

Dispelling Myths: Diabetes Diets

Dr Nicola Guess

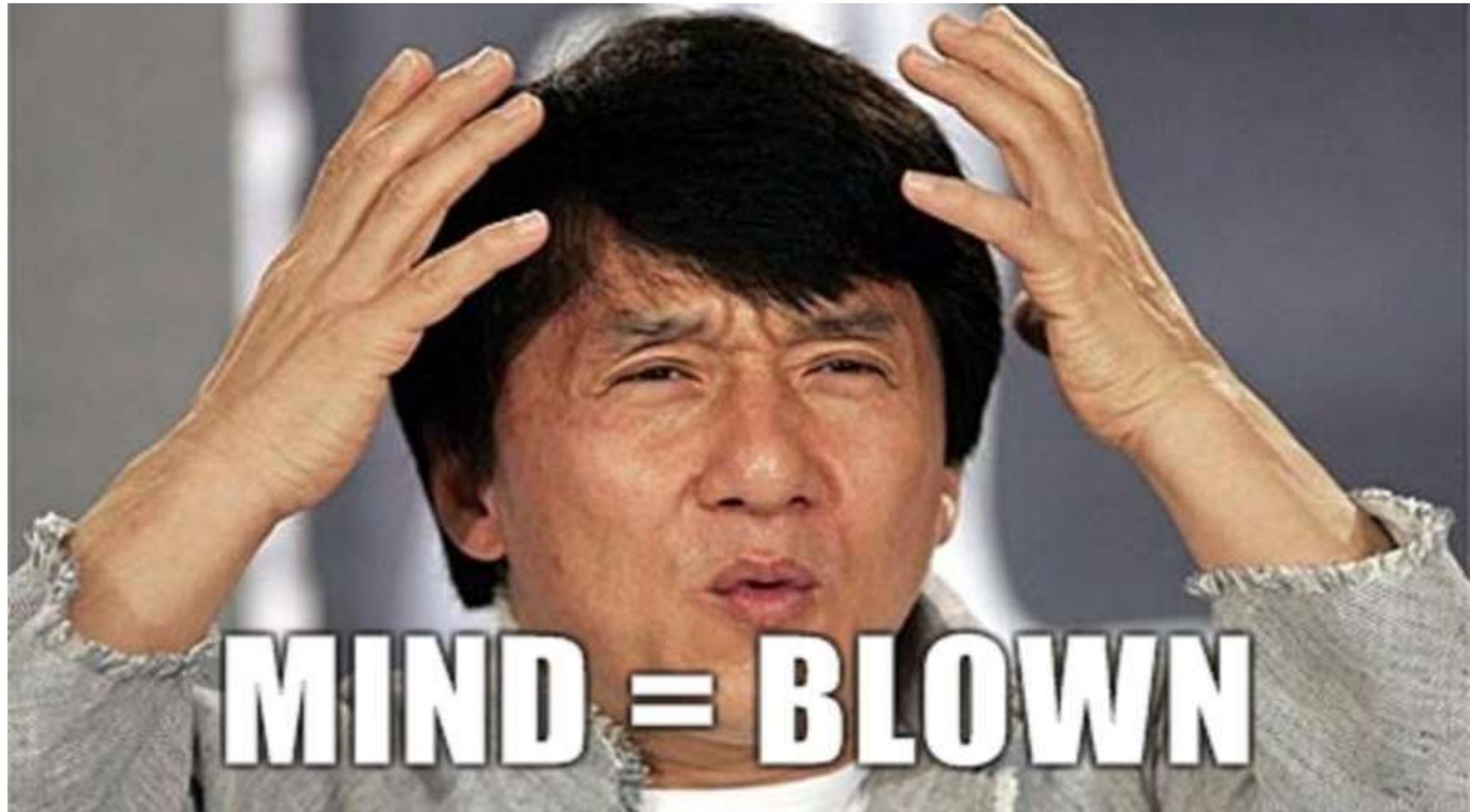
Research Fellow: King's College London

Senior Lecturer, University of Westminster

Head of Nutrition, Dasman Diabetes Institute

Twitter: @Dr__Guess





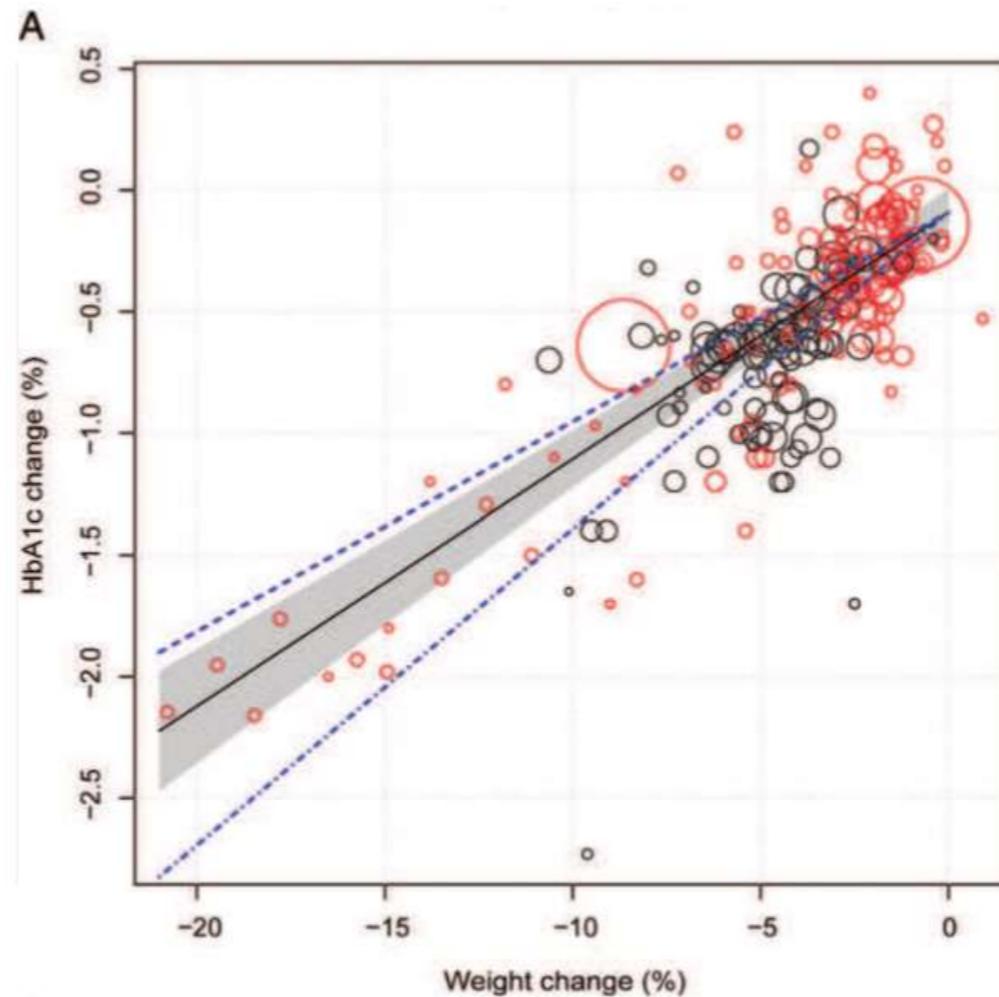
Myth: Randomised controlled trials are always and absolutely the gold-standard in nutrition

Efficacy vs Effectiveness

“well meta-analyses of long-term RCTS show....”



WHAT'S NOT A MYTH?: WEIGHT MANAGEMENT IS (STILL) THE CORNERSTONE

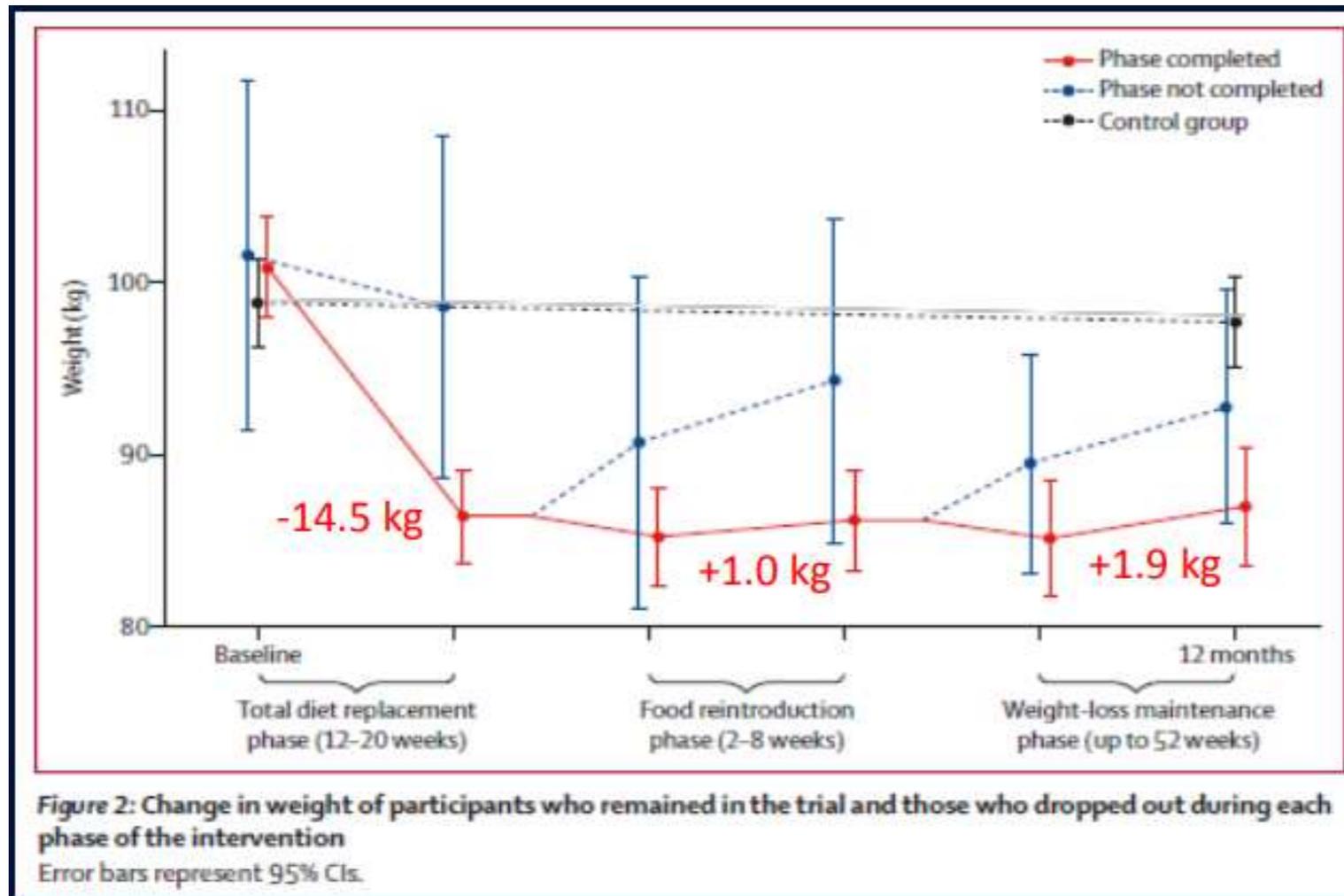


Gummesson A, Nyman E, Knutsson M, Karpefors M. Effect of weight reduction on glycated haemoglobin in weight loss trials in patients with type 2 diabetes. *Diabetes Obes Metab.* 2017;19(9):1295-1305.

BUT: “Moderate” is not where the evidence is

- YOU DON'T GET REMISSION WITH A **MODEST**, **MODERATE** APPROACH.

DiRECT Results

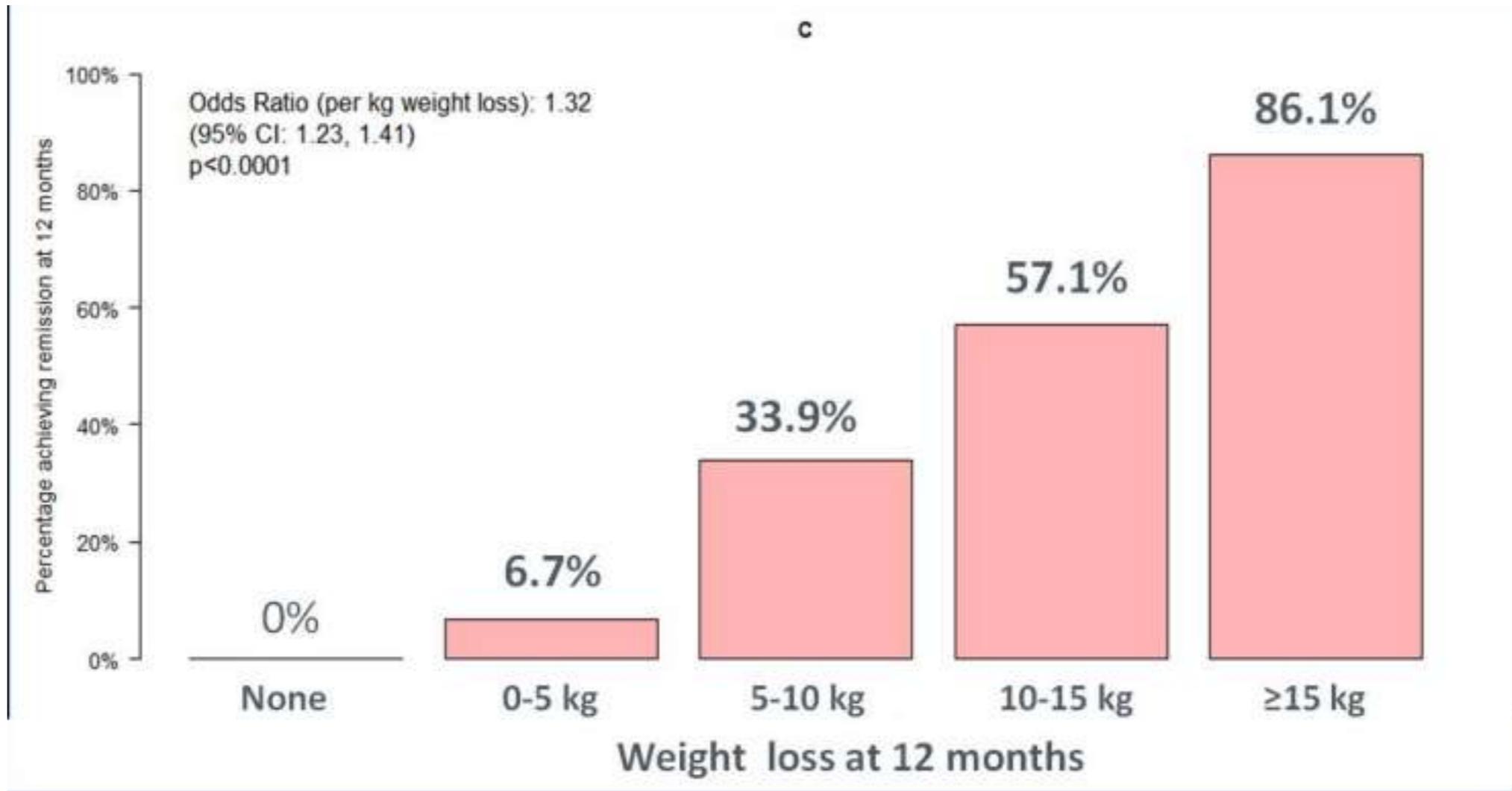


Weight loss >15kg = 36/149 (24%)

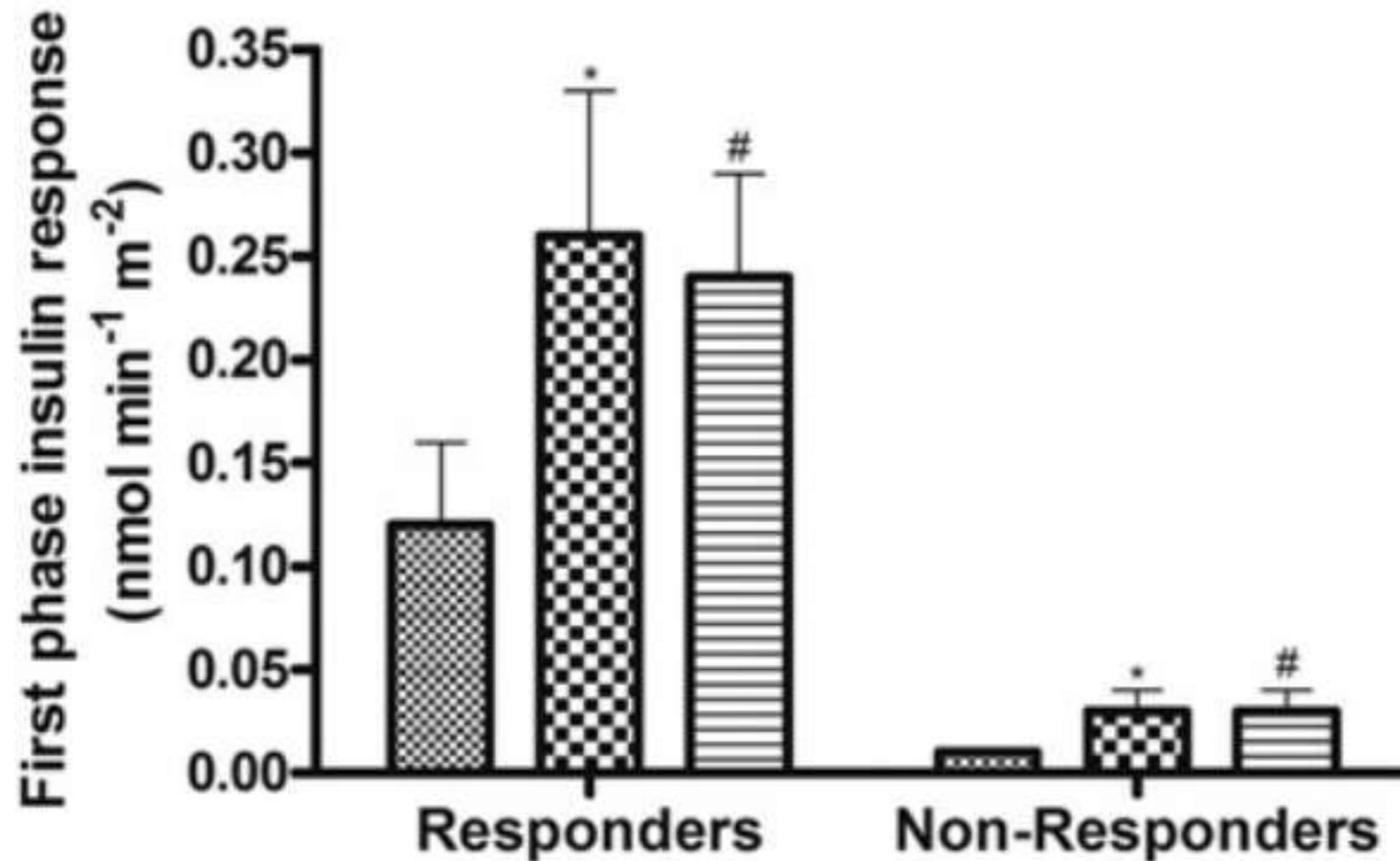
Remission: 68/149 (46%)

Lean ME et al. Primary care-led weight management for remission of type 2 diabetes (DiRECT): an open-label, cluster-randomised trial. Lancet. 2018 Feb 10;391(10120):541-551.

DiRECT Results

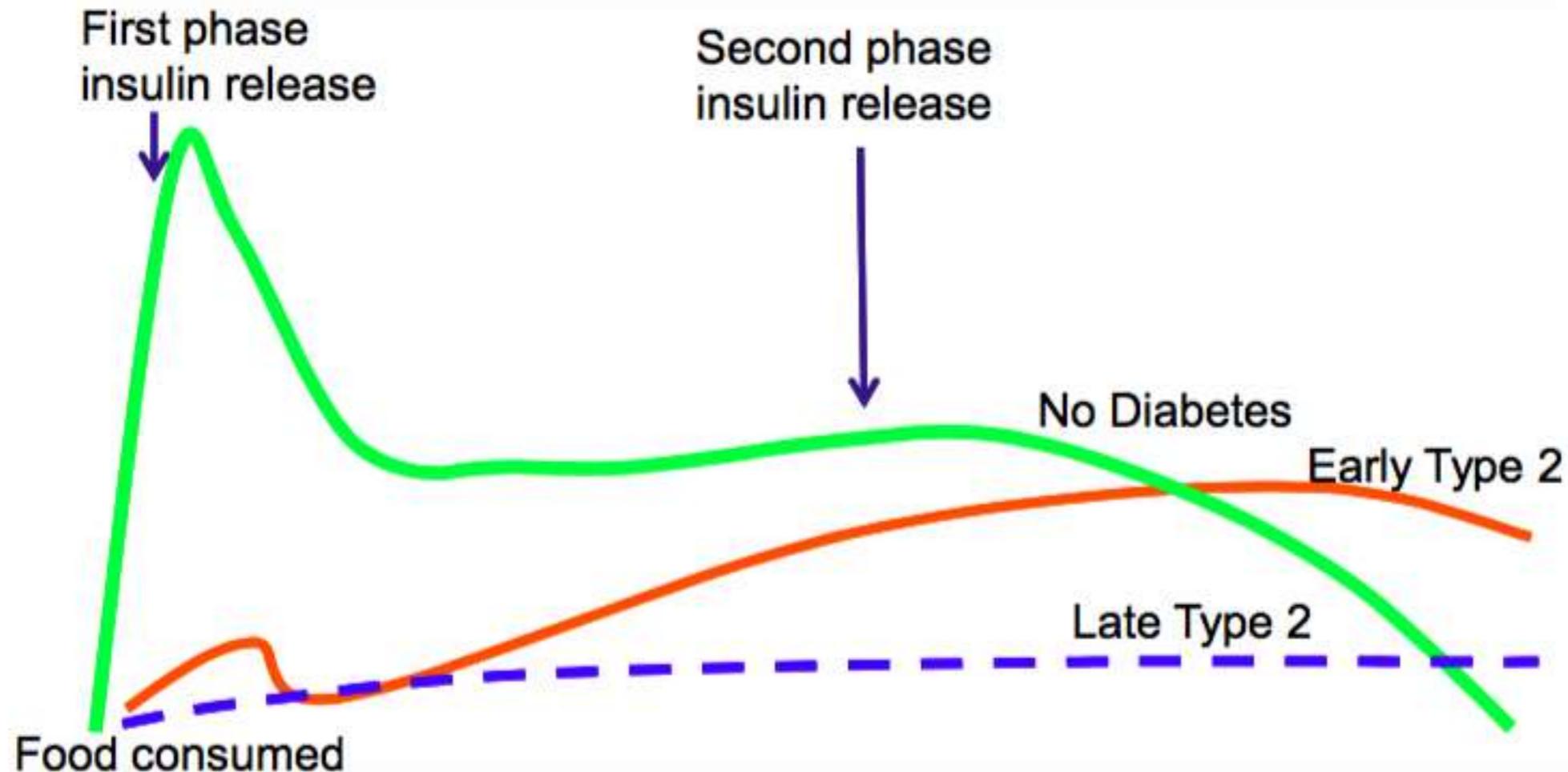


Beta-cell function needed to achieve remission via DiRECT-style intervention



Steven S, Hollingsworth KG, Al-Mrabeh A, Avery L, Aribisala B, Caslake M, Taylor R. Very Low-Calorie Diet and 6 Months of Weight Stability in Type 2 Diabetes: Pathophysiological Changes in Responders and Nonresponders. *Diabetes Care*. 2016 May;39(5):808-15.

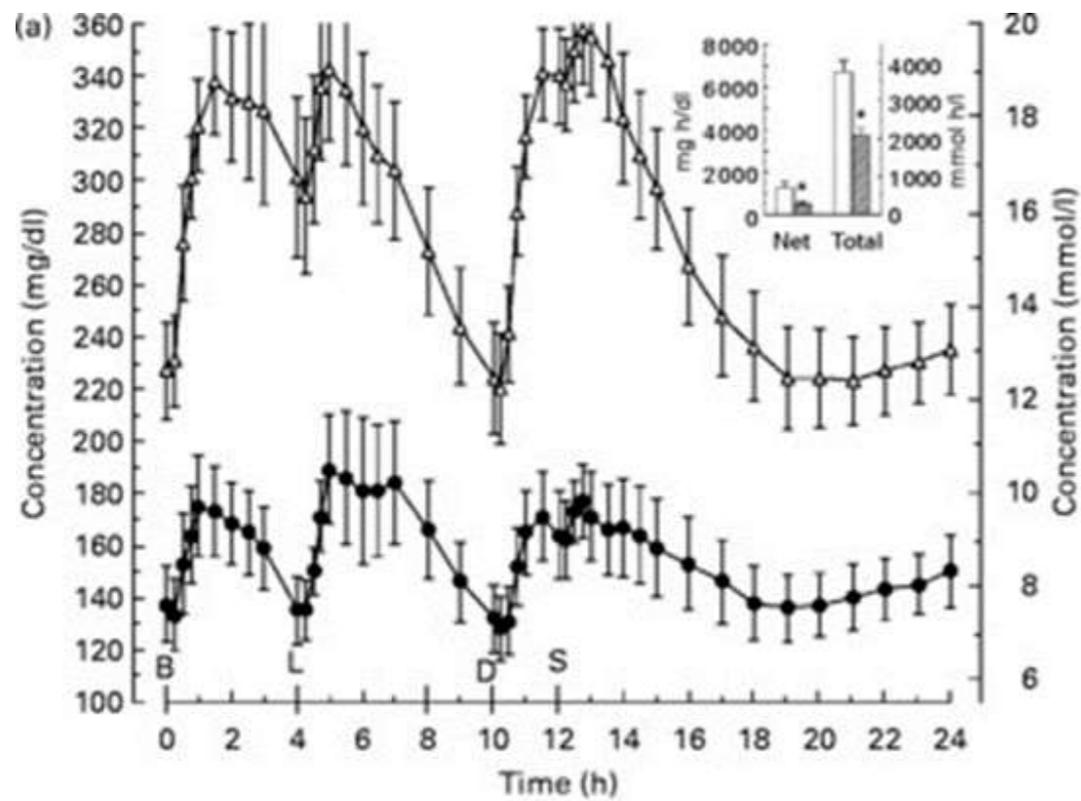
Phases of Insulin Release



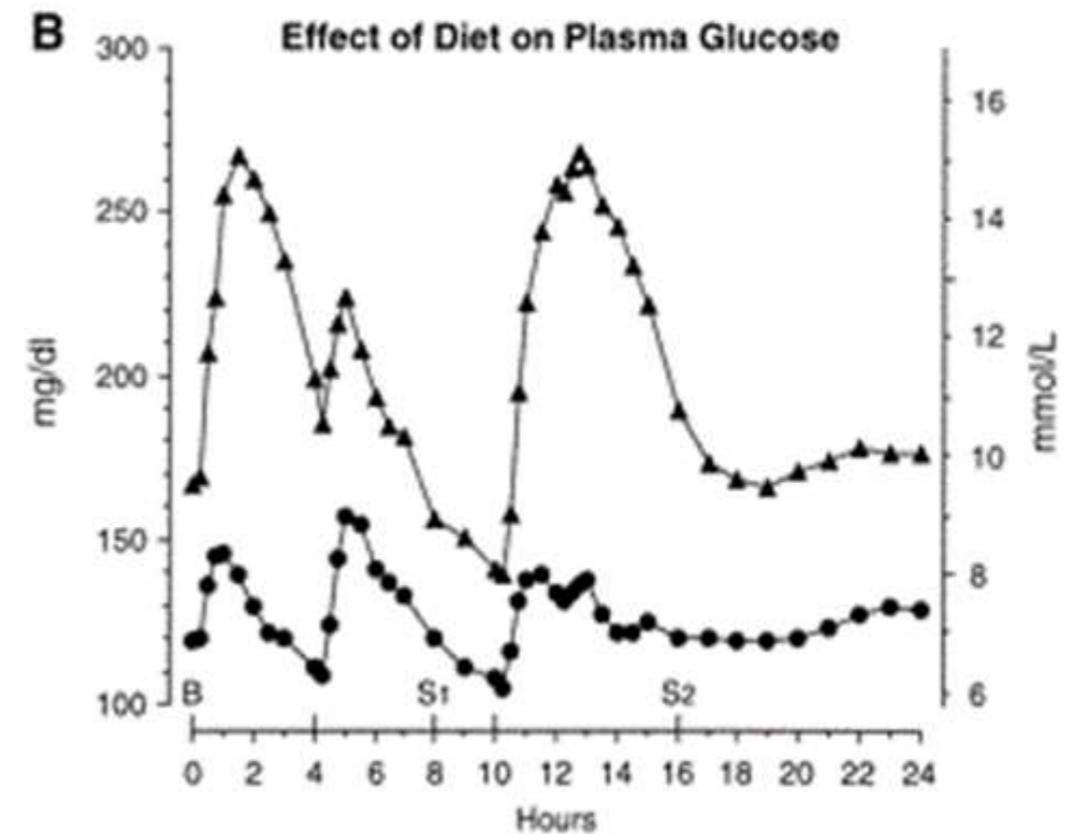
Type 2 diabetes is a progressive disease.

Myth or fact?

Low-carb can lower blood glucose in absence of weight loss



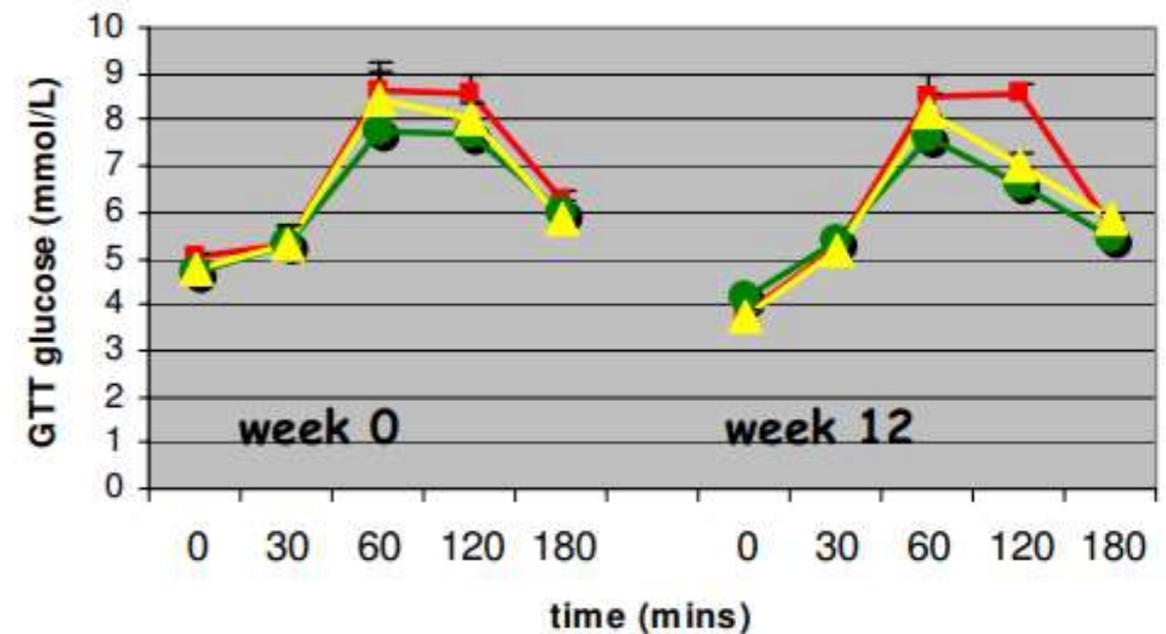
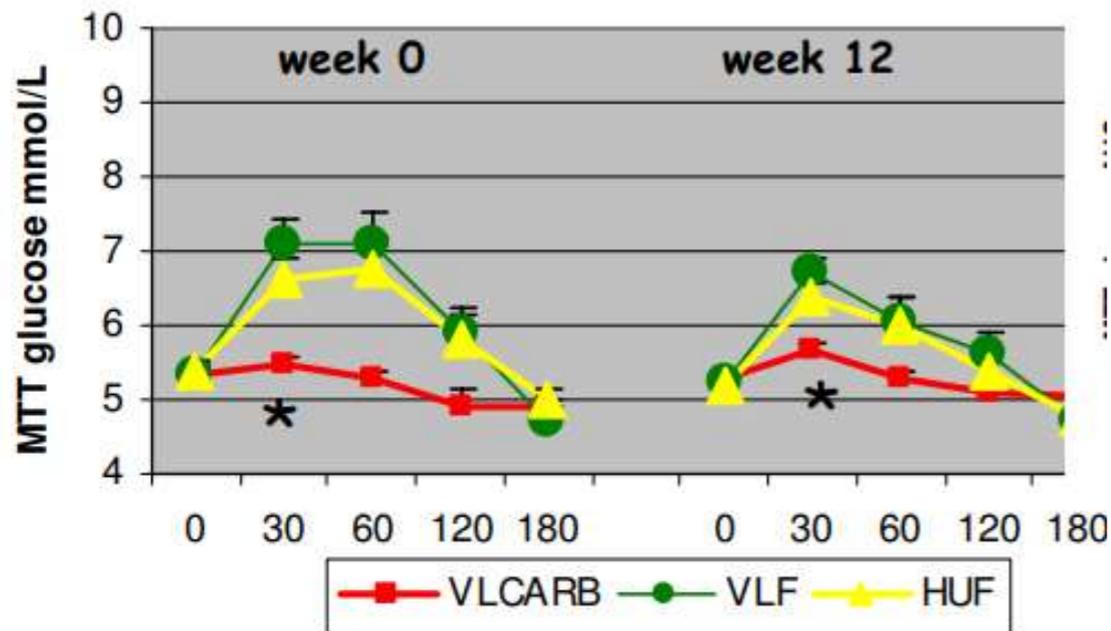
20%kcal from carbs



30%kcal from carbs

Gannon MC, Nuttall FQ. Diabetes. 2004 Sep;53(9):2375-82
Nuttall FQ, Schweim K, Hoover H, Gannon MC. Br J Nutr. 2008;99

But: does not alter underlying pathophysiology



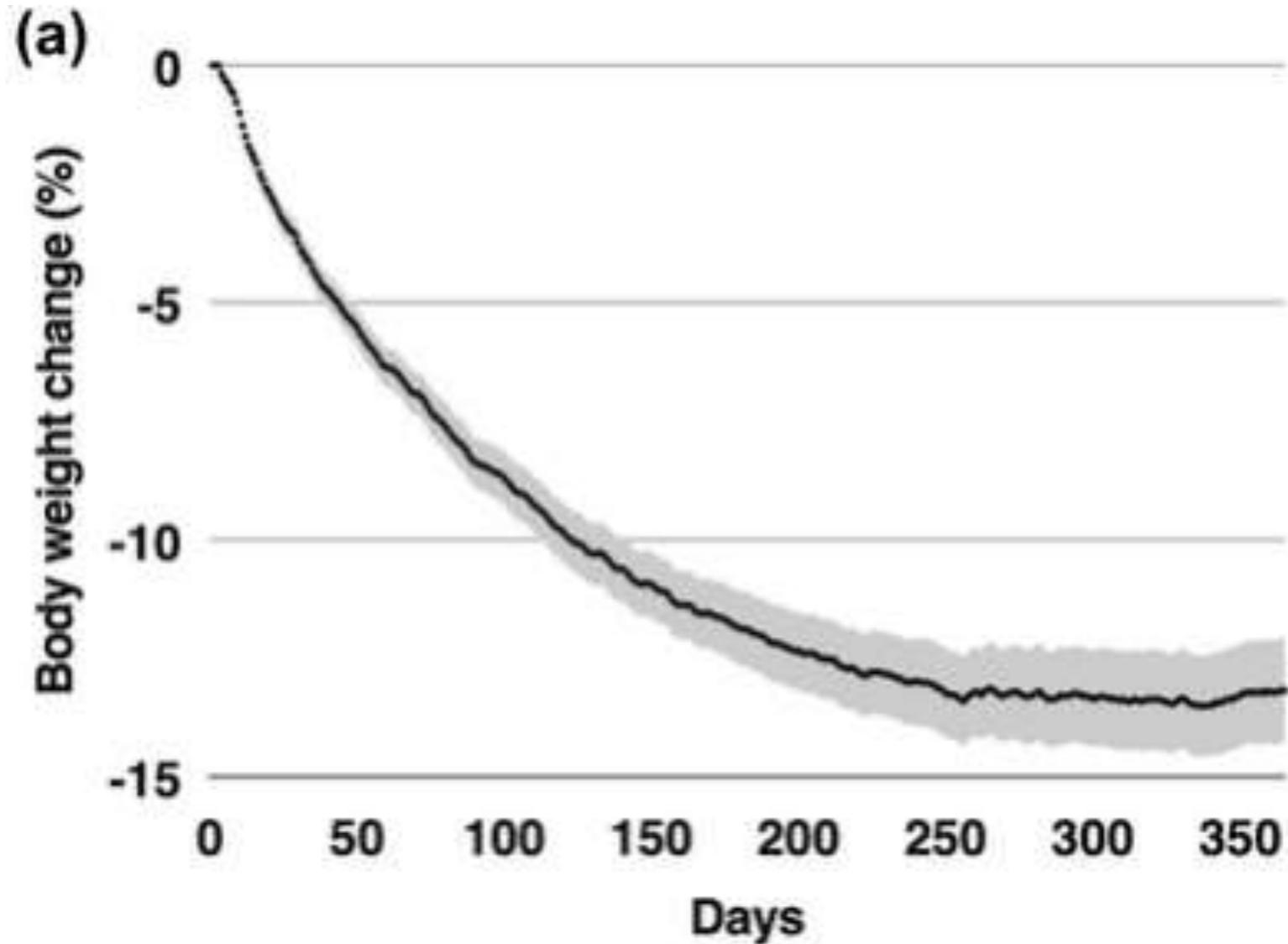
Note: VLCARB also significantly lowered fasting insulin.. (but this study was not in T2D patients...)

Low-Carbohydrate Diets: Virta (Study)

262 followed online low-carb plan

54 years, ~40kg m², 92% obese, 88%
prescribed T2D medication.

Virta results



**Weight loss in completers at one year
(44/262 dropped out)**

Virta results (one year)

Mean A1c: 50 to 48 mmol/mol

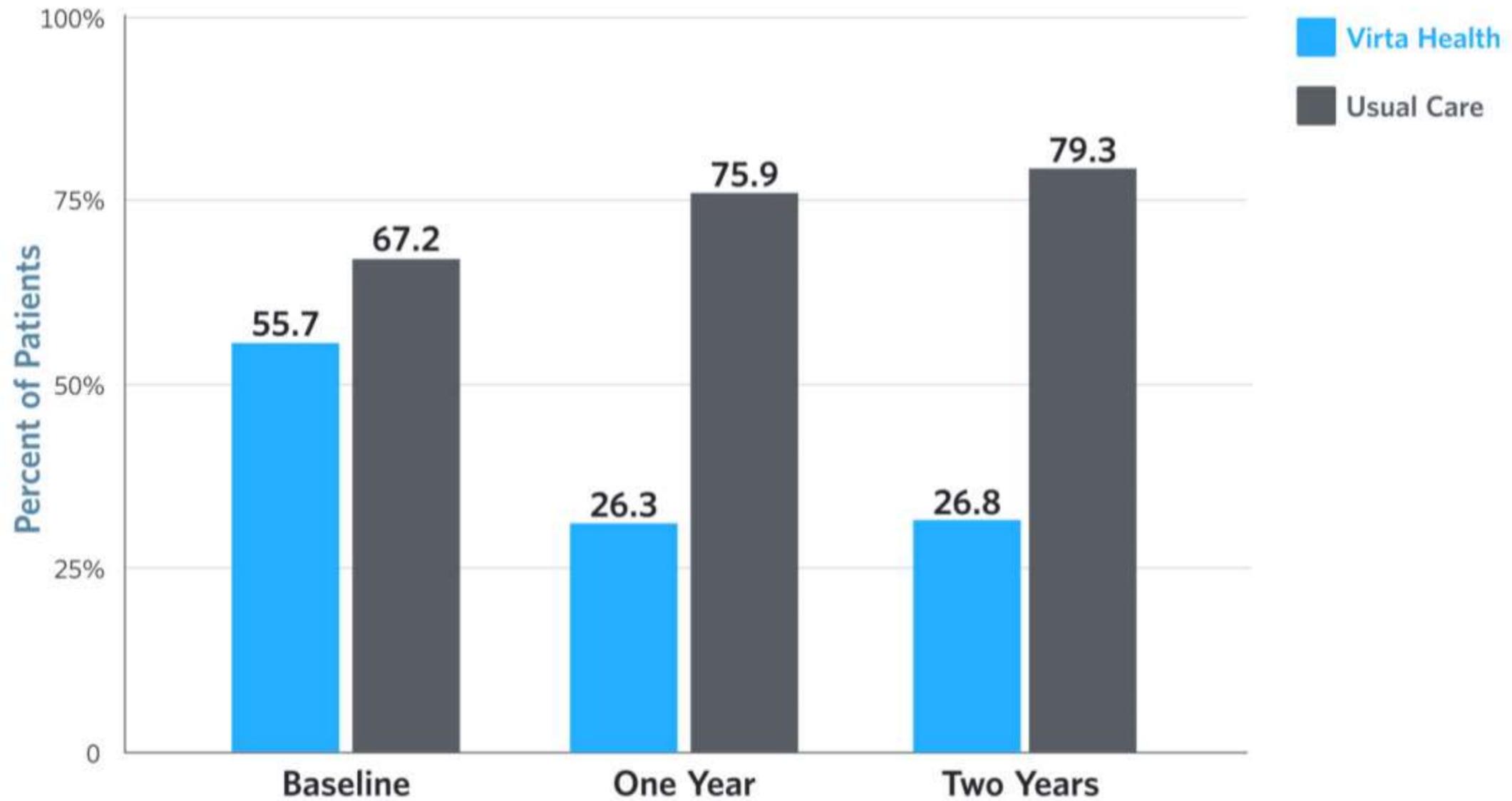
Of those on insulin:

- 44% stopped requiring insulin altogether (were on ~64 units).
- The other 54% reduced their mean insulin dose from ~105 to 54 units.

But still on metformin....*

Virta 3 year data

Percent of Trial Completers Prescribed Diabetes-Specific Medications



*Diabetes-specific medications include all glyceimic control medications except for metformin



NO RELAPSE IN MEDS??



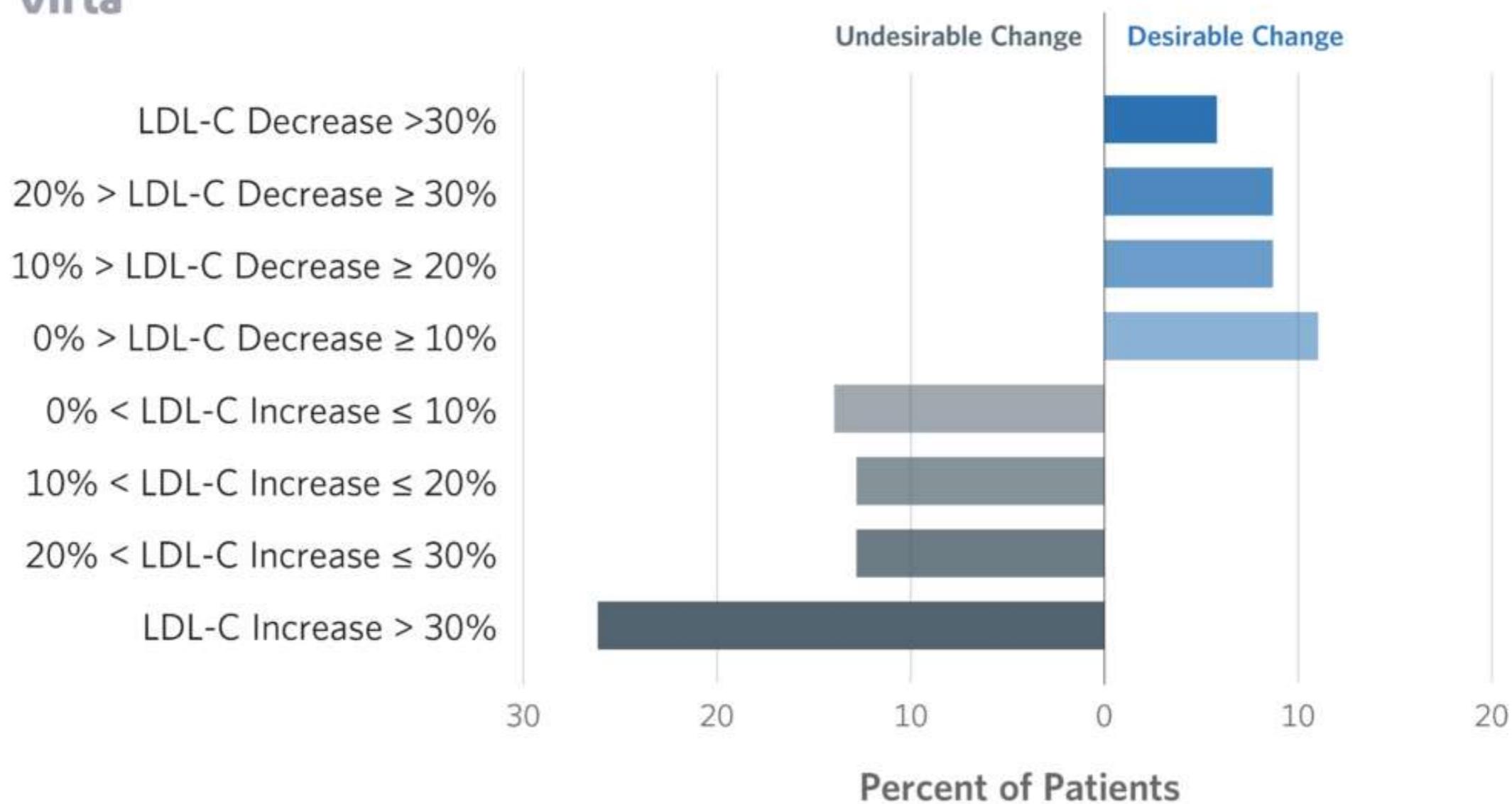
Low carb cures or reverses type 2 diabetes

Myth or fact?

CVD risk and Low Carb



Distribution of LDL-C Change at One Year



MANAGE RISK FACTORS

FACT:
MANAGING UNKNOWN
OR UNCERTAIN RISKS
IS PART OF THE DAY
JOB.



Not what a blogger needs to worry about

Is tribalism undermining objectivity about low-carb, high-fat diets?

By NICOLA GUESS *and* ETHAN J. WEISS / MAY 9, 2019



JOHANNES EISELE/AFP/GETTY IMAGES

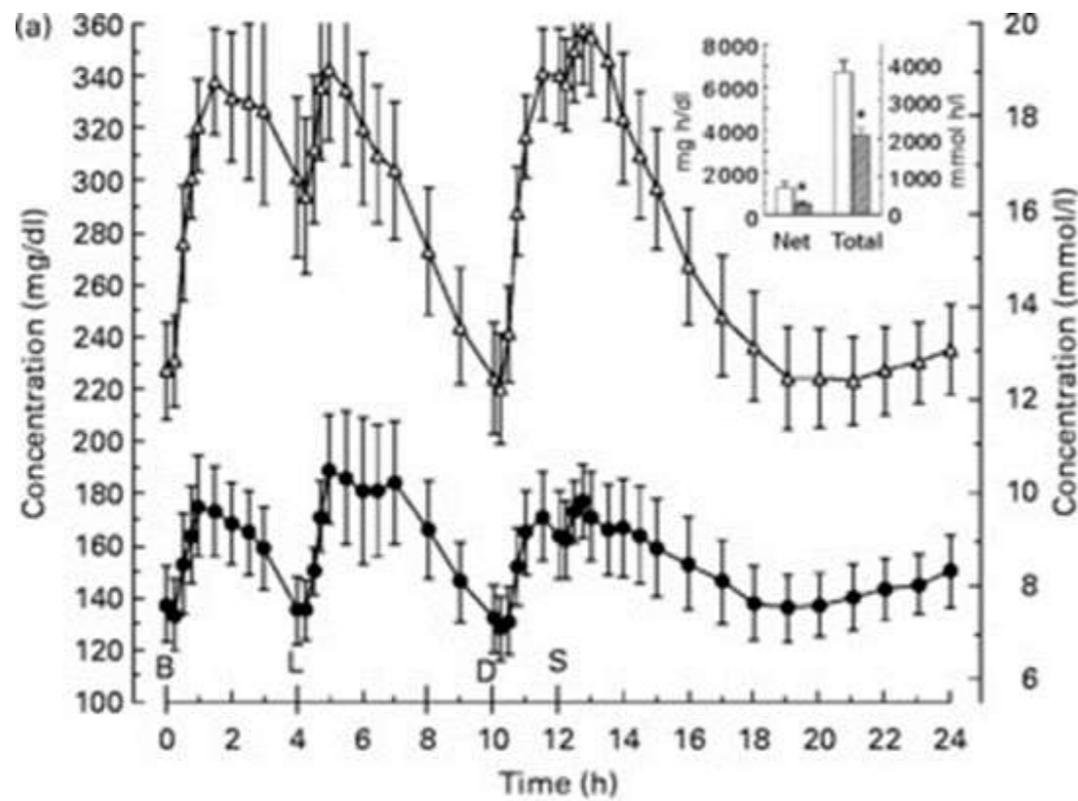
WE NEED TO ADDRESS A LOT OF NONSENSE



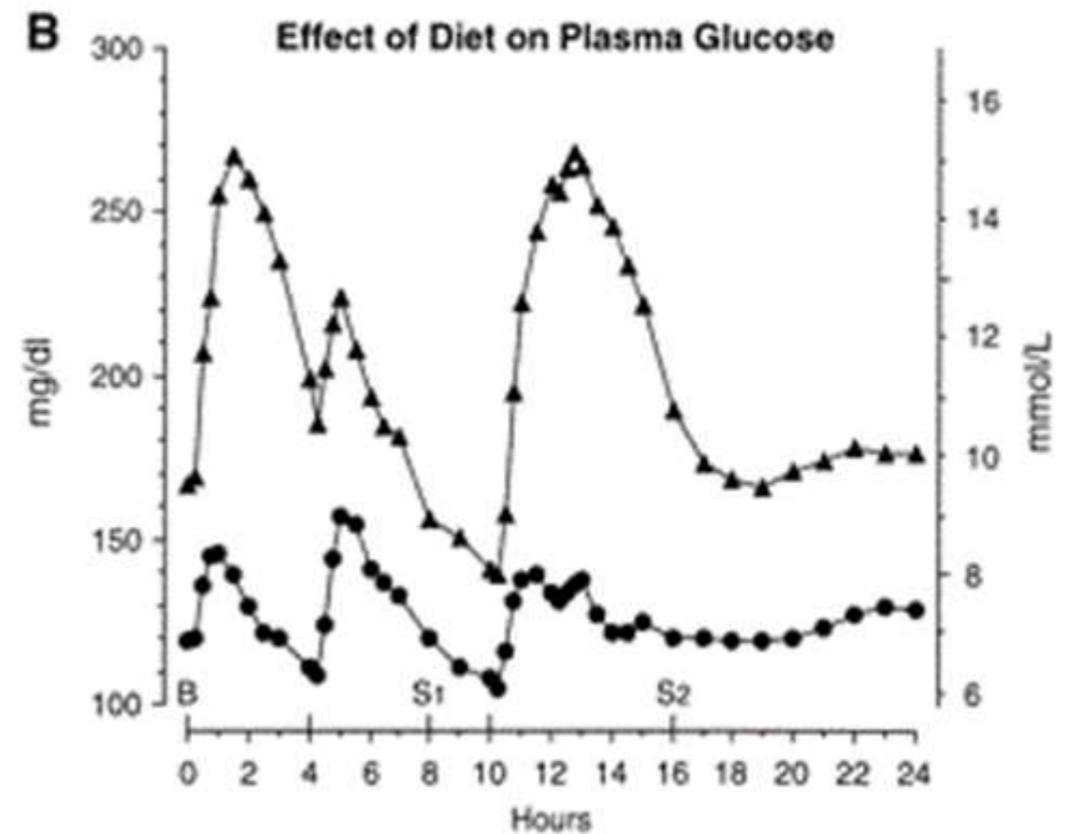
We have forgotten protein in dietary management of type 2 diabetes

FACT

PROTEIN JUST AS IMPORTANT AS LOW-CARB



**20%kcal from
carbs**



**30%kcal from
carbs**

Gannon MC, Nuttall FQ. Diabetes. 2004 Sep;53(9):2375-82.
Nuttall FQ, Schweim K, Hoover H, Gannon MC. Br J Nutr. 2008;99(3):511-9.

Unclear: does it matter if carb replaced with protein or fat?

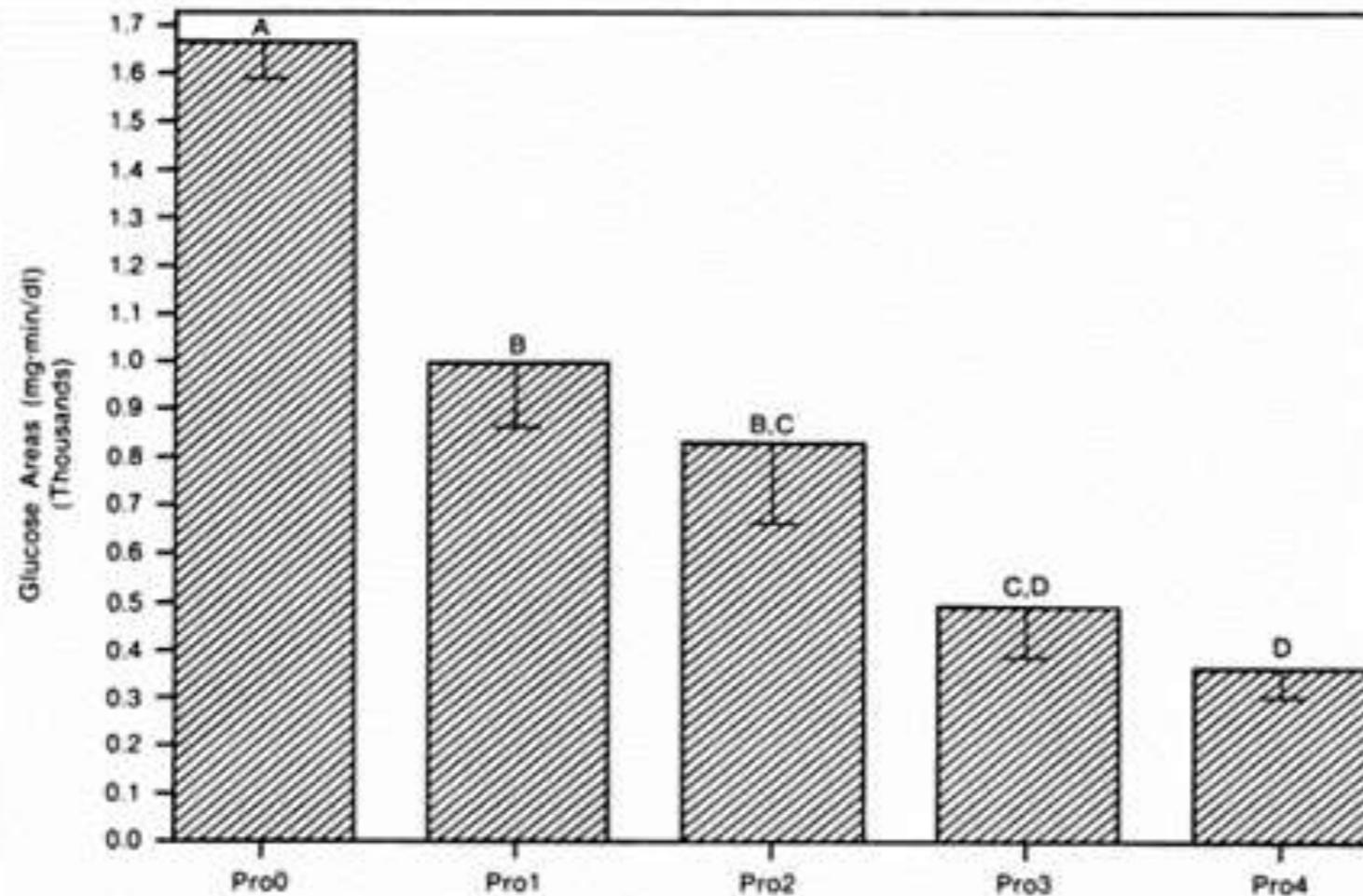


FIG 2. Areas above baseline under the glucose curves. Data are means \pm SEM. Areas are significantly different ($p < 0.01$) if they do not share a common superscript letter.

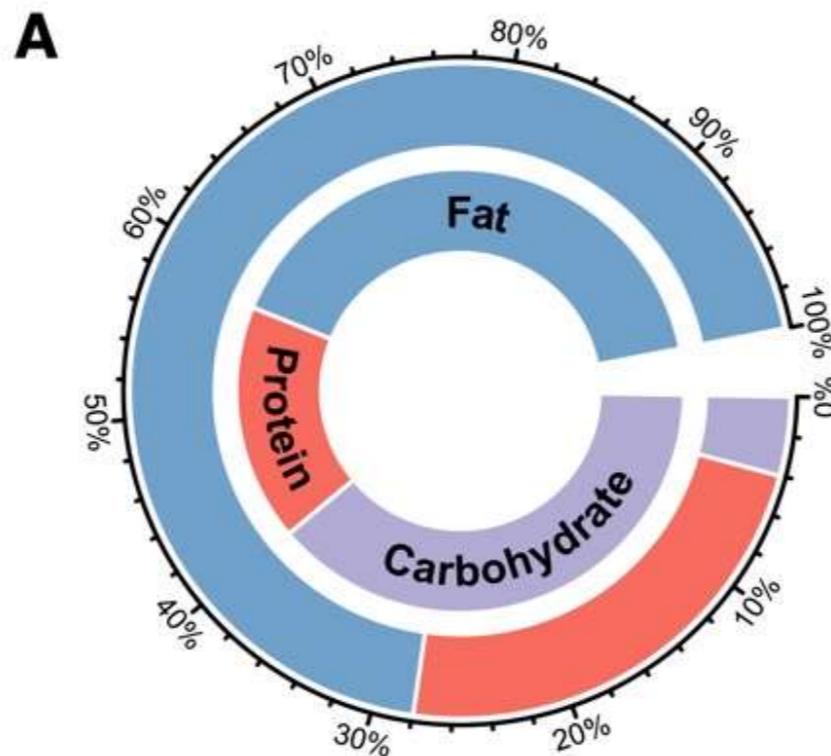
The amount of carbohydrate in the meals was constant (58g/meal). The amount of protein in the meals was as follows: Pro0=0g; Pro1=16g; Pro2=25g; Pro3=34g; Pro4=50g.

Low-carb and NAFLD??

Clinical and Translational Report

Cell Metabolism

An Integrated Understanding of the Rapid Metabolic Benefits of a Carbohydrate-Restricted Diet on Hepatic Steatosis in Humans

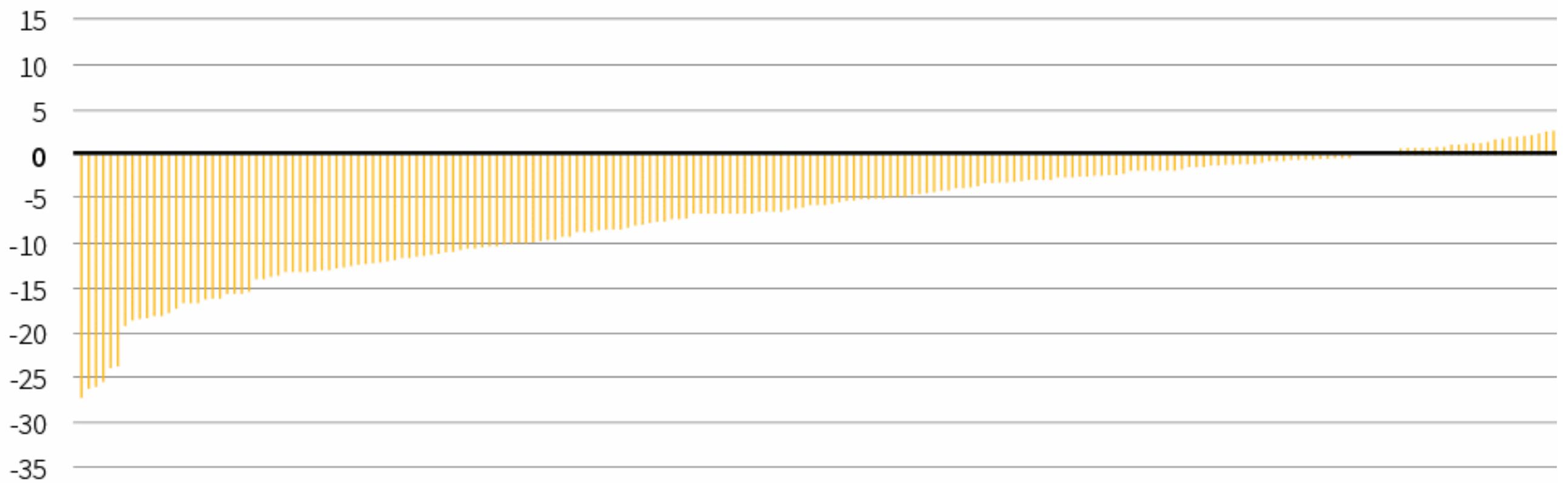
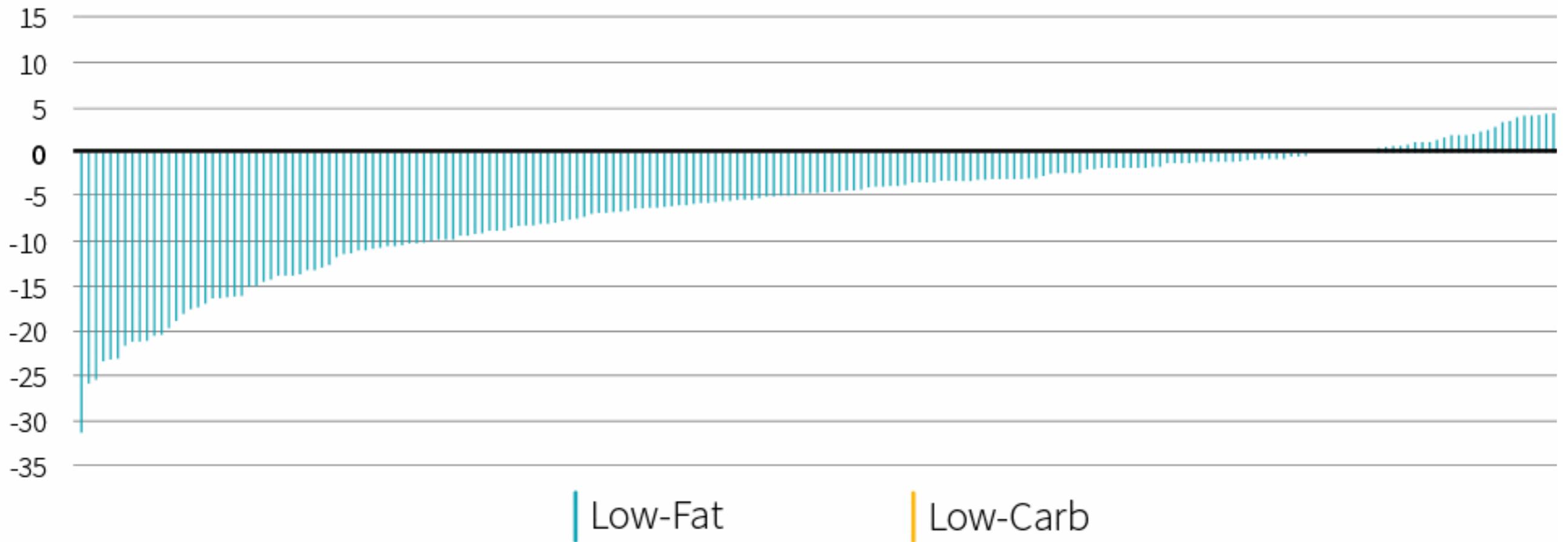


FACT: PERSONAL CHOICE IS KING



INDIVIDUAL NEEDS MUST BE MET

Figure 2: 12-month weight change for each participant



NO DIET WORKS WELL FOR EVERY ONE

MYTH

MUST EAT LOW-FAT



Fact: the evidence for fat has become a lot more nuanced

- Replacement of SFAs with MUFAs or esp PUFAs is a good idea.
- Maybe some dairy at worst neutral, maybe beneficial
- Oily fish is a winner
- Limit but enjoy butter, lard, ghee, cream.
- FACT: I'm bored of discussing red meat

FACT: PRINCIPLES OF A GOOD DIET FOR EVERYONE INCLUDING PEOPLE WITH T2D

- Low glycemic load
- High-fibre
- Healthy fats
- Loads of non-nutritive components
- Helps achieve or maintain a healthy weight

Take Homes

- Remission is possible
- Low carb and VLED can both work
- Mechanisms are shared and distinct
- Protein is misunderstood
- DIET QUALITY

