

Understanding Obesity

An informational guide for people living with obesity





What is obesity?

Obesity is recognised as a chronic disease by the World Health Organization (WHO) and various medical associations around the world.

Current WHO and international guidelines recommend the BMI cut-offs^{1,2} below. Among Asians, a lower BMI cut-off is recommended based on body fat equivalence and comorbid disease risk.

Weight category	Asian BMI (kg/m ²)	International BMI (kg/m ²)
Obese	>27.5	>30.0
Overweight & Obese	>23.0	>25.0

BMI $\frac{\text{Weight (kg)}}{\text{Height (m) x height (m)}}$

In this booklet, you will learn about the causes of obesity and ways to manage the condition. This booklet also has a tracker for you to track your progress.



The factors influencing obesity

Obesity is a complex, chronic disease influenced by various factors including, but not limited to:



Physiological

- **Physical inactivity** resulting in an energy imbalance and favouring weight gain.
- **Sleep pattern**, including the lack of sleep and disruption to our sleep cycles.
- **High stress levels**, causing individuals to overeat and increase weight gain.
- **Hormonal changes and imbalance**, affecting appetite, food choices and energy expenditure.



Genetic

- **Genetics**, which may predispose individuals to developing obesity or determine the extent to which external or environmental factors impact their weight.³



Other causes

- **Nutrition**, such as consuming ultra-processed food, food high in saturated fat, sodium and calorie content.
- **Medications**, such as those used to treat diabetes, high blood pressure and even migraines can stimulate appetite, slow metabolism or cause shortness of breath and fatigue, making it difficult for physical activity. *You shouldn't stop the medication without speaking with a healthcare professional first.



Environmental

- **Obesogenic environment**, providing easy access to cheaper but high calorie food.



Obesity is also associated with multiple comorbidities, for example:

- Metabolic syndrome e.g., diabetes, high blood pressure, high cholesterol
- Cancer e.g., including liver, kidney, breast ⁴
- Joint & muscle pain e.g., osteoarthritis
- Fatty liver disease
- Respiratory issues e.g., asthma, sleep apnoea
- Mental impact e.g., depression, bipolar disorder, panic disorder
- Cardiovascular diseases e.g., coronary heart disease, stroke, congestive heart failure, cardiomyopathy
- Female-specific issues e.g., infertility, irregular and infrequent menstrual cycles, polycystic ovary syndrome (PCOS), heavy menstrual bleeding

Obesity must be constantly managed for optimum health outcomes. Speak to your healthcare provider to understand the underlying causes and what you can do to address them.



Guidance for managing obesity

Preventative approach

1. Adopt a healthy diet and engage in physical activity

Ensure that your take in nutrient-rich food; cut down on sugar, fat and salt; increase your fruit, vegetable and whole grain intake, and eat in moderation. You can monitor your calorie intake by using calorie trackers.

Regular physical activity has health benefits for people in all BMI categories, such as decreasing cardiometabolic risk factors.

If you are unable to manage weight through diet and exercise, the next step is to speak to a healthcare provider.

2. Speaking with your loved ones

Getting others involved in your journey is a great way to stay on course. Speaking to your loved ones is as important as speaking with your doctor.

In a society that tends to believe that excess weight is solely caused by what you choose to eat and the amount of physical exercise you do, people living with obesity often face stigma. By speaking with your loved ones, you can let them understand the challenges you face when tackling weight issues.



3. Have a discussion with your doctor or an allied healthcare provider

This opens doors to treatments and therapies you might not have known about or otherwise considered. Questions that you can ask:

Q. Are there challenges associated with my genetics or ethnicity?

As genetics may predispose obesity risks, it's important to be aware of genetic factors that might affect your weight loss journey

Q. How much weight should I lose?

Work with your doctor to identify meaningful and realistic goals that match your weight loss plan.

Q. How much will the treatment cost be and will it be covered by my insurance or through a public health service?

Weight management is an ongoing journey. Understand what will be your financial commitment from the start.

Q. How frequently should I check in to make sure I'm progressing with losing weight?

How often you check in with your doctor will depend on your treatment plan. Your appointments are meant to support, track progress and adjust treatments as necessary.

Q. Which treatment options can you recommend and why?

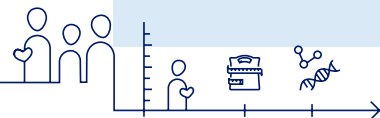
No single approach works for everyone. Your doctor will consider your circumstances, health conditions and previous treatments to develop the types of tests, evaluations and treatments that fit your weight loss plan.

Q. How long will it take for me to reach my weight loss goals?

Every weight loss journey is different. The estimated time needed to reach your goal is based on various factors such as your motivation to lose weight, lifestyle and any existing medical conditions.

Q. What happens if my treatment plan does not work?

Obesity is a complex and chronic disease, and you need to know that your doctor has more than one approach to help you succeed.



Diagnosis and treatment

After speaking to a healthcare professional, they will run through a series of tests and assessments to determine if you are living with obesity.

Establishing the diagnosis of obesity

It involves a detailed discussion of lifestyle, medical and family history, a physical examination and/or laboratory tests.

To assess lifestyle, medical and family history, a healthcare provider may ask questions related to your:

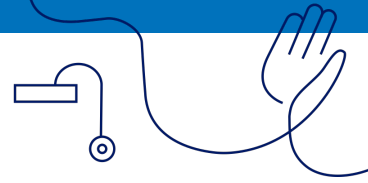
- Ethnicity
- Family history
- Diet
- Physical activity and exercise habits
- Eating disorders
- Depression and other mood disorders
- Genetics
- Drugs
- Chronic stress
- Smoking habits

A physical examination may also be necessary to support a diagnosis of obesity, which includes:

- Measuring weight, height and waist circumference
- Assessing if you have obesity-related diseases (e.g., diabetes, hypertension, mental health disorders, osteoarthritis, respiratory disease)
- Measuring blood pressure
- Checking for skin problems such as acanthosis nigricans (dry, dark patches of skin that can be a sign of insulin resistance)

Lastly, laboratory tests may be administered to identify the underlying signs and symptoms of obesity. Your doctor will select what laboratory tests to run depending on your case. Some of the tests include:

- Fasting blood glucose
- Cholesterol test
- Uric acid
- Thyroid function and endocrine evaluation
- Liver function, pathology and investigation
- Cardiovascular assessment
- Sleep laboratory investigation



Managing obesity

Once you are diagnosed, your doctor will create a personalised weight management programme that will include different strategies such as a combination of lifestyle modification and pharmacotherapy. The treatment options may include:



Behavioural therapy

The focus is to empower you to make sustainable changes that improve health, promote self-esteem and confidence, and in the long term, improve quality of life.

Behavioural therapists work to identify patterns in your thoughts, emotions, and behaviour that make you eat more and gain weight e.g., eating large portions, snacking frequently, and/or eating or drinking when you're not hungry.



Anti-obesity medications

Anti-obesity medications work with the biological processes that affect your appetite. The various available anti-obesity medications - oral or injectable, work in different ways. Some regulate your appetite and food cravings or prevent weight gain. Others change the way your body absorbs food e.g., lower the amount of fat that's absorbed by your body.



Bariatric surgery

Bariatric surgery such as gastric bypass makes changes to your digestive system to lower your appetite and the amount of food you can comfortably eat in one sitting. It has been shown to change the body's metabolism and hormones, both of which play a major role in how your weight is regulated.

Your doctor will create a personalised obesity care plan for you. However, they cannot predict how you will respond to their recommended treatment(s). The treatment(s) may become more or less relevant as you make progress or experience roadblocks, so your plan should be tailored to your needs and may evolve over time.



Support services throughout your weight management journey

As obesity is a complex, chronic disease, it requires a multidisciplinary team consisting of endocrinologists, surgeons, gastroenterologists, dietitians, physiotherapists, psychologists, pharmacists, specialty nurses and clinical coordinators to provide holistic care. These are available via what is known as 'multidisciplinary obesity centres', which are available across Singapore.

Aside from friends, family and your professional healthcare team, there are local and online support groups for weight loss for you to exchange experiences and stay motivated. Every weight loss journey has its obstacles and challenges. Just remember that you are not embarking on this journey alone.



Tracking progress

<p>Doctor's diagnosis & goals</p>	<p><i>[inserts information of what the doctor said and what needs to be done]</i></p>			
<p>Achieving your goals</p>				
	<p>Example</p>	<p>Week 1</p>	<p>Week 2</p>	<p>Week 3</p>
<p>Diet changes</p>	<p>E.g., drank 3x bubble tea drinks this week instead of 5x</p>			
<p>Exercise regimes</p>	<p>E.g., Went for 2x 30-min walk</p>			
<p>Changes felt</p>	<p>E.g., Emotions (e.g., motivated), behaviour (e.g., more alert)</p>			
<p>Measurements</p>	<p>Hip (cm/inch): Waist (cm/inch): BMI:</p>			
<p>Medications</p>	<p>List down all medications that you're taking, including those not directly related to weight management</p>			

Resources

Visit 'Your Weight Can't Wait'
for more information



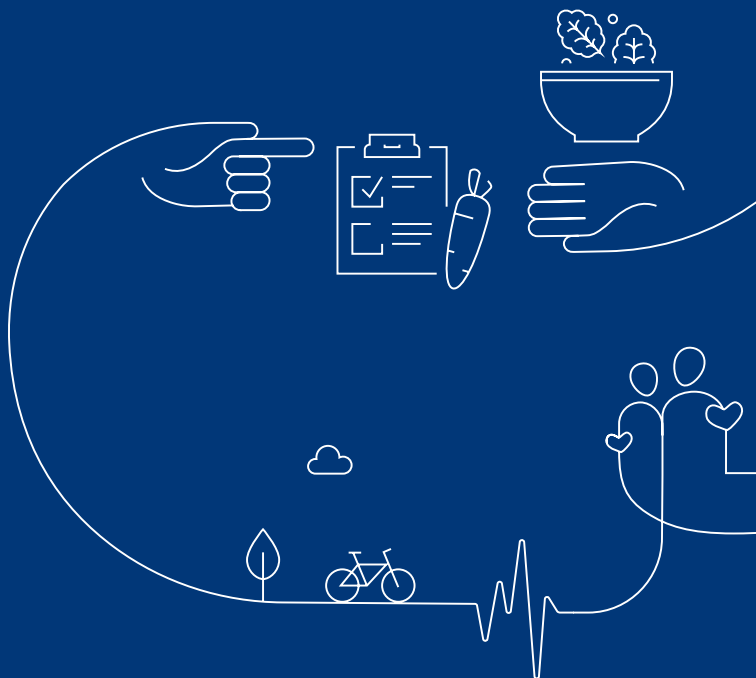
Week 4

Week 5

Week 6

Week 7

Week 8



1. World Health Organization. Physical status: the use and interpretation of anthropometry. 1995.
2. World Health Organization. Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies. Lancet. 2004;363(9403):157-63.
3. Hebebrand J, Hinney A, Knoll N, Volckmar A-L, Scherag A. Molecular genetic aspects of weight regulation. Dtsch Arztebl Int. 2013;110(19):338-344.
4. CDC, Cancers Associated with Overweight and Obesity Makeup 40 percent of Cancers Diagnosed in the United States. Available at <https://www.cdc.gov/media/releases/2017/p1003-vs-cancer-obesity.html> Last accessed February 2021.

The information provided in this booklet is for information purposes only and is not intended to take the place of the advice of a registered medical practitioner. This information should not be used for diagnosing health problems or for self-medication. For further information, please consult your doctor or pharmacist. Not real patients - models are for illustration purposes only. For educational purposes only. This is a disease awareness message and not a promotional material.

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