

OPTIFAST[®]

VERY
LOW
CALORIE
DIET



Clinical Treatment Protocol



Table of contents

Optifast® VLCD™ Clinical Treatment Protocol	4
Overview of weight loss using a VLED	5
The Optifast® VLCD™ Program	6
Suitability for the Optifast® VLCD™ Program	7
Co-morbidities	10
Medical monitoring	11
How to follow the Optifast® VLCD™ Program.....	12
Phase 1: Intensive Phase	14
Additional allowances.....	17
Phase 2: Transition Phase	18
Phase 3: Maintenance Phase	19
Phase 4: The Stabilisation Phase	20
Long-term weight maintenance with Optifast® VLCD™	21
Pre-operative weight loss.....	22
Exercise	23
Managing patients with intolerances and allergies	24
Nutritional information and ingredient lists	27
Cognitive and behavioural approaches.....	32
Managing non-compliance	34
Frequently asked questions	36
Case studies	38
Patient support	40
References	41

Optifast® VLCD™ Clinical Treatment Protocol

Introduction

Over the next 20 years, in Australia, an estimated 123,000 men and women will die prematurely from conditions associated with their excess weight, according to a report published by the Baker Institute in 2008.¹

A reduction in weight has the potential to reduce the risk of an individual developing hypertension, dyslipidaemia, type 2 diabetes, cardiovascular disease, kidney disease, depression, certain cancers, sleep apnoea and osteoarthritis.

The following pages will guide you through how to identify a candidate suitable for the Optifast® VLCD™ Program, and how to support them. If your patient suffers from co-morbid conditions, the 'Co-morbidity Guidelines' for Optifast® VLCD™ are also available from Nestlé Healthcare Nutrition or can be downloaded from the Optifast® VLCD™ website at www.optifast.com.au

The Optifast® VLCD™ Program aims to assist the patient at medical risk due to excess body fat. This protocol has evolved with experience over the past few years, including direct feedback from Australia's leading dietitians and specialists and in accordance with the most recent research available to reduce weight and lower health risks.

The Optifast® VLCD™ protocol is designed to support professional standards and best practice methodologies for the healthcare professionals using them. These healthcare professionals include general practitioners, specialists, dietitians, pharmacists, surgeons, diabetes educators, exercise physiologists, researchers and specialist practice nurses.

This protocol was created to help patients, who are at medical risk from their obesity, achieve and sustain a healthier weight over time. Chronic disease management, which depends on modification of lifestyle, requires a multidisciplinary approach best delivered by health professionals.

Continuity of care is important. Contacting other health professionals who are treating a specific individual can help all involved to work together as a co-ordinated team.

The goals of the Program and recommended guidelines are as follows:

1. To address the unique needs of each participant by means of a comprehensive initial assessment and on-going evaluation.
2. To incorporate positive changes in eating habits and lifestyles of participants.
3. To encourage participants to build increased physical activity into their lifestyle.
4. To recommend appropriate supervision for existing medical conditions.
5. To support long-term maintenance by providing effective nutritional products, educational materials and follow-up.

We would like to thank the following experts for their contribution, feedback and review:

Michele Pink-

BSc, MND, APD

Accredited Practising Dietitian.

Professor Tania Markovic

MBBS, PhD

Consultant Endocrinologist.

Gerald Quigley

BPharm MPS

Community Pharmacist, Herbalist.

Dr John Dixon

MBBS PhD FRACGP

Director of Clinical Research Centre of Obesity Research & Education, Monash University.

Joanne Turner

MSc, APD, MAAESS, MSDA

Dietitian, Sports Dietitian, Exercise Physiologist.

Dr. Sharon J. Marks

MBBS (Hons), FRACP

Consultant Physician in Clinical Nutrition, Monash Medical Centre.

Geoff Holt

MBBS, FRACP, FCSANZ.

Stephanie Allen

Clinical Psychologist-

BSc (Psych), Grad Dip App Psych, M Psych (Clinical).

Dr Janet Pritchard

PhD, MSc, APD Research Dietitian, Honorary Fellow

Department of Physiology University of Melbourne.

Dr Janet Franklin

PhD, BMed (Hons), MNutr-Diet,

APD Metabolism and Obesity Services, Royal Prince Alfred Hospital, Sydney.

This clinical treatment protocol is a work in progress and will continue to evolve over time.

Resources are currently focused on improving patient outcomes, reducing community costs and encouraging a multidisciplinary approach to chronic weight management.

We would appreciate any feedback or comments you may have on how to improve the clinical treatment protocol and make it more relevant to you and your practice.

Further information is available on request to:

Australia:

Nestlé Healthcare Nutrition,
20-24 Howleys Rd, Notting Hill VIC 3168, Australia.
Telephone: 1800 671 628 (toll free)

New Zealand:

Nestlé Healthcare Nutrition,
12-16 Nicholls Lane, Parnell, Auckland, New Zealand.
Telephone: 0800 607 662 (toll free)

© Reg. Trademark of Société des Produits Nestlé S.A.

Overview of weight loss using a VLED

Very Low Energy Diets (VLED) or alternatively Very Low Calorie Diets (VLCD) are dietary preparations that provide all nutritional requirements together with less than 800 kcal (<3300 kJ) per day. Very low energy diets are also low in carbohydrates, inducing a mild ketosis which reduces appetite. VLEDs have been shown to be effective in the management of obesity with an immediate weight loss of 1.0-2.5kg per week that is predominately fat mass.^{2, 3} They have also been associated with improvements in insulin sensitivity, blood pressure, serum triglycerides, sleep apnoea and glycaemic control in adults with Type 2 diabetes.^{3, 4}

VLEDs are intended for use as part of the management of the moderately to severely overweight, particularly when there is an associated secondary pathology e.g. type 2 diabetes, hypertension, osteoarthritis, gynaecological disorders, dyslipidaemia, where obesity is an impediment to surgery or where more conservative approaches to weight loss have been unsuccessful.

VLEDs are not drugs. They do not contain pharmacologically-active ingredients. Weight loss with the Optifast® VLCD™ Program is achieved via restriction of energy intake to less than 800 kcal per day.^{5, 6, 7} Physiologically, reducing energy (calorie or kilojoule) intake to <800 kcal/day (3300 kJ/day) in conjunction with a low carbohydrate intake induces a mild ketosis resulting in fat stores being utilised for energy. Therefore the presence of ketones in the urine is expected and, during the Program, can serve as a useful measure of compliance.

Recent evidence suggests that management with a VLED does not lead to worse long-term results than other dietary approaches and in fact individuals maintain more weight loss when the weight loss is achieved using a VLED compared to a low energy diet. VLEDs have been shown to be most effective when combined with behavioural change, active follow-up and pharmacotherapy.²



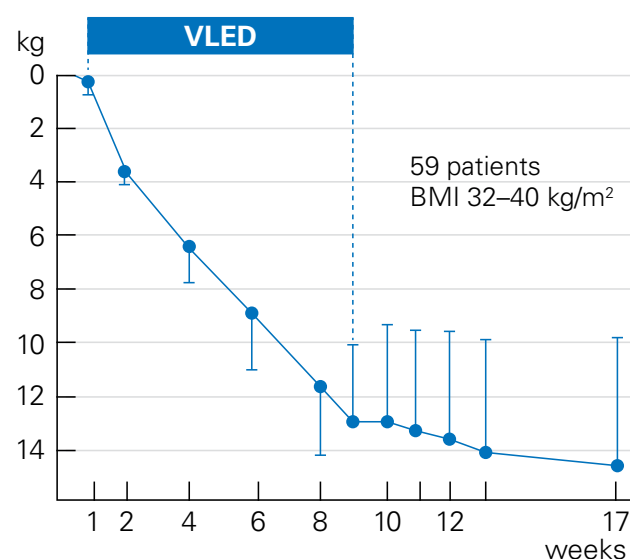
The Optifast® VLCD™ Program

The Optifast® VLCD™ Program is a total weight loss solution, scientifically formulated to assist medically at-risk patients lose weight and lower weight-related health risks. The Intensive Phase of the Optifast® VLCD™ Program is a Very Low Energy Diet which is followed for a period of up to 12 weeks, followed by a gradual re-introduction of food through the next phases of the program.

Expected Weight Loss

Medically supervised weight management with the Optifast® VLCD™ Program has been shown to produce rapid weight loss. On average, weight losses of 1.0-2.5kg per week have been achieved. Rate of weight loss can vary and will depend on daily energy expenditure. For example both men and severely overweight individuals will have a greater reduction in weight because they have a higher energy expenditure due to their bigger stature and relatively more lean body mass. Table 1 below highlights the expected rates of weight loss whilst following the Optifast® VLCD™ Intensive Phase.

Figure 1: Weight loss during an 8 week VLED period³



Source: Mustojoki & Pekkarinen 2001.

Table 1: Expected Rate of Weight Loss³

BMI 30-35kg m ²	1.0-1.5kg per week
BMI 35-40 or >40kg m ²	1.5-2.5kg per week

Health Related Outcomes

Significant improvements have been documented in patients following the 12 week Optifast® VLCD™ Intensive Phase of the program:⁸

- ▶ 22% average weight loss
- ▶ 12% average decrease in blood glucose
- ▶ 12% average decrease in total cholesterol
- ▶ 10% average decrease in blood pressure.

Research in 600 patients who completed the Optifast® VLCD™ Program showed that, on average, at two and five years later, patients had still maintained medically significant weight loss, defined as 5-10% of their initial body weight.⁹

Sustained improvement in glycaemia, dyslipidaemia and blood-pressure was maintained 18 months after following a VLED for just 30 days, in a study published in 2007.¹⁰

The Optifast® VLCD™ Program has been clinically proven as safe and effective.³ VLEDs are effective in achieving large and rapid weight losses in a short period of time and recent research has shown that VLED programs do not lead to worse long-term results and are not associated with more untoward effects than other dietary approaches that have a slower weight loss progress. Furthermore metabolic rate and body composition do not differ with a rapid weight loss versus a slower rate of weight loss.²

Medical Supervision

Despite its change in listing from S4 to over the counter, it is always advised that the use of the Optifast® VLCD™ Program is supervised by a healthcare professional such as a dietitian, doctor, pharmacist, diabetes educator or other trained healthcare professional. Such support is advised primarily due to the health problems often associated with obesity, the medications that may need modification and to provide support for what can be a challenging regimen.

Patients with type 2 diabetes, hypertension or a BMI > 35kg/m² should be monitored carefully.

The Optifast® VLCD™ Program is a total food replacement program. It is not the same as formulated meal replacements, which are meant to be substituted for one or two meals a day.

Food for Special Medical Purposes

Optifast® VLCD™ is classified as a food for special medical purposes and therefore no prescription is required for purchase of Optifast® VLCD™ products.

Suitability for the Optifast® VLCD™ Program

Indications

Optifast® VLCD™ can be considered in individuals with a BMI > 30, or a BMI > 27 + risk factors, poor mobility, or a need for weight reduction prior to surgery. Risk factors include smoking, hypertension, dyslipidaemia, hyperglycaemia, family history of heart disease, sleep apnoea, or over 45 years of age with a BMI of >27.

Medical supervision is always advised when following a VLED program. Many patients who require weight loss will not present to you asking for assistance. A proactive approach may be required.

A good way to identify patients who are suitable for a very low calorie diet is to classify them by BMI or waist circumference, distribution of body fat, morbidity of complications, age and readiness to commit.

In addition to the appropriate BMI, suitable patients may include those with:

- ▶ Waist circumference measurement: >102cm in men and >88cm in women
- ▶ A need for rapid weight loss, e.g. prior to elective surgery, to allow for increased mobility, or an improvement of an obesity related medical condition
- ▶ A history of failure with diet and exercise with or without pharmacotherapy
- ▶ Motivation and high readiness to undergo the strict supervision and discipline of the Optifast® VLCD™ Program.

Contraindications

Normal weight (BMI <25kg m⁻²)

VLEDs should never be used by normal weight subjects because it may lead to excessive loss of lean body mass.

Pregnancy

Optifast® VLCD™ is contraindicated during pregnancy for a number of reasons. The low carbohydrate content is designed to induce ketosis (fat breakdown) which leads to ketones in the blood. Although the level of ketones are fairly low, the effect on the foetus is unknown. In addition, the Optifast® VLCD™ Program is not designed to meet the increased nutrient requirements of pregnancy (e.g. protein, iron and some B group vitamins).

Lactation

The Intensive Phase of the Optifast® VLCD™ Program (replacing all 3 meals with Optifast® VLCD™ products) is not recommended for women who are breastfeeding as it is not designed to meet the increased nutritional demands of lactation. Patients may start with replacing one meal per day and can gradually increase the amount of meals replaced once the baby has started to wean off breast milk and is also consuming a reasonable quantity of solids.

Children <18 years

VLEDs are contraindicated in children who are still growing, however there may be children in whom severe obesity is resistant to other treatments. In such individuals the risks associated with obesity should be weighed against the risks of using a VLED on a case by case basis.

Presence of porphyria

Porphyria is the umbrella term for a group of rare disorders that involve a particular molecule called 'haem'. Haem contains iron and is used in metabolic processes throughout the body. Porphyria occurs when the body cannot convert naturally occurring compounds (called 'porphyrins') into haem.

While all tissues have haem, those that use it the most are the red blood cells, liver and bone marrow. Porphyria can affect the skin, nervous system and gastrointestinal system, depending on the specific type. Porphyria is contraindicated with Optifast® VLCD™ as extreme calorie restriction can provoke an acute attack.

Recent myocardial infarction or unstable angina

Patients should be referred to a cardiologist to determine suitability for calorie restriction.

Severe/ advanced renal or liver failure

Persons with advanced liver or renal disease are not suitable for the Optifast® VLCD™ Program, as they may require altered intakes of electrolytes and nutrients.

Precautions

Age >65 years

The Optifast® VLCD™ Program is not recommended for use in persons over the age of 65 years, as metabolic and physiologic adaptations to intensive diets are decreased. However under conditions in which rapid weight loss is considered to be lifesaving a modified Optifast® VLCD™ Program may be prescribed under medical supervision. Care must be taken to ensure nutritional requirements are met such as increased protein and requirements for certain vitamins and minerals.

History of severe psychological disturbance, alcoholism or drug abuse

Individuals diagnosed with psychosis should only proceed with a VLED diet under the guidance of their medical practitioner. The medical practitioner must weigh up the benefits versus the risks. The psychotic state may lead to inappropriate and/or unreliable use of the VLED.

Cholelithiasis

Rapid weight loss may induce the formation of gall stones. Where fat intake can sometimes be low with a VLED, the addition of fat (i.e. 1 tsp oil per day) to the VLED program can stimulate the emptying of the gall bladder and can prevent the formation of gallstones. Formation of gallstones can also be prevented with ursodeoxycholic acid.³

Pancreatitis

Gallbladder problems may be associated with pancreatitis and/or cholangitis. In patients with a suspected history of cholecystitis or gallstones, the potential for the development of pancreatitis must be considered and reviewed with the patient. Isolated acute pancreatitis has been reported only rarely during weight reduction, however with a patient complaint of severe abdominal pain and/or elevated amylase or alkaline phosphatase, pancreatitis and/or cholangitis should be considered. If confirmed, the patient should be advised to postpone weight reduction until the condition is treated and resolved.

Electrolytes

Although the Optifast® VLCD™ Program contains adequate electrolytes for most individuals, some individuals may become hyponatraemic or hypokalaemic, especially if they are receiving diuretic therapy. In such circumstances, electrolyte supplements may be required.

Gout

Serum uric acid increases during the first weeks on a VLED. Despite this, attacks of gout are rare although patients with a history of gout may occasionally develop an acute attack. In patients with a history of gout it is important to ensure an adequate fluid intake, and the addition of allopurinol 300mg daily may be considered.³

Liver Enzymes

Transient elevations of hepatocellular enzymes may occur through the Intensive Phase of the program, but progressive elevation beyond three times the upper limit is abnormal and unusual. Elevations of liver enzyme values (SGOT, SGPT, ALT, GGT) occur in a significant number of morbidly obese patients. Sometimes such elevations are present at baseline and decrease to normal during weight loss. Isolated elevations of hepatocellular enzymes and absence of significant elevations of bilirubin or alkaline phosphatase or findings of acute disease may not require further investigation or changes in dietary protocol. Significant elevation of bilirubin and/or alkaline phosphatase and gamma glutamyl transpeptidase (GGT) with a progressive elevation of hepatocellular enzymes suggest intercurrent hepatic disease, such as hepatitis or pancreatitis and must be investigated.

Women

Menstrual cycle changes

Women may experience a variety of changes in their menstrual cycle during weight loss. Cycles may resume or decrease with weight loss and generally return to normal following re-feeding.

Fertility

Women previously infertile (due to polycystic ovarian syndrome - PCOS) may ovulate and become fertile while on a weight loss program. Women should be informed and should take appropriate birth-control precautions. Women must avoid the 'Intensive Phase' of the Optifast® VLCD™ Program whilst trying to conceive.

Diaphragm Usage

Women who are using a diaphragm for birth control may need to be referred to their Obstetrician/Gynaecologist for periodic checks on the fit, since fit may change as the patient loses weight.

Medications

The use of a very low calorie diet may influence the dosage requirements of some medications. This is important for medications that have a narrow effective therapeutic range. The mechanisms that may alter requirements include:

- ▶ A major change in the nature of dietary intake – macronutrient and micronutrient
- ▶ Significant negative energy balance and resultant rapid weight loss
- ▶ Ketosis associated with fat catabolism
- ▶ Alterations in body composition with weight loss:
 - Reduced fat/lipid compartment
 - Altered lean body mass
 - Altered hydration.

Individuals receiving medication for type 1 & type 2 diabetes, hypertension, dyslipidaemia or those on lithium therapy may need a reduction in dose or withdrawal from their medication whilst undergoing a very low energy diet treatment. Such individuals should be monitored carefully in the first few weeks of treatment.

No Interactions

The following list of medications can be used normally in patients on a VLED:

- ▶ Minor tranquilizers
- ▶ Antibiotics
- ▶ Anti-emetics
- ▶ Anti-diarrhoea agents
- ▶ Antacids
- ▶ Oral contraceptives
- ▶ Oestrogen for the prevention of osteoporosis
- ▶ Antihistamines.

Interactions

The following list describes the situations in which medications should be decreased or special care is needed.

Insulin or oral hypoglycaemic agents for Type 1 & Type 2 Diabetes

Special care is needed when managing patients with diabetes, as a VLED significantly reduces plasma glucose concentration independently of weight loss.³ For this reason hypoglycaemia is likely to occur if insulin or sulphonylureas are not reduced or stopped.

Sulphonylureas

- ▶ Reduce by 50% at the beginning of the VLED if fasting blood glucose $>10\text{mmol}^{-1}$ or Hb1Ac is $>9-10\%$.
- ▶ Stop altogether if fasting blood glucose is $<10\text{mmol}^{-1}$ or patient has good blood glucose control.

Long and Short Acting Insulin

- ▶ Optifast® VLCD™ has approximately 15-22.5 grams of carbohydrate per serve, hence it is recommended that the short acting insulin be reduced to half.
- ▶ A VLED can rapidly result in a reduction in endogenous glucose production, so the dose of long acting insulin also needs to be reduced, initially by around 50%.

It is imperative that patients are asked to monitor blood glucose levels more frequently for the first few days (at least 4 times per day – once before each meal and before going to bed). For optimum management, it is recommended that patients start the regime on the weekend, when they can be at home and thus more attentive to the symptoms of hypoglycaemia. It is extremely important that patients diagnosed with type 1 diabetes continue insulin treatment, no matter how low the insulin dose is, to maintain euglycaemia. For further information on the management of patients with type 1 & type 2 diabetes please refer to the Optifast® VLCD™ Co-morbidity Guidelines.

Hyperlipidaemia

Combined hyperlipidaemia will respond markedly to VLEDs. Therefore it is recommended to stop or decrease medication except in familial hypercholesterolaemia.³

Hypertension

Diuretics should be stopped at the beginning of the VLED because VLEDs themselves have a diuretic effect. Other medication for hypertension should be continued and tapered according to blood pressure values.³

Warfarin

Most patients on warfarin are suitable for Optifast® VLCD™ but precautions need to be taken. It is recommended to continue with the usual warfarin dose but International Normalised Ratio (INR) levels should be monitored more often and the dose adjusted accordingly.

Lithium

Patients on lithium may experience changes in serum lithium levels due to sodium depletion and renal retention of lithium. Lithium levels should be monitored weekly, then bimonthly. Lithium may interfere with thyroid function, therefore thyroid function should be checked periodically.

Patients using lithium should maintain adequate fluid intake of 2.5 to 3 litres per day and limited xanthine intake is advised. Xanthine is found in caffeine, theophylline and theobromine and in the following beverages and foods: tea, coffee, cola, cocoa, chocolate, and some carbonated drinks.¹¹

Anticonvulsants

There is evidence that a ketogenic diet does not alter the blood levels of most anti-epileptic medications, therefore anticonvulsant therapy is not a contraindication to the use of Optifast® VLCD™. Given that long-term anti-convulsant therapy may result in vitamin D deficiency which may be associated with hypocalcaemia and elevated parathyroid hormone, it is important to check Vitamin D, calcium and parathyroid hormone status prior to starting Optifast® VLCD™ in patients who have had long-term exposure to anticonvulsants.

Corticosteroids

Chronic use of steroids (more than 20mg daily of prednisolone or its equivalent) must be evaluated carefully because of the tendency to nitrogen waste caused by the drugs. Acute short-term steroid therapy of one to two weeks duration may not be a problem. If the risk/benefit ratio favours treatment, these patients may require more protein to counteract potential catabolic effects of steroid therapy.

Chronic use of drugs with gastro intestinal (GI) side effects

Drugs with potent GI side effects (for example, non-steroidal anti-inflammatory drugs and steroids) need to be evaluated. If food had a significant buffering effect, a person may require antacids, cimetidine or enteric-coated aspirin to prevent GI side-effects.

Co-morbidities

The presence of co-morbid conditions can put the patient at risk of adverse events and add an extra dimension to the treatment regime for health professionals. Please refer to the Optifast® VLCD™ Co-morbidity Guidelines for the management of patients with co-morbid conditions such as:

- ▶ Heart Failure and Ischemic Heart Disease
- ▶ Stage 1 or 2 (GFR >60ml/min/1.73m²) Renal Disease
- ▶ Type 1 Diabetes
- ▶ Type 2 Diabetes (using medication or insulin therapy)
- ▶ Pregnancy, Infertility and IVF
- ▶ Hypertension
- ▶ Hepatic Disease.

Side Effects

Optifast® VLCD™ is accepted as being safe with only minor, transient side effects being observed. These side effects are a result of the rapid weight loss and ketosis and may include: sensitivity to cold, halitosis, headache, hair loss, irritability, postural hypotension, fatigue, muscle cramps and menstrual disturbances. These side effects are generally insufficient in magnitude or duration to warrant cessation of the program.

3 Day Challenge

As with any major dietary adjustment, the first few days on the Optifast® VLCD™ Program can be difficult and are commonly known as the '3 day challenge'. As the body transitions into ketosis, patients may experience some transient side effects such as fatigue, hunger, lack of concentration, nausea, headaches. Typically, only mild ketosis occurs during the Optifast® VLCD™ Program and most symptoms pass by days 4-6.

Medical monitoring

Patients can be classified as low medical risk, or high medical risk when following a VLED (Table 2). For all patients, regular monitoring of weight, BMI, waist circumference and blood pressure is recommended during the Intensive Phase (Table 3). For high risk patients, regular medical monitoring is important, as outlined in Table 4. For low risk patients, these indices need only be monitored at the discretion of the supervising doctor.

Table 2: Definition of risk level for patients following a VLED

High Medical Risk Patient	Low Medical Risk Patient
▶ BMI >27 plus co-morbidities	▶ No co-morbidities
▶ BMI >35	▶ BMI <35
▶ Taking prescribed medications during the VLED	▶ No prescription medications
▶ Greater than 65 years of age	▶ Less than 65 years of age

Table 3: Medical Monitoring Guidelines for all patients during Intensive Phase

Assessment	Baseline Measures	Fortnightly
Weight/BMI	✓	✓
Waist Circumference	✓	✓
Blood Pressure	✓	✓

Table 4: Medical Monitoring Guidelines for High Risk Patients

Assessment	Baseline Measures	6 weeks	Completion of Intensive Phase
Electrolytes/ Creatinine	✓	If required	✓
Liver function tests	✓	If required	✓
Fasting Glucose	✓	If required	✓
Cholesterol/ Triglycerides/HDL	✓	If required	✓
Uric acid	✓	If required	✓
Full Blood Count	✓	If required	✓
Iron Studies	✓	If required	✓
Vitamin D	✓	If required	✓
Calcium & Parathyroid (in patients on long term anticonvulsants)	✓	If required	✓



How to follow the Optifast® VLCD™ Program

Optifast® VLCD™ is designed to totally replace your normal food intake. A normal meal is replaced with an Optifast® VLCD™ product, which includes Shakes, Soups, Desserts and Bars. Each sachet is mixed with cold or warm water then stirred, blended or shaken. Bars are directly eaten and no preparation is required. Different combinations of Optifast® VLCD™ products can be used during the program to replace meals.



Figure 2: The Optifast® VLCD™ Product Range

The Optifast® VLCD™ Product Range

The Optifast® VLCD™ products are available in 4 different forms:

- ▶ **Shakes**
- ▶ **Soups**
- ▶ **Desserts**
- ▶ **Bars**



There are 4 different phases to the Optifast® VLCD™ Program:

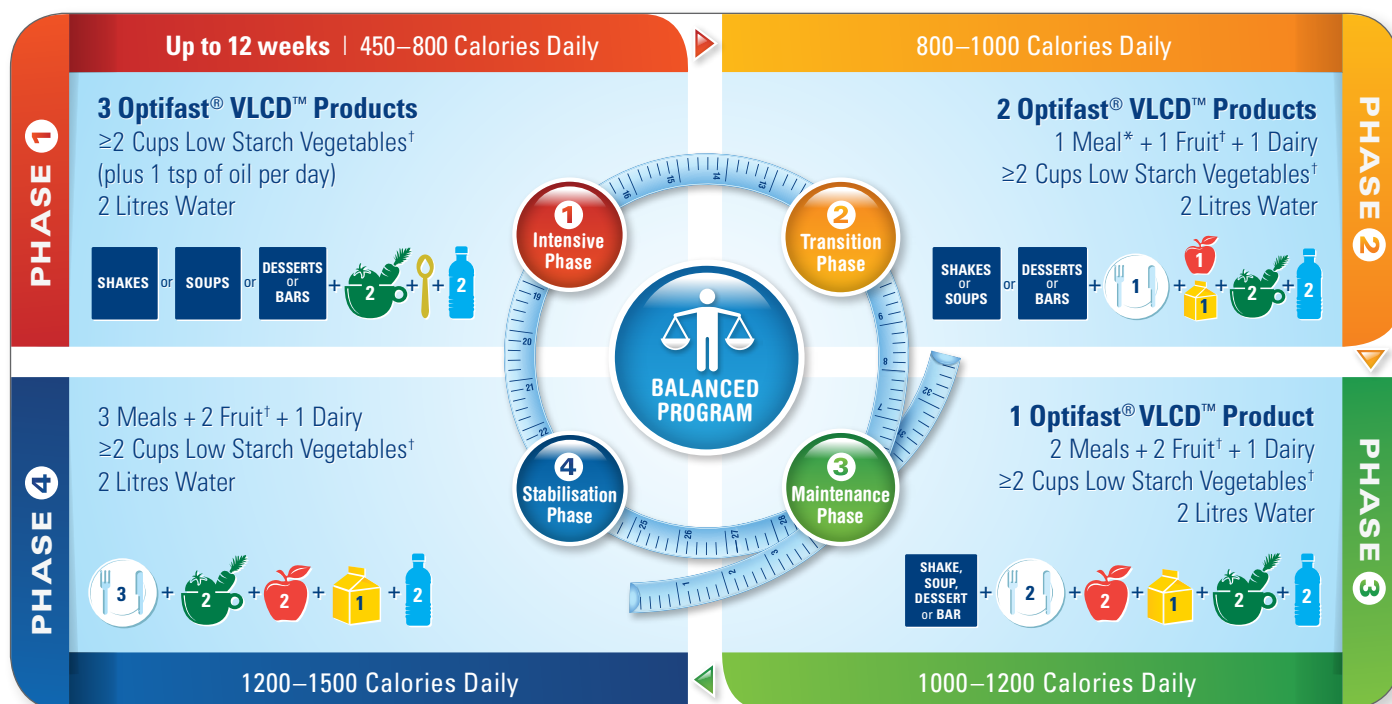
PHASE 1 ▶ The Intensive Phase

PHASE 2 ▶ The Transition Phase

PHASE 3 ▶ The Maintenance Phase

PHASE 4 ▶ The Stabilisation Phase

Figure 3: The Optifast® VLCD™ Program



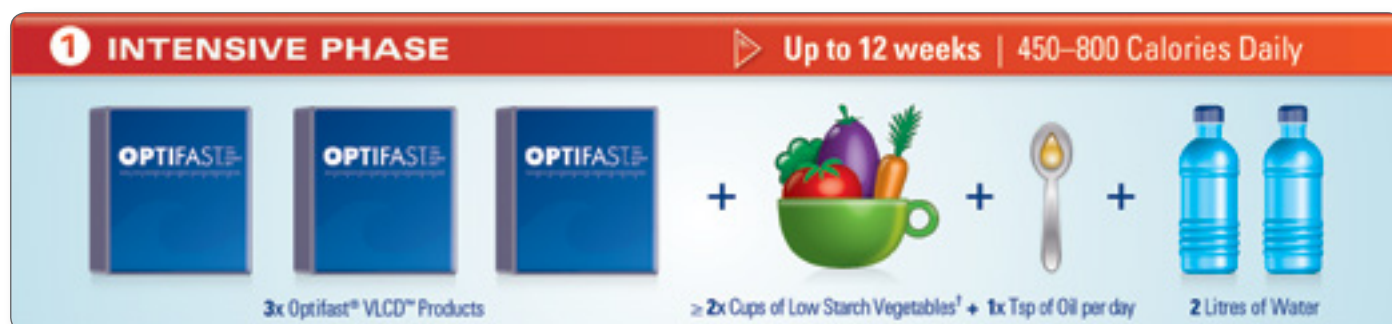
The Optifast® VLCD™ Program can be modified to suit individual requirements. † See 'allowed low starch vegetables and fruit' in the 'additional foods' table (www.optifast.com.au).

* Meals should equal approximately 400 calories. Optifast® VLCD™ is a Food for Special Medical Purposes for the dietary management of obesity and must be used under medical supervision.

Phase 1: Intensive Phase

The Intensive Phase of the Optifast® VLCD™ Program is the very low energy diet (VLED) part of the program. It is a total diet replacement providing less than 800 calories per day. This phase is designed to achieve a large initial weight loss whilst helping to preserve lean body mass. This phase is recommended only for individuals with a BMI > 30 kg/m² or a BMI >27 kg/m² with obesity related co-morbidities. Patients can continue on this VLED phase for anywhere up to 12 weeks, however this period is variable and depends on the patient's weight loss goals and ability to tolerate the VLED. If there is still a significant amount of weight to be lost at the end of the initial 12 week Intensive Phase, you may recommend that the patient move onto the following phases for a period of weight maintenance before repeating the Intensive Phase again. If patients are doing well on the VLED and still have more weight to lose then it is appropriate to continue the VLED for longer at healthcare professional discretion. VLEDs have been used for up to 16 weeks in some cases where higher amounts of weight loss are required.³ This should only be done under medical supervision.

Figure 4: Phase 1 Intensive Phase



During the Intensive Phase an individual will take an Optifast® VLCD™ product three times daily as a substitute for breakfast, lunch and dinner. Alternatively, Optifast® VLCD™ products can be more evenly spread throughout the day. For example, ½ bar for morning tea and ½ bar for afternoon tea if this helps with compliance. Please refer to the sample meal plans for ideas on how the Optifast® VLCD™ products can be distributed throughout the day. In addition to this, patients need to consume a minimum of 2 cups of non-starchy vegetables, 2 litres of water and 1 tsp oil. The addition of the vegetables assist in providing fibre and nutrients, as well as the social aspect of eating. The oil ensures there is a sufficient fat intake to keep the gall bladder contracting to prevent the formation of gall stones, as well as helping with compliance (ie. oil can be used for salad dressings, stirfries etc).

It is not realistic to expect patients to maintain a very low energy diet for extended periods of time, therefore setting realistic targets is important. Modest weight loss of 5-10% of initial body weight has measurable health benefits and has a better chance of being maintained in the longer term and therefore would be a reasonable initial target.

Table 5: Sample Meal Plans for the Intensive Phase

Meals	Sample Meal Plan 1	Sample Meal Plan 2	Sample Meal Plan 3
Breakfast	1 Optifast® VLCD™ Shake	1 Optifast® VLCD™ Shake	1 Optifast® VLCD™ Shake
Morning Tea	½ Optifast® VLCD™ Bar Tea/coffee (either black or with 30mL skim milk and no sugar)	Tea/coffee (either black or with 30mL skim milk and no sugar)	Tea/coffee (either black or with 30mL skim milk and no sugar)
Lunch	1 Optifast® VLCD™ Soup	1 Optifast® VLCD™ Bar	1 Optifast® VLCD™ Shake
Afternoon Tea	½ Optifast® VLCD™ Bar Tea/coffee (either black or with 30mL skim milk and no sugar)	1 cup of low starch vegetables	Vegetable sticks
Dinner	2 cups of low starch salad or vegetables with 1tsp olive oil and other allowed condiments	1 Optifast® VLCD™ Soup plus 1 cup of low starch salad or vegetables with 1 tsp olive oil and other allowed condiments	2 cups of low starch salad or vegetables with 1 tsp olive oil and other allowed condiments
Supper	Herbal Tea 125mL of diet jelly	Herbal Tea	1 Optifast® VLCD™ Dessert
Total Calorie Intake	Approx. 780 calories	Approx. 760 calories	Approx. 735 calories

Ketosis

Ketosis is the process whereby the body utilises fat as the main energy substrate and ketone bodies are produced as a by-product. Mild ketosis occurs on the Optifast® VLCD™ Program Intensive Phase due to the restriction of energy and carbohydrate. This leads to fat stores being utilised for energy, and the production of ketones helps to reduce hunger. Presence of ketones in the urine is expected and, during treatment, can serve as a useful measure of compliance.

Protein

Optifast® VLCD™ is formulated to contain adequate protein in sufficient quantities for nitrogen sparing and to preserve lean body mass. Protein requirements for obesity/weight loss have been proposed at 0.75-1.0g/kg Adjusted Ideal Body Weight (IBW)/day.

Adjusted IBW is equal to [(Actual Body Weight-IBW) x 0.25*] + IBW.¹²

*Note 0.25 is the % excess metabolically active body weight.

Consumption of 3 Optifast® VLCD™ sachets or bars per day meets the protein requirements for obesity/weight loss for females. Males and individuals requiring higher protein intakes than 0.75g/kg adjusted IBW per day may require an additional Optifast® VLCD™ product or an additional serve of protein to meet protein requirements. One serve of protein is equivalent to 65-100g meat, 2 eggs or 130g fish. It should be noted that for intakes greater than 4 sachets per day, calorie intake may be greater than 800 calories.

Fibre

Use of VLCDs can be associated with altered bowel function however these changes are variable. Constipation seems to be more common but also loose stools or diarrhoea have been reported. Most of the Optifast® VLCD™ products provide fibre but it is recommended that at least 2 cups per day of low-starch vegetables are consumed to help meet fibre requirements. If additional fibre is required, a fibre supplement can be taken.

Fat

The amount of fat obtained during the Optifast® VLCD™ Program is minimal. The addition of fat (i.e. 1 tsp oil per day) to the VLCD program can stimulate the emptying of the gall bladder and can assist in preventing the formation of gallstones.

Water

Estimated fluid requirements are 35-45mL/kg Adjusted IBW/day. For most patients greater than 80kg this will equate to approximately 2.5-3.0 L/day. As 3 sachets of Optifast® VLCD™ provides approximately 600mL per day, most patients on Optifast® VLCD™ will require an additional 2 L per day.

Supplements

Multivitamins

The Optifast® VLCD™ Intensive Phase (minimum of 3 Optifast® VLCD™ products plus 2 cups of vegetables) is designed to meet the recommended dietary intake for most people. Therefore additional supplementation is not necessary unless there has been a pre-existing nutritional deficiency diagnosed when starting the Optifast® VLCD™ Program. If additional supplementation is desired, care would need to be taken that recommended safe levels of vitamins, minerals and trace elements are not exceeded.

Fish Oils

Fish oil supplementation is considered relatively safe and there is substantial research regarding the benefits of Omega-3, particularly in the area of cardiovascular health.¹³

The Australian dietary target to reduce chronic disease is 430mg for females and 610mg for males.¹⁴ However the National Heart Foundation have set the recommendation of 500mg per day for all adults to help reduce the risk of heart disease.¹³

The Optifast® VLCD™ Shakes (12 packs) contain 60mg of Omega-3 (combined EPA/DHA) per serve and the Mixed Vegetable Soup contains 75mg per serve. If additional fish oil supplementation is desired for health benefits then this will be safe to include as part of the Optifast® VLCD™ Program.

Caffeine

Despite popular belief, there is no evidence to suggest that the consumption of caffeine-containing beverages as part of a normal lifestyle leads to fluid loss in excess of the volume ingested or is associated with poor hydration status.¹⁵

Sensitivity to caffeine varies among different people and so individual tolerance levels should be assessed. Caffeine up to the dose of 400mg/day or 3-4 cups of coffee can safely be included in the Optifast® VLCD™ Program. Coffee should be preferably consumed with no or 30mL skim milk and no sugar.

Follow-Up

It is recommended that once a patient has commenced on the Intensive Phase of the Optifast® VLCD™ Program they should be followed up fortnightly for check-ups, weight and waist circumference monitoring, advice and encouragement.

Blood Tests & Medical Monitoring

Regular blood monitoring is important during the Intensive Phase of the Optifast® VLCD™ Program for 'high risk' patients because of the risk of electrolyte imbalance. Table 4 (page 11) shows the blood tests and medical monitoring that is recommended during the Intensive Phase of the Optifast® VLCD™ Program.

Pharmacotherapy

Due to the biological basis of obesity some patients may require additional pharmacotherapy to assist in appetite suppression. Optifast® VLCD™ may be used in conjunction with prescription medications to facilitate weight loss. Noradrenergic agonists (phentermine) have been used in conjunction with the Optifast® VLCD™ Program, however given that there have been no long term studies conducted with these agents, it is recommended that they are not used for a period of more than 3 months.

Finishing the Intensive Phase

Following the Intensive Phase of the Optifast® VLCD™ Program, the patient will need to progress onto the Transition Phase. In this phase, a meal is reintroduced.

Prior to finishing the Intensive Phase the patient should be reviewed and baseline measurements repeated.²

Summary

Discussion of the Optifast® VLCD™ Program Intensive Phase should cover:

1. The importance of achieving mild ketosis to suppress hunger.
2. The use of 3 Optifast® VLCD™ products, plus at least 2 cups of low-starch vegetables and additional fluids.
3. The need for a small amount of fat each day (eg 1 teaspoon olive oil on salad or vegetables) to contract the gall bladder and prevent gallstones.
4. The need for active follow-up during the Intensive Phase and progression onto phases 2-4 to achieve long term weight loss and maintenance.



Additional allowances

Additional low energy foods are allowed whilst following the Optifast® VLCD™ Program. These are designed to add variety and assist in

compliance. Table 6 (below) outlines the additional allowances permitted during the Optifast® VLCD™ Intensive Phase.

Table 6: Additional Allowances during the Intensive Phase

Allowed			Avoid
Low starch vegetables			
<ul style="list-style-type: none"> – Alfalfa sprouts – Asparagus – Bean Sprouts – Bok Choy – Broccoli – Brussels sprouts – Cabbage – Capsicum – Carrots 	<ul style="list-style-type: none"> – Cauliflower – Celery – Cucumber – Eggplant – Green beans – Lettuce (all types) – Leeks – Mushrooms – Onions 	<ul style="list-style-type: none"> – Radish – Shallots – Silverbeet – Snow peas – Spinach – Squash – Tomatoes – Watercress – Zucchini 	<ul style="list-style-type: none"> – Corn – Green peas – Legumes – Lentils – Potato – Sweet potato – Parsnip – Pumpkin – Turnip
Soups			
<ul style="list-style-type: none"> – Stock cubes – Bonox (in moderation) 	<ul style="list-style-type: none"> – Vegetable soups made from allowed vegetables 	<ul style="list-style-type: none"> – Miso soup 	<ul style="list-style-type: none"> – All other soups
Sauces & Condiments			
<ul style="list-style-type: none"> – Lemon & lime juice – Vinegar – Worcestershire sauce – Tabasco sauce 	<ul style="list-style-type: none"> – Soy sauce (in moderation) – Chilli – Diet, oil free or fat free salad dressings 	<ul style="list-style-type: none"> – Mustard – Tomato paste 	<ul style="list-style-type: none"> – Cream – High calorie simmer sauces and dressings
Herbs & Spices			
<ul style="list-style-type: none"> – All spice – Basil – Celery flakes – Chilli – Chives – Cinnamon – Cloves – Coriander – Cumin 	<ul style="list-style-type: none"> – Curry Powder – Dill – Fennel – Garlic – Ginger – Lite salt – Mint – Mustard seed – Nutmeg 	<ul style="list-style-type: none"> – Oregano – Paprika – Parsley – Pepper – Rosemary – Sage – Thyme – Turmeric – Tarragon 	
Miscellaneous			
<ul style="list-style-type: none"> – Artificial sweeteners 	<ul style="list-style-type: none"> – Sugar free lollies and gum 	<ul style="list-style-type: none"> – Diet jelly – Flavour essences – Diet topping 	
Low energy drinks			
<ul style="list-style-type: none"> – Water – Soda water 	<ul style="list-style-type: none"> – Diet soft drinks and cordial – Plain mineral water 	<ul style="list-style-type: none"> – Tea and coffee (no or 30mL skim milk and no sugar) – Herbal Teas 	<ul style="list-style-type: none"> – Fruit juice – Alcohol – Soft drinks – Cordial

Phase 2: Transition Phase

The Transition Phase is the second phase in the Optifast® VLCD™ Program, where the re-introduction of food takes place by replacing 1 Optifast® VLCD™ product with 1 low calorie meal. This ensures a gradual and controlled re-introduction to meals, and is designed to prevent abrupt retention of fluid and abdominal discomfort.³ During the Transition Phase, 2 Optifast® VLCD™ products are consumed along with 1 low calorie meal of approximately 400 calories. Two cups of low starch vegetables and 2 litres of water should be continued, and 1 serve of fruit (around 70 calories) and 1 serve of dairy (around 100 calories) is introduced.

Figure 5: Phase 2 Transition Phase



Table 7: Fruit & Dairy Serves

Fruit serves (50-70 calories)		
<ul style="list-style-type: none"> – Apple (1 small) – Apricots (2) – Blueberries (3/4 cup) – Canned fruit in natural juice (120g) – Cherries (15) – Grapes (1/2 cup) – Kiwi fruit (1) 	<ul style="list-style-type: none"> – Lychees (canned in light syrup, 4) – Mandarins (1-2) – Mango (1/2) – Melon (2 slices) – Orange (1 medium) – Passion fruit (4) – Peach (1 medium) 	<ul style="list-style-type: none"> – Pear (1 small) – Pineapple (2 slices) – Plum (2 small) – Prunes (3) – Rhubarb (200g cooked) – Strawberries (1 1/2 punnets)
Dairy serves (~100 calories)		
<ul style="list-style-type: none"> – Cottage cheese (1/3 cup) – Low fat ice cream (1 scoop) 	<ul style="list-style-type: none"> – Low fat milk (1 cup/250mL) – Low fat yogurt (1 tub ~150g) 	<ul style="list-style-type: none"> – Reduced fat cheese (25% reduced fat, 30g)

There are many recipe ideas for the Transition & Maintenance Phases available on the Optifast® VLCD™ website under My Lifestyle Program. This phase restricts calorie intake to between 800 and 1000 calories per day. The evening meal is generally substituted in this phase, purely for social reasons. You may prefer to tailor this for the individual and substitute the morning meal or lunch meal instead. The Transition Phase can be used as a meal replacement program for individuals with a BMI of 25-30 kg/m² who want to lose weight but where the Intensive Phase is not recommended.

Table 8: Sample Meal Plans for the Transition Phase

Meals	Sample Meal Plan 1	Sample Meal Plan 2	Sample Meal Plan 3
Breakfast	1 Optifast® VLCD™ Shake	1 Optifast® VLCD™ Shake	1 Optifast® VLCD™ Shake
Morning Tea	Tea/coffee (either black or with 30mL skim milk and no sugar) 1 serve of fruit	Tea/coffee (either black or with 30mL skim milk and no sugar) 1 serve of fruit	1 tub of yogurt
Lunch	2 cups of low starch salad or vegetables and other allowed condiments	Low calorie meal of 400 calories (1 cup pasta, with ½ cup of sauce and 2 cups of salad)	Optifast® VLCD™ Dessert Vegetable sticks
Afternoon Tea	1 Optifast® VLCD™ Bar	1 cup of low starch vegetables	1 serve of fruit
Dinner	Low calorie evening meal of 400 calories (100g meat, 1 medium potato & 2 cups of low starch vegetables or salad)	1 Optifast® VLCD™ Soup 1 cup of low starch vegetables	Low calorie evening meal of 400 calories (½ cup casserole, ¾ cup of rice & 2 cups of low starch vegetables or salad)
Supper	Herbal Tea 1 tub of yogurt	Glass of warm skim milk with diet topping	Herbal Tea 125mL of diet jelly
Total Calorie Intake	Approx. 1000 calories	Approx. 1000 calories	Approx. 930 calories

Phase 3: Maintenance Phase

The Maintenance Phase is the third phase of the program, in which another meal is introduced. One Optifast® VLCD™ sachet or bar is consumed in addition to 2 low calorie meals of approximately 400 calories each. Two cups of low starch vegetables and 2 litres of water should be continued, and another serve of fruit is added so that 2 serves of fruit (around 70 calories each) and 1 dairy (around 100 calories) are consumed.

Figure 6: Phase 3 Maintenance Phase



This phase restricts calorie intake to between 1000 and 1200 calories per day. As with the Transition Phase, the Maintenance Phase can be used as a meal replacement program for individuals with a BMI of 25–30 kg/m² who want to lose weight but for whom the Intensive Phase is not recommended.

Table 9: Sample Meal Plans for the Maintenance Phase

Meals	Sample Meal Plan 1	Sample Meal Plan 2	Sample Meal Plan 3
Breakfast	1 Optifast® VLCD™ Shake	1 cup of cereal with 1 cup of milk	2 x toast with 2 poached eggs
Morning Tea	Tea/coffee (either black or with 30mL skim milk and no sugar) 1 serve of fruit	Tea/coffee (either black or with 30mL skim milk and no sugar) 1 serve of fruit	1 tub of yogurt 1 serve of fruit
Lunch	1 sandwich with 50g meat and salad	1 Optifast® VLCD™ Bar	1 sandwich with 50g meat and salad
Afternoon Tea	Tea/coffee (either black or with 30mL skim milk and no sugar)	1 cup of low starch vegetables 1 serve of fruit	Vegetable sticks 1 serve of fruit
Dinner	Low calorie evening meal of 400 calories (100g meat, 1 medium potato and 2 cups of low starch vegetables or salad)	Low calorie evening meal of 400 calories (1 cup pasta, ½ cup sauce and 2 cups of low starch vegetables)	1 Optifast® VLCD™ Soup 2 cups of low starch salad or vegetables and other allowed condiments
Supper	Herbal Tea 1 tub of yogurt 1/2 cup of diced fruit	Glass of warm skim milk with diet topping	Herbal Tea 125mL of diet jelly
Total Calorie Intake	Approx. 1070 calories	Approx. 1100 calories	Approx. 1050 calories

Pharmacotherapy

During the Intensive Phase, hunger is controlled by ketosis. A number of healthcare (medical) professionals have successfully incorporated drug therapy into the Transition and Maintenance Phases if hunger is a problem for their patients.

Medical Monitoring

It is important to monitor for any signs of rapid refeeding. These may include symptoms associated with increased cardiac work, hypophosphatemia (effect of increased insulin moving phosphate into the intracellular space), and signs of gastric atony, dilation & biliary colic. Such complications are rare, but they may require rapid intervention.

Other reasons for medical monitoring include review of intercurrent health events, to monitor for signs of possible relapse and to document improvement of risk factors.

Phase 4: The Stabilisation Phase

The Stabilisation Phase is where all Optifast® VLCD™ products are eliminated. Dietary intake now consists of 3 low calorie meals (approximately 400 calories each), and 2 serves of fruit and 1 dairy, plus low-starch vegetables and water. The nutrition component of the Stabilisation Phase requires ongoing monitoring for meal plan adjustments and education in order to ensure long term weight management.

Figure 7: Phase 4 Stabilisation Phase



Table 10: Sample Meal Plans for the Stabilisation Phase

Meals	Sample Meal Plan 1	Sample Meal Plan 2	Sample Meal Plan 3
Breakfast	1 cup of cereal with 1 cup milk and 1/2 cup diced fruit	2 slices of toast with jam and skim milk latte	1 poached egg on toast with spinach and tomato
Morning Tea	Tea/coffee 1 serve of fruit	Tea/coffee 1 tub of low fat yogurt	Tea/coffee 1 tub of low fat yogurt
Lunch	1 sandwich with 50g meat and salad	2 cups of salad with 50g shredded chicken plus 4 wholegrain biscuits	1 wholegrain wrap with 50g meat and salad
Afternoon Tea	Tea/coffee 1 cup of carrot and celery sticks	Tea/coffee 1 piece of fruit 1 cup of carrot and celery sticks	Tea/coffee 1 piece of fruit
Dinner	Low calorie evening meal of 400 calories (100g meat, 1 medium potato and 2 cups of low starch vegetables or salad)	Low calorie evening meal of 400 calories (1 cup pasta, ½ cup sauce and 2 cups of low starch vegetables)	Low calorie evening meal of 400 calories (½ cup casserole, ¾ cup of rice and 2 cups of low starch vegetables or salad)
Supper	Cup of black or herbal tea 100g low fat yogurt	1/2 cup of fruit salad	Cup of black or herbal tea 125mL of diet jelly
Total Calorie Intake	Approx. 1200 calories	Approx. 1250 calories	Approx. 1200 calories

Long-term weight maintenance with Optifast® VLCD™

Issues and Challenges with Long-Term Weight Management

Whilst the focus of the Optifast® VLCD™ Program is on weight loss, it is just as important to identify behaviours and strategies for successful weight maintenance.

- ▶ Successful weight loss maintenance can be defined as 'Individuals who have intentionally lost at least 10% of their body weight and kept it off for at least 1 year'.¹⁶
- ▶ Long term weight management is challenging – people must overcome potent physiological responses that increase hunger and encourage weight regain, as well as resisting returning to previous obesity-promoting lifestyle habits.⁴
- ▶ Overweight and obesity are chronic and relapsing conditions, and regular monitoring and support over the long term are essential. Longer term approaches to support weight management that include frequent contact with health professionals, are associated with better results.⁴
- ▶ Weight management may become easier over time. Once people have maintained a weight loss for 2-5 years, the chances of longer-term success greatly increases.¹⁶
- ▶ Healthcare professionals can enhance the maintenance of weight loss by acknowledging that obesity is a chronic condition that requires continuous care and by identifying effective strategies to help sustain the changes needed for long-term success.¹⁷

Identified Behaviours of Successful Weight Loss Maintenance

Successful behaviours for long-term weight management include:

- ▶ Maintaining high levels of physical activity and limiting sedentary activities (e.g. television viewing and use of computers)
- ▶ Eating a diet low in kilojoules, including low fat
- ▶ Eating breakfast regularly
- ▶ Maintaining a consistent eating pattern throughout the week and year
- ▶ Reducing emotional eating
- ▶ Frequently monitoring weight and food intake
- ▶ Catching lapses before they become large-scale weight gains.

While most of these strategies involve self-management, healthcare professionals play an important role in continued monitoring to review weight and behaviours, provide continuing support, reinforce lifestyle and behavioural advice and discuss intensive interventions when needed.⁴

How to Prevent Weight Regain: Successful Weight Maintenance Strategies

- ▶ Once weight loss goals have been achieved, it is important to discuss strategies for managing weight in the longer term, including preventing weight regain.⁴
- ▶ Acting quickly is critical because of the difficulty of reversing even small weight gains.¹⁸
- ▶ Whilst lifestyle interventions underpin long-term weight management, for many people who regain weight, re-intervention with specific programs such as very low energy diets and/or pharmacotherapy may be an option to help manage some of the physiological responses to weight loss.⁴
- ▶ As with weight loss, the type and intensity of the long-term management program will depend on a range of individual characteristics. Given the complex interaction of factors causing weight regain, the program should be sensitive to individual needs and differences, and allow people to adopt behaviour changes that suit their lifestyle.¹⁹

Using Optifast® VLCD™ Long Term for Weight Maintenance - Key Strategies

1. Set up 3 monthly regular review visits to monitor weight and continue to provide support by reinforcing lifestyle and behavioural changes.
2. Set a weight re-gain limit (e.g. 3-4kg) at which reintervention is sought.⁴
3. If weight re-gain limit is attained, reinforce lifestyle and behaviour changes and consider using a specific program such as Optifast® VLCD™.
4. When used under the supervision of a healthcare professional, the Optifast® VLCD™ Program can be used successfully and effectively in the following ways to assist long-term weight management:
 - a. Re-introduction of Intensive Phase for 2-6 weeks if weight regain limit or higher is achieved.²⁰
 - b. Use Intensive Phase intermittently for 2 weeks every 3 months as part of a continuous weight management program.²⁰
 - c. Use as a meal replacement for 1-2 meals per day as part of a continuous low energy weight management program.^{21, 22}

Pre-operative weight loss

Surgical intervention by way of bariatric surgery can result in substantial weight loss that is sustained over the long term when combined with education, ongoing monitoring and patient support. However, features of severe obesity can increase the complexity of the bariatric surgical procedure and may increase the risks of surgery.

Pre-operative weight loss is therefore desirable to optimise the safety of surgery in obese patients scheduled for bariatric surgery, in particular by reducing liver size which reduces the risk of conversion from laparoscopic to an open procedure. Pre-operative weight loss can also improve respiratory mechanics and biochemical factors associated with obesity, reduce the severity of co-morbidities and minimise operating recovery times. Importantly, weight loss prior to surgery sensitises the patient to the potential benefits of complying with post-operative dietary restrictions.

Pre-operative weight loss prior to obesity surgery can be achieved rapidly and safely using a very low energy diet such as Optifast® VLCD™. The Intensive Phase of the Optifast® VLCD™ Program replaces normal dietary intake while maintaining sufficient quantities of protein, carbohydrates and essential fatty acids, as well as vitamins, minerals and trace elements.

Short-term usage of the Intensive Phase of the Optifast® VLCD™ Program has been shown to produce effective weight loss and improve health outcomes, and is associated with good adherence to treatment.²³ Pre-operative weight loss does not appear to adversely affect immune function or wound healing.^{23, 24}

For further information on the management of bariatric surgery patients, please refer to the Optifast® VLCD™ Pre-Operative Protocol for more details.



Exercise

Exercise is beneficial for weight loss and should be recommended as part of the Optifast® VLCD™ Program. The goal of physical activity in weight management is to increase an individual's energy expenditure and resting metabolic rate. Therefore exercise should include both planned physical activity (i.e. walking for a set time each day, or training at a gym or with a personal trainer) as well as increases in daily activity (e.g. reducing sitting and sedentary activities, walking to and from transport, using stairs rather than lifts, parking car further away from desired destination, getting up from computer or desk regularly).

VLEDs have been shown not to impair moderate submaximal aerobic and weight training exercise³ and therefore 30-60 minutes of exercise on most days should be recommended as part of the Optifast® VLCD™ Program as well as strategies to help increase daily activity levels. The combined effects of exercise plus a VLED have been shown to increase the retention of lean muscle mass and reduce fat mass.²⁵

For most patients that haven't exercised for a long period of time, starting small and building up from there is a good place to begin. Repeated bouts of 10 minutes of activity can equal that of one 30 or 40 minute block of exercise. The aim is to encourage the individual to regularly include exercise into their routine rather than feel that it is unachievable.



Australian Physical Activity Recommendations for Adults²⁶

- 1. Think of movement as an opportunity not an inconvenience.**
- 2. Be active every day in as many ways as you can.**
- 3. Put together at least 30 minutes of moderate-intensity physical activity on most, preferably all, days.**
- 4. If you can, also enjoy some regular, vigorous activity for extra health and fitness.**

Practical Information to Support Weight Management through Physical Activity⁴

- 1. Provide ideas for increasing the amount of incidental activity, for example:**
 - a. Choose stairs rather than lifts.
 - b. Park further away from destination.
 - c. Use public transport rather than driving.
 - d. Walk to do errands.
 - e. Use a community bicycle.
 - f. Use a pedometer to measure the amount of steps achieved each day – aim to get to 10,000 steps.
 - g. Limit screen time.
- 2. Provide ideas for low impact/low risk exercise options:**
 - a. Aqua aerobics or hydrotherapy.
 - b. Walking or low impact gym machines.
- 3. Suggest to exercise with others such as family, friends, partners or children to help maintain motivation.**
- 4. Explain the relative benefits of different types of exercise intensity and how this needs to increase as fitness levels increase.**
- 5. Suggest how to get involved in physical events or groups.**

Managing patients with intolerances and allergies

Allergies

Patients with intolerances and allergies can still be considered for the Optifast® VLCD™ Program. Different products in the Optifast® VLCD™ range have different allergens present.

Table 11 outlines the allergens present in each of the Optifast® VLCD™ products, to allow you to choose the products best suited to your patients' needs.

Table 11: Different allergens present in the Optifast® VLCD™ range

Product	Gluten	Soy	Dairy	Nuts	Eggs	Fish oil	Phenylalanine
Optifast® VLCD™ Original Chocolate Shake (21 Pack)	✗	✓	✓	✗	May contain traces	✗	✗
Optifast® VLCD™ Original Vanilla Flavour Shake (21 Pack)	✗	✓	✓	✗	May contain traces	✗	✗
Optifast® VLCD™ Chocolate Shake 12 Pack	✗	✓	✓	✗	May contain traces	✓	✓
Optifast® VLCD™ Vanilla Flavour Shake 12 Pack	✗	✓	✓	✗	May contain traces	✓	✓
Optifast® VLCD™ Strawberry Flavour Shake 12 Pack	✗	✓	✓	✗	May contain traces	✓	✓
Optifast® VLCD™ Coffee Shake 12 Pack	✗	✓	✓	✗	May contain traces	✓	✓
Optifast® VLCD™ Banana Flavour Shake 12 Pack	✗	✓	✓	✗	May contain traces	✓	✓
Optifast® VLCD™ Chocolate Dessert 8 Pack	✗	✓	✓	✗	May contain traces	✗	✓
Optifast® VLCD™ Lemon Crème Flavour Dessert 8 Pack	✗	✓	✓	✗	May contain traces	✗	✓
Optifast® VLCD™ Vegetable Soup 8 Pack	✓	✓	✓	✗	May contain traces	✓	✗
Optifast® VLCD™ Chicken Flavour Soup 8 Pack	✓	✓	✓	✗	May contain traces	✗	✗
Optifast® VLCD™ Chocolate Bar 6 Pack	✓	✓	✓	May contain traces	✗	✗	✗
Optifast® VLCD™ Berry Crunch Flavour Bar 6 Pack	✓	✓	✓	May contain traces	✗	✗	✗
Optifast® VLCD™ Cappuccino Flavour Bar 6 Pack	✓	✓	✓	May contain traces	✗	✗	✗

Lactose Intolerance

All the Optifast® VLCD™ products contain some quantities of lactose. Most people with lactose malabsorption can tolerate up to 7 grams of lactose per serve;²⁷ however the desserts, chicken soup and bars may be better tolerated as they contain the least amount of lactose. As it can be individual it may be a matter of trial and error to see what products your patient can manage. Table 12 highlights the lactose content of each of the Optifast® VLCD™ products.

Table 12: Lactose content of Optifast® VLCD™ product range

Product	Lactose per serve (g)	Lactose per 100g (g)
Optifast® VLCD™ Original Chocolate Shake (21 Pack)	4.8	12
Optifast® VLCD™ Original Vanilla Flavour Shake (21 Pack)	4.2	10.5
Optifast® VLCD™ Chocolate Shake 12 Pack	10.3	19.1
Optifast® VLCD™ Vanilla Flavour Shake 12 Pack	10.3	19.1
Optifast® VLCD™ Strawberry Flavour Shake 12 Pack	10.3	19.1
Optifast® VLCD™ Coffee Shake 12 Pack	10.3	19.1
Optifast® VLCD™ Banana Flavour Shake 12 Pack	10.3	19.1
Optifast® VLCD™ Chocolate Dessert 8 Pack	<0.05	0.1
Optifast® VLCD™ Lemon Crème Flavour Dessert 8 Pack	<0.1	0.2
Optifast® VLCD™ Vegetable Soup 8 Pack	7.1	13.1
Optifast® VLCD™ Chicken Flavour Soup 8 Pack	1.1	2.3
Optifast® VLCD™ Chocolate Bar 6 Pack	0.8	1.1
Optifast® VLCD™ Berry Crunch Flavour Bar 6 Pack	0.12	0.2
Optifast® VLCD™ Cappuccino Flavour Bar 6 Pack	0.8	1.3

Fructose Malabsorption

For individuals with fructose malabsorption, the Chocolate and Vanilla Shakes in the 21 packs do not contain any fructose so are generally well tolerated. Although both the Mixed Vegetable and Chicken Soups contain some fructose the amount is minimal and these products are usually well tolerated. The fructose content in the other Optifast® VLCD™ products is higher and tolerance will be variable.

Glucose enhances absorption of fructose by the principle that one molecule of glucose enables absorption of one molecule of fructose, so, for example, fructose from table sugar (50% fructose, 50% glucose) is generally well absorbed even in persons with fructose malabsorption. Therefore the greater the glucose-to-fructose ratio in the food, the easier the fructose will be absorbed. The table below lists both the Fructose content and the Glucose:Fructose ratio of the Optifast® VLCD™ products.

Table 13: Fructose content of Optifast® VLCD™ product range

Product	Fructose per serve (g)	Fructose per 100g (g)	Glucose: Fructose Ratio
Optifast® VLCD™ Original Chocolate Shake (21 Pack)	0	0	—
Optifast® VLCD™ Original Vanilla Flavour Shake (21 Pack)	0	0	—
Optifast® VLCD™ Chocolate Shake 12 Pack	4.0	7.4	1:18.5
Optifast® VLCD™ Vanilla Flavour Shake 12 Pack	3.4	6.3	1:21
Optifast® VLCD™ Strawberry Flavour Shake 12 Pack	3.4	6.3	1:21
Optifast® VLCD™ Coffee Shake 12 Pack	3.0	5.6	1:13.6
Optifast® VLCD™ Banana Flavour Shake 12 Pack	3.4	6.3	1:21
Optifast® VLCD™ Chocolate Dessert 8 Pack	4.6	10	1:4.5
Optifast® VLCD™ Lemon Crème Flavour Dessert 8 Pack	4.6	10	1:9
Optifast® VLCD™ Vegetable Soup 8 Pack	0.49	0.9	1:1.5
Optifast® VLCD™ Chicken Flavour Soup 8 Pack	0.09	0.18	1:0.15
Optifast® VLCD™ Chocolate Bar 6 Pack	5.9	8.4	1:28
Optifast® VLCD™ Berry Crunch Flavour Bar 6 Pack	9.4	15.7	1:2.2
Optifast® VLCD™ Cappuccino Flavour Bar 6 Pack	8.1	13.5	1:1.8

Low FODMAP Diets

FODMAPs refer to **F**ermentable **O**ligosaccharides, **D**isaccharides, **M**onosaccharides **A**nd **P**olyols. Research shows that reducing the intake of these sugars in the diet can improve symptoms associated with Irritable Bowel Syndrome (IBS). This group of sugars include fructose, lactose, fructans, galactans and polyols.

In individuals with IBS or other gut disorders these sugars are poorly absorbed in the small intestine and therefore travel to the large intestine where they are fermented by bacteria that are naturally present. This process can cause symptoms such as gas (wind), pain, bloating, diarrhoea or constipation. Table 14 highlights Optifast® VLCD™ product ingredients that may contribute to FODMAP load.

Table 14: FODMAP content of Optifast® VLCD™ products

Product	Fructans	Galactans	Glucose (g/serve)	Fructose (g/serve)	Lactose (g/serve)	Polyols	Soy
Optifast® VLCD™ Original Chocolate Shake (21 Pack)	✗	✗	0.2	0	4.8	✗	✓
Optifast® VLCD™ Original Vanilla Flavour Shake (21 Pack)	✗	✗	0.1	0	4.2	✗	✓
Optifast® VLCD™ Chocolate Shake 12 Pack	✓	✗	0.216	4.0	10.3	✗	✓
Optifast® VLCD™ Vanilla Flavour Shake 12 Pack	✓	✗	0.16	3.4	10.3	✗	✓
Optifast® VLCD™ Strawberry Flavour Shake 12 Pack	✓	✗	0.16	3.4	10.3	✓	✓
Optifast® VLCD™ Coffee Shake 12 Pack	✓	✗	0.22	3.0	10.3	✗	✓
Optifast® VLCD™ Banana Flavour Shake 12 Pack	✓	✗	0.16	3.4	10.3	✗	✓
Optifast® VLCD™ Chocolate Dessert 8 Pack	✓	✗	1.01	4.6	<0.05	✗	✓
Optifast® VLCD™ Lemon Crème Flavour Dessert 8 Pack	✓	✗	0.51	4.6	<0.1	✗	✓
Optifast® VLCD™ Vegetable Soup 8 Pack	✓	✗	0.32	0.49	7.1	✗	✓
Optifast® VLCD™ Chicken Flavour Soup 8 Pack	✓	✗	0.62	0.09	1.1	✗	✓
Optifast® VLCD™ Chocolate Bar 6 Pack	✗	✗	0.21	5.9	0.8	✓	✓
Optifast® VLCD™ Berry Crunch Flavour Bar 6 Pack	✓	✗	4.3	9.4	0.12	✗	✓
Optifast® VLCD™ Cappuccino Flavour Bar 6 Pack	✓	✗	4.5	8.1	0.8	✗	✓

Nutritional information panels and ingredient lists

Optifast® VLCD™ Shakes

	Units	Vanilla Flavour Shake	Chocolate Shake	Strawberry Flavour Shake	Coffee Shake	Banana Flavour Shake	Vanilla Flavour Shake (original recipe)	Chocolate Shake (original recipe)
Serving Size	g	54	54	54	54	54	40	40
Energy	kJ	870	870	870	870	870	635	635
Energy	Cal	207	207	207	207	207	152	152
Protein	g	17.5	17.5	17.5	17.5	17.5	17.3	17.3
Fat	g	4.5	4.5	4.5	4.5	4.5	2.3	2.3
Saturated Fat	g	1.1	1.1	1.1	1.1	1.1	0.3	0.3
EPA & DHA	mg	60	60	60	60	60	0	0
Carbohydrates	g	22.5	22.5	22.5	22.5	22.5	15	15
Sugar	g	17.8	17.8	17.8	17.8	17.8	9.2	9.2
Dietary Fibre	g	3.6	3.6	3.6	3.6	3.6	0	0
Sodium	mg	220	220	220	220	220	330	330
Sodium	mmol	10	10	10	10	10	14	14
Vit A	µgRE	486	486	486	486	486	332	332
Thiamin	mg	0.70	0.70	0.70	0.70	0.70	0.53	0.53
Riboflavin	mg	0.92	0.92	0.92	0.92	0.92	0.67	0.67
Niacin	mgNE	7	7	7	7	7	6	6
Pantothenic Acid	mg	4.0	4.0	4.0	4.0	4.0	2.7	2.7
Vit B6	mg	0.92	0.92	0.92	0.92	0.92	0.7	0.7
Biotin	µg	16	16	16	16	16	67	67
Folic Acid	µg	124	124	124	124	124	133	133
Vit B12	µg	1.2	1.2	1.2	1.2	1.2	1	1
Vit C	mg	46	46	46	46	46	25	25
Vit D	µg	2.4	2.4	2.4	2.4	2.4	1.7	1.7
Vit E	mgTE	8.1	8.1	8.1	8.1	8.1	4	4
Vit K	µg	32	32	32	32	32	33	33
Calcium	mg	350	350	350	350	350	300	300
Chromium	µg	54	54	54	54	54	33	33
Copper	mg	0.5	0.5	0.5	0.5	0.5	0.8	0.8
Iodine	µg	81	81	81	81	81	50	50
Iron	mg	5.4	5.4	5.4	5.4	5.4	6	6
Magnesium	mg	130	130	130	130	130	116	116
Manganese	mg	0.5	0.5	0.5	0.5	0.5	1	1
Molybdenum	µg	33	33	33	33	33	67	67
Phosphorus	mg	340	340	340	340	340	268	268
Selenium	µg	32	32	32	32	32	14	14
Zinc	mg	5.9	5.9	5.9	5.9	5.9	5	5
Potassium	mg	780	780	780	780	780	670	670
Potassium	mmol	20	20	20	20	20	17	17
Chloride	mg	351	351	351	351	351	400	400
Glycaemic Index (GI)	–	27	31	27	31	24	33	33

Optifast® VLCD™ Shake Ingredients

Vanilla Flavour Shake 12 Pack – Ingredients

Skimmed **Milk** Powder (36%), **Milk** Proteins [Calcium Caseinate (13%), Sodium Caseinate (8%)], Inulin, Maltodextrin (Corn), Sugar, Vegetable Oils (Canola, Sunflower), Fructose, Minerals (Potassium Citrate, Sodium Chloride, Magnesium Carbonate, Potassium Phosphate, Tricalcium Phosphate, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Sodium Molybdate, Potassium Iodide, Sodium Selenite), Glucose Syrup (Corn, **Wheat** or Potato), Medium Chain Triglycerides, **Fish** Oil, Corn Starch, Flavour, Vegetable Gum (414), Sweetener (Aspartame, Acesulfame Potassium), Emulsifiers (**Soy** Lecithin, 472c, 471), Vitamins (Ascorbic Acid, Nicotinamide, Vitamin E Acetate, Calcium Pantothenate, Thiamin Hydrochloride, Pyridoxine Hydrochloride, Riboflavin, Vitamin A Acetate, Folic Acid, Biotin, Phytonadione, Cholecalciferol, Cyanocobalamin), Antioxidants (304, 307), Colour (160a). **Contains Milk, Soy, Wheat and Fish. Contains Phenylalanine. Made on equipment that also processes products containing Egg and Celery.**

Chocolate Shake 12 Pack – Ingredients

Skimmed **Milk** Powder (34%), **Milk** Proteins [Calcium Caseinate (13%), Sodium Caseinate (7%)], Fructose, Vegetable Oils (Canola, Sunflower), Inulin, Maltodextrin (Corn), Sugar, Cocoa Powder (5%), Minerals (Potassium Citrate, Magnesium Carbonate, Potassium Phosphate, Sodium Chloride, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Tricalcium Phosphate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Sodium Selenite, Sodium Molybdate, Potassium Iodide), Glucose Syrup (Corn, **Wheat** or Potato), **Fish** Oil, Corn Starch, Emulsifiers (**Soy** Lecithin, 472c, 471), Sweeteners (Aspartame, Acesulfame Potassium), Vitamins (Ascorbic Acid, Vitamin E Acetate, Nicotinamide, Calcium Pantothenate, Pyridoxine Hydrochloride, Thiamin Hydrochloride, Riboflavin, Vitamin A Acetate, Folic Acid, Biotin, Phytonadione, Cholecalciferol, Cyanocobalamin), Flavour, Antioxidants (304, 307), Vegetable Gum (414), Medium Chain Triglycerides. **Contains Milk, Soy, Wheat and Fish. Contains Phenylalanine. Made on equipment that also processes products containing Egg and Celery.**

Strawberry Flavour Shake 12 Pack – Ingredients

Skimmed **Milk** Powder (35%), **Milk** Proteins [Calcium Caseinate (13%), Sodium Caseinate (7%)], Inulin, Maltodextrin (Corn, Potato), Sugar, Vegetable Oils (Canola, Sunflower), Fructose, Minerals (Potassium Citrate, Sodium Chloride, Magnesium Carbonate, Potassium Phosphate, Tricalcium Phosphate, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Sodium Molybdate, Potassium Iodide, Sodium Selenite), Glucose Syrup (Corn, **Wheat** or Potato), Medium Chain Triglycerides, **Fish** Oil, Corn Starch, Colour (160a), Sweetener (Aspartame, Acesulfame Potassium), Emulsifiers (**Soy** Lecithin, 472c, 471), Flavour, Vegetable Gum (414), Vitamins (Ascorbic Acid, Nicotinamide, Vitamin E Acetate, Calcium Pantothenate, Thiamin Hydrochloride, Pyridoxine Hydrochloride, Riboflavin, Vitamin A Acetate, Folic Acid, Biotin, Phytonadione, Cholecalciferol, Cyanocobalamin), Antioxidants (304, 307), Food Acid (330). **Contains Milk, Soy, Wheat and Fish. Contains Phenylalanine. Made on equipment that also processes products containing Egg and Celery.**

Coffee Shake 12 Pack – Ingredients

Skimmed **Milk** Powder (35%), **Milk** Proteins [Calcium Caseinate (13%), Sodium Caseinate (7%)], Inulin, Maltodextrin (Corn), Vegetable Oils (Canola, Sunflower), Fructose, Sugar, Coffee Extract (4%), Minerals (Potassium Citrate, Magnesium Carbonate, Potassium Phosphate, Sodium Chloride, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Tricalcium Phosphate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Sodium Selenite, Sodium Molybdate, Potassium Iodide), Glucose Syrup (Corn, **Wheat** or Potato), Medium Chain Triglycerides, Flavour, **Fish** Oil, Corn Starch, Vegetable Gum (414), Sweeteners (Aspartame, Acesulfame Potassium), Emulsifiers (**Soy** Lecithin, 472c, 471), Vitamins (Ascorbic Acid, Vitamin E Acetate, Nicotinamide, Calcium Pantothenate, Pyridoxine Hydrochloride, Thiamin Hydrochloride, Riboflavin, Vitamin A Acetate, Folic Acid, Biotin, Phytonadione, Cholecalciferol, Cyanocobalamin), Antioxidants (304, 307). **Contains Milk, Soy, Wheat and Fish. Contains Phenylalanine. Made on equipment that also processes products containing Egg and Celery.**

Banana Flavour Shake 12 Pack – Ingredients

Skimmed **Milk** Powder (37%), **Milk** Proteins [Calcium Caseinate (13%), Sodium Caseinate (7%)], Inulin, Vegetable Oils (Canola, Sunflower), Sugar, Maltodextrin (Corn, Potato), Fructose, Minerals (Potassium Citrate, Magnesium Carbonate, Potassium Phosphate, Sodium Chloride, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Tricalcium Phosphate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Sodium Selenite, Sodium Molybdate, Potassium Iodide), Glucose Syrup (Corn, **Wheat** or Potato), Medium Chain Triglycerides, **Fish** Oil, Corn Starch, Sweeteners (Aspartame, Acesulfame Potassium), Emulsifiers (**Soy** Lecithin, 472c, 471), Vitamins (Ascorbic Acid, Vitamin E Acetate, Nicotinamide, Calcium Pantothenate, Pyridoxine Hydrochloride, Thiamin Hydrochloride, Riboflavin, Vitamin A Acetate, Folic Acid, Biotin, Phytonadione, Cholecalciferol, Cyanocobalamin), Flavour, Antioxidants (304, 307), Vegetable Gum (414), Colour (160a). **Contains Milk, Soy, Wheat and Fish. Contains Phenylalanine. Made on equipment that also processes products containing Egg and Celery.**

Chocolate Shake 21 Pack – Ingredients (Original Recipe)

Milk Proteins (Calcium Caseinate 25%, Sodium Caseinate 12%), Skimmed **Milk** Powder (25%), Sugar, Maltodextrin (Corn), Vegetable Oil (Sunflower), Cocoa Powder (5%), Minerals (Potassium Citrate, Sodium Chloride, Magnesium Carbonate, Sodium Citrate, Potassium Phosphate, Tricalcium Phosphate, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Sodium Molybdate, Potassium Iodide, Sodium Selenite), Glucose Syrup (Corn), Flavour, Emulsifier (**Soy** Lecithin), Sweetener (Sodium Saccharin), Vanillin, Antioxidants (304, 307), Vitamins (Ascorbic Acid, Nicotinamide, Vitamin E Acetate, Calcium Pantothenate, Thiamin Hydrochloride, Pyridoxine Hydrochloride, Riboflavin, Vitamin A Acetate, Folic Acid, Biotin, Phytonadione, Cholecalciferol, Cyanocobalamin). **Contains Milk and Soy. Made on equipment that also processes products containing Egg and Celery.**

Vanilla Flavour Shake 21 Pack – Ingredients (Original Recipe)

Milk Proteins (Calcium Caseinate 25%, Sodium Caseinate 12%), Skimmed **Milk** Powder (25%), Sugar, Maltodextrin (Corn), Vegetable Oil (Sunflower), Minerals (Potassium Citrate, Sodium Chloride, Magnesium Carbonate, Sodium Citrate, Potassium Phosphate, Tricalcium Phosphate, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Sodium Molybdate, Potassium Iodide, Sodium Selenite), Glucose Syrup (Corn), Flavour, Emulsifier (**Soy** Lecithin), Sweetener (Sodium Saccharin), Antioxidants (304, 307), Colour (160a), Vitamins (Ascorbic Acid, Nicotinamide, Vitamin E Acetate, Calcium Pantothenate, Thiamin Hydrochloride, Pyridoxine Hydrochloride, Riboflavin, Vitamin A Acetate, Folic Acid, Biotin, Phytonadione, Cholecalciferol, Cyanocobalamin). **Contains Milk and Soy. Made on equipment that also processes products containing Egg and Celery.**

Optifast® VLCD™ Desserts

	Units	Chocolate Dessert	Lemon Crème Flavour Dessert
Serving Size		46g	46g
Energy	kJ	720	720
Energy	Cal	173	173
Protein	g	18.3	18.3
Fat	g	2.7	2.7
Saturated Fat	g	0.6	0.8
EPA & DHA	mg	0	0
Carbohydrates	g	17	17
Sugar	g	8.9	9.9
Dietary Fibre	g	3	3
Sodium	mg	240	230
Sodium	mmol	10	10
Vit A	µgRE	330	310
Thiamin	mg	0.5	0.5
Riboflavin	mg	0.7	0.7
Niacin	mgNE	6	6
Pantothenic Acid	mg	2.7	2.7
Vit B6	mg	0.8	0.8
Biotin	µg	70	10
Folic Acid	µg	130	130
Vit B12	µg	1	1
Vit C	mg	25	25
Vit D	µg	1.7	1.7
Vit E	mgTE	4.4	4.4
Vit K	µg	33	25
Calcium	mg	280	260
Chromium	µg	30	30
Copper	mg	0.8	0.7
Iodine	µg	60	60
Iron	mg	6.9	6.7
Magnesium	mg	140	140
Manganese	mg	1	1
Molybdenum	µg	70	15.0
Phosphorus	mg	270	250
Selenium	µg	14	14
Zinc	mg	5	5
Potassium	mg	700	700
Potassium	mmol	18	18
Chloride	mg	250	230
Glycaemic Index (GI)	–	27	27

Optifast® VLCD™ Dessert Ingredients

Chocolate Dessert 8 Pack – Ingredients

Milk Protein Isolate (30%), **Milk** Proteins [Calcium Caseinate (8%), Sodium Caseinate (4%)], Fructose, **Soy** Oil, Sugar, Thickeners (407, 1414), Cocoa Powder (6%), Maltodextrin (Corn), Maize Dextrin, Minerals (Tripotassium Citrate, Magnesium Carbonate, Potassium Chloride, Sodium Chloride, Potassium Phosphate, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Manganese Sulphate, Tricalcium Phosphate, Sodium Fluoride, Sodium Molybdate, Chromium Chloride, Potassium Iodide, Sodium Selenite), Flavour, Glucose Syrup (Corn), MCT Oil, Sweeteners (Aspartame, Acesulfame Potassium), Emulsifier (**Soy** Lecithin), Antioxidants (304, 307), Vitamins (Ascorbic Acid, Nicotinamide, Calcium Pantothenate, Vitamin E Acetate, Vitamin A Acetate, Pyridoxine Hydrochloride, Riboflavin, Thiamin Hydrochloride, Folic Acid, Phytonadione, Biotin, Cholecalciferol, Cyanocobalamin).

Contains Milk and Soy. Contains Phenylalanine. Made on equipment that also processes products containing Egg and Celery.

Lemon Crème Flavour Dessert 8 Pack – Ingredients

Milk Protein Isolate (25%), **Milk** Proteins [Calcium Caseinate (13%), Sodium Caseinate (6%)], Fructose, Sugar, **Soy** Oil, Maize Dextrin, Thickeners (407, 1414), Maltodextrin (Corn), Minerals (Tripotassium Citrate, Magnesium Carbonate, Potassium Chloride, Sodium Chloride, Potassium Phosphate, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Manganese Sulphate, Tricalcium Phosphate, Sodium Fluoride, Chromium Chloride, Potassium Iodide, Sodium Selenite, Sodium Molybdate), Glucose Syrup (Corn), Flavour, MCT Oil, Sweeteners (Aspartame, Acesulfame Potassium), Colour (100), Vitamins (Ascorbic Acid, Nicotinamide, Vitamin E Acetate, Calcium Pantothenate, Pyridoxine Hydrochloride, Riboflavin, Thiamin Hydrochloride, Vitamin A Acetate, Folic Acid, Phytonadione, Biotin, Cholecalciferol, Cyanocobalamin), Emulsifier (**Soy** Lecithin), Antioxidants (304, 307). **Contains Milk and Soy. Contains Phenylalanine. Made on equipment that also processes products containing Egg and Celery.**

Optifast® VLCD™ Soups

	Units	Chicken Flavour Soup	Mixed Vegetable Soup
Serving Size		48g	54g
Energy	kJ	724	875
Energy	Cal	173	209
Protein	g	18.3	17.5
Fat	g	2.7	4.5
Saturated Fat	g	0.8	1.8
EPA & DHA	mg	0	75
Carbohydrates	g	17	22.5
Sugar	g	2.4	9.1
Dietary Fibre	g	3	3.6
Sodium	mg	660	870
Sodium	mmol	29	38
Vit A	µgRE	310	330
Thiamin	mg	0.5	0.54
Riboflavin	mg	0.7	0.67
Niacin	mgNE	6	6
Pantothenic Acid	mg	2.7	2.4
Vit B6	mg	0.8	0.7
Biotin	µg	10	10
Folic Acid	µg	130	100
Vit B12	µg	0.7	1
Vit C	mg	25	25
Vit D	µg	1.7	1.7
Vit E	mgTE	4.4	8
Vit K	µg	25	25
Calcium	mg	210	500
Chromium	µg	30	50
Copper	mg	0.7	0.5
Iodine	µg	60	50
Iron	mg	6.7	6
Magnesium	mg	140	120
Manganese	mg	1	0.5
Molybdenum	µg	15	30
Phosphorus	mg	300	420
Selenium	µg	14	30
Zinc	mg	5	5.4
Potassium	mg	770	775
Potassium	mmol	20	20
Chloride	mg	900	1100
Glycaemic Index (GI)	–	31	24

Optifast® VLCD™ Soup Ingredients

Chicken Flavour Soup 8 Pack – Ingredients

Milk Proteins [Calcium Caseinate (26%), Sodium Caseinate (12%)], Maltodextrin (Corn), Vegetable Fat Powder (**Soy** Oil, Maltodextrin, **Milk** Protein, Emulsifier (**Soy** Lecithin), Antioxidants (304, 307)], Maize Dextrin, Chicken Flavour (Contains **Milk** and **Celery**), Thickener (1414), Minerals (Tripotassium Phosphate, Potassium Citrate, Magnesium Carbonate, Ferric Pyrophosphate, Tricalcium Phosphate, Zinc Sulphate, Copper Gluconate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Potassium Iodide, Sodium Selenite, Sodium Molybdate), Skimmed **Milk** Powder, Flavour [Contains **Soy**, **Wheat** and **Celery**], Yeast Extract, Glucose Syrup (Corn), MCT Oil, Parsley, Vitamins (Ascorbic Acid, Nicotinamide, Vitamin E Acetate, Calcium Pantothenate, Pyridoxine Hydrochloride, Riboflavin, Thiamin Hydrochloride, Vitamin A Acetate, Folic Acid, Phylloquinone, Biotin, Cholecalciferol, Cyanocobalamin), Colour (100), Pepper Extract, Emulsifier (**Soy** Lecithin). **Contains Milk, Soy, Wheat and Celery. Made on equipment that also processes products containing Egg.**

Vegetable Soup 8 Pack – Ingredients

Skimmed **Milk** Powder (**Soy** Lecithin), **Milk** Proteins [Calcium Caseinate (16%), Sodium Caseinate (8%)], Inulin, Vegetable Fat Powder [Vegetable Oils, Glucose Syrup (Corn), **Milk** Protein, Emulsifiers (472b, 472c), Antioxidants (301, 306)], Vegetable Flavour [Maltodextrin (**Wheat**), Flavour, Flavour Enhancers (621, 627, 631), Anti-caking Agent (551)], Flavour (Flavour Enhancers (621), Contains **Soy**, **Wheat** and **Celery**), Potato Flakes (4%) (Contains **Sulphites**), Minerals (Potassium Citrate, Tricalcium Phosphate, Magnesium Carbonate, Potassium Phosphate, Ferric Pyrophosphate, Zinc Sulphate, Copper Gluconate, Manganese Sulphate, Sodium Fluoride, Chromium Chloride, Sodium Selenite, Potassium Iodide, Sodium Molybdate), Dried Vegetable Mix (3.5%), Thickener (1414, 407), Tomato Powder (3%), Yeast Extract, MCT Oil, **Fish** Oil Powder (Contains **Milk** and **Soy**), Leek Powder (1%), Flavour, Glucose Syrup (Corn), Maltodextrin (Corn), Pepper Flavour, Emulsifier (**Soy** Lecithin), Vitamins (Vitamin E Acetate, Nicotinamide, Calcium Pantothenate, Ascorbic Acid, Thiamin Hydrochloride, Pyridoxine Hydrochloride, Riboflavin, Vitamin A Acetate, Folic Acid, Phytonadione, Biotin, Cholecalciferol, Cyanocobalamin), Nutmeg Flavour (Contains **Sulphites**). **Contains Milk, Soy, Wheat, Sulphites, Fish and Celery. Made on equipment that also processes products containing Egg.**

Optifast® VLCD™ Bars

	Units	Berry Crunch Flavour Bar	Chocolate Bar	Cappuccino Flavour Bar
Serving Size		60g	70g	60g
Energy	kJ	950	950	940
Energy	Cal	228	226	226
Protein	g	18.3	20.0	18.3
Fat	g	6.9	7.4	6.9
Saturated Fat	g	2.6	2.8	2.6
EPA & DHA	mg	0	0	0
Carbohydrates	g	20.8	13.0	20.4
Sugar	g	19.3	11.2	18.3
Dietary Fibre	g	4.5	2.1	4.5
Sodium	mg	390	250	390
Sodium	mmol	17	11	17
Vit A	µg	426	455	429
Thiamin	mg	0.69	0.67	0.57
Riboflavin	mg	1.02	1.12	0.9
Niacin	mgNE	9.6	11	10.8
Pantothenic Acid	mg	1.9	2.03	1.9
Vit B6	mg	1	1.2	0.8
Biotin	µg	67.2	70	67
Folic Acid	µg	126	150	126
Vit B12	µg	0.6	1.4	0.6
Vit C	mg	63	35	45
Vit D	µg	3	3.4	3.2
Vit E	mg	6	7	6.1
Vit K	µg	0	0	0
Calcium	mg	270	340	270
Chromium	µg	0	0	0
Copper	mg	0.9	0.8	0.9
Iodine	µg	66	70	66
Iron	mg	9.1	11	9.1
Magnesium	mg	150	150	150
Manganese	mg	0.70	0.53	0.70
Molybdenum	µg	0	0	0
Phosphorus	mg	588	525	588
Selenium	µg	36	32	36
Zinc	mg	5.4	5.1	5.4
Potassium	mg	732	840	732
Potassium	mmol	19	22	19
Chloride	mg	0	0	0
Glycaemic Index (GI)	–	25	20	29

Optifast® VLCD™ Bar Ingredients

Berry Crunch Flavour Bars 6 Pack – Ingredients

Fructose Glucose Syrup (Sugar Beet), **Soy Crisp** (**Soy** Protein Isolate, Tapioca Starch, Salt), **Milk** Chocolate (17%) [Sugar, Cocoa Solids (6.5%), Whole **Milk** Powder, Emulsifier (**Soy** Lecithin), Flavour], **Soy** Nuts, **Soy** Protein Isolate, Minerals (Tripotassium Citrate, Calcium Phosphate, Sodium Phosphate, Magnesium Phosphate, Trisodium Citrate, Magnesium Carbonate, Ferric Pyrophosphate, Potassium Iodate, Zinc Oxide, Sodium Selenate, Copper Sulphate, Manganese Sulphate), Inulin, Fruit Preparation [Sugar, Raspberry (0.6%), Apple Puree (0.4%), Raspberry (0.6%) and Cherry (0.2%) Juice Concentrate, Fructose Syrup, Lactose (9%) (**Milk**), Vegetable Fat, Flavour, Vegetable Gum (440), Food Acid (330)], Vegetable Oil (Rapeseed), Vitamins (Ascorbic Acid, Vitamin E Acetate, Nicotinamide, Biotin, Vitamin A Acetate, Calcium Pantothenate, Folic Acid, Cholecalciferol, Pyridoxine, Riboflavin, Thiamin, Cyanocobalamin), Food Acid (330), Flavour, Emulsifier (**Soy** Lecithin). **Contains Milk and Soy. Made on equipment that also processes products containing Tree Nuts, Peanuts and Oats.**

Chocolate Bars 6 Pack – Ingredients

Milk Protein (Calcium Caseinate, Whey), Polydextrose, **Milk** Chocolate (15%) [Sugar, Cocoa Solids (6%), Whole **Milk** Powder, Emulsifier (**Soy** Lecithin), Flavour], Fructose, Sorbitol, Minerals (Tripotassium Citrate, Calcium Phosphate, Sodium Phosphate, Sodium Chloride, Magnesium Phosphate, Magnesium Carbonate, Ferric Pyrophosphate, Sodium Citrate, Potassium Iodate, Zinc Oxide, Sodium Selenate, Copper Sulphate, Manganese Sulphate), Cocoa Powder (5.2%), Vegetable Oils (Rapeseed, Safflower), **Soy** Protein Isolate, Vitamins (Ascorbic Acid, Vitamin E Acetate, Nicotinamide, Biotin, Vitamin A Acetate, Calcium Pantothenate, Folic Acid, Cholecalciferol, Pyridoxine, Riboflavin, Thiamin, Cyanocobalamin), Emulsifier (**Soy** Lecithin), Flavour. **Contains Milk and Soy. Made on equipment that also processes products containing Tree Nuts, Peanuts and Oats.**

Cappuccino Flavour Bars 6 Pack – Ingredients

Fructose Glucose Syrup (Sugar Beet), **Soy Crisp** (**Soy** Protein Isolate, Tapioca Starch, Salt), **Milk** Chocolate (17%) [Sugar, Cocoa Solids (6.5%), Whole **Milk** Powder, Emulsifier (**Soy** Lecithin), Flavour], **Soy** Nuts, **Soy** Protein Isolate, Minerals (Tripotassium Citrate, Calcium Phosphate, Sodium Phosphate, Magnesium Phosphate, Trisodium Citrate, Magnesium Carbonate, Ferric Pyrophosphate, Potassium Iodate, Zinc Oxide, Sodium Selenate, Copper Sulphate, Manganese Sulphate), Inulin, Vegetable Oil (Rapeseed), Mocca Paste (0.5%), Vitamins (Ascorbic Acid, Vitamin E Acetate, Nicotinamide, Biotin, Vitamin A Acetate, Calcium Pantothenate, Folic Acid, Cholecalciferol, Pyridoxine, Riboflavin, Thiamin, Cyanocobalamin), Flavour, Emulsifier (**Soy** Lecithin). **Contains Milk and Soy. Made on equipment that also processes products containing Tree Nuts, Peanuts and Oats.**

Cognitive and behavioural approaches

In order for a patient to succeed with a VLED, it is important to assess their readiness to undertake the necessary behaviour changes required for effective weight management. After assessing the patient and presenting the VLED program outline, it may be helpful to then assess how important it is for the person to make the change as well as assess their level of confidence in making the changes required.

If the patient's level of importance is low then assisting the patient to identify benefits or intrinsic motivators should be discussed. In addition if the patient's level of confidence is low then reducing the magnitude of the goals may be helpful, for example aim at losing 5kg rather than 20kg, or starting with 4 weeks on the program rather than 12 weeks, as well as identifying and working through any barriers that may inhibit making the necessary lifestyle changes.

Once you can confirm that the patient is ready to move ahead with the program then it is important to create some specific goals and action plan. A step wise approach is outlined below with some sample questions that can be used.

Step One – Assess Level of Importance

1. How important do you think it is for you to make change (i.e. lose weight) at the moment given all the other priorities currently in your life?

Step Two – Assess Level of Confidence

1. How confident are you that you can change your diet and increase your physical activity to lose weight and improve your health?
2. Do you feel you can succeed in losing weight right now?

Step Three – Help Patient to Identify Benefits or Intrinsic Motivators

1. If you made some changes, what benefits do you think you would gain?
2. How would your life be different?
3. How would losing weight impact the things or people that are important to you?

Step Four - Identify Obstacles or Barriers

1. Are there any stressful events in your life right now that might get in the way of you making the necessary changes?
2. Have you tried to lose weight before? What got in the way of you achieving or maintaining your goals?
3. What do you find most difficult about losing weight?
4. What would be not so good about making the changes you are thinking about making?
5. Are there people who can support you to lose weight? Do you think they will help you in your efforts?

Step Six – Confirm Level of Readiness

1. Given everything we have spoken about today can I confirm that you are ready to work on this with me?

Step Seven – Set Specific Goals

Generating some specific goals is an important part of the process with which the patient may need some assistance. Goals may include one or a combination of the following:

1. Medical or clinical targets – certain amount of weight loss, reducing blood pressure, reducing waist circumference, lowering BMI.
2. Specific health goals – exercising 4 times per week, drinking 2 litres of water per day.
3. Motivation goals – fitting into old clothes or a certain dress, not having to take hypoglycaemic medication any longer, being able to run a 5km fun run in 6 months.

Step Eight – Create an Action Plan

An action plan should include as much detail as necessary for the client to feel confident that they can achieve the desired task. Some things to consider when creating an action plan are:

1. All the steps needed to overcome barriers and achieve the personal goal.
2. When and how to follow the program.
3. Prompts to aid memory where necessary.
4. Support mechanisms.
5. Contingency plans.
6. Tracking and monitoring strategies.
7. Review details.

Cognitive & Behavioural Approaches Assessment Checklist

1. History of weight problem

Development of the weight problem

- ▶ How the problem began
- ▶ When the problem began (age and year)
- ▶ What was happening at the time.

Subsequent course

- ▶ Subsequent evolution of the problem (i.e. history until the present)
- ▶ Pattern of weight change (e.g. steady unrelenting increase, fluctuations up and down, periods of weight stability)
- ▶ Highest and lowest weight (since patient reached present height)
- ▶ Prior attempts to lose weight and the outcome
- ▶ General account of the nature and duration of these attempts
- ▶ Effect on weight (amount lost, weight attained, and degree of satisfaction)
- ▶ Success at weight maintenance (duration of maintenance)
- ▶ Weight regain (triggers, rapidity of regain).

2. Current state

Eating habits (ask about a typical day)

- ▶ Eating pattern (e.g. meals and snacks eaten, eating outside meals, variability from day to day, weekdays vs weekends)
- ▶ Amounts eaten (including idea of portion sizes)
- ▶ Food choice
- ▶ Episodes of loss of control over eating and amounts eaten
- ▶ Nature of current attempts to restrict eating
- ▶ Other problems with eating (e.g. self-induced vomiting, misuse of laxatives or diuretics).

Physical activity

- ▶ Nature and frequency of current physical activity, including both lifestyle activity (i.e. occupational and recreational activity) and formal exercising (e.g. swimming, exercise classes)
- ▶ Attitude toward physical activity and exercise.

Reasons for wanting to lose weight

- ▶ To change appearance (e.g. to feel more attractive, to change clothes size, to be more attractive to others)
- ▶ To achieve another personal objective (e.g. relating to work, personal relationships, sporting activities, or to improve self-respect)

- ▶ To improve a health problem or reduce the risk of illness
- ▶ Other reasons (e.g. to reduce physical discomfort or to escape the discrimination associated with being overweight).

Attitude toward appearance

- ▶ Views on overall shape and body parts
- ▶ Importance of shape and weight in personal self evaluation.

Weight and weight goals

- ▶ Current weight
- ▶ Ideal (or 'dream') weight
- ▶ True goal weight ('desired weight')
- ▶ How patients think their life would change if they reached their desired weight
- ▶ What a realistic weight goal would be, all things considered
- ▶ What the minimum acceptable weight loss would be.

Physical health

- ▶ Current medical problems (including psychiatric problems)
- ▶ Current treatment (medication, other treatments)
- ▶ Medical history (including psychiatric history)
- ▶ Smoking and drinking
 - Current smoking and drinking habits (amount, pattern)
- ▶ Relationship between smoking and weight problem.

3. Other information

Social circumstances

- ▶ Occupation and working hours
- ▶ Where the patient lives and ease of transport (to sessions)
- ▶ Marital status and attitude of partner toward treatment
- ▶ Living arrangements (i.e. who is at home)
- ▶ Children
- ▶ Interests.

Foreseeable barriers to weight loss

- ▶ Personal (e.g. poor motivation, hopelessness, low mood)
- ▶ External (e.g. difficulties at home, stress at work, food-related occupation).

Family history of obesity and eating problems
Weight and eating problems in first degree relatives.

Managing non-compliance

Despite the best intentions there may be circumstances in which a patient is finding it difficult to comply with the Optifast® VLCD™ Program. Listed below are some possible reasons as to why someone may not have followed their meal plan, and appropriate answers to help guide you.

I have too many social outings involving eating out and I don't want to miss out on these.

Intensive Phase answer –

That's ok, you can still enjoy social occasions whilst on the Optifast® VLCD™ Program. Your life doesn't have to stop nor should it have too. Try to focus on the other aspects of socialising such as the people you are with and the location rather than focusing solely on the food and drink.

Try having your Optifast® VLCD™ product prior to going out and then choose a low starch salad or vegetables. Try a Miso soup, stir-fry vegetables, or a garden salad with the dressing on the side (no creamy sauces). If possible, skip the protein and carbohydrates on offer.

If you must eat something other than just the vegetables or salad, miss the Optifast® VLCD™ product for that meal and opt for a small portion of protein such as 100g meat or chicken, some fish or eggs. If possible avoid the carbohydrates as this will affect ketosis.

Remember it is important not to drink alcohol whilst on the Intensive Phase of the Program. Try some mineral water with a spritz of lemon or lime instead.

Other Phase answers –

That's ok, you don't need to miss out on your social outings. Choose grilled meat, chicken or fish with a side salad or cooked low starch vegetables. Always ask for the sauce/ dressing on the side so you can control the amount that is put on the meal (if any).

Always pick your own meal, avoid banquets and sharing meals. If possible get a copy of the menu prior to going out so you can take your time to review the menu options.

Avoid alcohol - have a sparkling mineral water with a wedge of lemon or lime in it or a diet soft drink served in a champagne or wine glass.

I am finding it difficult to have Optifast® VLCD™ at work. Making the shakes at work is just not practical for me.

Why not try taking the Optifast® VLCD™ Bars as a meal replacement for lunch. This way you don't need to prepare anything. Remember to always include a salad along with

the bar as this will help fill you up with fibre, vitamins and minerals as well as helping you feel as though you are consuming a regular work lunch. Another idea is to use a wide brim sports bottle to mix up your Optifast® VLCD™ Shakes. Simply add the powder to the bottle, add 200mL or more of chilled water, pop on the lid and shake.

I am used to having a snack between meals.

Optifast® VLCD™ products do not have to be restricted to meal times only. You can try splitting the bar in two, and having half at morning tea, the other half at afternoon tea and have a salad or cooked vegetables at lunch. You could also try Miso soup or diet jelly between meals, and don't forget that low-starch vegetables can be nibbled on at anytime.

If you are on the Transition Phase or the following phases of the Optifast® VLCD™ Program, 1-2 pieces of fruit or a low-fat yoghurt (~150g) can be consumed as a snack between meals. Make sure you are drinking plenty of water and getting adequate sleep each night to make sure your hunger signals are not really signals of thirst or tiredness.

I am just too hungry, it is too restrictive.

If followed correctly, most people find after the first week, appetite is actually suppressed during the Intensive Phase of the Optifast® VLCD™ Program.

If additional carbohydrates are avoided your body should enter a state of ketosis and this chemical reaction in turn reduces your appetite. If you are really struggling to stick to the program, you can include some lean meat or fish in this first week prior to the onset of ketosis to help manage hunger levels.

Many people are surprised that the Intensive Phase may actually be easier to adhere to than the later phases in the diet when ketosis is mild or not present. Remember to stick to the Optifast® VLCD™ Program and only have the foods recommended on the plan along with your Optifast® VLCD™ products. To make sure the signals of hunger are not getting confused with other body signs, drink the recommended 2 litres of water daily, have the recommended serving of low starch vegetables and get sufficient sleep each night. Ask yourself if it is hunger or whether you are eating because you are bored or stressed.

I am getting constipated.

A complete meal replacement program is usually a dramatic change of intake for most people, and this can cause changes in bowel habits. In addition, if the recommended fluid and low starch vegetables are not consumed, a lack of fibre (dietary bulk) and fluid can cause a dramatic change. It's important to know the difference between going less frequently and true constipation. It is normal to go less frequently when you are consuming less food, and only

considered true constipation if the consistency is also affected. Try to consume more than the recommended 2 cups of low starch vegetables per day, drink 2-3 litres of fluid, as well exercise daily to help keep your bowels healthy and regular. If you still find that you are constipated try a fibre supplement such as Benefibre, or Metamucil.

It is too boring.

When you stick to the same thing for a long period anything can become boring. To make things a little more interesting, vary the Optifast® VLCD™ products as much as possible rather than sticking to the same products each day. Also play around with the way you prepare your salads and vegetables. Don't just have them plain - try adding fresh or dried herbs and spices, and buy vegetables you wouldn't normally eat to create variety. Adding lots of different colours on the plate is important to help make the meal look appealing, whilst also getting a range of vitamins and minerals which are vital for optimal health.

It is winter and the thought of having shakes and salads is not comforting in the cold weather.

Try making your Shakes with warm water (not boiling) or try the Optifast® VLCD™ Soups. During the winter months we often divert from salads to cooked vegetables, so do the same on the Optifast® VLCD™ Program. There are plenty of low starch vegetables you can cook up to have a warm meal to eat while snuggling up in front of the heater. Why not make a hearty winter soup from the allowed vegetables or see our list of recipes in the My Lifestyle Program section of the website.

Everyone around me is concerned the diet is too strict.

The Optifast® VLCD™ Program has been clinically proven to be successful and safe. It combines support and counselling, comprehensive lifestyle education and medical monitoring with a great-tasting product range to help you lose weight fast and significantly improve your general wellbeing.

People keep saying I have lost enough weight and should stop.

It's hard enough for individuals to adjust to their new eating habits and body image, but it is common and sometimes even harder for others around you to adjust. Dramatically changing to a healthier lifestyle can start people questioning themselves and whether they need to change too. Your healthcare professional will advise you on your weight loss progress, and provide tips to help deal with the adjustment you and the people around you are making.

I don't fit into any of my clothes anymore, I will have to stop.

Although visiting the clothing store seems like a daunting experience, it's not a reason to stop your desire to be a healthier weight. Change is a good thing when it means progression and moving in the right direction. Ask friends and family to borrow clothes while you transition into your new body size, as you won't want to buy too many clothes if you plan to lose many more dress or pant sizes. You may consider shopping at opportunity stores or hiring a business suit during the Intensive Phase of weight loss.

I don't seem to have enough energy at the gym.

Weight loss is all about eating less energy than what you are burning. High intensity exercise uses predominantly carbohydrates and while on the Intensive Phase of the Optifast® VLCD™ Program you are consuming very little carbohydrates, therefore you may find lower intensity exercise and weights a little easier to handle. You may also want to change the time you exercise – so tiredness from the day doesn't play a factor. Choosing exercise that you enjoy will always improve motivation levels, as can exercising with a friend. Even if your exercise intensity and duration slightly reduces (but not to nothing) while you are on the Optifast® VLCD™ Program, some exercise is still better than none as it greatly improves your metabolism and helps you preserve metabolic muscle tissue while burning the fat in your body. Remember, drinking sufficient fluids and getting adequate sleep will also help improve your energy and motivation to exercise.

I keep getting headaches.

The first few days of the Optifast® VLCD™ Program is known as 'the 3 Day Challenge' because, as the body transitions into ketosis, you may experience some side effects such as:

- ▶ Fatigue ▶ Hunger ▶ Nausea ▶ Headaches
- ▶ Lack of concentration

This doesn't sound pleasant, but most symptoms pass by days 4-6, followed by an increase in energy and reduction in appetite, of which, through this dietary phase will result in consistent and successful weight loss.

It is important that you know these are typical symptoms and you should stick to the weight loss plan as prescribed, or you will simply prolong this slightly uncomfortable few days of your Optifast® VLCD™ Program.

I'm not losing any weight.

This is very unlikely on the Intensive Phase of the Optifast® VLCD™ Program. If you are not losing weight and you are sticking to the plan as prescribed, then reasons for your inadequate weight loss may need to be explored. If you are concerned with your weight loss, speak to your health professional for further investigation.

I seem to have hit a plateau and my weight is not moving any more.

It is not unusual to experience a plateau during an extended weight loss program. Remember, as you lose weight, the energy cost of moving your lighter body during daily tasks and exercise is much less, which makes it harder to burn up the calories. Review your plan and make sure that it is still on track. Other things you may need to consider are increasing the intensity of your exercise in order to burn more calories or alternatively look at ways to increase your daily activity levels; that is the amount of movement you are doing during the rest of your day. A pedometer is a great tool to measure this. Aim for 7,000-8,000 steps with a goal of reaching 10,000 steps per day. Around 15,000 steps/day is quite active.

Frequently asked questions

What is the Optifast® VLCD™ Program?

Optifast® VLCD™ is a very low energy diet (VLED) and is scientifically formulated to assist medically at risk patients rapidly lose weight and lower weight-related health risks. The Optifast® VLCD™ products are not drugs. They do not contain active ingredients. They contain carbohydrates, essential fatty acids and protein that helps to preserve lean body mass (muscle) while losing fat stores. It also contains all of the vitamins, minerals and trace elements required for a healthy body. Weight loss is achieved via restriction of energy intake.

By reducing calorie intake to less than 800 calories per day (during the Intensive Phase), the body switches to using fat as the major energy source. This process is known as ketosis, where ketones are formed which serve as an energy source for the body. Presence of ketones in urine is expected, and during treatment can serve as a useful measure of compliance. Appetite is reduced after the first few days, which assists with compliance.

What is the difference between a VLCD and a VLED?

A very low calorie diet (VLCD) and a very low energy diet (VLED) are the same, just different terminology. They are a total food replacement for the dietary management of obesity. In comparison, a formulated meal replacement means a single food or pre-packaged selection of foods that is sold as a replacement for one or two of the daily meals but not as a total diet replacement.

How much weight will my patient lose on the Optifast® VLCD™ Program?

Medically supervised weight management with the Optifast® VLCD™ Program has been shown to produce rapid weight loss within the healthy range. On average, weight losses of 1.0-2.5kg per week have been achieved. Rate of weight loss can vary and will depend on daily energy expenditure. For example, both men and severely overweight individuals will reduce weight more rapidly because they have higher energy expenditure due to their bigger stature and relatively more lean body mass. As a guide, individuals with a BMI of 30-35kg/m² can be expected to lose approximately 1.0-1.5kg per week, whilst individuals with a BMI of >35kg m² can be expected to lose approximately 1.5-2.5kg per week.

Is there clinical evidence for the use of the Optifast® VLCD™ Program?

The Optifast® VLCD™ Program has been clinically proven as safe and effective. The program has existed for over 30 years globally and numerous studies have been completed with positive results.

Can Optifast® VLCD™ be used on patients with other obesity related disorders?

Approximately half the people who use the Optifast® VLCD™ Program also have an obesity related disorder such as type 2 diabetes, dyslipidaemia, hypertension, breathing disorders (e.g asthma or sleep apnoea), gynaecological disorders, or osteoarthritis. The Optifast® VLCD™ Program is also commonly used when weight loss is required prior to surgery. For more information on the management of patients with co-morbidities please refer to the Optifast® VLCD™ Co-morbidity Guidelines.

Will my patient be hungry on the Optifast® VLCD™ Program?

It is normal to feel hungry for the first few days of the program as your patient's body adjusts to burning body fat for energy. As this process starts ketones are produced through ketosis which acts to suppress appetite.

Where can Optifast® VLCD™ be purchased?

Optifast® VLCD™ is only sold through registered pharmacies and hospitals. It is also available online from our website at www.optifast.com.au

Will the Optifast® VLCD™ Program assist in reducing blood pressure, blood sugars and cholesterol?

Yes, research has shown that weight loss with a VLED can also be associated with significant reductions in blood glucose levels, blood pressure and LDL cholesterol. Many patients with diabetes and hypertension require a reduction in dose or elimination of their prescription medication during the Intensive Phase.

Is medical supervision recommended?

It is recommended that the use of the Optifast® VLCD™ Program is supervised by a healthcare professional such as a dietitian, doctor, pharmacist, diabetes educator or another trained healthcare professional that is familiar with the program.

This is primarily due to the health problems typically associated with obesity and the need for medication dosage adjustment with weight reduction. In addition, regular monitoring and support by a healthcare professional is essential to assist with compliance and to achieve long term weight loss maintenance. Healthcare professionals play an important role in providing continued support, reinforcing lifestyle and behavioural changes, tailoring the program to suit individual needs and to aid in compliance as well as to discuss intensive interventions when needed.

Can my patients with allergies or intolerances still use Optifast® VLCD™?

It is recommended that individuals with known allergies to dairy and/or soy avoid using the Optifast® VLCD™ products. Although the products do not contain egg or nuts, it is possible that traces of egg or nuts could be present in the Optifast® VLCD™ products from other products in the manufacturing environment.

Individuals with gluten, lactose or fructose intolerances can still use the Optifast® VLCD™ Program however some products will be suitable and others won't. Please refer to the section on 'Managing patients with intolerances and allergies' (page 24) for more information.

Is the Optifast® VLCD™ Program expensive?

No. Optifast® VLCD™ is designed to cost less than what your patients are eating now. Each sachet or bar retails for about RRP \$2.50- \$3.50 and your patients don't need to purchase any other food, except for low starch vegetables. This is a very cost effective program.

Can I reduce or extend the length of the program that my patient stays on?

Yes, the program is designed to be flexible and to result in the maximum desired amount of weight loss for your patient. The amount of time that a patient stays on the Intensive Phase may depend on their starting BMI. If it is decided that an extended period of the Intensive Phase is required (i.e. >12 weeks), then this must be done under medical supervision.

Can I change the order of the phases or skip a phase?

Yes, for example some people may choose to start on the Transition Phase of Optifast® VLCD™ Program. The Transition Phase is suitable for people who still require significant weight loss, but prefer to start with replacing two meals per day with an Optifast® VLCD™ product and slowly build up.

Can I add in any extras to the Optifast® VLCD™ Program?

It is important that patients follow the Optifast® VLCD™ Program strictly to achieve optimum results, however some individuals may require extra protein. Males and for individuals requiring higher protein intakes than 0.75g/kg adjusted IBW per day may require 4 Optifast® VLCD™ products per day, or 3 plus an extra serve of protein to meet protein requirements (eg. 100g of lean meat). In addition you can recommend that patients use extras from the Additional Allowances to help with compliance.

Can I use pharmacotherapy to assist with appetite control in conjunction with the Optifast® VLCD™ Program?

During the Intensive Phase, hunger is primarily controlled by ketosis, however a number of healthcare professionals have successfully incorporated drug therapy into the Optifast® VLCD™ Program. Optifast® VLCD™ treatment is commonly used in conjunction with prescription medications such as phentermine to improve compliance if hunger is a problem for their patients.

Case studies*

Case Study 1 – Jason

Jason is a 36 year old truck driver who gained 40kg over the past 10 years. He reports that he often relies on take-away food when driving or is away from home. At his first consultation Jason's weight was 120kg and his BMI was 36kg/m². Jason didn't exercise due to the irregular hours that he worked and reported that he was always too tired or too busy. He felt very uncomfortable at this weight and was even conscious of his weight in front of his children. Jason was quite hesitant about following a VLCD because he was worried that he would just be too hungry, plus it was very important to him to be able to sit down and eat dinner with his family when he was home.

Management Plan

Jason commenced on the Optifast® VLCD™ Intensive Phase (3 sachets or bars per day plus 1 extra serve of protein) for an initial period of 6 weeks. Jason's meal plan was as follows:

- ▶ Breakfast: Optifast® VLCD™ Shake
- ▶ Lunch: Optifast® VLCD™ Bar
- ▶ Dinner: 100g protein plus 2 cups low starch vegetables
- ▶ Supper: Optifast® VLCD™ Shake.

The serve of protein with low starch vegetables or salad was recommended as his evening meal so that he could still enjoy sitting down with his family for dinner. Jason lost 10kg in 6 weeks and decided to keep going for another 6 weeks once he realised that he could manage the plan easily with his work and family life, and that his hunger was under control. Jason started exercising with a friend 2 times per week and walking 3-5km 3 times per week. At the end of the 12 week period Jason had lost a total of 20kg. Jason then moved onto the Transition Phase during which he lost a further 7kg and then the Maintenance Phase on which he continued to lose another 8kg. Jason now manages his weight well following a low calorie meal plan of 2000 calories per day and exercising 3-5 times per week at the gym. He has regular 3 monthly visits with his healthcare professional and has been recommended to follow the Optifast® VLCD™ Intensive Phase for a period of 2-4 weeks if his weight increases by 4kg.

Case Study 2 – Rebecca

Rebecca is aged 27 and working full time in an office based job. Rebecca has been overweight since her teen years and has always struggled with her weight despite many diet attempts. Rebecca weighs 105kg and has a BMI of 38kg/m². Rebecca was diagnosed with Polycystic Ovary Syndrome (PCOS) 2 years ago. Rebecca wanted desperately to lose about 20kg in the 6 months prior to summer.

Management Plan

Rebecca commenced on the Optifast® VLCD™ Intensive Phase (3 sachets/bar per day) for 12 weeks. Rebecca's meal plan was as follows;

- ▶ Breakfast: Optifast® VLCD™ Shake
- ▶ Morning Tea: Carrot and celery sticks
- ▶ Lunch: Optifast® VLCD™ Bar and 1 cup salad
- ▶ Afternoon Tea: Carrot and celery sticks
- ▶ Dinner: Optifast® VLCD™ Soup and 1 cup of veggies
- ▶ Supper: Diet jelly.

Rebecca lost a total of 13kg in the 12 weeks, and began exercising regularly 3-5 times per week as well as walking with a friend during her lunch break. Rebecca then proceeded onto the Transition Phase and lost another 8kg over an 8 week period. Rebecca now follows the Maintenance Phase as her long term maintenance program replacing lunch each day with an Optifast® VLCD™ Bar and having her carrot and celery sticks at work. Rebecca has a healthy breakfast and has learned to cook many low calorie recipes for her dinner.



*Case studies are fictional.

Case Study 3 – Peter

Peter, a 37 year old executive lost 13kg on Optifast® VLCD™ 12 months ago. Peter slowly gained 5kg in the last 6 months despite regular visits to the gym and reporting to eat a balanced diet. Peter's weight is now 90kg and his BMI is 28 kg/m². Peter was promoted at the end of last year and has been working long hours and travelling more. He acknowledges at times that controlling food intake can be challenging. When travelling, Peter admitted to eating many dinners out which involved a large consumption of food and alcohol.

Management Plan

Peter was commenced on the Transition Phase of the Optifast® VLCD™ Program for a period of 6 weeks to reduce the weight gained over the past 6 months. During this time Peter lost 7kg and his BMI reduced to 25 kg/m². On completion of the Transition Phase, Peter was advised to use Optifast® VLCD™ as a meal replacement for 1-2 meals per day especially when travelling or working long hours. Replacing some meals with an Optifast® VLCD™ as part of a weight maintenance program assisted Peter in keeping his total daily calories under control especially when some meals were eaten out.

Case Study 4 – Julie

Julie is a 36 year old mother of three children who has struggled with her weight for the past 12 years following the birth of her 3rd child. Her BMI is 37 kg/m² and waist circumference is 92cm. She lost 20kg following a low calorie high protein diet 2 years ago, but has struggled to maintain this weight loss due to the demands of family life and caring for sick elderly parents. She has been having trouble sleeping and reports always feeling tired.

Management Plan

Julie was commenced on the Intensive Phase of the Optifast® VLCD™ Program for a period of 8 weeks. Julie's meal plan was as follows:

- ▶ Breakfast: Optifast® VLCD™ Shake
- ▶ Morning Tea: ½ Optifast® VLCD™ Bar
- ▶ Lunch: 2 cups of low starch vegetables
- ▶ Afternoon Tea: ½ Optifast® VLCD™ Bar
- ▶ Dinner: 2 cups of low starch vegetables
- ▶ Supper: Optifast® VLCD™ Shake.

Julie reduced her weight by 12kg in the 8 weeks and was then recommended to move to the Transition Phase for a period of 6 weeks, followed by the Maintenance Phase for 4 weeks. Over the total 18 weeks, Julie lost 25kg and her BMI was reduced to 28 kg/m². As part of a continuous weight management program Julie was recommended to go on the Intensive Phase of the Optifast® VLCD™ Program for 2 weeks every three months in conjunction with a low calorie meal plan. Regular monthly appointments to monitor weight, risk factors and provide support were set up also.



Patient support

For ongoing support you can refer patients to the Optifast® VLCD™ website
www.optifast.com.au



Free Online Support
www.optifast.com.au

Patients can register for free and by doing so will have access to a wealth of information and support including:

- ▶ Recipes
- ▶ Online support videos
- ▶ Weight loss progress tracker
- ▶ Online member community forum
- ▶ Ask an expert
- ▶ Exercise and meal plans.

Health Professional Resources

Health professionals can visit **www.optifast.com.au** to access information as well as downloadable resources including the Co-Morbidity Guidelines & Pre-Operative Weight Loss Protocol.



References

1. Stewart, S. et al., 2008. *Australia's future 'Fat Bomb': A report on the long-term consequences of Australia's expanding waistline on cardiovascular disease*, s.l.: Baker Heart Research Institute. http://www.bakeridi.edu.au/Assets/Files/fatBomb_report.pdf
2. Delbridge, E. & Proietto, J. *Asia Pacific Journal of Clinical Nutrition*, 2006;15(Suppl): 49-54.
3. Mustajoki, P. & Pekkarinen, T.,. *Obesity Reviews*, 2001;(2):61-72
4. NHMRC, 2013. *Clinical Practice Guidelines for the Management of Overweight and Obesity in Adults, Adolescents and Children in Australia*.
5. Wadden, T., Stunkard, A. & Brownwell, K.,. *Annals of Internal Medicine* 1983;99(5):675-84.
6. Bryson, J. et al... *International Journal of Obesity Related Metabolic Disorders*, 1996;20(4):338-45.
7. Wadden, T. et al.. *Archives of Internal Medicine*, 2001;161(2):218-27.
8. Drawart, S.,. *Obesity Research*, 1996;4(S1):67S.
9. Wadden, T. & Frey, D.,. *International Journal of Eating Disorders*, 1997;22(2):203-12.
10. Jazet, I., de Craen, A., van Schie, E. & Meinders, A.,. *Diabetes Research and Clinical Practice* 2007;77(1):70-6.
11. Oseicki, H., 2004. Australia: Bio Concepts Publishing: QLD.
12. Stewart, R. *Griffith Handbook of Clinical Nutrition and Dietetics*. 4th Edition ed. s.l.:Australian Dietitian.
13. National Heart Foundation, 2008. Position Statement: *Fish, fish oils, n-3 polyunsaturated fatty acids and cardiovascular health*. <https://www.heartfoundation.org.au/SiteCollectionDocuments/Fish-position-statement.pdf>
14. NHMRC, 2005. Nutrient Reference Values for Australia and New Zealand. Website.
15. Maughan, R. & Griffin, J.,. *Journal of Human Nutrition & Dietetics* 2003;16(6):411-20.
16. Wing, R. & Phelan, S. *American Journal of Clinical Nutrition* 2005;82 (Suppl):222S-225S.
17. Perri, M., Sears, F. & Clark, J.,. *Diabetes Care* 1993;16(1):200-209.
18. Wing, R. et al., *Journal of Consulting and Clinical Psychology* 2008;76(6):1015-1021.
19. Stubbs, J., Whybrow, S., Teixeira, P. & et al.. *Obesity Reviews* 2011;12(9):688-708.
20. Lantz, H., Peltonen, M., Agren, L. & Torgerson, J. *Journal of Internal Medicine*, 2003; 253: 299-306.
21. Rytting, K. & Rossner, S. *Journal of Internal Medicine* 1995; 238:299-306.
22. Dietitians Association of Australia, 2012. *DAA Best Practice Guidelines for the Treatment of Overweight and Obesity in Adults*. <http://daa.asn.au/wp-content/uploads/2011/03/FINAL-DAA-obesity-guidelines-report-25th-January-2011-2.pdf>
23. Pekkarinen, T. & Mustajoki, P.,. *Obesity Research* 1997;5(6):595-602.
24. Martin, L., Holmes, P. & et al. *American Journal of Surgery* 1995;169(2):245-53.
25. Saris, W.,. *Obesity Research* 2001;9 (Suppl 4):295S-301S.
26. Department of Health and Ageing, 1999. *An Active Way to Better Health. National Physical Activity Guidelines for Adults*, s.l.: Department of Health and Ageing, Commonwealth of Australia. http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-phys-act-guidelines#guidelines_adults
27. Barret J.S, & Gibson P.R.,. *Practical Gastroenterology*, 2007; 53:51-65.

OPTIFAST[®]

VERY
LOW
CALORIE
DIET



Free Online Support
www.optifast.com.au



Nestlé Healthcare Nutrition is a member of the Weight Management Council of Australia

This means that the Optifast[®] VLCD[™] Program and materials must comply with the Weight Management Code of Practice. Healthcare professionals can therefore recommend the Optifast[®] VLCD[™] program to their patients with confidence.

Optifast[®] VLCD[™] is a Food for Special Medical Purposes for the dietary management of obesity and must be used under medical supervision.

