

National Framework for Clinical Obesity Services

First Edition
Appendix



NACOS[™]
National Association of
Clinical Obesity Services

Appendix

Clinical obesity treatments

This appendix provides a brief overview of commonly used clinical obesity treatments in Australia.

Behavioural

Psychological therapies and specific interventions that promote healthy changes in diet and physical activity behaviour include those which aim to reduce energy intake (including the use of diet replacement products) and increase energy expenditure with structured exercise (supervised or home-based).

A. Energy restricting diet

Reduced energy intake can take several forms:¹

- **Reduced Energy Diet (RED):** The RED represents a modest energy deficit of 2000-4000 kJ/day. This can be achieved by encouraging the intake of vegetables, fruit, wholegrains, legumes, nuts, seeds, lean meat, poultry, fish, eggs and low-fat milk, cheese and yogurt and by minimising the intake of processed and energy dense foods such as biscuits, confectionary, pies, processed meats, commercial burgers and fried foods. The intake of sugar-sweetened drinks, such as fruit juices, soft drinks, and energy drinks, as well as alcoholic drinks should be avoided. Snacking and portion sizes will also need to be reduced. A detailed review of the individual's diet will identify which processed and energy dense foods can be changed to healthier alternatives.
- **Low Energy Diet (LED):** The LED seeks to reduce total daily energy intake to 4200-5000 kJ (1000-1200 kcal) using a more prescriptive diet or by substituting one or two meals with formulated meal replacements.
- **Very Low Energy Diet (VLED):** The VLED seeks to reduce energy intake to less than 3300 kJ/day (800 kcal/day) by substituting meals with formulated meal replacements. VLEDs can be considered as an initial weight loss strategy, when supervised lifestyle interventions have been unsuccessful in reducing weight, or when rapid weight loss is required (e.g. prior to bariatric or general surgery conditional on weight loss). Physical activity should be encouraged concurrent to a VLED. VLEDs are generally recommended for 12 weeks but can be extended to a 6 to 12-month period with supervision.

Note that in practice 'energy' and 'calorie' are used interchangeably and globally 'calorie' is used most commonly, therefore labels on product often have 'VLCD' as opposed to 'VLED' and consumers may be more aware of this terminology.

B. Structured exercise

Australian guidelines recommend that each week, individuals should accumulate 150 to 300 minutes of moderate-intensity physical activity, for example by brisk walking or gentle swimming, or 75 to 150 minutes of vigorous intensity physical activity, such as aerobics or jogging to achieve health benefits². Physical activity alone has a limited effect on weight loss unless it is combined with dietary change³. When done so, exercise has a modest effect on weight loss when added to diet programmes.⁴

Physical activity has a range of health benefits that extend beyond weight loss. For example, physical activity diminishes diet-induced loss of bone and muscle mass, improves physical functioning, improves mental health, decreases insulin resistance and is important for preventing weight regain after weight loss.⁵ It also increases social connectedness, encourages an intrinsic locus of control and improves self-efficacy. However, structured exercise interventions may not be possible for all due to disability or physical restrictions. Therefore, programmes should be tailored as appropriate and medical clearances should be completed where required.

C. Psychological therapies

A number of psychological techniques and strategies that can be included by all HCPs to increase motivation and facilitate behavioural change include:

1. **Motivational interviewing:** Motivational interviewing interventions to help patients stay on track with their weight loss can play a significant role in clinical effectiveness, with 34% of HCPs citing it as one

of the most helpful ways to manage weight. It is important for HCPs to use motivational interviewing where possible and individualise their approach dependent on the patient's stage of change (precontemplation, contemplation, preparation, maintenance and relapse).⁶ There are three critical components of this approach:

- a. the importance of change for the patient (willingness)
 - b. the confidence to change (ability)
 - c. whether change is an immediate priority (readiness).⁶
2. **Goal setting:** It is important that individuals set realistic goals, which may include, but not be limited to, specific weight loss goals.
 3. **Self-monitoring of behaviour and progress:** Individuals should maintain a diary of their activities throughout their weight loss programme that includes details of foods consumed (noting the food, calories and the situations that they are eating in), activity records and regular weight-recordings.⁷ Self-monitoring, self-care and self-compassion should be encouraged by HCPs and the individual's support network to ensure they acknowledge progress. Progress should not only be framed as a weight reduction, but include increased fitness levels, overall health improvements (including functional, physical, and mental health), and greater social interactions.
 4. **Stimulus control:** Individuals should be empowered to gain control over environmental factors that facilitate over-eating and maintaining nutritional goals. Individuals can be taught to recognise and avoid unplanned eating and how to prepare for mindful eating. This includes food preparation patterns, such as purchasing fresh fruits and vegetables and preparing low-calorie meals, as well as undistracted eating (e.g. not eating in front of the television).⁸
 5. **Cognitive restructuring:** A range of psychology interventions have been shown to assist individuals make long-term changes to their lifestyle, such as behavioural therapy and cognitive-behavioural therapy. These assist to modify unhelpful thinking patterns around food and weight loss and body-image⁹. There is a need for clinical obesity services to encourage self-efficacy and insight through patient education.
 6. **Problem solving:** Strategies can be pre-planned by individuals with their HCP for situations where food-intake may be difficult to manage, such as restaurants and celebrations.
 7. **Improvements to circadian alignment:** Research has shown that circadian misalignment (sleep timing) has a profound effect on processes that affect the risk of a range of conditions, including obesity.¹⁰ Behavioural strategies aimed at improving this alignment may improve sleep and stress levels, complementing other interventions.

There is significant disagreement patients and HCPs in attitudes towards obesity; 81% of patients compared to 30% of HCPs believe that weight loss is completely the patient's responsibility.¹¹ The same study also found that there is a median of three years between when a patient begins struggling with excess weight and when they first had a conversation with a HCP. Given the high level of perceived personal responsibility for weight loss among patients, GPs and other HCPs should feel reassured about instigating weight management discussions as soon as clinically indicated. However, it is important to note the following when considering behavioural interventions for obesity:

- the weight loss evidence bases for these interventions is limited and those with clinically severe obesity have usually found their efforts ineffective;
- repeated "failure" can lead to internalised stigma and subsequently acts as a barrier to care.

Factors that may affect an individual's ability to effect behavioural change in relation to obesity include:

- socioeconomic status;^{12,13,14}
- environment not conducive to healthy food or physical activity;¹⁵
- limited understanding of high-energy density versus low-energy density foods;¹⁶
- attitudes to physical activity, particularly for adolescents;¹⁷
- limited access to services in rural areas;¹⁸
- limited access/reluctance to use health care services (e.g. due to perceived ambivalence or lack of resources);¹⁹
- lack of support to change;^{20,21,22,23}
- limited food preparation/cooking skills, particularly those that involve preparation 'from scratch'²⁴

- belief that 'diet' is short term, and parental diet use;²⁵
- psychosocial stressor/demands that require patient attention and priority;²⁶
- distress tolerance levels.²⁷

When planning strategies for behavioural change, techniques should be adapted to mitigate the presence of these barriers. Engaging the individual in appropriate multimodal approaches of behavioural care where they understand the disease process alongside other interventions, such as nutritional change and increased physical activity may lead to greater self-efficacy for ongoing weight management.

D. Peer and lifestyle support

Peer and lifestyle support options are another form of intervention available to manage obesity. These are typically used alongside other medical or behavioural interventions. Research has shown that for most patients, excess weight can be lost but is likely regained overtime for the majority of patients.²⁸ Interventions such as peer and lifestyle support that encourage a long-term view are essential to compliment other interventions to reduce this likelihood of relapse.

Peer support refers to groups of patients with a lived experience of a condition coming together to discuss their experience of similar issues as well as sharing success stories and acting as a monitoring mechanism, an approach that has been trialled by Weight Watchers.²⁹ Peer support can be used as a mechanism to monitor and sustain behaviour change in patients.

Lifestyle supports encourage behaviour change for individuals with obesity and are aimed at improving individual's knowledge of day-to-day activities and how these can be altered to have a positive and sustainable effect on their health outcomes. Examples of lifestyle supports include:

- grocery store tours to encourage healthy shopping habits
- cooking classes to model healthy food preparation mechanisms
- nutrition seminars
- budgeting assistance.

Pharmacotherapy

Weight loss pharmacotherapy may assist with initial weight loss, support weight loss maintenance at the end of a VLED, and/or, prevent weight regain. While weight loss pharmacotherapy will usually be required on a long-term basis, data on long-term safety and effectiveness of weight loss medications are limited. Pharmacotherapy interventions draw on the current four drugs that are approved by the TGA for the treatment of obesity in Australia, with two off-label pharmacotherapy options also available in Australia, as summarised below:

Table 1: Summary of TGA approved and off-label pharmacotherapy treatments

TGA approved pharmacotherapy	Off-label pharmacotherapy
Phentermine (Duromine®, Metermine®)	Topiramate
Orlistat (Xenical®)	Combined low dose Phentermine and Topiramate
Liraglutide (Saxenda®)	
Naltrexone and bupropion (Contrave®)	

Bariatric surgery

Bariatric-metabolic surgery generates sustained weight loss by altering how the gut talks to the brain using neural, hormonal and metabolic signalling. Following surgery, a much smaller meal satisfies more (satiety) and the satisfaction lasts longer (satiety) enabling a reduced energy intake with weight loss without feeling hungry or deprived. Various techniques are used in bariatric surgery to induce weight loss for those with clinically severe obesity that has persisted despite previous weight loss attempts via other means. Most commonly, these techniques include:

- **Laparoscopic Sleeve Gastrectomy (LSG)** in which the greater portion (80%) of the fundus and body of the stomach is removed, reducing its volume to about 200 mL This reduction induces a range of hormonal and neural signals that allow for sustained weight loss. The surgery does not delay stomach emptying or digestion and does not work by mechanically restricting food intake.
- **Laparoscopic adjustable gastric banding**, an inflatable silicone device placed around the top portion of the stomach, is intended to stimulate pressure and movement sensory receptors within the within the

upper part of the stomach wall with gentle pressure to generate early satiation and prolonged satiety. The surgery does not delay stomach emptying or digestion and does not work by mechanically restricting food intake.

- **Laparoscopic gastric bypass by Roux-en-Y (RYGB)**, a combination procedure where a small stomach pouch is created to provide 'upper stomach' signalling to the brain and diverting food directly to the jejunum by bypassing the lower stomach, duodenum and first portion of the jejunum. Neural, hormonal and metabolic signalling induced the smaller stomach, food bypassing the upper GI tract, and food presenting early to the jejunum induce the gut- signalling to allow for substantial sustained weight loss. The conventional RYGB does not work by mechanically restricting food intake or through causing malabsorption.

The choice of surgical technique is individualised and involves discussion between the surgeon and the individual. Different techniques carry differing weight loss results, and the risks and benefits must be weighed for each. For example, currently there is limited evidence to support bariatric surgery in the younger patient population.

A full medical, surgical, nutritional, psychological and social assessment must occur prior to consideration of surgery. Follow-up treatment and support is similarly essential after bariatric surgery, to reduce the risk of relapse and maintain healthy patient weight in the long term. Long-term follow up should encompass:

- monitoring of weight and potential surgical complications;
- management of comorbidities;
- nutritional and dietary support;
- provision of educational materials;
- referral to peer support groups.

Multidisciplinary team members are a core feature of bariatric surgery delivery. In addition to the bariatric surgeon, other team members will often include endocrinologists, nurses, allied health professionals, psychologists, and frequent liaison with others in the care team (e.g. regular GP).

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