



# NUTRITION

## IN ADVANCED ILLNESS

PALLIATIVE CARE UNIT HTJS

## NUTRITION IN ADVANCED ILLNESSES

“I don’t feel like eating” is a common remark made by our loved ones with advanced illnesses.

Common causes include:

- Changes in sense of taste or smell may cause certain foods or drinks to be unpleasant
- Side effects of medication and treatment may result in an uncomfortable eating experience, e.g., constipation, nausea, vomiting, bloatedness
- The illness itself – such as cancer, organ failure – causes loss of appetite. Why this happens is not yet fully understood, but it is related to how the body reacts to the presence of the illness
- Pain from mouth sores, fungal infection (oral thrush)
- Excessively dry mouth from radiation therapy can make eating challenging and uncomfortable
- Chemical imbalances in the blood affecting normal bodily functions, e.g., high calcium levels
- Mood-related issues, e.g., depression. Poorly controlled pain can also contribute to low mood resulting in poor appetite

- Advanced dementia may result in confusion or not recognising food. This may lead to food refusal, loss of interest in food, holding food in mouth instead of swallowing
- Blockage of the body's food passage
- Difficulties in chewing or swallowing from muscle weakness, lack of teeth

## Difficulties swallowing

This is due to the weakening of muscles involved in swallowing or difficulty in coordinating these muscles. It is important to recognise the signs that our loved ones are having difficulty swallowing as measures can be taken to reduce the risk of choking on eating or drinking.

Inform the doctor or nurse if you notice any of these common signs of difficulty swallowing:

- Cough\* during/after most meals
- Wet “gurgling” voice after drinking and/or while resting
- Cough\* upon eating a specific type of food/drink, e.g., coughs\* when eating rice but not porridge
- Prolonged chewing
- Breathlessness during/after a meal
- Keeping food in the mouth and not swallowing
- Complaining of a sensation of something stuck in their throat
- Eating or drinking less than usual

\* *Some may clear their throats instead of cough*

## Weight loss

As a result of abnormal processing of nutrients by the body in the presence of an advanced illness, your loved one may not be able to build muscle or fat despite eating a fair amount of food. Instead, they may continue to lose significant amounts of weight and muscle.

## Improving nutrition and the mealtime experience

In Singapore, food is strongly associated with expressions of love and care. Thus, it is very difficult to see our loved ones no longer enjoy meals specially prepared for them and lose weight despite our best efforts. Although not all causes of appetite and weight loss are reversible, there are factors we need to consider to maximise their nutrition, comfort and quality of life. They are:

### 1. Understand food preferences

- Your loved one's food preferences can change – a sambal belacan lover in the past may now prefer plain porridge with simple bland side dishes.
- Be brave and experiment with different herbs and seasonings to enhance flavour and aroma.
- Different temperatures can make the meal more interesting, e.g., hot main meal followed by cold ice cream for dessert.
- Listen to your loved one, observe their responses to food and drinks, and be open to your loved one's changing feedback.

### 2. Use a suitable consistency

- Food and fluid consistency can affect ease of swallowing.

### **3. Keep the mouth fresh and clean**

- Remove and clean dentures before and after every meal.
- Continue to brush and rinse their mouth daily for as long as your loved one is physically able to. Use a toothbrush with ultra-soft bristles or an oral swab stick.
- Regular mouth rinses also helps to keep the mouth fresh. A simple homemade mouth rinse uses half teaspoon of table salt dissolved in four cups of warm water. Your loved one can rinse as often as necessary.
- Flavoured ice chips or semi frozen pineapple pieces also help to maintain a fresh mouth.
- Look out for mouth ulcers, sores or patches of red or white which may indicate a fungal infection. Inform the doctor or nurse if you notice such changes.
- Keep a small sipper bottle with their favourite drinks by their bedside to allow frequent sips or a small spray bottle to moisten their mouth.
- If your loved one is no longer able to drink or swallow, use an oral swab stick to gently clean their mouth and apply moisturising mouth gel to keep their mouth moist and clean.

### **4. Make mealtimes more enjoyable and easier for your loved one**

- Have meals in a well-lit environment and help put on your loved one's spectacles if needed to help them appreciate what they are eating.
- Create a relaxing environment to allow enjoyment of food, e.g., in the company of family or friends or play some soft background music.
- Place dishes and cutleries within easy reach.
- Encourage your loved one to eat at the table, or at least out of bed.

- It is good to remain upright for a meal and at least 30 minutes after each meal or snack to prevent gastric reflux.

### **5. Assist and pace as necessary**

- Eating can be tiring for your loved one especially if they are breathless or tire easily to begin with. Take frequent breaks during the meal.
- Ensure your loved one has swallowed the food before feeding the next spoonful.
- Provide small sips of fluid between mouthfuls of food to help clear the food in the mouth.

### **6. Make food more appealing**

- Use a variety of different coloured ingredients in a dish, e.g., mix diced carrots and mashed potatoes with a side of broccoli.
- Use contrasting colours of food and crockery, e.g., serve porridge in a red bowl instead of a white bowl.
- Shape blended or minced food with various kitchen tools, e.g., ice cream scoops, muffin cups, cookie cutters etc., to make food appear more interesting.

### **7. Serve small meals or snacks throughout the day**

- Allow your loved one to decide when or what they would like to eat.
- He or she may prefer 5 to 6 very small meals instead of 3 main meals.
- Small servings may be better. You can always top up later.
- If nausea is present, remember to serve the nausea medication at least 30 minutes before a meal, or as advised by the doctor.

### 8. Make every mouthful of food count

- Increase calories and protein content in meals, e.g., add sesame oil, egg, fish or tofu into porridge; add peanut butter or tuna to biscuits; add oral nutritional supplements to milkshakes.
- Provide high calorie, high protein snacks, e.g., red or green bean soup, sesame paste, bubur cha cha, beancurd.
- Provide nourishing fluids, e.g., soya milk; full cream or flavoured milk; oral nutritional supplements; fruit smoothies; yoghurt drinks; adding milk, ice cream or honey to beverages.

### 9. Avoid drinking too much fluid with meals

- Fluid, especially fizzy drinks, may cause your loved one to feel full or bloated very quickly.
- Unless your loved one is taking fluid meal replacements, take sips of fluids during meals only to clear the palate.

Allow your loved one's body to guide you in the amount of food and fluids to feed. Force-feeding will only cause distress both to yourself (as the caregiver) and your loved one. It can also cause physical discomfort or pain. The goals of eating are to maximise enjoyment of food and eating as and when your loved one is able to tolerate – even if it means only one or two spoonful of their favourite food just for tastes

## Modified fluid consistency

If your loved one has difficulty swallowing, you may be advised to modify the consistency of the fluid he or she drinks. This also applies to clear soups, liquid desserts and watery porridge. A thicker consistency fluid moves more slowly through the mouth, allowing better control of the fluid during swallowing. While this will not

totally prevent choking or accidental swallowing into the lungs, it is believed that the risk will be reduced.



Commercially available powder thickeners can be bought from pharmacies. There is usually a table on the packaging to inform you how much powder to add to thin fluids (e.g., plain water, coffee, tea) to thicken to the recommended consistency. Do note that some thickeners do not keep the fluid thickened for a long period. Always check the consistency of the fluid again before giving it to your loved one. If need be, medications can be either given in a syrup form or pills can be crushed and mixed with the appropriately thickened fluid.



It is also good to be able to estimate the “thickness” of the fluid using The Fork Test, as there may be situations where small amounts of fluid or syrup needs to be thickened. The Fork Test is done with the fork dipped into the fluid, then examined while held up at a 45-degree angle.

Your loved one may be resistant to using thickeners with water or their usual drinks. It may be more acceptable to them to drink naturally thickened fluids. Some examples are given in the table below.

<i>FLUID CONSISTENCY</i>	<i>THE FORK TEST</i>
<i>Thin fluid</i>	<i>Fluid that is not thickened. It runs quickly through the prongs of the</i>

	fork, leaving little or no coating on the fork
Nectar thick	Fluid drips quickly through the prongs of the fork and leaves a thin coating on the fork
Honey thick	Fluid forms a web between the prongs of the fork and drips slowly through them
Pudding thick	Fluid holds well together and remains on the fork, does not drip through the prongs of the fork

EXAMPLES	PICTURE
Milo, tea, water, coffee	
Thick barley drink, mango juice, pumpkin soup	

Honey, papaya milkshake, black sesame paste	
Thick plain yoghurt, soft jellies, grass jelly (drain away syrup), mango pudding	

## Modified solid foods

In general, softer and easy to chew foods are more manageable by the elderly or if the person is unwell. When swallowing becomes a challenge, the healthcare professionals may suggest that food prepared for your loved one be in one of the four common consistencies:

### 1. Normal diet or diet of choice

- This refers to regular foods with no specific size or textures
- Biting and chewing will be required
- There may be a mixture of consistencies, e.g., noodles in soup

### 2. Coarsely chopped or easy-chew

- Foods in this category are usually soft in texture and cut up to about 3 cm to 4 cm cubes

- Some chewing will still be required to break down the food
- More gravy or a slightly longer cooking time will help to soften the food

### 3. Finely minced or soft-moist

- Foods are soft, moist and minced (about 0.3 cm to 0.5 cm)
- If buying meat from the butcher, request for meat to be minced finely for baby food
- Minimal chewing is required

### 4. Blended diet

- Food is pureed till smooth and lump-free
- No chewing is required
- A blender is required for food preparation
- It should not be too watery or too sticky

## Diet suggestions

<i>Blended</i>	<i>Finely minced/ soft-moist</i>	<i>Coarsely chopped/ easy-chew</i>	<i>Normal diet</i>
<b>BREAKFAST</b>			
<i>Blended oats</i>	<i>Soft bread well moistened in milk</i>	<i>Congee</i>	<i>Fried Bee Hoon</i>
<i>Blended porridge</i>	<i>Mee suah (cut up)</i>	<i>Chee Cheong Fun</i>	<i>Roti Prata</i>

<i>Yoghurt</i>	<i>Thosai soaked in dhall (cut up small)</i>	<i>Idli with dhall or chutnry</i>	<i>Sandwiches</i>
<i>Blended tau suan or green beans</i>	<i>Lontong (cut up)</i>	<i>Soft bread with jam</i>	<i>Nasi lemak</i>
<i>Blended</i>	<i>Finely minced/ soft-moist</i>	<i>Coarsely chopped/ easy-chew</i>	<i>Normal diet</i>
<b>LUNCH</b>			
<i>Pureed vegetables e.g. pumpkin, carrot, gourds</i>	<i>Finely chopped soft vegetables e.g cauliflower, broccoli, carrot</i>	<i>Green leafy or crunchy vegetables (chopped up)</i>	<i>Bean curd (tau kua)</i>
<i>Cream soups</i>	<i>Dhall curry</i>	<i>Soft tofu</i>	<i>Boiled eggs</i>
<i>Mashed potato</i>	<i>Steamed egg pudding</i>	<i>Steamed Oily Fish</i>	
<i>Blended meat or fish (blend with gravy)</i>	<i>Boneless, skinless, minced meat or flaked fish</i>	<i>Shepherd's Pie</i>	<i>Grilled oily fish e.g. salmon</i>
<i>Blended legumes</i>	<i>Cheese slices</i>	<i>Noodles (cut up)</i>	<i>Chapati with dhall</i>
<i>Stewed or curry meat(blended)</i>	<i>Fish N Chips(finely minced)</i>	<i>Chicken Nuggets (finely chopped)</i>	<i>Chicken chop</i>
<i>Blended</i>	<i>Finely minced/ soft-moist</i>	<i>Coarsely chopped/ easy-chew</i>	<i>Normal diet</i>

<b>DINNER</b>			
<i>Blended porridge</i>	<i>Soft rice</i>	<i>Sweet and sour soup</i>	<i>Tauhu telor</i>
<i>Plain sweet yoghurt</i>	<i>Minced leafy or root vegetables</i>	<i>Steamed fish fillet with gravy</i>	<i>Chicken satay</i>
<i>Pureed root vegetables</i>	<i>Hummus</i>	<i>Chopped and diced vegetables and fruits</i>	<i>Leafy vegetables</i>
<i>Cream soup</i>	<i>Congee</i>	<i>Appom</i>	<i>Idli</i>
<i>Blended</i>	<i>Finely minced/ soft-moist</i>	<i>Coarsely chopped/ easy-chew</i>	<i>Normal diet</i>
<b>SUPPER</b>			
<i>Jelly/Jello</i>	<i>Soft fruit (coarsely mashed)</i>	<i>Soft fruits (cut to bite size)</i>	<i>Egg tart</i>
<i>Milkshake</i>	<i>Bubur hitam</i>	<i>Cheesecake</i>	<i>Peanut pancake</i>
<i>Tau Fu Fah</i>	<i>Bread or biscuits soaked in milk</i>	<i>Pandan cake</i>	<i>CurryPuffs</i>
<i>Ice cream</i>	<i>Soya bean curd</i>	<i>Banana</i>	<i>Fruit tart</i>
<i>Plain yoghurt</i>	<i>Fruit yoghurt</i>	<i>Custard with chopped fruits</i>	<i>Digestive Biscuits</i>

## **Other important considerations:**

1. If using Milo or other thin fluids to soften bread or biscuits, do remember to thicken the fluid to the appropriate consistency beforehand and drain excess fluid before feeding.
2. Avoid mixed consistencies (solid + liquid). Mixed consistencies in one mouthful of food is challenging to manage if your loved one has a swallowing impairment. For example, if serving bee hoon in soup with minced meat and chopped vegetables, drain away the soup when feeding the bee hoon. Feed the minced meat and chopped vegetables separately.
3. When feeding porridge or oats, enzymes from the saliva on the spoon can gradually cause the food to become more watery. Avoid stirring the food with the same spoon being used to feed your loved one. Instead, scoop from the sides of the bowl.

## **Special features**

### **Food choices**

- Avoid using foods that have a coarse or stringy texture, like whole-grain crackers, celery, pineapple, and brisket.
- Avoid using foods that are too sticky, like glutinous rice flour dumplings and Chinese New Year cake.
- Avoid foods that crumble easily, like egg rolls and pastries.
- Avoid foods that are hard in texture, like nuts and walnut cake.

- Choose seasonings like ground ginger, ground garlic, ground white pepper, ground herbs, vinegar, and ketchup.

### **The cooking and processing of foods and common food processing utensils**

- Remove the skin, bones, and seeds from the food before processing.
- Foods that are large in size and hard should be chopped into smaller pieces and cooked until soft.
- Use cooking methods that will keep the foods moist, like steaming, boiling, and stewing to facilitate with food processing after cooking.
- Common food processing utensils include juicer, blender, grinder, food processor, sieve, and a large Chinese knife/cleaver.

### **Using food processing utensils**

- Foods should be thoroughly cooked before grinding or pureeing.
- Use adequate amount of soup, milk, or juice during food processing to enhance flavour and nutrition.
- If the pureed food is not smooth in texture, use a sieve to separate the lumps.

### **Food hygiene**

- Special attention should be paid to food hygiene as bacteria on the surface of foods can contaminate the entire food during the mincing and pureeing procedures.

### **Food presentation**

- The ingredients for the main dishes and side dishes should be separately minced or pureed. Rice and noodles should not be pureed together with the ingredients of the main dishes.
- Enhance the flavour and colour by using colourful ingredients to prepare the main dishes, like pureed carrot, pureed pumpkin, pureed tomato, mashed egg yolk, jam, and pureed fruit.
- Use separate bowls or dishes with dividers to hold rice and main dishes. This will allow the elders to easily differentiate and taste the different foods.