressor using your lips. Make sure it does not drop.
2. Hold for \_\_\_\_\_ seconds, then relax.
3. Repeat this \_\_\_\_\_ times.

**Exercise 7**



1. Blow bubbles using a straw into a cup of water.
2. Repeat this \_\_\_\_\_ times.

# TYPES OF SWALLOWING EXERCISES

## Tongue Exercises

**Exercise 1**



1. Stretch your tongue far out, keep it straight if possible.
2. Hold for \_\_\_\_\_ seconds.
3. Repeat this \_\_\_\_\_ times.

**Exercise 2**



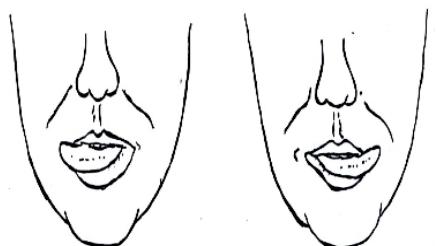
1. Stretch your tongue towards your nose, then draw it back into your mouth.
2. Repeat this \_\_\_\_\_ times.

**Exercise 3**



1. Stretch your tongue down to your chin, then draw it back into your mouth.
2. Repeat this \_\_\_\_\_ times.

**Exercise 4**



1. Put your tongue out and stretch it to the left and right corner of your mouth.
2. Continue to move your tongue from side to side \_\_\_\_\_ times.

# TYPES OF SWALLOWING EXERCISES

## Tongue Exercises (Continued)

**Exercise 5**



1. Use your tongue to lick your lips.
2. Begin in a clockwise direction, then reverse.
3. Repeat \_\_\_\_\_ times.

**Exercise 6**



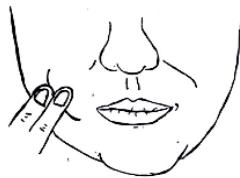
1. Place a tongue depressor in front of your lips.
2. Stretch your tongue out to push it.
3. Repeat \_\_\_\_\_ times.

**Exercise 7**



1. Close your mouth, poke your tongue towards the right cheek.
2. Then poke your tongue towards the left cheek.
3. Repeat \_\_\_\_\_ times.

**Exercise 8**



1. Use your tongue tip to push against your cheek. Use a finger to push against your cheek where your tongue tip is.
2. Do the same on the other side.
3. Repeat \_\_\_\_\_ times.

# **TYPES OF SWALLOWING EXERCISES**

## **Oral Stimulation With Cold Flavoured Spoon**

1. Dip a metal spoon into a cup of cold flavoured drink.
2. Place the cold, empty metal spoon into the mouth and onto the tongue.
3. Apply gentle pressure onto the tongue.



4. Place the other hand on the person's neck and feel for the bump (Adam's apple).
5. You should feel the bump at the front of the neck move upwards then back to rest.
6. Repeat the above steps until the target number of swallows has been achieved.
7. Aim for \_\_\_\_ swallows each time, \_\_\_\_ times a day.

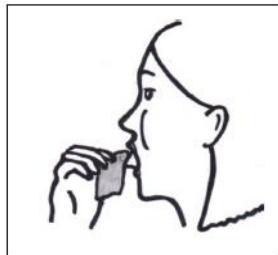
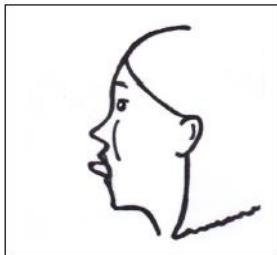
# **TYPES OF SWALLOWING EXERCISES**

## **Effortful Swallow**

1. Swallow normally first.
2. Put your hands together and push.
3. While you are swallowing, squeeze your tongue and throat as though you are trying to swallow something hard.
4. You may do this exercise with the modified diet or fluid consistencies recommended by your Speech Therapist.
5. Aim for \_\_\_\_ swallows each session, \_\_\_\_ times a day.

## **Masako Manoeuvre**

1. Stick your tongue out and gently hold it in place with your teeth/gums or hold your tongue with a gauze pad.



2. Swallow while keeping your tongue in between your teeth/gums.

(Note: Do not use food or fluid during this exercise as it may cause choking.)

3. Aim for \_\_\_\_ swallows each session, \_\_\_\_ times a day.

# **TYPES OF SWALLOWING EXERCISES**

## **Base of Tongue Exercises**

### **Exercise I – Tongue range of motion exercises**

- Pull your tongue straight back in your mouth.
- Hold for 1 second and then relax.
- Repeat 5 times.

### **Exercise 2 – Gargle Exercise**

- Pretend to gargle.
- Hold for 5 seconds and then relax.
- Repeat 5 times.

### **Exercise 3 – Yawn Exercise**

- Pretend to yawn.
- Hold for 5 seconds and then relax.
- Repeat 5 times.

# **TYPES OF SWALLOWING EXERCISES**

## **Mendelsohn Manoeuvre**

1. Swallow and feel your larynx (voice box or Adam's apple) move as you swallow.
2. Swallow again and feel your larynx elevate during the swallow.
3. Now when you feel the larynx lift all the way, hold it up with your neck muscles for about 5 seconds during the swallow.
4. Then relax your neck muscles again.
5. Aim for \_\_\_\_ swallows each session, \_\_\_\_ times a day.

## **Supraglottic Swallow**

1. Hold your breath.
2. Keep holding your breath while you swallow.
3. Cough immediately after the swallow, then swallow again.
4. You may do this exercise with the modified diet/fluid consistencies recommended by your Speech Therapist.
5. Aim for \_\_\_\_ swallows each session, \_\_\_\_ times a day.

## **Jaw Opening Against Resistance**

1. Instruct the patient to close his/her mouth.
2. Use one hand to stabilise the patient's head.
3. Place the other hand under the patient's jaw.
4. Use the hand under the patient's jaw to apply upward resistance.
5. At the same time, ask the patient to open his/her mouth as wide as possible.
6. Aim for \_\_\_\_ repetitions each session, \_\_\_\_ times a day.



# **TYPES OF SWALLOWING EXERCISES**

## **Shaker Exercise**

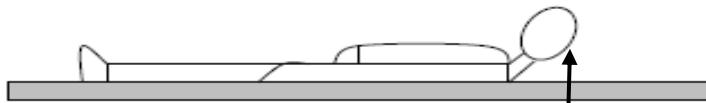
### a) Successive Head Lifts

- I. Lie down on a flat surface (e.g., bed, floor) without a pillow.

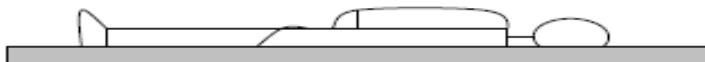


2. Slowly lift your head to look at your toes, while keeping your shoulders relaxed against the bed or ground.

(Note: Use your neck, not shoulders to do the exercise.)



3. Lower your head back down and rest.



### b) Sustained Head Lifts

Repeat steps I – 3 above, but keep your head lifted for \_\_\_\_\_ seconds each time.

Repeat \_\_\_\_\_ times.

Do the above head lift exercises for \_\_\_\_\_ times a day.

## Oral Care

People with dysphagia may have poor oral health and dental care. This increases the risk of developing aspiration pneumonia.

This is because they may have reduced ability to manage their own secretions, resulting in increased amounts of oral bacteria in the saliva entering the airway/lungs during swallowing or at rest.

Regular dental and oral care helps to reduce the incidence of pneumonia by 20% in patients with dysphagia post-stroke<sup>1</sup>.

Some methods for oral care include:

- Using antiseptic mouth wash
- Cleaning the tongue and roof of the mouth with oral swabs, with or without alcohol-free products or non-foaming toothpaste or non-foaming toothpastes to clean the tongue and roof of mouth
- Applying oral moisturisers to maintain moisture in the oral cavity, preventing dry mouth (xerostomia)



Oral swabs

<sup>1</sup>Sørensen, R.T., Rasmussen, R.S., Overgaard, K., Lerche, A., Johansen, A.M., and Lindhardt,T.. (2013). Dysphagia screening and intensified oral hygiene reduce pneumonia after stroke. Journal of Neuroscience Nursing, 45(3), 139-146

# FEEDING RECOMMENDATIONS

Mode of Feeding:

- Oral
- Transitional
- Comfort

	Type	Amount
Diet	<ul style="list-style-type: none"><li><input type="checkbox"/> Regular</li><li><input type="checkbox"/> Easy to chew</li><li><input type="checkbox"/> Soft &amp; bite-sized (porridge/rice)</li><li><input type="checkbox"/> Minced &amp; moist</li><li><input type="checkbox"/> Pureed</li><li><input type="checkbox"/> Liquidised</li><li><input type="checkbox"/> Others _____</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Teaspoon</li><li><input type="checkbox"/> Tablespoon</li></ul>
Fluid	<ul style="list-style-type: none"><li><input type="checkbox"/> Thin</li><li><input type="checkbox"/> Slightly thick</li><li><input type="checkbox"/> Mildly thick (Nectar)</li><li><input type="checkbox"/> Moderately thick (Honey)</li><li><input type="checkbox"/> Extremely thick (Pudding)</li><li><input type="checkbox"/> Others _____</li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/> Teaspoon</li><li><input type="checkbox"/> Tablespoon</li><li><input type="checkbox"/> Cup</li><li><input type="checkbox"/> Straw</li><li><input type="checkbox"/> No straw/cup drinking</li></ul>

Please refer to Modified Consistencies for Swallowing Problems Brochure for details of diet and fluid textures.

Supervision required while feeding?

- Yes

Positioning while feeding:

- Upright sitting posture for all meals and medicines
- Chin down to chest (chin tuck)
- Tilt head to the left/right
- Turn head to the left/right, looking over the shoulder
- Others \_\_\_\_\_

## **FEEDING TECHNIQUES**

- Feed slowly, and gently place your fingers on the throat to feel for swallows.
- Hold food/fluid in mouth until ready to swallow.
- Take 2-3 swallows for each mouthful.
- Check for wet voice after each mouthful.
- Alternate between fluids and food.
- Do not eat/drink 3 hours before sleeping.
- Others \_\_\_\_\_

### **Do Not :**

- Talk and eat at the same time.
  - Rush through meals and drinks.
  - Distract the person during meals.
  - Feed if signs of aspiration and/or drowsiness are observed on diet/fluid (refer to page 4).
  - Others \_\_\_\_\_
- 
- Explained by Speech Therapist : \_\_\_\_\_

Clinic BI-C (Speech Therapy Department)  
TTSH Medical Centre, Basement I, Clinic BI-C  
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6357 7000 (Central Hotline)  
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<https://nhghealth.com.sg>



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