Dispelling Myths: Diabetes Diets

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

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


http://www.directclinicaltrial.org.uk/
DiRECT Results


http://www.directclinicaltrial.org.uk/
Beta-cell function needed to achieve remission via DiRECT-style intervention

Type 2 diabetes is a progressive disease.

Myth or fact?
Low-carb can lower blood glucose in absence of weight loss

Gannon MC, Nuttall FQ. Diabetes. 2004 Sep;53(9):2375-82.

But: does not alter underlying pathophysiology

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

Noakes 2006 Nutrition and Metabolism
Low-Carbohydrate Diets: Virta (Study)

262 followed online low-carb plan

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

Hallberg S, 2018: Diabetes therapy
Virta results

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

Hallberg S, 2018: Diabetes therapy
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**

<table>
<thead>
<tr>
<th></th>
<th>Virta Health</th>
<th>Usual Care</th>
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</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>55.7%</td>
<td>67.2%</td>
</tr>
<tr>
<td>One Year</td>
<td>26.3%</td>
<td>75.9%</td>
</tr>
<tr>
<td>Two Years</td>
<td>26.8%</td>
<td>79.3%</td>
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</table>

*Diabetes-specific medications include all glycemic 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

- LDL-C Decrease >30%
- 20% > LDL-C Decrease ≥ 30%
- 10% > LDL-C Decrease ≥ 20%
- 0% > LDL-C Decrease ≥ 10%
- 0% < LDL-C Increase ≤ 10%
- 10% < LDL-C Increase ≤ 20%
- 20% < LDL-C Increase ≤ 30%
- LDL-C Increase > 30%

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

WE NEED TO ADDRESS A LOT OF NONSENSE
Myth or Fact

Low carb is a bad idea for T1D?

Seems to work well in some people

Urgently need good data
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.
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??

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