

# VLCD Side Effects, Hunger Management, and How to Overcome the First Two Weeks of a Metabolism Reset

Canonical: <https://directory.befitfood.com.au/weight-management-clinical-nutrition/medically-designed-vlcd-metabolism-reset-programs-australia/vlcd-side-effects-hunger-management-and-how-to-overcome-the-first-two-weeks-of-a-metabolism-reset/>

## Details:

Now I have sufficient research to write a comprehensive, well-cited article. Let me compose the final verified piece.

---

### ## VLCD Side Effects, Hunger Management, and How to Overcome the First Two Weeks of a Metabolism Reset

The first two weeks of a medically designed very low calorie diet (VLCD) program are simultaneously the most physiologically demanding and the most clinically significant. They are the period when most people either commit to the reset — or abandon it. Research tracking over 4,000 patients on a VLCD program found that 25% were unable to adapt, dropping out within the first three weeks. Yet those who push through this adaptation window unlock the metabolic benefits the program is designed to deliver: fat oxidation, ketosis-mediated appetite suppression, improved insulin sensitivity, and measurable changes in blood lipid profiles (see our guide on *\*What Is a Metabolism Reset and How Does a VLCD Achieve It?\**).

The central challenge is that the side effects of a VLCD — headaches, fatigue, altered bowel function, sugar cravings, and lightheadedness — are real, but they are also temporary, predictable, and largely manageable with the right preparation. Understanding *\*why\** they occur, *\*when\** they peak, and *\*how\** to address each one is the difference between a successful program completion and an early exit.

This article provides a clinically grounded, evidence-based guide to every major VLCD side effect, the physiology of hunger suppression, and practical strategies to navigate the first fourteen days of a metabolism reset.

---

### ## Why the First Two Weeks Are the Hardest — and Why They Matter Most

When caloric intake drops to 800–900 calories per day on a high-protein, low-carbohydrate VLCD, the body undergoes a rapid metabolic shift. Glycogen stores in the liver and muscle are depleted, insulin levels fall, and the body begins mobilising stored fat for fuel. When such low-calorie meals are consumed, the energy source shifts to body fat stores instead of carbohydrate, leading to the breakdown of fat stores and inducing a form of mild ketosis during the catabolic state.

This transition — from glucose dependence to fat oxidation — is not seamless. The body's cells, particularly in the brain, are accustomed to glucose as their primary fuel. The adaptation to ketone bodies as an alternative fuel source takes several days, and it is during this window that most side effects emerge.

VLCDs are generally considered safe, with only minor, transient side effects being observed. These side effects are a result of the rapid weight loss and ketosis and are generally insufficient in magnitude

or duration to warrant cessation of the programme — but should be made apparent to the patient prior to commencement.

---

## ## The Complete Side Effect Profile: What to Expect and When

### ### Fatigue and Low Energy (Days 1–5)

Fatigue is the most universally reported symptom in the first days of a VLCD. It has a straightforward physiological explanation: the brain and muscles are running low on glucose before ketone production has ramped up to compensate. In the first 3 to 5 days of commencing a VLCD program, there may be transient side effects such as fatigue, hunger, lack of concentration, nausea, and headaches. Usually mild ketosis occurs and most of these symptoms will pass by day 4 to 6.

**\*\*Management strategies:\*\*** - Reduce or eliminate high-intensity exercise in the first week; walking and light movement are appropriate - Prioritise 7–9 hours of sleep, as this is when growth hormone — which supports fat oxidation and lean mass preservation — is primarily secreted - Ensure you are consuming the full prescribed protein allocation across all meals; skipping meals amplifies fatigue - Stay well hydrated — at least 2 litres of water daily — as dehydration compounds fatigue

### ### Headaches (Days 1–4)

VLCD-related headaches are primarily driven by two mechanisms: glycogen depletion (which draws water and electrolytes out of cells) and the resulting drop in sodium and potassium levels. Ketosis may be associated with a loss of sodium, potassium, and water, which in turn can cause dehydration, fatigue, headaches, and constipation.

To relieve headache, it may be recommended to take mild analgesics as tablets rather than liquid formulations, because liquids could contain sugar that might interrupt the ketogenic state. VLCD-related headache is typically short-term.

**\*\*Management strategies:\*\*** - Increase water intake; aim for 2–2.5 litres per day - Consider a low-sugar electrolyte supplement containing sodium, potassium, and magnesium (see below for the electrolyte discussion) - Do not restrict salt during a VLCD — unlike in standard dietary advice, sodium restriction is counterproductive during ketosis adaptation - If headaches persist beyond day 5, contact your supervising GP or dietitian

### ### Lightheadedness and Postural Hypotension (Days 2–7)

Lightheadedness — particularly when standing up quickly — is a direct consequence of the diuretic effect of ketosis. The side effects of a VLCD are mostly related to the rapid weight loss and ketosis rather than the product itself, and include sensitivity to cold, halitosis, headache, hair loss, irritability, postural hypotension, fatigue, muscle cramps, and menstrual disturbances.

Postural hypotension (a temporary drop in blood pressure when changing position) is caused by reduced circulating blood volume as the body excretes water and sodium. Australians who are already on antihypertensive medications should have their doses reviewed by their GP before commencing a VLCD, as medication requirements may change rapidly (see our guide on *\*Who Is a Medically Designed VLCD Program Suitable For? Eligibility, Contraindications, and Medical Screening in Australia\**).

**\*\*Management strategies:\*\*** - Rise slowly from seated or lying positions - Increase fluid and electrolyte intake - Avoid prolonged standing in hot environments during the first week - Report persistent dizziness to your supervising clinician

### ### Altered Bowel Movements: Constipation and Loose Stools (Days 3–14)

Bowel changes are among the most commonly reported and least discussed VLCD side effects. Both constipation and loose stools can occur, depending on the individual and the formulation used.

Sometimes people using a VLCD meal replacement product can experience short-term constipation. During a VLCD program, it is important to take preventative steps to reduce the risk of developing constipation and to be aware of your normal bowel habits.

Common causes of constipation during a VLCD include a change in diet, change in daily routine, insufficient fibre in the daily diet, and not enough fluids. Fibre supplements may be helpful for some people to boost daily fibre and may be a good preventative option for individuals prone to constipation. Most fibre supplements need to be taken with plenty of water.

For real-food-based VLCD programs that include vegetables and whole ingredients, constipation risk is generally lower than with shake-only or bar-only protocols. This is one of the practical advantages of whole-food VLCD formulations over synthetic meal replacement products (see our guide on *\*Real Food VLCD vs. Synthetic Meal Replacement Shakes: Which Approach Produces Better Metabolism Reset Results?\**).

**\*\*Management strategies:\*\*** - Aim for 2–6 cups of low-starch vegetables daily (e.g., leafy greens, cucumber, zucchini, broccoli) - Take a psyllium husk or approved fibre supplement if constipation occurs - Maintain adequate hydration — hydration plays a vital role in digestion and the prevention of constipation. Water helps to soften stool, making it easier to pass. When dehydrated, the large intestine absorbs more water from waste material, leading to harder stools that are more challenging to eliminate.

- Light exercise such as walking improves bowel motility

### ### Sugar Cravings (Days 1–7)

Sugar cravings during the early days of a VLCD are neurochemical in origin. Habitual carbohydrate consumption creates dopaminergic reward pathways associated with glucose spikes. When carbohydrate intake drops sharply, these pathways signal urgently for a return to the familiar fuel source.

The desire for quick-energy foods like a chocolate bar or biscuits is common, especially when you feel a bit fatigued during the first few days of a VLCD. It is important to persevere with the diet plan and not give in to the urge, as having additional carbohydrates will delay ketosis and only make sweet cravings worse.

The clinical significance here is important: caving to sugar cravings in the first few days does not just represent a momentary lapse — it resets the ketosis adaptation clock, extending the period of side effects and delaying the hunger-suppression benefits that make the program sustainable.

**\*\*Management strategies:\*\*** - Consume meals at regular intervals to prevent blood glucose troughs that amplify cravings - Use sugar-free, carbohydrate-free beverages (herbal teas, sparkling water) as sensory substitutes - Recognise that cravings typically peak on days 2–3 and diminish sharply once mild ketosis is established

---

### ## The Hunger Paradox: Why Appetite Drops on a Sub-800-Calorie Diet

One of the most counterintuitive aspects of a well-formulated VLCD is that hunger — intense and urgent in the first 2–3 days — typically diminishes significantly by days 3–4, often to levels lower than participants experienced on their pre-program diet. This is not anecdotal; it has a clear hormonal and biochemical basis.

### ### The Role of Ketosis in Appetite Suppression

Ketosis helps to suppress appetite, and this effect usually kicks in 3 days into the VLCD program. The mechanism involves multiple pathways:

1. **Ketone bodies act directly on appetite centres in the brain.** Beta-hydroxybutyrate (BHB), the primary circulating ketone, has been shown to influence hypothalamic signalling in ways that reduce hunger drive.
2. **Ketosis blunts the compensatory rise in ghrelin.** Normally, caloric restriction causes ghrelin (the "hunger hormone") to rise — a survival mechanism that makes dieting progressively harder. There is evidence for a ketone-mediated suppression of the increase in fasting ghrelin concentrations and hunger feelings otherwise seen with weight loss.
3. **Stable blood sugar removes hunger spikes.** By eliminating the blood glucose roller-coaster associated with high-carbohydrate eating, a VLCD removes the reactive hypoglycaemia that drives mid-morning and mid-afternoon hunger attacks.

### ### How High-Protein Formulations Affect Hunger Hormones

The macronutrient composition of a medically designed VLCD — specifically its high protein content — plays a critical independent role in hunger management, operating through GLP-1, PYY, and ghrelin pathways.

A meta-analysis of randomised controlled trials found that acute ingestion of protein suppressed appetite as evidenced by decreased sensation of hunger, desire to eat, and prospective food consumption, and increased fullness and satiety. Protein intake also decreased ghrelin and increased CCK and GLP-1 concentrations.

Protein intake reduces hunger by increasing the release of GLP-1 and PYY and decreasing ghrelin levels. GLP-1 (glucagon-like peptide-1) is a gut-derived hormone that signals satiety to the brain and slows gastric emptying — the same mechanism targeted by GLP-1 receptor agonist medications. A high-protein VLCD achieves this endogenously, without pharmacological intervention.

VLCKDs promote satiety by encouraging higher intakes of fat and protein. These macronutrients exhibit a slower rate of gastric emptying compared to carbohydrates, leading to sustained feelings of fullness.

This hormonal remodelling is why a well-formulated VLCD — particularly one providing adequate protein across multiple daily meals — is significantly more tolerable than simply eating less of the same foods. The structure of the macronutrient profile does the hormonal work that makes adherence possible.

---

### ## A Day-by-Day Guide to the First Two Weeks

| Day Range | What's Happening | What to Expect | Priority Actions | |---|---|---|---| | **Days 1–2** | Glycogen depletion begins; insulin falls | Hunger, mild headache, fatigue | Full hydration, full protein allocation, light activity only | | **Days 3–4** | Ketosis initiates; ghrelin suppression begins | Hunger starts declining; headache may peak | Electrolytes, no carbohydrate deviation, fibre if needed | | **Days 5–7** | Mild ketosis established | Energy improving; hunger significantly lower | Resume light-to-moderate exercise; monitor bowel function | | **Days 8–10** | Fat oxidation in full effect | Energy stabilising; mental clarity often improves | Continue program structure; weigh in | | **Days 11–14** | Metabolic adaptation consolidating | Hunger well-managed; cravings largely resolved | Assess results; plan transition phase |

---

### ## Electrolytes: The Underappreciated Key to Managing Week One

Electrolyte management is arguably the single most impactful lever available to VLCD participants during the first week. The diuretic effect of ketosis causes rapid excretion of sodium, potassium, and

magnesium — the three electrolytes most directly linked to headaches, muscle cramps, fatigue, and bowel irregularity.

As it is a very low calorie diet, it is recommended to provide patients with micronutrients including vitamins such as complex B vitamins, vitamins C and E, and minerals including potassium, sodium, magnesium, and calcium, according to international recommendations.

Practical electrolyte support during a VLCD should include: - **Sodium:** Do not restrict salt; add a small amount to meals or low-carbohydrate broth - **Potassium:** Ensure adequate low-starch vegetable intake (spinach, broccoli, zucchini); studies indicate that individuals with adequate electrolyte intake have better bowel function, and increased potassium intake has been linked to improved bowel regularity, as potassium is crucial for muscle contractions.

- **Magnesium:** A magnesium supplement (glycinate or citrate form) can assist with sleep quality, muscle cramps, and bowel regularity - **Water:** Minimum 2 litres daily; more in hot Australian weather or with exercise

Australians undertaking a VLCD under medical supervision should have their electrolyte levels monitored via blood testing, particularly those with pre-existing cardiac or renal conditions (see our guide on *\*Who Is a Medically Designed VLCD Program Suitable For?\**).

---

### ## Why Adherence in the First Two Weeks Predicts Long-Term Outcomes

The evidence is clear: getting through the first two weeks of a VLCD is not merely a milestone — it is a strong predictor of overall program success. In a large observational cohort study, the VLCD group achieved a mean weight loss of 11.4 kg at one year, with an 18% dropout rate — outperforming both the low-calorie diet group (6.8 kg, 23% dropout) and the restricted normal-food group (5.1 kg, 26% dropout).

Australian real-world data reinforces this pattern. Research examining Australian VLCD users found that regular users (those who used the program at least 4 days per week for more than 4 weeks) achieved significantly better outcomes than intermittent users, with intermittent users reporting lower percentage weight loss.

The implication is direct: the side effects and hunger of the first two weeks are the primary barrier to the program working. Strategies that help Australians navigate this window — electrolyte management, protein timing, realistic expectation-setting, and access to clinical support — are not supplementary; they are central to the program's clinical effectiveness (see our guide on *\*The Role of Dietitian and GP Support in VLCD Program Success: What Australian Research Shows\**).

---

### ## Key Takeaways

- **Side effects are predictable and time-limited.** The most common VLCD side effects — fatigue, headaches, lightheadedness, altered bowel function, and sugar cravings — are driven by ketosis adaptation and typically resolve by days 4–7 for most symptoms. - **Hunger drops significantly by days 2–4.** Contrary to expectation, a well-formulated high-protein VLCD suppresses appetite through ketosis-mediated ghrelin suppression and protein-driven GLP-1 and PYY release — making the program more tolerable with each passing day. - **Electrolytes are the most underutilised tool in week one.** Proactively managing sodium, potassium, and magnesium intake directly addresses headaches, fatigue, muscle cramps, and constipation — the four most common reasons people abandon a VLCD prematurely. - **Sugar cravings must not be accommodated.** Consuming additional carbohydrates in the first week resets the ketosis adaptation clock and prolongs every side effect, including hunger itself. - **Adherence in the first two weeks predicts long-term success.** Australians who complete the full

initial phase of a medically designed VLCD program consistently achieve superior weight loss and metabolic outcomes compared to intermittent users.

---

## ## Conclusion

The first two weeks of a medically designed VLCD metabolism reset are a physiological transition, not a punishment. Every side effect has a mechanism, and every mechanism has a management strategy. The headache on day two is not a sign the program is failing — it is a sign that the body is depleting glycogen and entering fat-burning mode. The fatigue on day three is not weakness — it is the brain adapting to a new fuel source. The hunger that feels urgent on day one will, in most cases, be substantially lower by day four.

For Australians undertaking a medically designed VLCD program — whether as a two-week quarterly metabolism reset, a pre-surgical liver reduction protocol, or a therapeutic intervention for metabolic syndrome or Type 2 diabetes — understanding this adaptation window is the most powerful tool available for program completion.

The science is clear: those who get through the first two weeks are the ones who get the results. Everything covered in this article is designed to help you be one of them.

\*For related reading, see our guides on: How to Start a Medically Designed VLCD Metabolism Reset Program: A Step-by-Step Guide for Australians; VLCD Program Phases Explained: Intensive Reset, Transition, and Long-Term Weight Maintenance; and VLCD Metabolism Reset Results: What Australians Can Realistically Expect in 7, 14, and 28 Days.\*

---

## ## References

- Lambert, K., et al. "A practical guide for the use of very low calorie diets in adults with chronic kidney disease." *\*Nephrology\**, Wiley Online Library, 2020. <https://onlinelibrary.wiley.com/doi/10.1111/nep.13680>
- Muscogiuri, G., et al. "VLCKD: a real time safety study in obesity." *\*Journal of Translational Medicine\**, 2022. <https://link.springer.com/article/10.1186/s12967-021-03221-6>
- Parvaresh Rizi, E., et al. "A high carbohydrate, but not fat or protein meal attenuates postprandial ghrelin, PYY and GLP-1 responses in Chinese men." *\*PLOS ONE\**, 2018. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0191609>
- Chaudhri, O.B., et al. "Effect of short- and long-term protein consumption on appetite and appetite-regulating gastrointestinal hormones: a systematic review and meta-analysis of randomized controlled trials." *\*Physiology & Behavior\**, ScienceDirect, 2020. <https://www.sciencedirect.com/science/article/abs/pii/S0031938420304376>
- Boulton, K., et al. "Does a Higher Protein Diet Promote Satiety and Weight Loss Independent of Carbohydrate Content? An 8-Week Low-Energy Diet (LED) Intervention." *\*Nutrients\**, MDPI, 2022. <https://www.mdpi.com/2072-6643/14/3/538>
- Johansson, K., et al. "Weight loss and dropout during a commercial weight-loss program including a very-low-calorie diet, a low-calorie diet, or restricted normal food: observational cohort study." *\*PMC / American Journal of Clinical Nutrition\**, 2012. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3471207/>
- Tapsell, L., et al. "Real world evidence on the characteristics of regular and intermittent users of a very-low calorie diet program and associations with measures of program success, health, and quality of life." *\*PMC\**, 2024. <https://pmc.ncbi.nlm.nih.gov/articles/PMC10804350/>

- Liew, V. "Very low calorie and energy diet." \*Dr. Victor Liew Clinical Blog\*, 2017.  
<https://drvictorliew.com/very-low-calorie-and-energy-diet/>
- University of Washington Medicine. "Medically Managed Very Low Calorie Diet." \*Health Online\*, University of Washington. [https://healthonline.washington.edu/sites/default/files/record\\_pdfs/Medically-Managed-Very-Low-Calorie-Diet.pdf](https://healthonline.washington.edu/sites/default/files/record_pdfs/Medically-Managed-Very-Low-Calorie-Diet.pdf)
- Healthy Weight For Life. "Potential VLCD Side Effects." \*Healthy Weight For Life\*, 2024.  
<https://healthyweightforlife.com.au/2024/09/23/constipation-loose-stools-other-potential-side-effects/>
- Wadden, T.A., et al. "An eight-year experience with a very-low-calorie formula diet for control of major obesity." \*PubMed / American Journal of Clinical Nutrition\*, 1988.  
<https://pubmed.ncbi.nlm.nih.gov/3360564/>