

Dietary interventions in obesity management

Louise Becroft

Lead Clinical Dietitian Bariatric Surgery
The Alfred, Melbourne

SCOPE School - Obesity Management and Treatment: A Multidisciplinary Approach, Tuesday September 3rd

XXVII Ifso World Congress

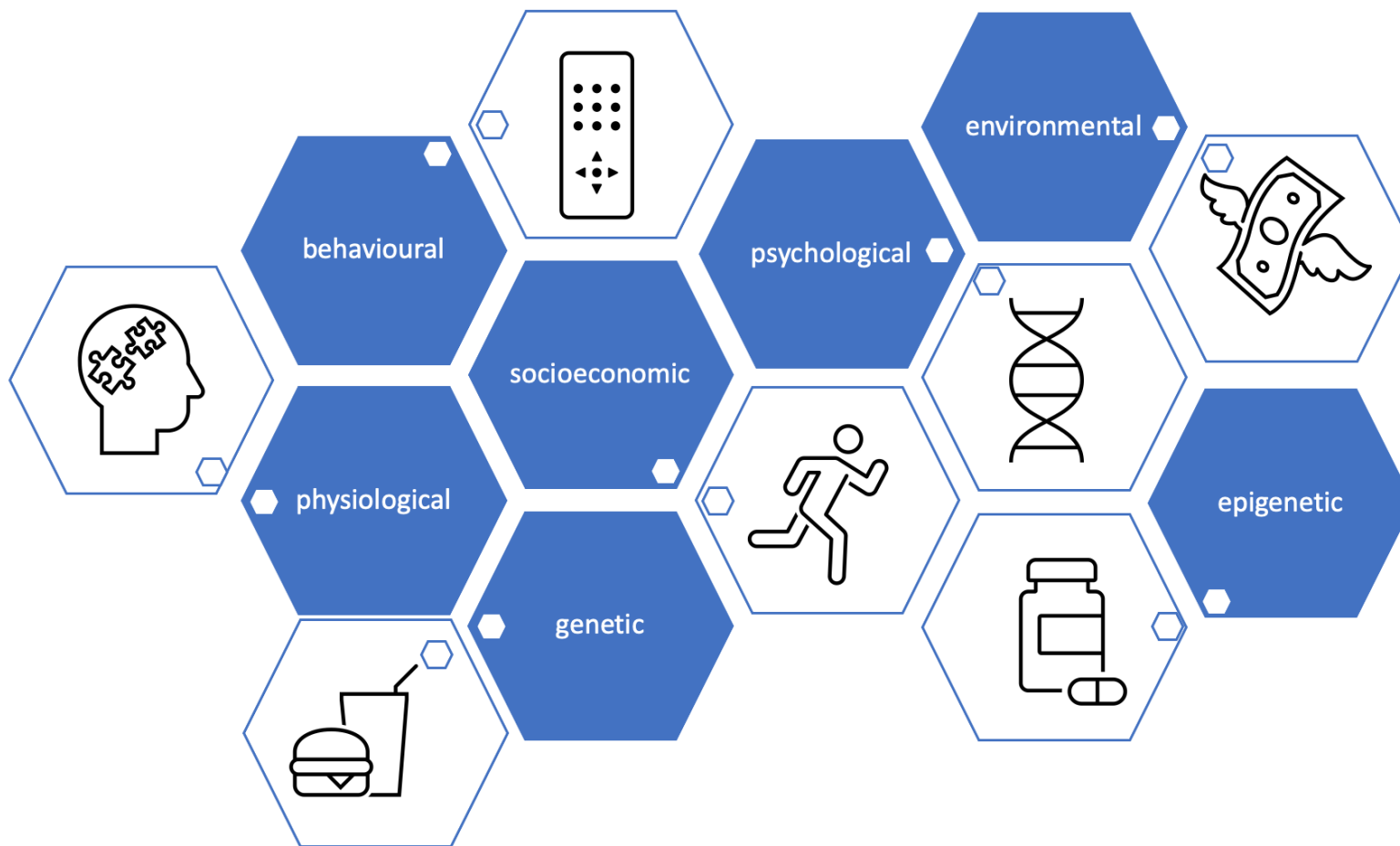


Melbourne 2024

I have no potential conflict of interest to report

Obesity is one of the most common preventable diseases.

The Obesity causation puzzle





TikTok

qualtrics - Google Search | Pathophysiology of Obesity | dietary interventions for obesity

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National Institutes of Health (NIH) (.gov)
<https://pubmed.ncbi.nlm.nih.gov> ...

Dietary interventions for obesity: clinical and mechanistic ...
 by AM Chao · 2021 · Cited by 144 — Dietary modification is central to obesity treatment. Weight loss diets are available that include various permutations of energy ...

People also ask :

- What are the food interventions for obesity?
- What are the dietary recommendations for obese patients?
- What are the dietary prevention of obesity?
- What interventions are there for obesity?

Feedback

Harvard T.H. Chan School of Public Health
<https://www.hsph.harvard.edu> ... Obesity Causes ...

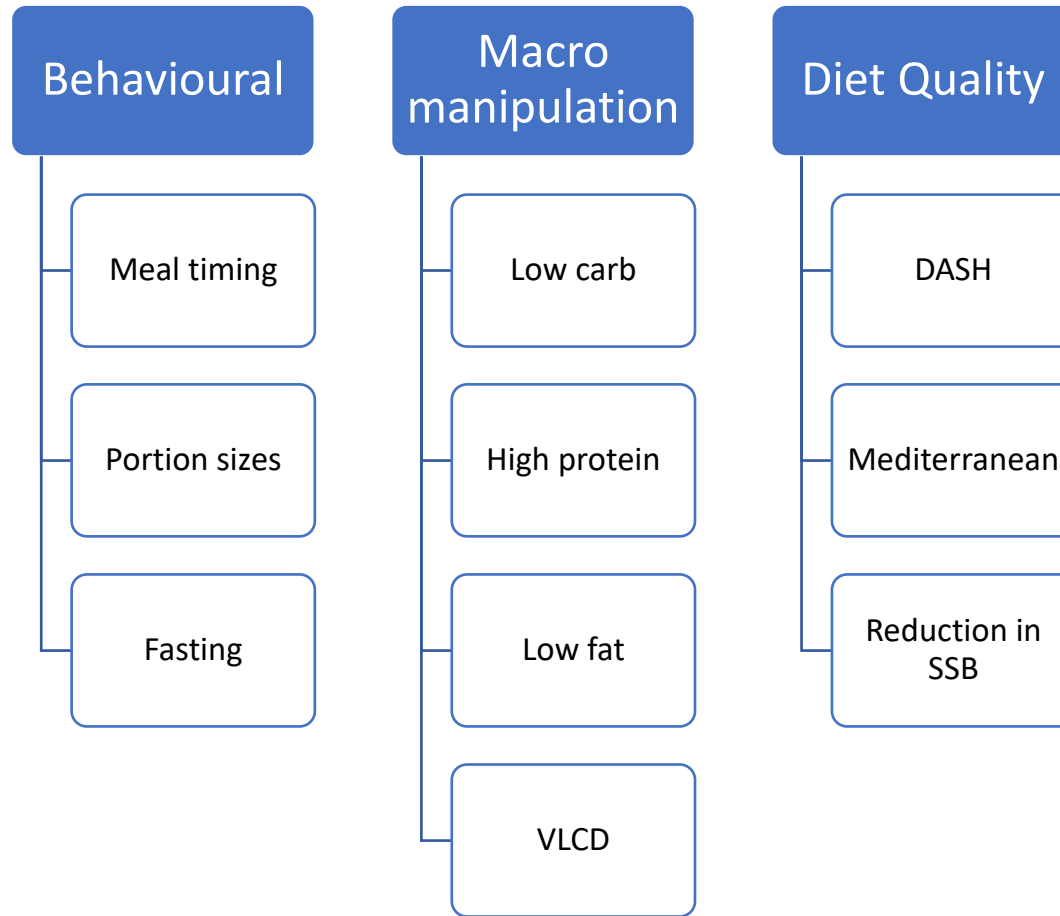
Food and Diet | Obesity Prevention Source - HSPH.Harvard.edu
 So-called "prudent" dietary patterns—diets that feature whole grains, vegetables, and fruits—seem to protect against weight gain, whereas "Western-style" ...

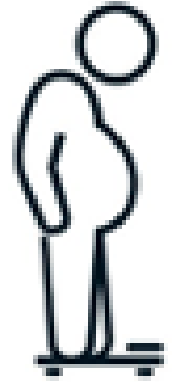
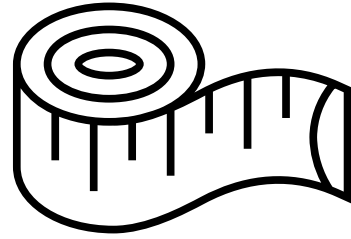
Scholarly articles for dietary interventions for obesity
Dietary interventions for obesity: clinical and ... - Chao - Cited by 144
 ... -loss effects of a long-term dietary intervention in obese ... - Ditschuneit - Cited by 446
 Novel dietary interventions for adolescents with obesity ... - Hoare - Cited by 20

Obesity Evidence Hub
<https://www.obesityevidencehub.org.au> ... treatment > b... :

Behavioural interventions for management of overweight & ...
 20 July 2023 — Dietary interventions · Energy deficit approach · Macronutrient composition ...

Dietary interventions for obesity

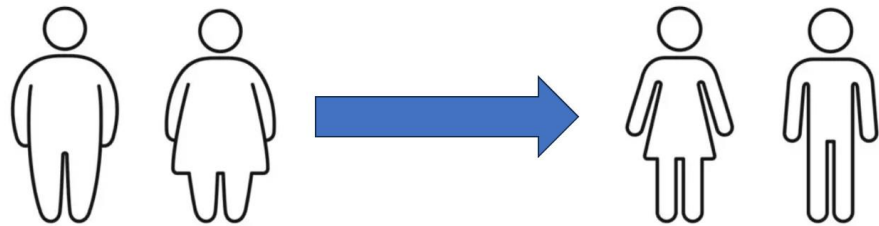




Define the goal



How much can we lose?

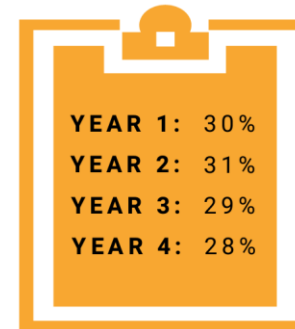


5-15% total weight loss in 6-12 months

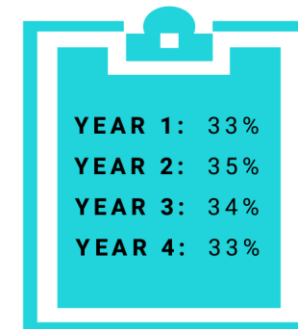
VS

Average % total weight loss by type of primary surgery of Australian bariatric patient data with 1, 2, 3 and 4 year outcomes

Average % total weight loss
after a sleeve gastrectomy



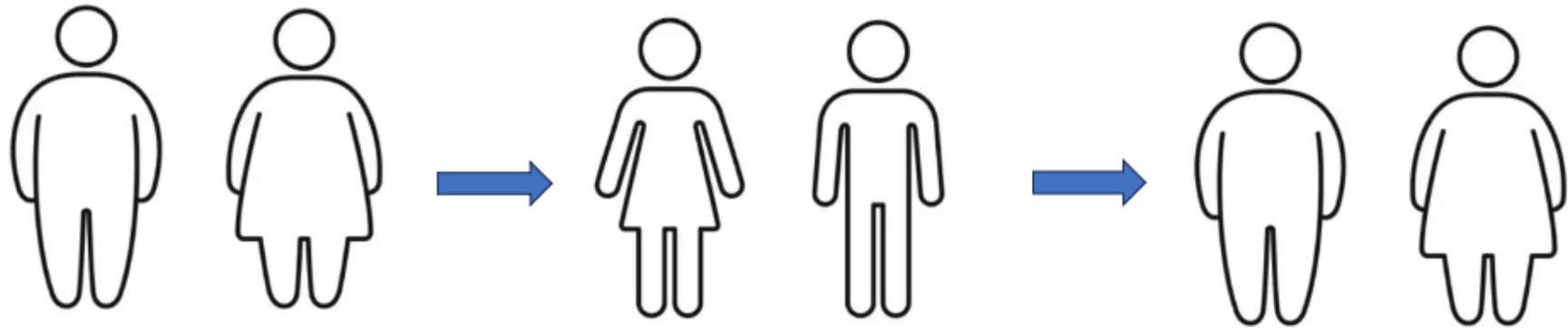
Average % total weight loss
after a one anastomosis
gastric bypass



Average % total weight loss
after a Roux-en-Y
gastric bypass



Weight regain





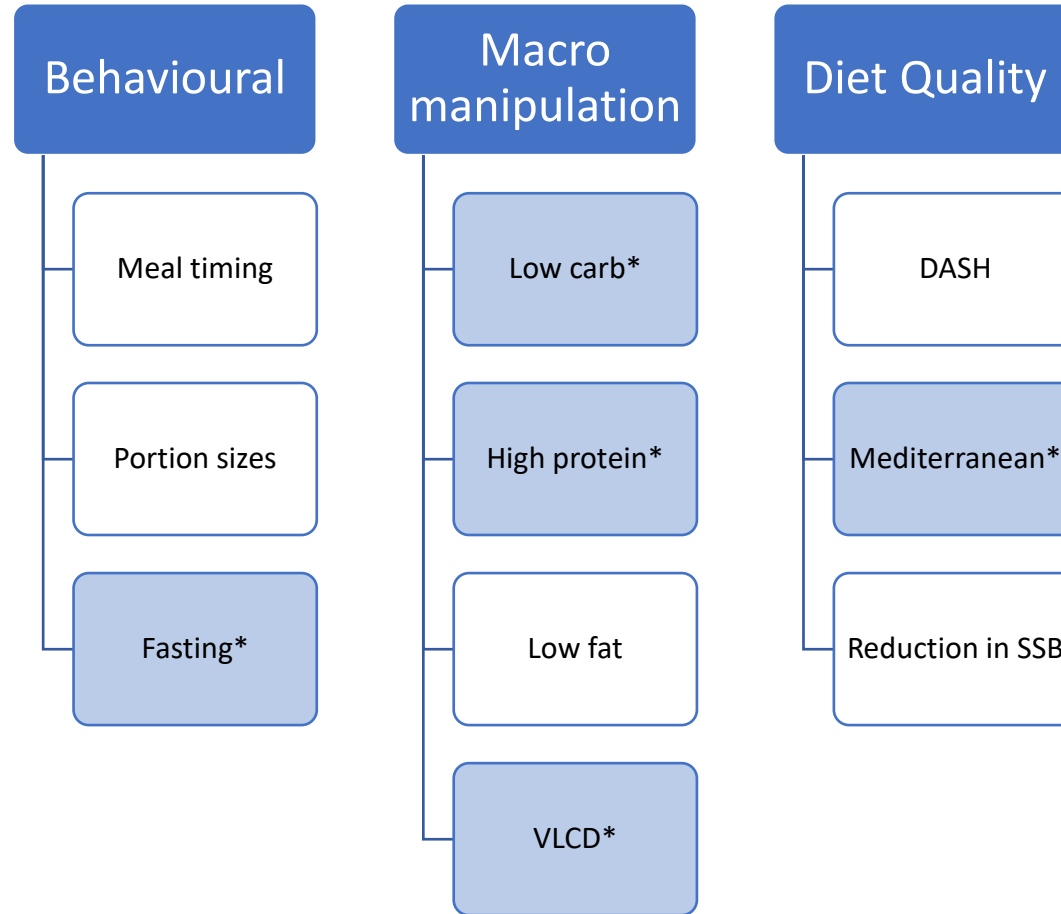
What is possible with diet?



Health outcome	Improvement after 10 kg weight loss
Blood pressure (BP)	10 mm Hg drop in systolic BP
	20 mm Hg drop in diastolic BP
Diabetes mellitus	50% drop in fasting glucose level
Lipid profile	10% drop in total cholesterol
	15% drop in LDL cholesterol
	30% drop in triglycerides
Mortality	20% fall in overall mortality

Adapted from Ullah et al. 2023

Dietary interventions for obesity



High protein diets

- **How much protein?**

Grams: 1-1.5g/kg BW/day

% energy intake: 30% total energy

- **What type of protein?**

High quality (not highly processed, minimal saturated fat)

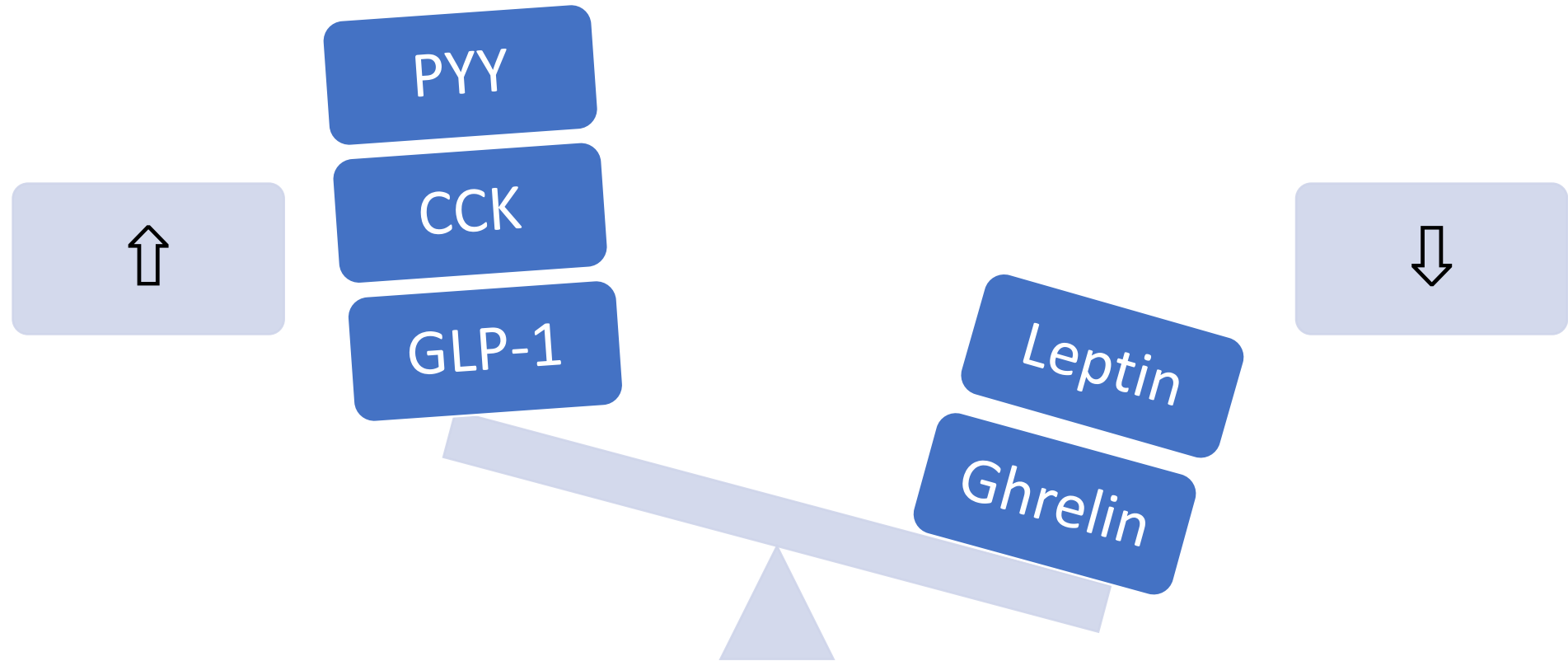
- **Results?**

2-10kg body weight loss in 4-6 months of following this diet

Lower weight regain in higher protein diet groups at 1 & 2 years



How do high protein diets work?



Low carbohydrate diets



THE CSIRO LOW-CARB DIET



How much is
considered
low carb?

Diet	Carbohydrate (g) per day	Percentage of total calories (%)
Very low- carbohydrate ketogenic diet (VLCKD)	20–50g	10
Low carbohydrate	<130	26
Moderate carbohydrate	130–230	26–45
High carbohydrate	>230	>45

What is keto?

- Low carb + high fat + moderate protein intake
- Usually 5-10% carbs, 55-60% fat, 30-35% protein

Does the type of grain matter?

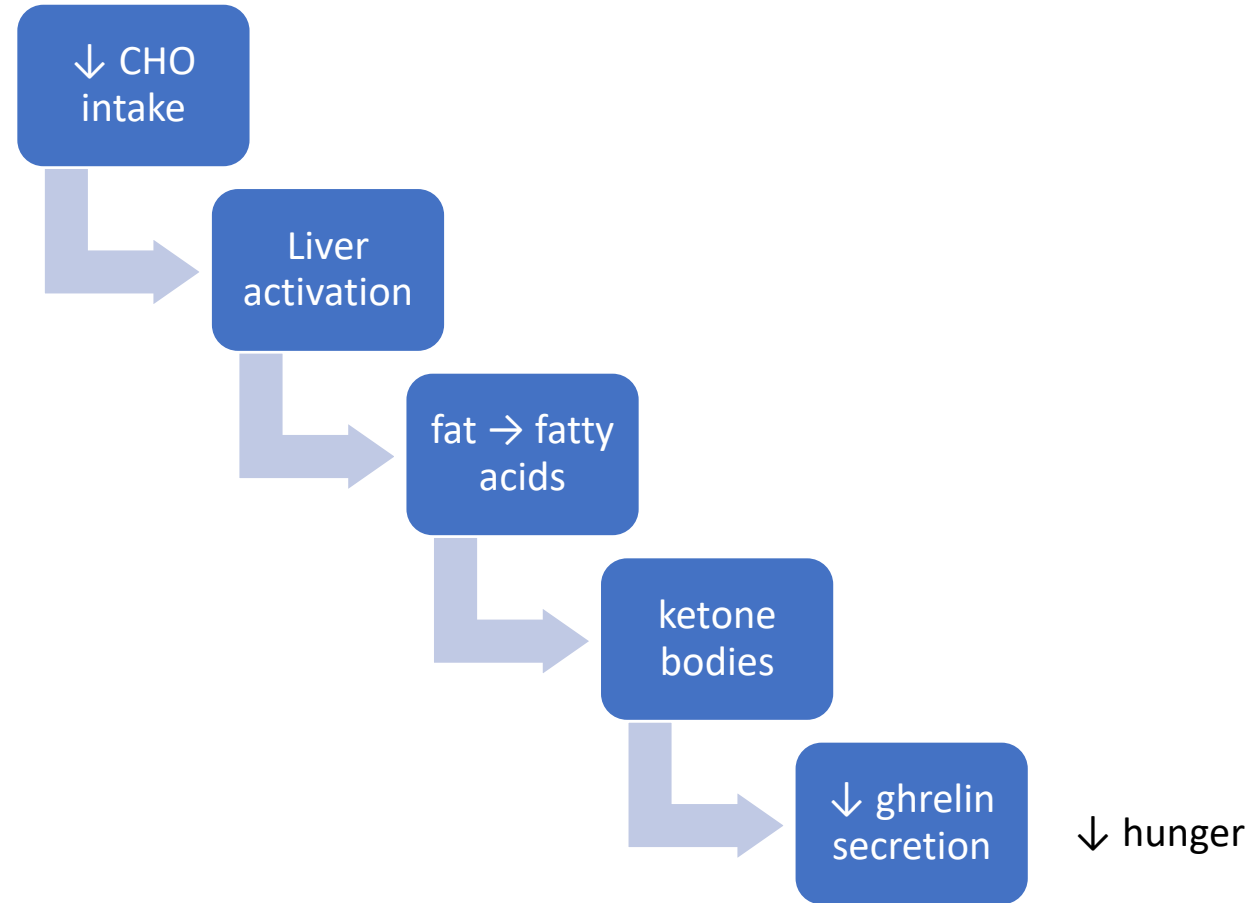
- Yes
- Low GI
- High fibre
- Unrefined



Low carb diets



Ketosis



How effective is low carb?

ORIGINAL ARTICLE

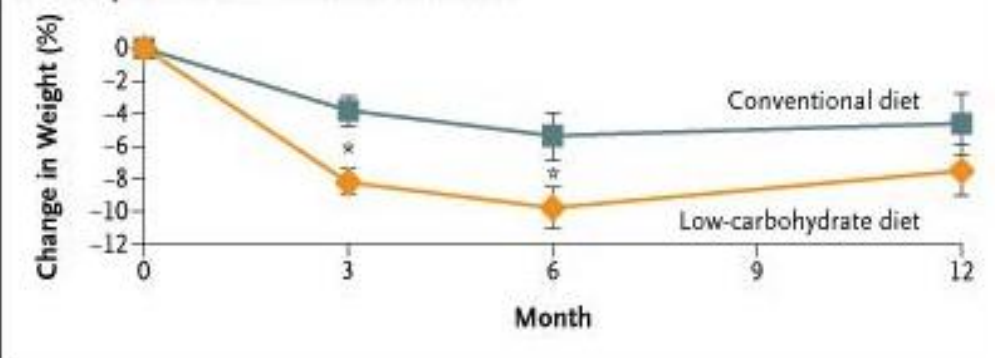
f X in

A Randomized Trial of a Low-Carbohydrate Diet for Obesity

Authors: Gary D. Foster, Ph.D., Holly R. Wyatt, M.D., James O. Hill, Ph.D., Brian G. McGuckin, Ed.M., Carrie Brill, B.S., B. Selma Mohammed, M.D., Ph.D., Philippe O. Szapary, M.D., Daniel J. Rader, M.D., Joel S. Edman, D.Sc., and Samuel Klein, M.D. [Author Info & Affiliations](#)

Published May 22, 2003 | N Engl J Med 2003;348:2082-2090 | DOI: 10.1056/NEJMoa022207 | VOL. 348 NO. 21

B Complete Data or Data from Last Visit

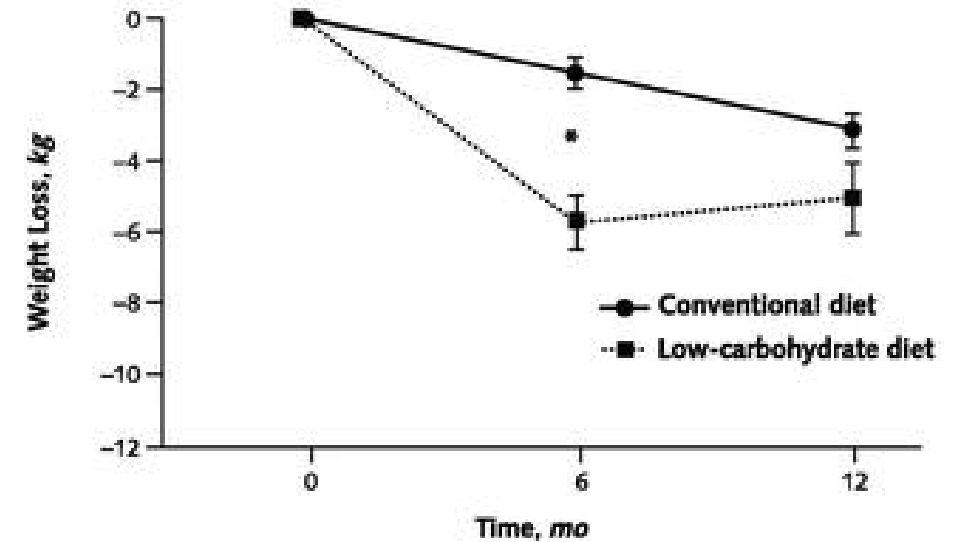


Articles | 18 May 2004

The Effects of Low-Carbohydrate versus Conventional Weight Loss Diets in Severely Obese Adults: One-Year Follow-up of a Randomized Trial FREE

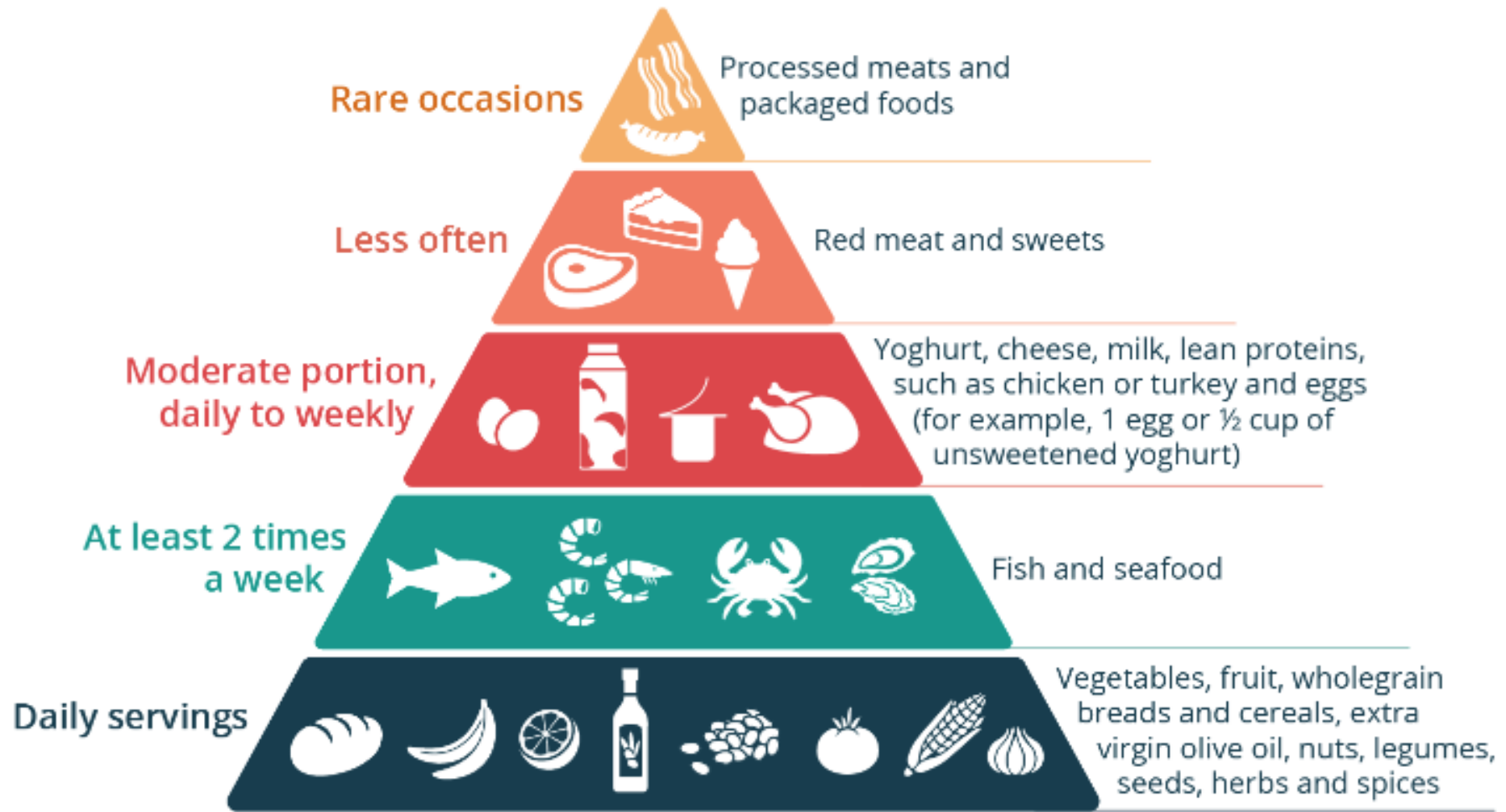
Authors: Linda Stern, MD, Nayyar Iqbal, MD, Prakash Seshadri, MD, Kathryn L. Chicano, CRNP, Denise A. Daily, RD, Joyce McGrory, CRNP, Monica Williams, BS, Edward J. Gracely, PhD, and Frederick F. Samaha, MD | [AUTHOR, ARTICLE, & DISCLOSURE INFORMATION](#)

Publication: Annals of Internal Medicine • Volume 140, Number 10



A close-up photograph of an olive branch with several olives. The olives are in various stages of ripeness, ranging from bright green to dark purple. The leaves are small, elongated, and have a silvery-green hue. The background is a soft, out-of-focus light green and yellow, suggesting a bright, sunny day. The text "Mediterranean Diet" is overlaid in the center in a white, sans-serif font.

Mediterranean Diet



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Mediterranean diet

Metabolism of
resistant starch
and
oligosaccharides

Production of
SCFA and satiety
hormones

Decreased gastric
emptying

How much weight can you lose?



The NEW ENGLAND
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ORIGINAL ARTICLE

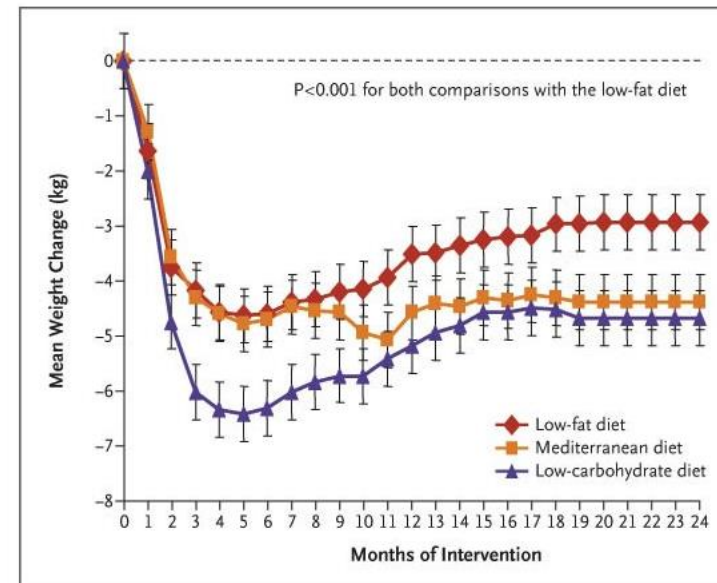


Weight Loss with a Low-Carbohydrate, Mediterranean, or Low-Fat Diet

This article has been corrected. [VIEW THE CORRECTION](#)

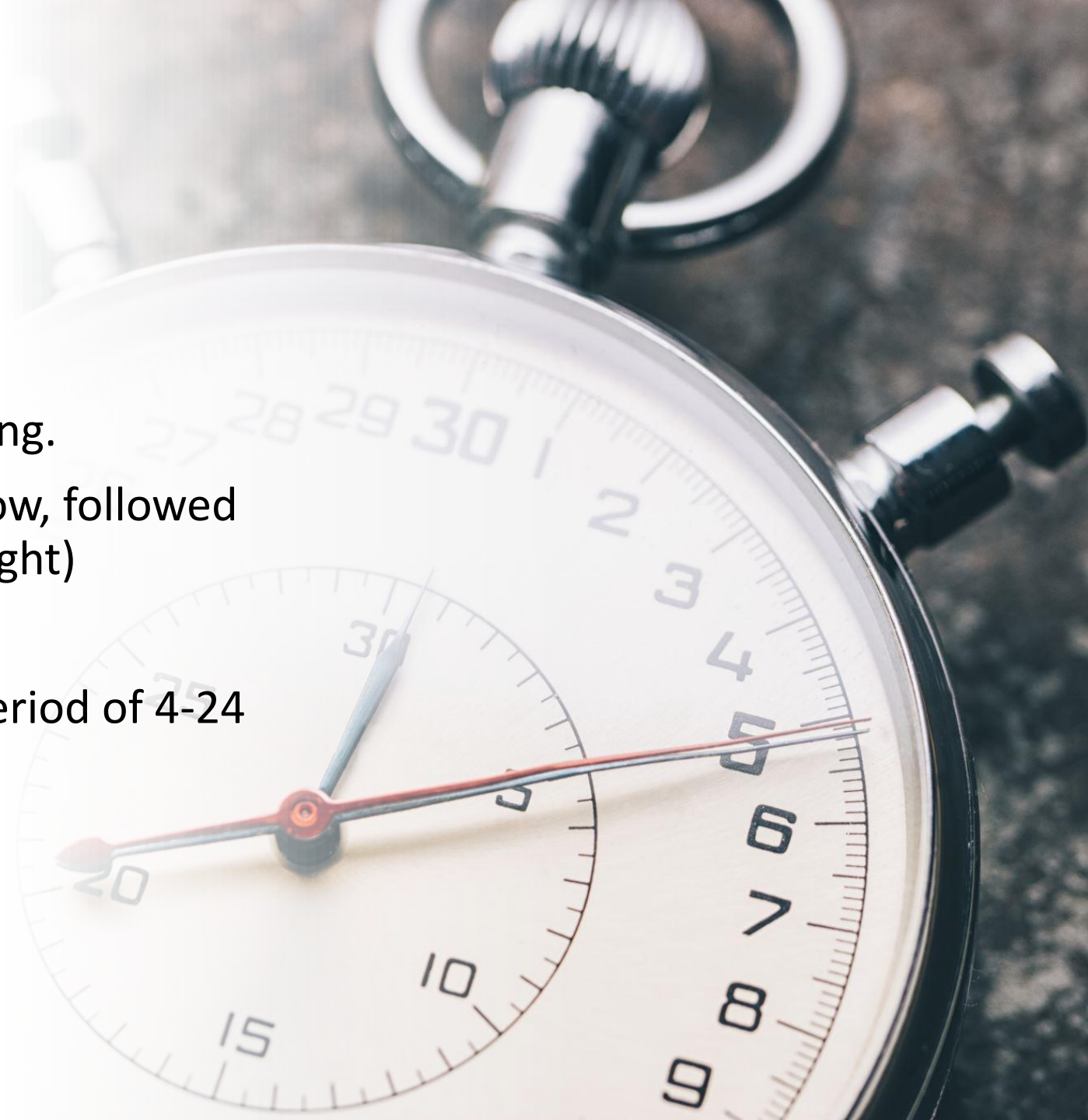
Authors: Iris Shai, R.D., Ph.D., Dan Schwarzfuchs, M.D., Yaakov Henkin, M.D., Danit R. Shahar, R.D., Ph.D., Shula Witkow, R.D., M.P.H., Ilana Greenberg, R.D., M.P.H., Rachel Golan, R.D., M.P.H., [+16](#), for the Dietary Intervention Randomized Controlled Trial (DIRECT) Group [Author Info & Affiliations](#)

Published July 17, 2008 | N Engl J Med 2008;359:229-241 | DOI: 10.1056/NEJMoa0708681 | [VOL. 359 NO. 3](#)



Intermittent Fasting

- Time restricted feeding.
- 8 hour feeding window, followed by 16 hour fast (overnight)
- 4-10% LOW over a period of 4-24 weeks

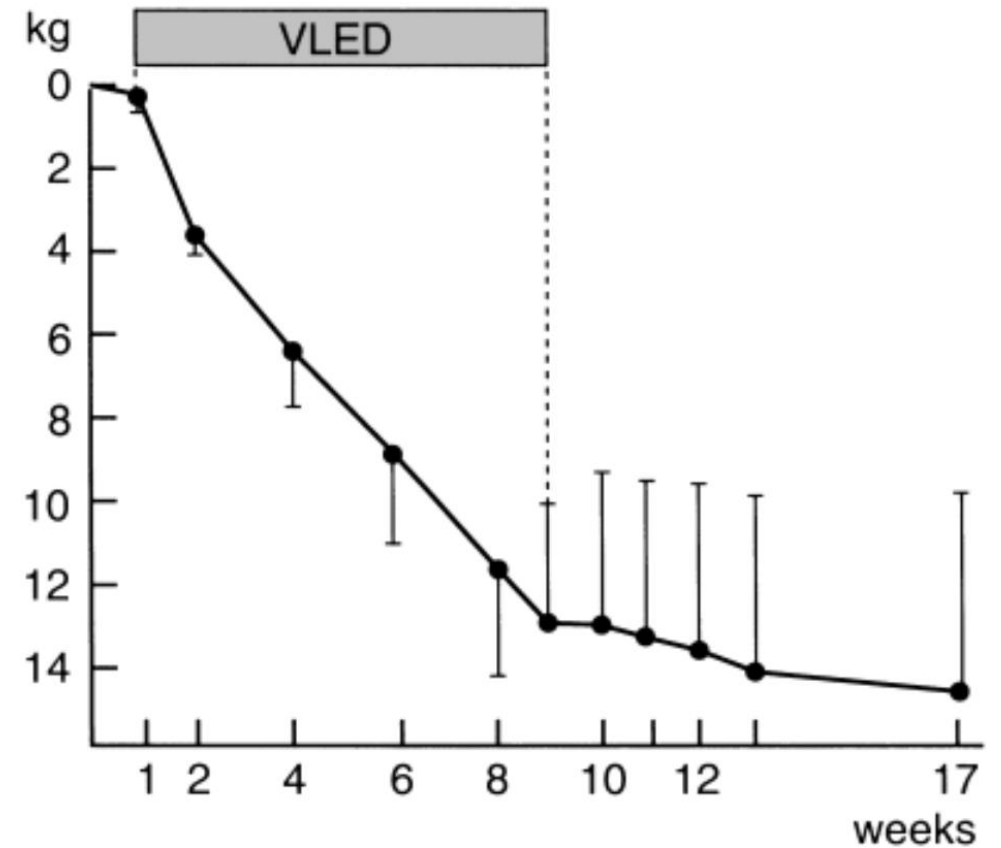


Very Low Calorie Diets (VLCD)

- Typically provides <800kcal/day, 60g protein
- short-term, not recommended for more than 12 weeks
- Should be followed by a reintroduction phase

Results:

- 10kg up to 12 weeks
- Average 1.5-2.5kg per week



Very Low Calorie Diets (VLCD)



Diuresis =
improved patients
feeling of wellness
early in treatment.



Low carb =
mild ketosis,
↓ hunger.



Slower rate of
muscle loss, ↑ fat
mass loss



Convenience of meal
replacements =
↑ acceptability and
compliance



Restricting food
choice =
↑ adherence



Rapid weight loss =
motivation.

Which diet?





Which diet?

- What fit's the patient?
- What are the goals?
- Adherence
- Combination? More than 1 approach, modified.

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