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HOW PRIMARY CARE CLINICIANS CAN MANAGE OBESITY: A PRACTICAL GUIDE IN A BUSY CLINIC

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ABSTRACT

With the increasing prevalence of obesity, there is a pressing need for effective strategies in primary care settings. The Healthier SG initiative underscores the crucial role of primary care providers in managing obesity and preventing related chronic diseases. This paper aims to highlight key priorities for busy primary care clinics, offering a practical guide for clinicians, particularly general practitioners (GPs) and family physicians (FPs), to address obesity effectively. In this paper, we present the use of the 5As framework: Ask, Assess, Advise, Agree, and Assist in weight management. We also discuss the lifestyle interventions, pharmacological treatments, and surgical options, prioritising the key focus areas allowing for impactful care delivery even in time-constrained environments. In addition, we outline strategies for engaging patients through shared decision-making to set goals and develop personalised action plans. We also highlight the use of a multidisciplinary team-based care approach to ensure holistic care paths to ensure the success of weight management. By equipping primary care professionals with the necessary knowledge and skills, we aim to enhance the efficacy of obesity management in Singapore, ultimately improving patient outcomes and reducing the burden of obesity-related health issues.

Keywords: obesity; primary care; team-based care; shared decision-making; multidisciplinary care; Healthier SG

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INTRODUCTION

Similar to global obesity trends, the prevalence of obesity in Singapore is on the rise. Based on the National Population Health Survey, the prevalence of obesity has risen from 10.5 percent in 2020 to 11.6 percent in 2022.[1] This roughly translates into more than 650,000 individuals in Singapore living with obesity. This also means these individuals are at increased risk of obesity-related complications, which include diabetes, hyperlipidaemia, cardiovascular diseases, cancer, and associated all-cause mortality.[2] According to the Atlas by World Obesity Federation, high-body mass index (BMI)-related mortality accounts for more than 80 percent of all non-communicable disease deaths. Obesity is definitely a pandemic that calls for all hands on deck.

With the push for Healthier SG in Singapore, the bulk of the responsibility of preventive care and management of common chronic disease associated with obesity falls on the shoulders of the primary care providers.[3] Addressing obesity is inherently an integral part in the prevention and management of chronic diseases. Healthcare professionals collaborating closely with individuals living in the community must be well-equipped with knowledge and skillsets in the managing obesity. These healthcare professionals include but are not limited to general practitioners (GPs) and family physicians (FPs), community and home care nurses, community pharmacists, and allied health professionals. It takes a multidisciplinary effort to optimise the care for everyone. The aim of this paper is to serve as a practical guide to review and discuss the approach to obesity management in a busy primary care that can be led by primary care clinicians including general practitioners (GPs) and family physicians (FPs) in Singapore.

DEFINITION

There are several tools to measure obesity. The most common one is the body mass index, which is computed by dividing the individual's weight in kilograms (kg) by the square of the individual's height in metres (m). In the Asian context, the definition of overweight and obesity is lower than that of international standards. Overweight and obesity are defined as having a BMI of ≥23 kg/m^2 and ≥25 kg/m^2 respectively.[4] The rationale for this difference is due to Asian populations having an increased risk of high BMI-related diseases even at a BMI ≤25 kg/m^2.[5]

The other parameter that aids in diagnosis is the waist circumference. It can easily be measured using a measuring tape around the waist between the lower ribs and navel. A waist size of ≥80 cm for Asian females and ≥90 cm for Asian males implies abdominal obesity, and these individuals are therefore at increased risk of metabolic and cardiovascular diseases.[6]

Other methods available to measure body fat include skin fold calliper and bioimpedance using body fat analyser. However, they are usually not as readily available as a weighing scale and measuring tape, hence they are not as feasible.

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APPROACH TO OBESITY MANAGEMENT

Primary care doctors are ideally positioned to initiate conversations about weight management due to their role as the first point of contact in the healthcare system. Patients typically seek guidance from primary care physicians when they first notice changes in their health, including weight-related health issues. This makes primary care a natural setting to address obesity concerns. Furthermore, the long-term relationships that primary care doctors develop with their patients foster trust and openness, making patients more comfortable discussing sensitive issues such as weight management with a familiar and trusted healthcare professional.

The 5As approach has been widely used in the management of obesity. Healthcare professionals may make use the 5As framework to discuss the issues of obesity with the patient[7] (see **Figure 1**).

Figure 1: The 5As approach to weight management

Ask Permission to Address Weight and Motivation

Initiating a conversation about weight management in primary care settings can be challenging, yet it is crucial for addressing obesity-related health issues effectively. Clinicians can employ several strategies to start these conversations in a manner that is both sensitive and effective. One approach is to link the discussion to the patient's presenting complaint, particularly when it is related to or a consequence of obesity. Many patients visit primary care doctors not specifically to seek treatment for overweight and obesity, but for conditions that might be exacerbated by excess weight, such as knee pain, shortness of breath due to obstructive sleep apnoea, hypertension, diabetes, or hyperlipidaemia. These conditions present a valuable opportunity to introduce weight management to alleviate the severity of the patient's current health issue. For example, a clinician might say, "I see you're experiencing knee pain, which can often be exacerbated by extra weight. Would you be open to discussing some weight management strategies that might help with this?"

Additionally, primary care doctors can leverage the context of medication management to introduce the topic of weight loss. This approach is particularly useful for patients who frequently request medication deprescription or express a preference to avoid increasing their medication doses for chronic illnesses. In such cases, clinicians can present personalised data that illustrates the benefits of weight loss concerning the patient's specific comorbidities and family history (see **Table 1**). For instance, they might explain how weight reduction could potentially lead to the down-titration or even deprescription of certain medications. By framing weight management as a pathway to achieve these goals, patients might become more receptive to engaging in a conversation about weight loss. An example of initiating this discussion might be, "Given your interest in reducing the number of medications you are taking, it might be worthwhile to explore how weight loss could help manage your condition more effectively. Would you like to talk about this?"

Table 1: Specific Treatment Goals for Weight Management[8]

TABLE 3 Specific treatment goals for weight management[37]

Clinical comorbidity	Treatment goals	
	Weight-loss goals	Clinical goals
Asthma/reactive airway disease	7-8% or more	• Improved in forced expiratory volume at 1 second • Improvement in symptoms
Depression	Uncertain	• Improvement in symptoms • Improved depression scores
Dyslipidemia	5-15% or more	• Improved triglycerides • Improved HDL-c • Improved non-HDL-c
Female infertility	10% or more	• Ovulation • Pregnancy and live birth
Gastroesophageal reflux disease	10% or more	• Improved symptoms
Hypertension	5-15% or more	• Improvement in SBP and DBP • Reductions in doses and/or number of antihypertensive medications
Male hypogonadism	5-10% or more	• Increased serum testosterone
Metabolic syndrome	10%	• Prevention of T2DM
Nonalcoholic fatty liver disease	Steatosis: 5% or more Steatohepatitis: 10-40%	• Steatosis: Improvement in intrahepatocellular lipid • Steatohepatitis: Improvement in inflammation and fibrosis
Obstructive sleep apnea	7-11% or more	• Improved symptoms • Improved apnea-hypopnea index
Osteoarthritis	≥10% With exercise: 5-10% or more	• Improved symptoms • Increased function
Prediabetes	10%	• Prevention of T2DM
Polycystic ovary syndrome	5-15% or more	• Ovulation • Regularized menses • Reduced hirsutism • Enhanced insulin sensitivity • Reduced serum androgen levels
T2DM	5-15% or more	• Improved A1C • Reduced doses and/or number of glucose-lowering medications • Diabetes remission (especially when diabetes duration is short)
Urinary stress incontinence	5-10% or more	• Improved incontinence frequency

Abbreviations: A1C, glycosylated hemoglobin; DBP, diastolic blood pressure; HDL, high-density lipoprotein; SBP, systolic blood pressure; T2DM, type 2 diabetes mellitus.

By adopting these strategies, primary care doctors can create an environment where patients feel supported and motivated to consider weight management as an integral part of their overall health care plan. This patient-centred approach not only respects the patient's autonomy but also aligns weight management with their immediate health concerns and goals, thereby enhancing the potential for positive health outcomes.

Assess the Patient's Readiness to Change, Physiological and Psychological Contributors of Obesity

Assessing a patient's readiness to change is a crucial step in weight management. This involves evaluating the patient's current stage of change, which can range from precontemplation, contemplation, preparation, action, to maintenance.[9]

Understanding where the patient falls on this spectrum allows clinicians to personalise their approach and interventions effectively. Clinicians should seize the opportunity to determine the patient's current stage of change during consultations. Most of the time, patients are more inclined to consider weight management when they see the connection between their condition and their weight. This understanding helps keep them motivated and focused on problem-solving.

In addition to assessing readiness to change, it is equally important to evaluate the other components that can contribute to obesity. Comprehensive assessment involves examining various factors that might contribute to a patient's weight issues, including lifestyle habits, physiological factors, psychological barriers, and socio-environmental influences. Although numerous validated questionnaires and tools exist to evaluate these components, it is often impractical to use all of them in a busy general practice setting.[10] Therefore, clinicians must prioritise the most relevant assessments based on individual patient needs and available time. A summary of the key areas of consideration in obesity management is presented in **Table 2**.

Table 2: Components of obesity assessment[8,10,11]

Assessment	Details
Physiologic	Obtain baseline anthropometrics. Assess any other medical conditions that might contribute to obesity (e.g., hypothyroidism, depression, Cushing's syndrome). Rule out any other underlying chronic disease that could result in fluid retention (e.g., heart failure, kidney failure).
Psychological	Assess patient's own perception of their health, weight, and physical image. Gain understanding of patient's ideas, concerns, and expectations (ICE).
Medications	Assess medications that might contribute to weight gain. See section on pharmacological intervention.
Dietary intake	Consider the quantity and the types of food intake (home cooked vs store-bought, choice of food, frequency of dining out), timing of meals and snacks, recognition of hunger and satiety cues.
Physical activity	Consider the nature of physical activity, frequency, duration and timing, and any physical limitations that prevents patient from engaging in exercises. Consider if nature of occupation is generally sedentary or requires patient to be active.
Lifestyle habits	Ascertain patient's smoking status, typical day-to-day schedule, sleeping pattern (duration, sleep time), stress management techniques (to assess if patients binge eat to manage stresses).
Social	Assess if patient has any support from family and friends, type of housing, and available amenities near home.

Advise the Various Options of Weight Loss

Once these assessments are complete, clinicians can engage patients in exploring a range of weight loss options through shared decision-making. These options include lifestyle modifications, pharmacological interventions, and surgical procedures. Each option should be clearly explained to the patient, emphasising that lifestyle modifications are the cornerstone of effective weight management. Medications are considered adjunctive treatments and cannot replace the need for lifestyle changes. Surgery is reserved as a last resort for cases where other interventions have proven ineffective. Consistent lifestyle modifications are essential for achieving and maintaining long-term weight loss.

Non-pharmacological Interventions

According to the AACE/ACE Guidelines, the main components of lifestyle intervention should include meal planning, physical activity, and behavioural modification.[12] Reduced caloric intake with an energy deficit of 500-750 kcal daily is key. In addition, patients should be encouraged to engage in aerobic exercise at least 150 minutes per week and incorporate resistance exercise 2-3 times a week (see **Table 3**).

However, it is not feasible to have an in-depth discussion with the patient on all the components described above within a typical 10- to 15-minute appointment slot in a busy clinic. A team-based approach can be highly effective to address the time constraint. Team-based care in the private primary care setting can be achieved through Primary Care Network (PCN) referral programmes. Primary care doctors may refer patients to nurses for lifestyle advice, pharmacists for in-depth discussions on medication options and monitoring, dieticians for meal planning, physiotherapists for exercise prescription, and psychologists for behavioural counselling. By referring patients to these specialised professionals based on their individual needs, doctors can devote more time to addressing the most critical components of their weight management plan. In a private primary care setting where many doctors practise independently, leveraging a team-based approach through the PCN is pivotal for the success of weight management.[13]

In addition, patients can proactively start their weight loss journey even before their appointments with the relevant healthcare professionals. During the initial discussion about weight loss, doctors can share reputable resources that offer an overview of weight management options, meal planning, and label reading to help them start adopting good habits early. These examples include the weight management options by SingHealth,[14] Life's Essential 8™ by the American Heart Association,[15] Healthy Plate from Health Hub,[16] label reading,[17] and Nutri-Grade[18] guides, and serving size guide on Healthline.[19] Additionally, patients may also track their own meal intake or find alternative food options that are lower in calories using the Healthy 365 app.[20] Information on nutrition contextualised to the local setting can help patients gain stronger understanding and make healthier food choices.

Regarding physical activity, transitioning from a sedentary lifestyle to 150 minutes of exercise per week can seem overwhelming. Instead of focusing solely on the total exercise duration per week, it is beneficial to start by increasing non-exercise activity thermogenesis (NEAT).[21] NEAT refers to the energy expended during daily activities beyond the sleep and voluntary exercises. Simple ways to increase NEAT can include taking the stairs or using public transport more frequently to increase energy expended during commute. The calories burnt per hour in climbing stairs, walking to work, and house cleaning each range from 100 to 200 calories. It is important to emphasise that some exercise is better than none.

Pharmacological Interventions

Pharmacological options can serve as adjuncts to lifestyle modification for achieving weight loss. It is important to emphasise to patients that lifestyle modification must be maintained. However, it is important to be aware of the contraindications and side effects of each agent. The drug properties and side effects are summarised in **Table 3**. Notably, orlistat is available to patients at the pharmacy from the pharmacist without a prescription, whereas other medications listed are prescription-only. Currently, none of these medications are on the Healthier SG Whitelist. Special considerations are needed for patients with specific comorbidities such as history of seizures, depression, uncontrolled hypertension, recent or at high risk of ischaemic heart disease, arrhythmias, and concurrent diabetes.

Table 3: Lifestyle Modification for Weight Management[12]

LIFESTYLE THERAPY Evidence-based lifestyle therapy for treatment of obesity should include three components		
MEAL PLAN	**PHYSICAL ACTIVITY**	**BEHAVIOR**
• Reduced-calorie healthy meal plan • ~500–750 kcal daily deficit • Individualize based on personal and cultural preferences • Meal plans can include: Mediterranean, DASH, low-carb, low-fat, volumetric, high protein, vegetarian • Meal replacements • Very low-calorie diet is an option for selected patients and requires medical supervision Team member or expertise: dietitian, health educator	• Voluntary aerobic physical activity progressing to >150 minutes/week performed on 3–5 separate days per week • Resistance exercise: single-set repetitions involving major muscle groups, 2–3 times per week • Reduce sedentary behavior • Individualize program based on preferences and take into account physical limitations Team member or expertise: exercise trainer, physical activity coach, physical/occupational therapist	An interventional package that includes any number of the following: • Self-monitoring (food intake, exercise, weight) • Goal setting • Education (face-to-face meetings, group sessions, remote technologies) • Problem-solving strategies • Stimulus control • Behavioral contracting • Stress reduction • Psychologic evaluation, counseling, and treatment when needed • Cognitive restructuring • Motivational interviewing • Mobilization of social support structures Team member or expertise: health educator, behaviorist, clinical psychologist, psychiatrist

Table 3: Summary of pharmacological therapies for weight management

Medication	Average Placebo-subtracted weight loss (%)[22]	Labelled Indication	Usual Dose	Adverse Reactions	Monitoring Parameters
Orlistat[23] MOA: Inhibits the breakdown of fats, thus reducing absorption into the body. The fats are subsequently removed through the faeces.	3.8	BMI ≥ 30 kg/m^2 OR BMI ≥ 28 kg/m^2 with associated risk factors (e.g., HTN, HLD, DM)	120 mg TDS, immediately before, during or up to one hour after each main meal Should be discontinued after 12 weeks if unable to lose ≥5% of their body weight	• Abdominal pain • Oily spotting • Flatus with discharge • Faecal urgency/ incontinence • Fatty/oily stool • Oily evacuation • Increased defecation	1. Weight 2. GI side effects 3. Liver function test 4. Renal function
Phentermine[24] MOA: increases noradrenaline release and suppresses appetite by sending signals to the brain	4.4 at 28 weeks	Short-term use (up to 12 weeks) as an adjunct to diet and exercise in patients who cannot take preferred agents AND BMI ≥30 kg/m^2 OR BMI ≥27 kg/m^2 with ≥1 weight-associated comorbidity (e.g., HTN, HLD, DM)	15-30 mg OM, to be taken one hour before breakfast **NOT TO BE USED IN PATIENTS WITH:** 1. History of cardiovascular disease (e.g., arrhythmias, heart failure, coronary artery disease, stroke, uncontrolled hypertension) 2. Hyperthyroidism 3. Glaucoma 4. Epilepsy 5. History of drug/alcohol abuse 6. Agitated states/history of psychiatric illnesses	• Dryness of the mouth • Restlessness • Headache • Insomnia • Dizziness • Increased blood pressure and heart rate • Palpitations	1. Weight and waist circumference 2. Renal function 3. CNS effects (e.g., delirium, mania, psychosis) 4. Signs/symptoms of primary pulmonary hypertension (e.g., new-onset dyspnoea, chest pain, syncope, lower extremity oedema)
Topiramate[25,26] Off-label use MOA: unclear, likely causes weight loss by appetite suppression through modulation of GABA receptors, causing glutamate inhibition, as well as increased dopamine release Used in combination with Phentermine	8.6 (in combination with phentermine)	BMI ≥30 kg/m^2 OR BMI ≥27 kg/m^2 with ≥1 weight-associated comorbidity (e.g., HTN, HLD, DM)	25-100 mg OD-BD. Take with or without food **NOT TO BE USED IN PATIENTS WITH:** 1. History of glaucoma 2. History of kidney stones	• Paraesthesia • Dry mouth • Constipation • Altered taste sensation • Drowsiness • Dizziness • Cognitive issues (e.g., memory impairment, decreased concentration and attention)	1. Renal function 2. Psychiatric effects (e.g., suicidal thoughts, depression, behavioural changes)

Medication	Average Placebo-subtracted weight loss (%)[22]	Labelled Indication	Usual Dose	Adverse Reactions	Monitoring Parameters
Liraglutide[27] MOA in weight loss: Liraglutide is an analogue of human GLP-1, which slows gastric emptying, increases feelings of fullness and satiety and decreases appetite and food intake	5.4	BMI ≥30 kg/m^2 OR BMI ≥27 kg/m^2 with ≥1 weight-associated comorbidity (e.g., HTN, HLD, DM, obstructive sleep apnoea) **Preferred pharmacologic weight-loss option** in patients with a BMI ≥27 kg/m^2 and T2DM, particularly in those with atherosclerotic cardiovascular disease	SC 0.6 mg OD for 1 week, then increase by 0.6 mg daily at weekly intervals to a target dose of 3 mg OD. Administer with or after food. Should be discontinued after 12 weeks at maximum tolerated dose or 16 weeks after initiation of therapy if unable to lose ≥4-5% of their body weight	• Nausea and vomiting • Diarrhoea or constipation • Dyspepsia • Abdominal pain • Increased heart rate • Headache • Injection site reactions: erythema, pruritus, rash • Hypoglycaemia when combined with other anti-diabetic agents (e.g., sulfonylureas, insulin)	1. Plasma glucose 2. Triglycerides 3. Heart rate 4. Body weight (at week 16 when used for chronic weight management) 5. Renal function 6. Signs/symptoms of pancreatitis (e.g., persistent severe pain in the stomach, abdomen, and back, with or without vomiting, fever) 7. Signs/symptoms of gallbladder disease 8. Changes in behaviour
Semaglutide[28] MOA: Analogue of human GLP-1; Reduces body weight and body fat mass through lowered energy intake and reduced preference for high fat foods. Also reduces appetite by increasing feelings of fullness and satiety	12.4	BMI ≥30 kg/m^2 OR BMI ≥27 kg/m^2 with ≥1 weight-associated comorbidity (e.g., HTN, HLD, DM, obstructive sleep apnoea)	SC 0.25 mg OIW x 4 weeks, then 0.5 mg OIW x 4 weeks, then 1 mg OIW x 4 weeks, then 1.7 mg OIW x 4 weeks then 2.4 mg OIW. Inject at any time of the day, with or without meals. Should be discontinued after three months of therapy if unable to lose ≥5% of their body weight	• Nausea and vomiting • Diarrhoea or constipation • Dyspepsia • Abdominal pain • Fatigue • Headache • Hypoglycaemia when combined with other anti-diabetic agents (e.g., sulfonylureas, insulin) • Injection site reactions: erythema, pruritus, rash	1. Plasma glucose 2. Heart rate 3. Body weight 4. Renal function 5. Signs/symptoms of pancreatitis (e.g., persistent severe pain in the stomach, abdomen, and back, with or without vomiting, fever) 6. Signs/symptoms of gallbladder disease

Medication	Average Placebo-subtracted weight loss (%)[22]	Labelled Indication	Usual Dose	Adverse Reactions	Monitoring Parameters
Naltrexone-bupropion[29] Prolonged release 8 mg/90 mg MOA: suppresses appetite and reduces food intake by sending signals to the brain.	4.8	BMI ≥30 kg/m^2 OR BMI ≥ 27 kg/m^2 with ≥1 weight-associated comorbidity (e.g., HTN, HLD, DM)	1st week: 1 tab OM 2nd week: 1 tab BD 3rd week: 2 tabs OM & 1 tab ON 4th week onwards: 2 tabs BD Take with food but avoid taking with high fat meals. Swallow whole. Do not cut, crush or chew Should be discontinued after 12 weeks of maintenance therapy if unable to lose ≥5% of their body weight **NOT TO BE USED IN PATIENTS WITH:** 1. Uncontrolled hypertension 2. History of seizures 3. Bulimia or anorexia 4. Chronic opioid use 5. Severe hepatic impairment	• Increased blood pressure and heart rate • Change in behaviour or mood • Nausea and vomiting • Constipation • Headache • Dizziness • Dry mouth	1. Blood pressure & heart rate 2. Blood glucose 3. Weight & BMI 4. Liver function test 5. Renal function 6. Psychiatric effects (e.g., suicidal ideation, anxiety, depression, panic attacks)

BMI: Body mass indexDM: diabetes mellitus
GABA: gamma-aminobutyric acid
GLP-1: glucagon-like peptide-1
HLD: Hyperlipidaemia
HTN: Hypertension
MOA: mechanism of action

Given the unique properties of these drugs and the presence of specific comorbidities, certain options are preferred over others. Some drugs should also be avoided in particular situations. **Table 4** outlines the preferred agents and those best avoided for each special population.

Table 4: Preferred agents and those best avoided in each special population

Concomitant Medical Condition	Avoid Medications	Suggested Medications
Uncontrolled hypertension or history of heart disease	Phentermine, phentermine/ topiramate, naltrexone/ bupropion (sympathomimetic agents)	Orlistat, semaglutide, liraglutide
Type 2 diabetes		Semaglutide, liraglutide
Seizure	Phentermine, naltrexone/ bupropion	
Depression		Phentermine/ topiramate, phentermine, orlistat

A comprehensive review of other concurrent medications to treat other comorbidities should also be performed to screen for medications that promote weight gain. It may be necessary to switch some of the medications to alternatives that are weight-neutral or that promote weight loss. A referral back to the specialist managing specific co-morbidity may be needed to facilitate the switch while maintaining control of the condition.

Table 5: Commonly used drugs and their impact on weight.[8,30,31]

Promote weight loss	Weight neutral	Promote weight gain
Hypoglycaemic agents		
Alpha-glucosidase inhibitors GLP-1 receptor agonists Metformin SGLT-2 inhibitors	DPP-4 inhibitors	Insulin Meglitinides Sulfonylureas Thiazolidinediones
Neurobehavioral medications		
Bupropion Desvenlafaxine Lamotrigine Topiramate Venlafaxine	Aripiprazole Haloperidol	Carbamazepine Clozapine Escitalopram Gabapentin Lithium MAO inhibitors Mirtazapine Olanzapine Paroxetine Quetiapine Risperidone Tricyclic antidepressants Valproate
Antihypertensive medications		
	Angiotensin-converting enzyme inhibitors Angiotensin receptor blockers Calcium-channel blockers Specific beta-blockers (carvedilol, nebivolol)	Specific beta-blockers (atenolol, metoprolol, propranolol)

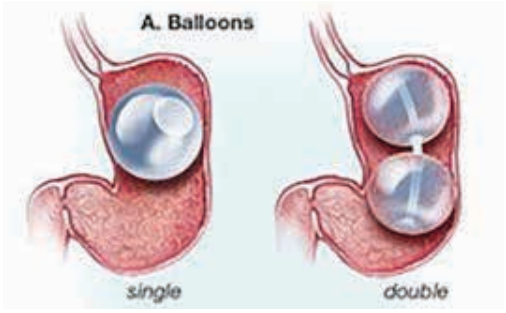
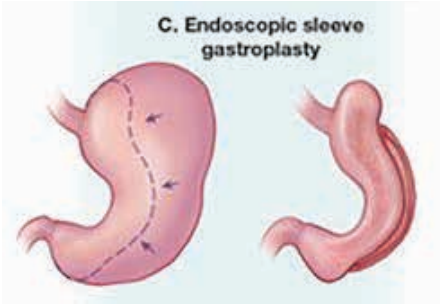
Endoscopic and Surgical Bariatric Intervention

While endoscopic and surgical bariatric interventions cannot be performed in the primary care setting, these options can be discussed with the patient to outline the next steps and help the patient decide if they wish to see the specialists.

Endoscopic bariatric interventions are minimally invasive procedures. There are two main types: intragastric balloon; and endoscopic gastroplasty. They are indicated for patients with BMI ≥27 kg/m^2 with or without medical comorbidities, patients who are unsuitable for or who decline bariatric surgery, or patients with significant weight regain post-bariatric surgery.[13,32]

A brief description of intragastric balloon and endoscopic gastroplasty is summarised in **Table 6**.

Table 6: Description of Endoscopic Interventions [32]

	Intragastric balloon	Endoscopic gastroplasty
Graphic Representation		
Mechanism	Inflated balloon(s) creates a sense of fullness and satiety to reduce food intake	Permanent sutures are made endoscopically to reduce the size of the stomach

On the other hand, bariatric surgical interventions generally involve surgery to change the anatomy of the gastrointestinal tract. They are usually reserved for individuals with severe or morbid obesity, especially those with obesity-related comorbidities such as hypertension, diabetes, and obstructive sleep apnoea. They might consider surgical interventions if non-invasive weight loss attempts have been ineffective. Individuals must have a BMI greater than 37.5 kg/m^2 or have BMI greater than 32.5 kg/m^2 and medical conditions.[13,33] The most commonly used techniques now are laparoscopic sleeve gastrectomy (LSG) and Roux-en-Y gastric bypass (RYGB). They are considered the most effective and duration treatment, with average weight loss ranging from 25 to 30%.

Agree on the Weight Loss Goals and Action Plan

It is crucial to set goals in the weight loss journey. Desirable weight loss as well as clinical goals should be discussed with the patient. Depending on their comorbidities, the range of percentage weight loss could differ[8] (see **Table 1**). Evidence suggests that patients who set higher goals are more likely to achieve weight loss.[34,35] Generally, to achieve long-term weight loss, it is recommended to lose no more than 500 g to 1 kg per week through an energy deficit of 500-750 kcal per day.

While there is ongoing debate about the most effective methods for setting weight loss goals, one widely supported approach is the SMART criteria: Specific, Measurable, Achievable, Relevant, and Time-bound.[36] Through shared decision-making, patients must be involved in setting these goals to ensure they are realistic and motivating. For instance, a SMART goal might be something like: "Walk for 30 minutes a day to lose three kilograms in four weeks." This goal is specific in terms of the action and duration, measurable in progress, achievable given the patient's circumstances (e.g., proximity to a park), relevant to their clinical objectives, and time-bound with a 4-week timeframe. In a busy clinic setting, setting and agreeing on SMART goals through shared decision-making provides patients with clear, actionable instructions and a tangible outcome to strive for.

In addition to physical activity goals, initial visits can also focus on simple meal planning objectives. For instance, a SMART goal for meal planning could be something like: "Prepare and bring a balanced home-cooked lunch to work once a week for the next four weeks, instead of eating out daily." For patients with specific preferences, such as a love for bubble tea, a practical goal might be: "Switch to a zero-sugar bubble tea option and limit consumption to once per week." These personalised goals and action plans should be clearly communicated to the patient and integrated into the shared decision-making process with the rest of the healthcare team.

Assist with Ongoing Support and Resources

It may not be logistically feasible to have patients to come back for visits every 1-4 weeks for monitoring as it would take up substantial resources in the clinic. To address this challenge, a team-based approach can be utilised, allowing patients to check in with other members of the healthcare team within the Primary Care Network (PCN) between appointments with their primary care doctor. Monitoring can be conducted in person or through virtual teleconferences. This approach enables the healthcare team to assess adherence to the plan and recommend modifications or escalations in intensity accordingly. Research indicates that behavioural weight loss treatments provided through such structured support can lead to significant weight loss compared to self-paced attempts.[37]

In addition to support from the PCN, patients may also leverage on technology to track progress and stay motivated. There is promising data derived from technology-based weight loss interventions.[38,39] Through various versions of technological intervention, studies have shown greater weight loss compared to those who did not utilise technology. The devices can provide personalised feedback to improve behavioural changes to help achieve weight loss. A successful example of such an intervention is the Healthy 365 app.[20] Under the "National Steps Challenge", eligible participants are invited to collect a step tracker and are then awarded points for completing the number of steps.[40] Under the "Eat, Drink, Shop Healthy Challenge", the participant can also earn points for purchasing healthier choices.[41] Accumulated

points from all challenges can be exchanged for shopping vouchers. The step tracker also provides prompts to increase physical activity if the participant has been sedentary for an extended period of time during waking hours.

Many other third-party products provide exercise tracking features and can be synchronised with the Healthy 365 app. Some are coupled with exercise coaching videos and meal planning suggestions, with a subscription fee in their own complementary app. Depending on the resources that are already available to the patients, they can complement their weight loss plan by setting specific exercise goals in their devices. Otherwise, starting with the Healthy 365 app is an accessible entry point.

For stable patients with no acute symptoms, follow-up with the primary care doctor typically occurs every 2-6 months. During this time, the PCN healthcare team and health devices can continue to monitor progress and provide motivational support. If patients experience unexpected side effects or symptoms, they or the PCN team should promptly initiate contact with the primary care doctor.

CONCLUSION

Primary care doctors are often the first point of contact for all patients when they encounter a deviation from their usual health. Strategically positioned right in the heartlands, primary care doctors are uniquely positioned to encourage patients to take proactive steps towards managing their health and weight, particularly when obesity is related to their presenting complaints The management of obesity can be effectively guided by the 5As framework. By leveraging collaborative efforts with the Primary Care Network (PCN), allied health professionals, and community partners, addressing obesity can become a more manageable and less intimidating process for patients.

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LEARNING POINTS

- **Primary care doctors are well positioned to address weight-related issues in their role as the first point of contact in many health-related issues and long-term relationship with patients.**
- **The 5As framework – Ask, Assess, Advise, Agree, and Assist – provide a structured approach in weight management. Importantly, goal setting and plan development must be achieved through shared decision-making.**
- **A team-based approach within the Primary Care Network (PCN) can reduce the resource burden on primary care clinics by involving specialised professionals in patient care.**
- **Lifestyle modification is the cornerstone therapy in weight management. Medications are adjunctive therapies. There are several important considerations in the selection of drug therapy, including the patient's comorbidities (e.g., cardiovascular disease, history of seizure, depression) and drug safety profile.**
- **Technology and programmes like the Healthy 365 app offer personalised feedback and help maintain patient motivation throughout their weight loss journey.**