

Why we are where we are
&
What we can do about it

Abby Downing
GP

Overview

- Why I'm interested in Metabolic Health
- Appeal to open-mindedness
- The scale of the problem (**focusing on T2D**) & modern life
- Historical management of T2DM & food guidelines
- Making a difference in GP

Thanks Dr David Cavan, Endocrinology Consultant for some of these slides

Conflicts of Interest

- NHS GP (Bristol 2011), 8 500 pt practice on Swindon/Oxford border
- No financial conflicts
- Stumbled into this 'space' due to my husband's health
- Now passionate about lifestyle, seeing pts improve
- Work in progress



Before

- Winter 2022 age 39: Weight had drifted up to **18st 3lb**, BMI 32
- Constantly sick with colds, exacerbating **asthma** each time (lifelong asthma, severe, multiple admissions, home nebs)
- **Aching, awful sleep, tired, hungry**
- Clearly metabolically unwell
- Disillusioned w medical system
- Knew that cutting back on carbs had worked before. Started listening to some 'wacky' podcasts re keto diets (very low carb)



After

- Immediately obvious he was onto something.
- 5 stone lighter (weight loss over 1yr)
- Satiety and better mood, sleep, energy and aches/pains gone. Also, asthma sympts – ‘disappeared’
- Stopped all medication.
- Has been this lean before, but never without asthma – a ‘reset’.
- Made me stop & think, how was he better by ignoring mainstream advice?

2024



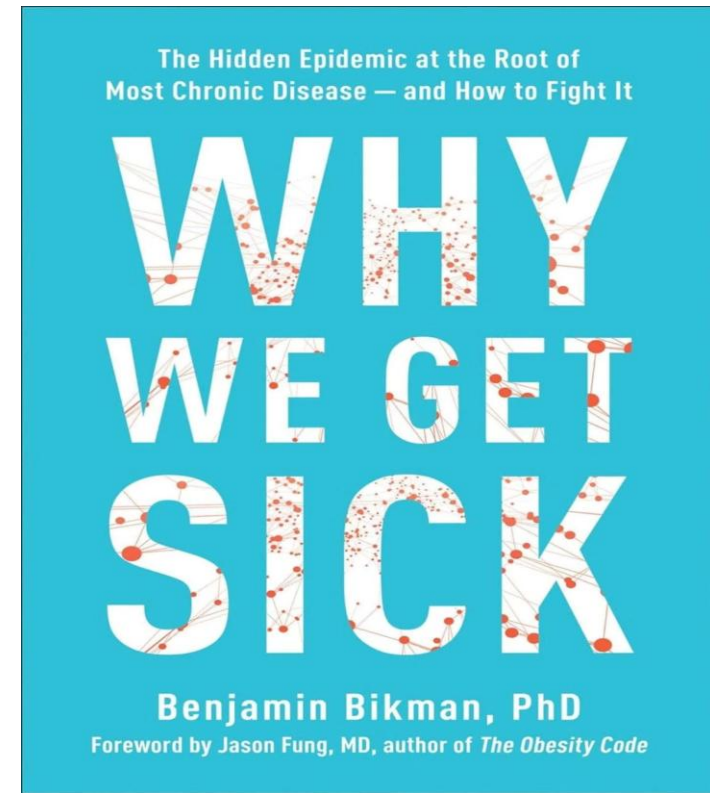
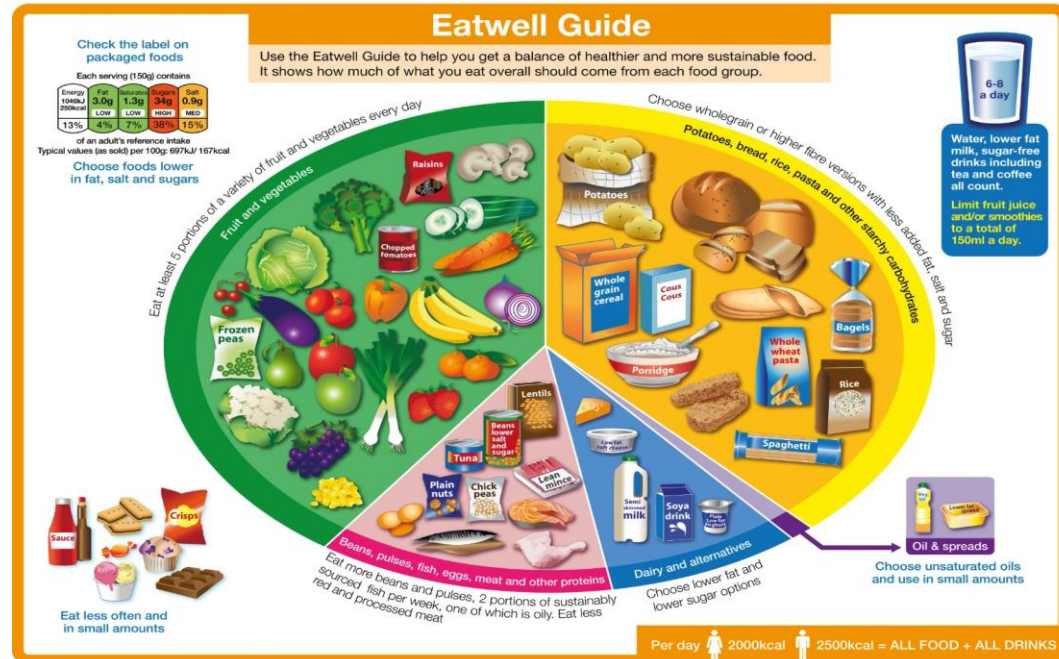
2025



Cognitive Dissonance

Had my diet advice ever helped anyone before?

- People know about healthy eating guidance. Did I not believe patients who said they were following it already? Was the advice the issue?
- Tried Low Carb myself – positive experience, so continued.



- Growing number of clinicians and patients, locally, nationally & internationally promoting diet/lifestyle measures under broader umbrella of Metabolic Health.
- **Why not more attention?** No drug to sell, and adopting metabolic health principles involves challenging long-held beliefs, and our funding structure is not set up to support

But T2DM is a chronic progressive disease, ... or is it?

- '50% of what you learn at medical school will turn out not be true. It's up to you to work out which 50%'.
- I was taught at Med School that T2DM is an inevitably chronic progressive condition that can be managed (but not cured).
- **However** – T2DM (in many cases) is reversible **and by extension, health conditions associated with insulin resistance.**

BE OPEN MINDED!

Counterpoint Study, June 2011

Clinical Trial > Diabetologia. 2011 Oct;54(10):2506-14. doi: 10.1007/s00125-011-2204-7.

Reversal of type 2 diabetes: normalisation of beta cell function in association with decreased pancreas and liver triacylglycerol

E L Lim¹, K G Hollingsworth, B S Arribasala, M J Chen, J C Mathers, R Taylor

Affiliations + expand

PMID: 21656330 PMID: PMC3168743 DOI: 10.1007/s00125-011-2204-7

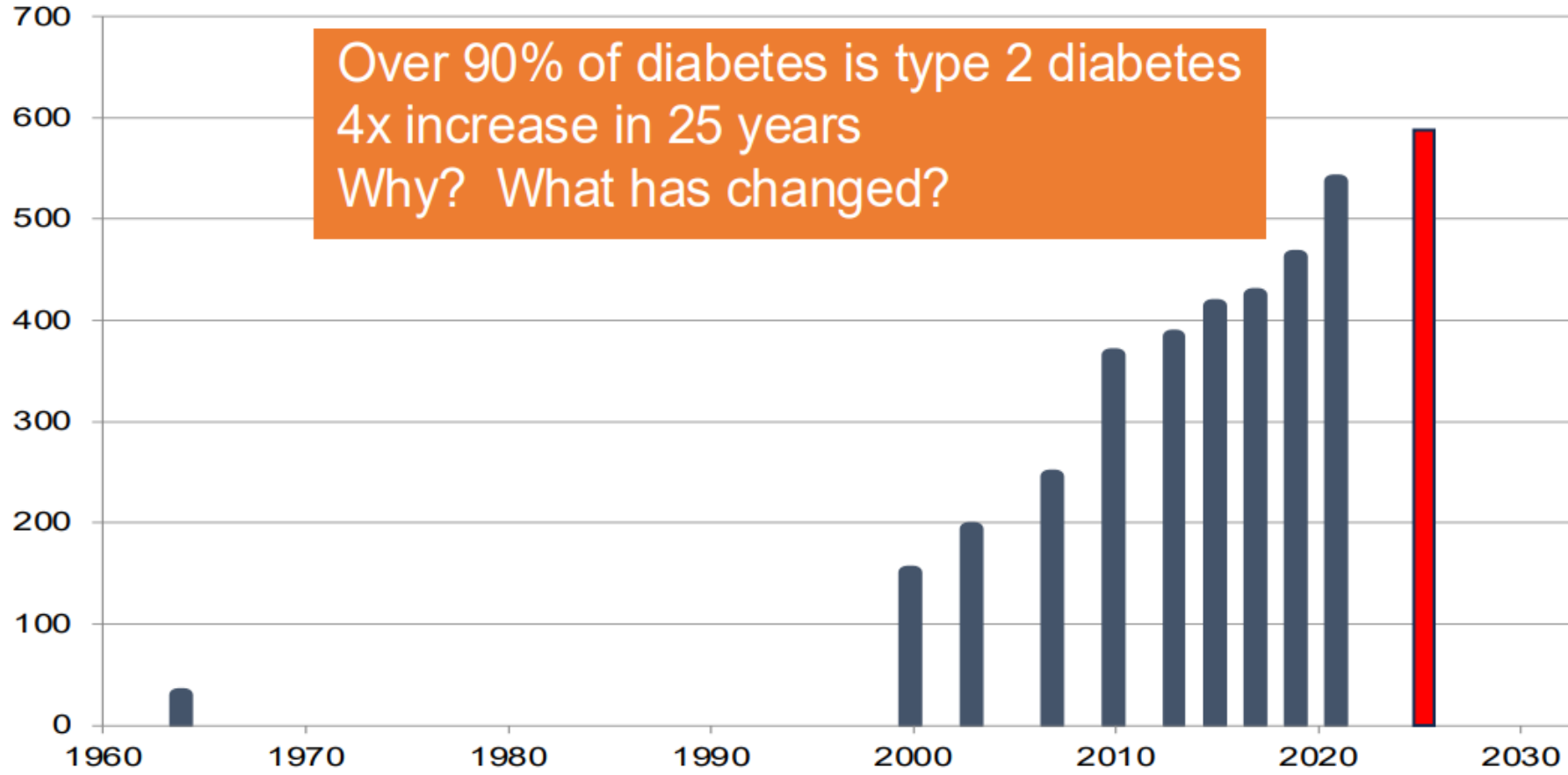
Abstract

Aims/hypothesis: Type 2 diabetes is regarded as inevitably progressive, with irreversible beta cell failure. The hypothesis was tested that both beta cell failure and insulin resistance can be reversed by dietary restriction of energy intake.

What is T2DM? (Back to basics)

- Type 2 diabetes is a common condition where the hormone insulin does not work properly, or – more rarely - it may become deficient.
 - **Insulin** helps the body to use glucose, taking it from the blood to cells
 - If exposed to **high levels of glucose over time**, cells become less responsive to the resulting insulin, which is called **'insulin resistance'**.
 - Insulin resistance typically **develops over years** or even decades and **before fasting sugar levels rise**. (We don't/can't measure insulin)
- Eventually, individual can no longer (down) regulate blood glucose and we diagnose T2DM.

Estimated cases of diabetes (millions)



Modern lifestyle & Environment

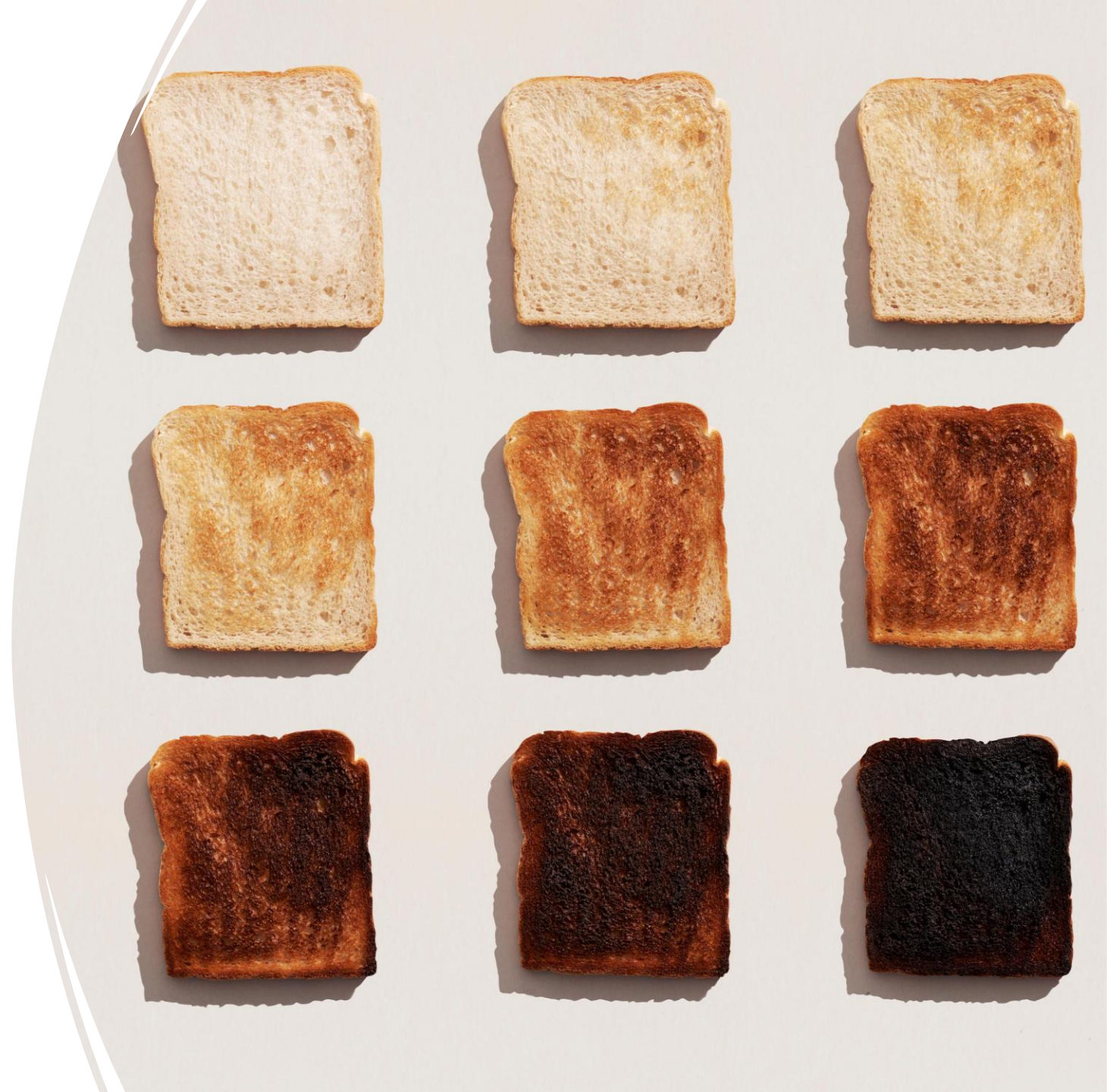


Laverty et al. Am J Prev Med 2013 Grontved A. JAMA 2011, 305

Ley et al. Prevention and Management of Type 2 Diabetes: Dietary Components and Nutritional Strategies Lancet 2014; 383:1997-2007

If modern life is diabetogenic, what do we do? Can we learn from the past?

-
- Throughout history until the 20th century, (prior to the development of insulin) T2DM was considered a condition of carbohydrate intolerance & managed by restricting dietary carbs



Historical accounts of DM

Table 1. Dietary restriction to control diabetes prior to availability of insulin¹⁹⁻²⁵

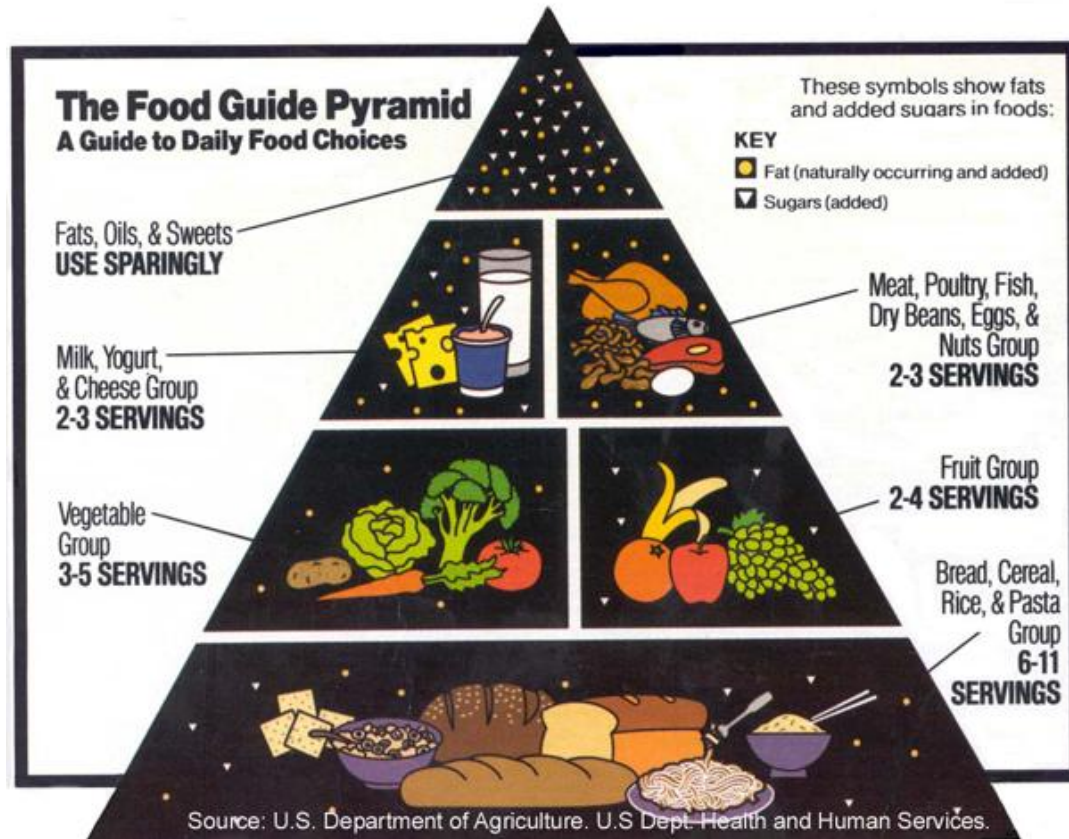
Physician	Country	Treatment regimen
Thomas Willis (1621–1675)	England	Food restriction, lime water
John Rollo (1749–1809)	England	High protein, high fat, low carbohydrate, anorectic substances
Apollinaire Bouchardat (1809–1996)	France	Food restriction, include vegetables, avoid alcohol. Need for individualisation of diet
Arnaldo Cantani (1837–1893)	Italy	Meat only diet, no carbohydrates, lactic acid
Karl A. Petren (1868–1927)	Sweden	High protein, high fat, low carbohydrate
Elliott P. Joslin (1869–1962)	USA	Calorie restricted, low carbohydrate, exercise
Frederick M. Allen (1879–1964)	USA	Calorie restriction (starvation diet), high fat, high protein, very low carbohydrate
George Graham (1882–1971)	England	Starvation diet (similar to Allen's), bed rest, minimal physical activity

Bailey C J *British Journal of Diabetes & Vascular Disease* 2012;12:48-51

Dr John Rollo's account of Captain Meredith 1796:

- Overweight 232lb, excessive production of sweet-tasting urine, extreme thirst & exhaustion.
- Symptoms reversed by Dr Rollo's dietary intervention of a **low carb diet, with resolution of the polydipsia/uria and weight loss.**

What changed?

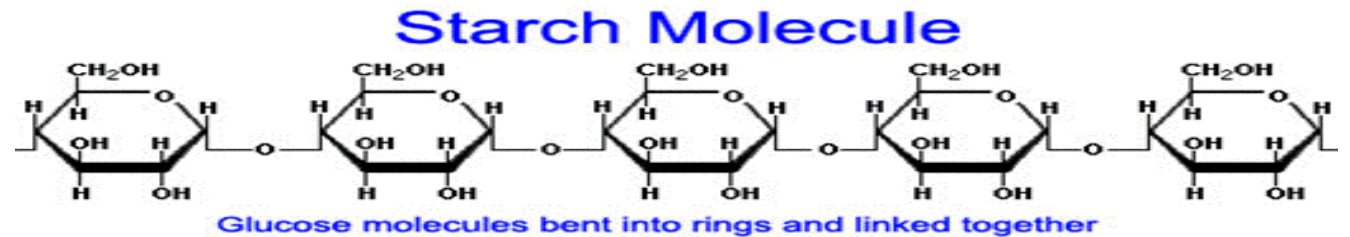


- Eatwell evolved from US food pyramid, 1980, for 'All Americans'
- Context: 50's-60s CVD on the rise and race was on to find dietary cause.
- Conclusion at the time that the main cause of heart disease was high cholesterol and that high cholesterol was linked to fat in the diet (esp sat fat). **Diet-heart hypothesis (Keys) Observational data 1950/60s, '7 Countries'**. Later critiqued methodology/presentation and interpretation.
- Fear of fat – leading to higher carb diets (carbs being thought of as 'benign').
- Influenced WHO and multiple other countries.

1980's Dietary Messages: **Wrong priorities?**

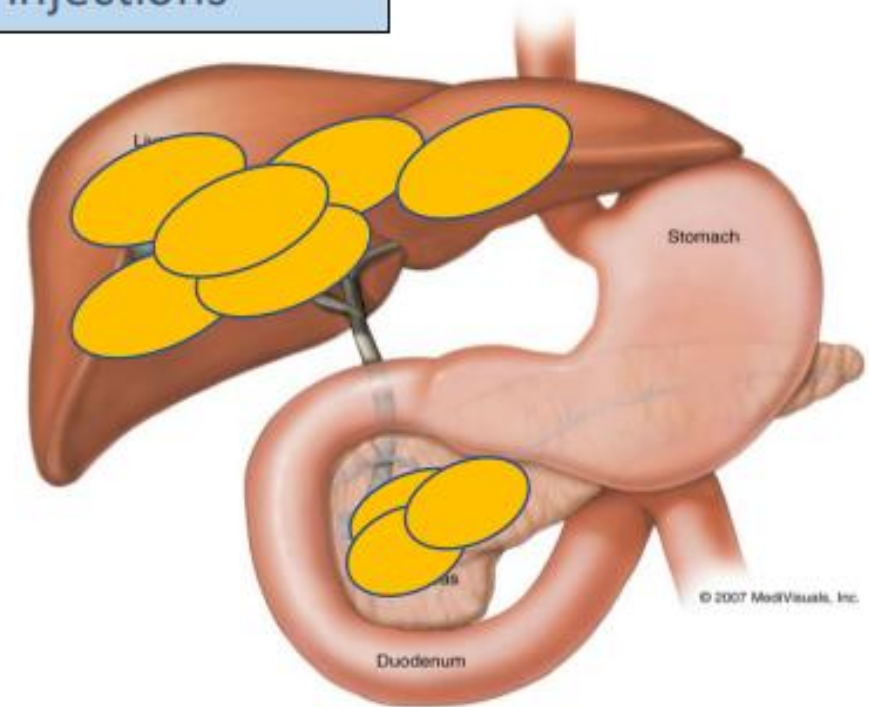
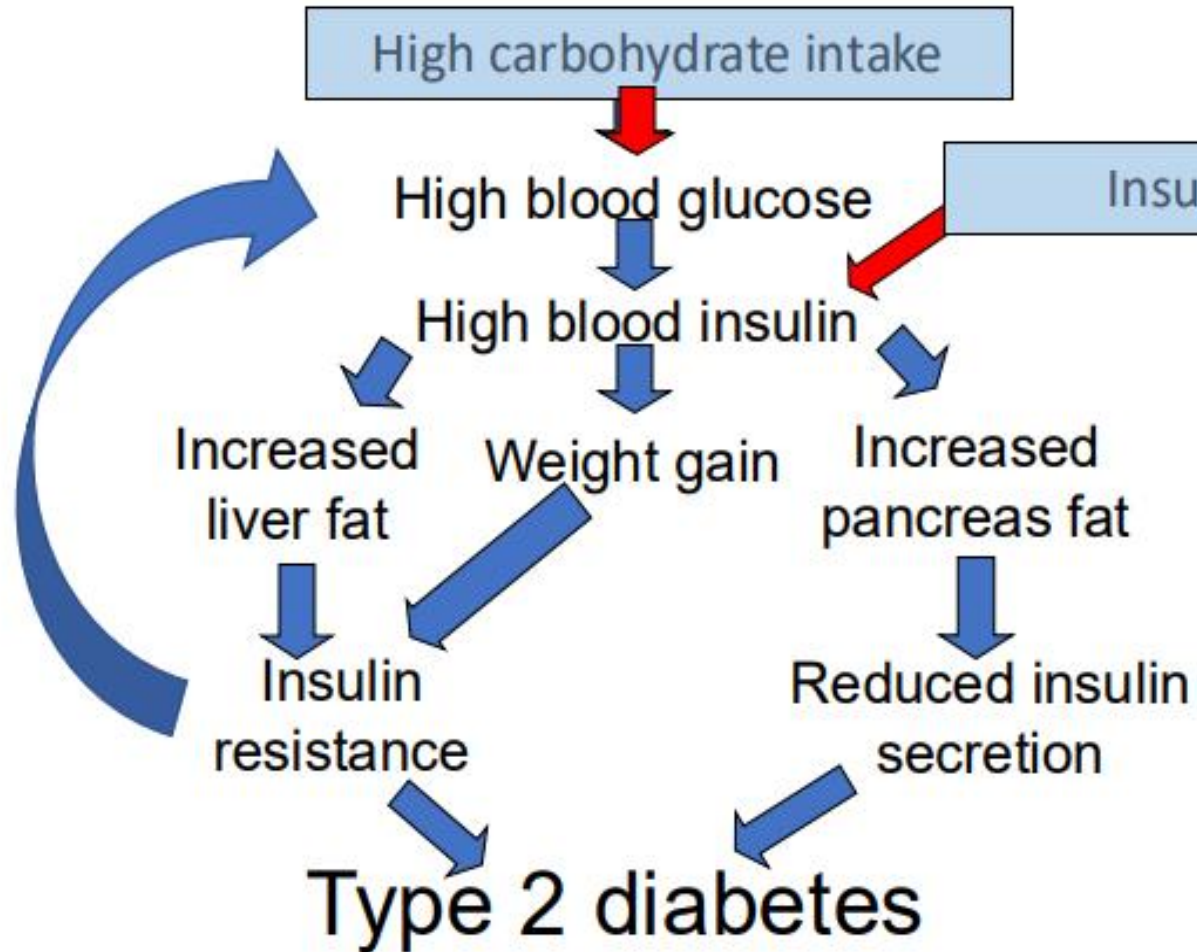
1. **Fat is bad**
2. Try to avoid actual sugars (ie table sugar)
3. **Complex carbs to 'fill up' on** – cereals, bread, rice, pasta, potato

CONTRADICTION:

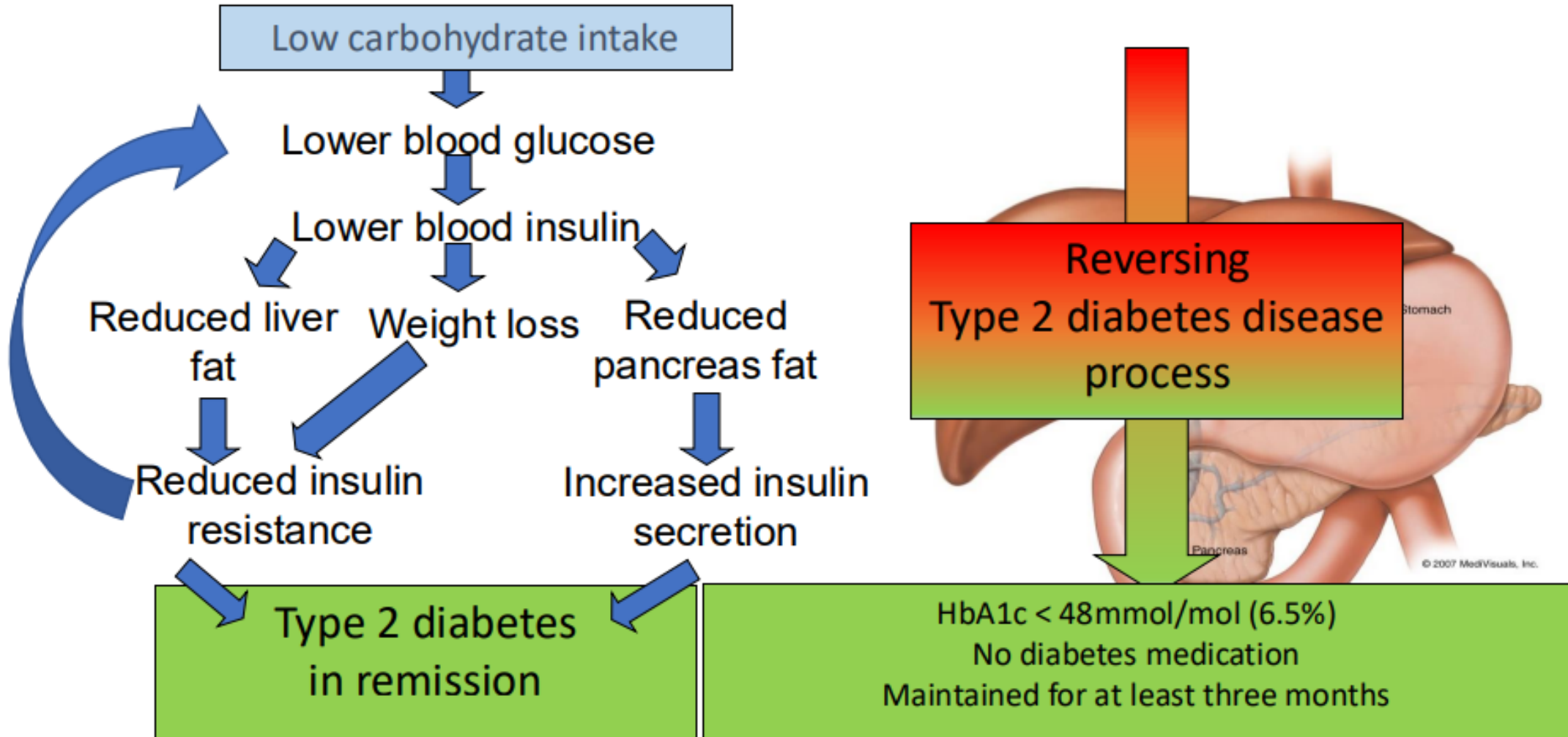


- Starchy foods are *POLYMERS OF GLUCOSE*. Huge impact on insulin. Promoting fat deposition and hunger, insulin resistance
- Fat & protein, much lower impact on insulin & increase satiety
- **Hierarchy of CVD risk factors:** Diabetes/Metabolic syndrome vs. LDL-c
- Dugani SB, Moorthy MV, Li C, Demler OV, Alsheikh-Ali AA, Ridker PM, Glynn RJ, Mora S. Association of Lipid, Inflammatory, and Metabolic Biomarkers With Age at Onset for Incident Coronary Heart Disease in Women. *JAMA Cardiol.* 2021 Apr 1;6(4):437-447.

Impact of High Carb Management

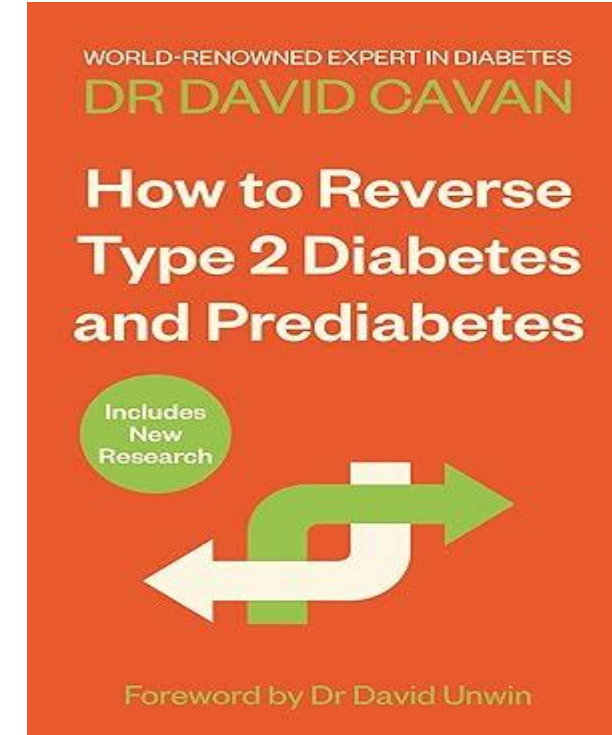


What about another (low carb) way?



Low Carb Diet in GP

- Good Low Carb diet built on **wholefoods**, natural fats and proteins (fish, meats, eggs) & non-starchy vegetables, low sugar fruits, nuts & seeds, dairy if tolerated.
- Technical definition **< 130g carbohydrate per day**. (Many people have 200-300g/d on Standard Diet) **< 40g is 'keto'**
- Starts with a conversation: **Talk me through a typical day and what you eat (and drink)**
- People learn in different ways: 1-on-1, books, online resources, group settings.
- David Cavan: **'Diabetes is not your fault, but it is your responsibility'**



Dr David Unwin, Norwood Surgery, Southport

- Offered low carb as an option since 2013
- Follow up in routine ten-minute consultations as required
- Open access group sessions attended by 50% of participants
- Spend on diabetes medications 50% less than other local practices

N=128	Baseline	33 months
Weight (kg)	97	86
HbA1c (mmol/mol)	63	46
HbA1c (%)	7.9	6.4
SBP (mmHg)	140	132
Total cholesterol	4.9	4.3
HDL-cholesterol (mmol/l)	1.1	1.2
TC:HDL ratio	4.0	3.9
% in remission	0	51

Unwin D, et al. What predicts drug-free type 2 diabetes remission? Insights from an 8-year general practice service evaluation of a lower carbohydrate diet with weight loss. *BMJ Nutrition, Prevention & Health* 2023;e00544. doi:10.1136/bmjnph-2022-000544

Dr factors in Low Carb

- **Guidance supports us** to individualise (NICE Obesity guidance mentions low carb explicitly, Diabetes guidance more woolly, July 2025).
- Different from what others in practice are doing... But could you start a conversation?

Is it difficult? **In life there are no solutions, only trade offs**

Is it expensive? **Possibly, but ways to do this on a budget (Freshwell)**

Is it inclusive? **Can be done as a veggie (Freshwell) and is extending internationally, D:life India, Noakes Foundation, SA**




Consider giving low carb a go!
credibility, and appreciation of high carb world challenges. CGM

Protocol and deprescribing in Low Carb

- There are **some common meds to be adapted** if a pt goes low carb
- Adapting meds (gliclazide, SGLT2, insulin, antihypertensives)
- Our surgery now has a Low Carb protocol, **for > 18s, non pregnant, without eating disorder**. Collective approach to conversation and plans for support and follow up.



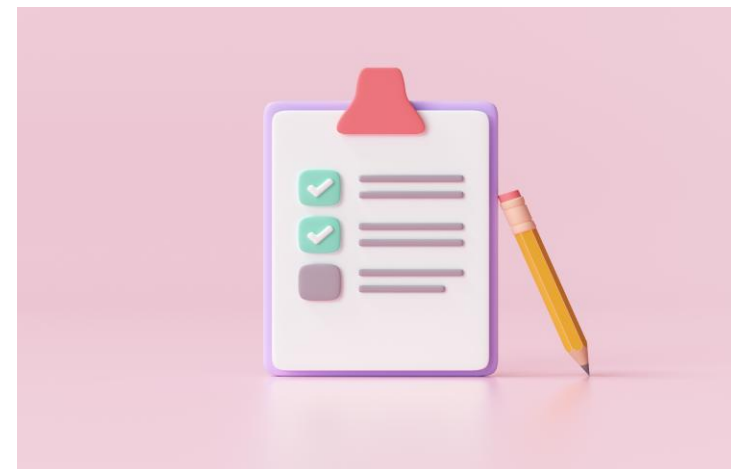
► Br J Gen Pract. 2019 Jul;69(684):360–361. doi: [10.3399/bjgp19X704525](https://doi.org/10.3399/bjgp19X704525) 

Adapting diabetes medication for low carbohydrate management of type 2 diabetes: a practical guide

[Campbell Murdoch](#)¹, [David Unwin](#)², [David Cavan](#)³, [Mark Cucuzzella](#)⁴, [Mahendra Patel](#)⁵

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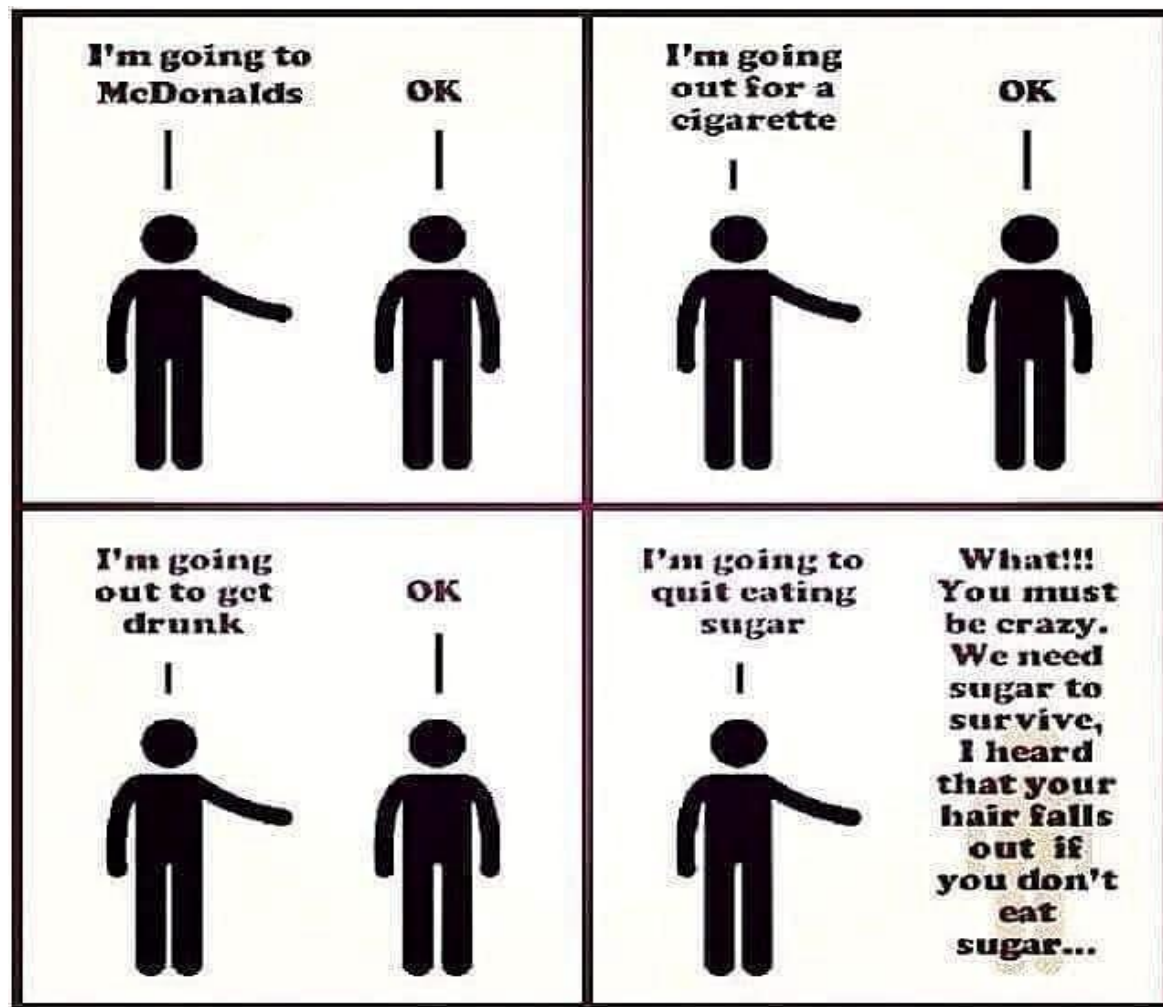
PMCID: PMC6592353 PMID: [31249097](#)



Summary

- We need to be open-minded to developments in understanding in medicine
- T2DM is a global problem affecting 1 in 9 people, linked in large part to modern sedentary high carb lifestyles.
- Historically before end of 20th century T2DM managed with carb restriction. However this changed when 'Low Fat' became the dominant advice in the 1980s.
- We can make a difference in GP by raising the issue of Low Carb diets as a sustainable way to lower insulin levels and reduce insulin resistance.

THANK YOU



Useful resources

- **Why We Get Sick, Ben Bikman PhD (book)**
- **Counterpoint Study** Lim, E L et al. "Reversal of type 2 diabetes: normalisation of beta cell function in association with decreased pancreas and liver triacylglycerol." *Diabetologia* vol. 54,10 (2011): 2506-14. doi:10.1007/s00125-011-2204-7
- **IDF Diabetes Atlas Website** <https://diabetesatlas.org/>
- **Historical Mx of diabetes** Day C, Bailey CJ. The hypocaloric diet in type 2 diabetes - déjà vu. *The British Journal of Diabetes & Vascular Disease*. 2012;12(1):48-51. doi:[10.1177/1474651412437503](https://doi.org/10.1177/1474651412437503)
- **How to Reverse T2 Diabetes and Pre-diabetes, Dr David Cavan (book)**
- **Freshwell Website** <https://lowcarbfreshwell.com/>
- **David Unwin's T2DM results** Unwin D, Delon C, Unwin J, Tobin S, Taylor R. What predicts drug-free type 2 diabetes remission? Insights from an 8-year general practice service evaluation of a lower carbohydrate diet with weight loss. *BMJ Nutrition, Prevention & Health*. 2023;:e000544. <https://doi.org/10.1136/bmjnph-2022-000544>
- **Adapting Medications for Low Carb** Murdoch C, Unwin D, Cavan D, Cucuzzella M, Patel M. Adapting diabetes medication for low carbohydrate management of type 2 diabetes: a practical guide. *Br J Gen Pract*. 2019 Jul;69(684):360-361. <https://doi.org/10.3399/bjgp19X704525>