

Department of Dietetics

Happy Valley

Hong Kong Sanatorium & Hospital
4/F, Central Block
2 Village Road, Happy Valley, Hong Kong
Tel: (852) 2835 8674 Fax: (852) 2892 7428
dietitian@hksh-hospital.com
www.hksh-hospital.com
Monday to Friday: 9:00 am – 5:00 pm
Saturday: 9:00 am – 1:00 pm
Closed on Sundays and Public Holidays

Admiralty

HKSH Healthcare Medical Centre
Level 23, One Pacific Place
88 Queensway, Hong Kong
Tel: (852) 2855 6000 Fax: (852) 2892 7428
dietitian@hksh-healthcare.com
www.hksh-healthcare.com
Consultation by Appointment

Island East

HKSH Li Shu Fong Building
5/F, 5 A Kung Ngam Village Road
Shau Kei Wan, Hong Kong
Tel: (852) 2917 1150 Fax: (852) 2892 7404
dietitian@hksh-emc.com
www.hksh-emc.com
Monday to Friday: 9:00 am – 5:00 pm
Saturday: 9:00 am – 1:00 pm
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For enquiries and appointments,
please contact us



Inpatient Nutrition Screening



Inpatient Nutrition Screening

Since 1 August 2012, Hong Kong Sanatorium & Hospital has started performing MUST (Malnutrition Universal Screening Tool) for inpatients to screen for malnutrition. Inpatients will be screened within 48 hours of admission and periodically afterwards.

Why is Nutrition Screening Necessary?

Your weight, dietary and medical conditions all reflect your risk of malnutrition, which often affects your medical and surgical outcomes. It means you may take longer time to heal and recover if malnourished. In order to ensure your health and the best medical outcome, you are encouraged to maintain a healthy weight with proper nutrition. By performing nutrition screening, dietitians can identify those who are at risk and make sure that high-risk patients are getting adequate nutrition.

Therefore, when you are at risk of malnutrition, we encourage you to seek professional advice from our dietitians.

What is MUST?

MUST stands for Malnutrition Universal Screening Tool. The following is the MUST calculator. You can calculate the MUST score yourself by adding the scores of Step 1 to Step 3.



Step 1 BMI Score

BMI kg/m ²	Score
≥ 18.5	0
16 to 18.4	1
< 16	2

+

Step 2 Weight Loss Score

Unplanned weight loss in the past 3 to 6 months	
%	Score
< 5	0
5 to 10	1
> 10	2

+

Step 3 Acute Disease Effect Score

If patient is acutely ill
AND there has been or is likely to be
NO nutritional intake for > 5 days
Score = 2

MUST Score Chart

Score	Risk of Malnutrition
0	Low
1	Medium
≥ 2	High

What is My Healthy Weight?

To know if you are at your healthy weight, you will need to calculate your body mass index (BMI) as follows:

BMI = Weight (kg) ÷ Height (m)²

Example: Height - 1.5 m; Weight - 50 kg

BMI = 50 ÷ 1.5²
= 22.2

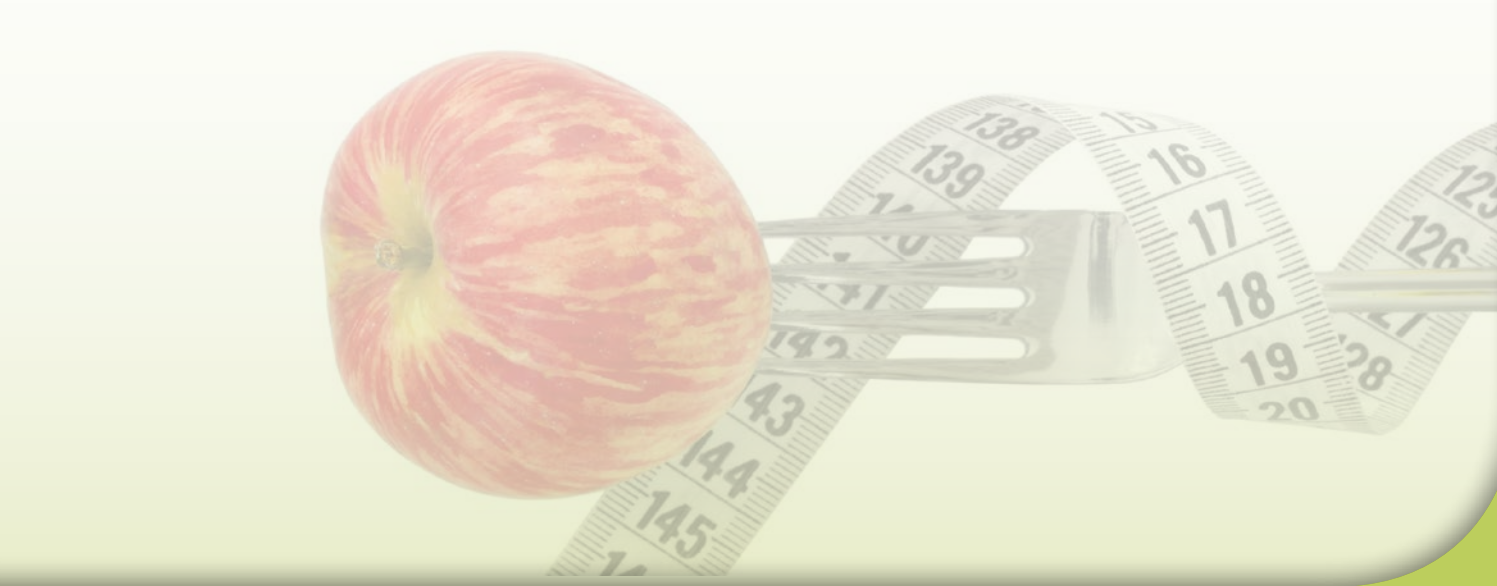
The following table shows the healthy BMI range recommended by the World Health Organization:

Body Mass Index (BMI) Categories (WHO)		
	Asian	Caucasian
Underweight	< 18.5	< 20.0
Normal	18.5 to 22.9	20 to 24.9
Overweight	> 22.9	> 24.9

What Does NO Nutritional Intake Mean?

Nutritional intake means all intakes from the oral route, enteral feeding or parenteral nutrition. If you have virtually no food intake, only consume rice water or broths, or only rely on intravenous glucose water or saline, you are considered to have **NO nutritional intake**. Common reasons are:

- Swallowing difficulties
- Poor Appetite
- Starvation
- Gastrointestinal Discomfort
- Alcoholism
- Before and After Surgery
- Undergoing Multiple Investigations
- Medical Conditions such as:
 - Cancer
 - Renal Failure
 - Uncontrolled Diabetes
 - Cardiovascular Diseases
 - Liver Diseases
 - Gastrointestinal Diseases



How Much Do I Need to Eat Daily to Achieve Healthy Weight and Prevent Malnutrition?

The following chart lists out the healthy eating recommendations for normal adults and the elderly. In respect of dietary recommendations for special medical conditions such as cancer, diabetes and renal diseases, please consult our dietitians.

Healthy Eating Recommendations for Normal Adults and the Elderly



Types of Food	Daily Intake (no. of servings)		Examples of 1 Serving	Functions
	Adult	Elderly (>65 years old)		
Grains and cereals	6 to 12	6 to 8	<ul style="list-style-type: none">• ½ bowl of rice / rice vermicelli / noodles / udon• ¾ bowl of pasta / macaroni• 1 bowl of congee / oatmeal• 1 slice of bread / ½ pc of buns• 1 pack of crackers	<ul style="list-style-type: none">• Rich in carbohydrates, vitamin B, minerals and plant proteins• Provide energy• Whole wheat products are high in fibre
Fruits	2 to 3	2 to 3	<ul style="list-style-type: none">• 1 piece of fruit (orange / apple / pear etc.)• ½ cup of fresh juice• 1 cup of strawberries or cut fruits• 10 pcs of grapes	<ul style="list-style-type: none">• Rich in carbohydrates, vitamins A, B and C, potassium, minerals and fibre• Strengthen body resistance against diseases
Vegetables	4	2 to 3	<ul style="list-style-type: none">• About ½ bowl of cooked vegetables• 85g green leafy vegetables• ½ cup of vegetable juice	<ul style="list-style-type: none">• Rich in vitamins A, B and minerals• Improve body status, prevent constipation• Contain fibre which delays hunger

Types of Food	Daily Intake (no. of servings)		Examples of 1 Serving	Functions
	Adult	Elderly (>65 years old)		
High-Calcium foods	1 to 2	1 to 2	<ul style="list-style-type: none"> • 1 cup of milk • 2½ tbsp of milk powder • 2 slices of cheese • 1 cup of yoghurt • 1 cup of calcium-added soymilk 	<ul style="list-style-type: none"> • Rich in protein, calcium, phosphorus and vitamin B2 • Maintain healthy teeth and bone • Choose low-fat or skimmed dairy products
Protein foods	5 to 6	4 to 5	<ul style="list-style-type: none"> • 1 tael (40g uncooked) of meat / fish / chicken • 1 egg* or 2 egg whites • 1½ pieces of bean curd • 45g soya beans (¼ cup, cooked) • 100g other beans 	<ul style="list-style-type: none"> • Rich in protein, iron, phosphorus and vitamin B • For growth and repair of body tissues and cells
Fatty foods	4 to 6	4 to 6	<ul style="list-style-type: none"> • 1 tsp of cooking oil (canola oil, corn oil, peanut oil, olive oil)/ salad dressing or peanut butter • 6 to 7 pcs of cashew, almond or walnuts 	<ul style="list-style-type: none"> • Contain fatty acids and fat-soluble vitamins A, D and E • Provide energy and essential fatty acids for human
Fluids	6 to 8	6 to 8	<ul style="list-style-type: none"> • Water, pale tea or broth • 1 cup = 240 ml 	<ul style="list-style-type: none"> • Prevent constipation and help peristalsis of intestines

* People with high blood cholesterol or cardiovascular diseases are recommended to consume less than 3 egg yolks per week.



What If I Have A Very Poor Appetite?

If you have a very poor appetite and cannot eat much at meal time, try to eat more often.

- Have milk-based or soymilk-based drinks such as soymilk, Horlicks, Ovaltine, cocoa instead of water or tea to increase calories and protein intake
- Nutritional supplements such as Ensure, Nutren, Enercal Plus or Fresubin may help further. These products usually provide around 250 to 350 kcal per serving
- Have a biscuit or a piece of bread / cake with your drinks in between meals
- Have a small serving of dessert such as cake or pudding after your meal
- Have a toast with jam / peanut butter or a cereal drink at bedtime
- Have ready-to-eat foods such as fruits, biscuits, crackers, cereal bars or carton drinks within reach so that you can eat whenever you need

What If I Cannot Follow the Above Recommendations or I Am Still Losing Weight?

You may need a high-protein and high-kcal diet and nutritional supplementation on top of your diet. For individual nutrition assessment and further details, please consult our dietitians.

