

You are what you eat



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Dieting Advice

Confusion!

Low Carb

High Fiber

Saturated Fat

Metabolism



Overview

- What makes a food or drink healthy?
- What I was taught about food at med school
- Why I started questioning these beliefs
- Using food as a medicine!

When you go shopping...

- What makes a food healthy?



- Saturated fat causes cardiovascular disease
- Eating too much fat makes us fat
- Eating is about rational food choices
- Too much salt is bad for us
- Sugar is a harmless treat
- Low carb diets are fads and don't work

What I thought I knew...

Saturated fat
causes
cardiovascular
disease

Is this true?



The Oxford Textbook of Medicine

“Foods that increase the risk of coronary heart disease when consumed in large amounts ... are rich in saturated or trans-unsaturated fatty acids, and dietary cholesterol.”

J. I. Mann and A. S. Truswell

Diseases of overnourished societies and the need for dietary change: in **The Oxford Textbook of Medicine**, 5th Edition (2010).



Translation

- “*Eating animal fat (butter, cream, lard, dripping, chicken skin) leads to heart attacks*”



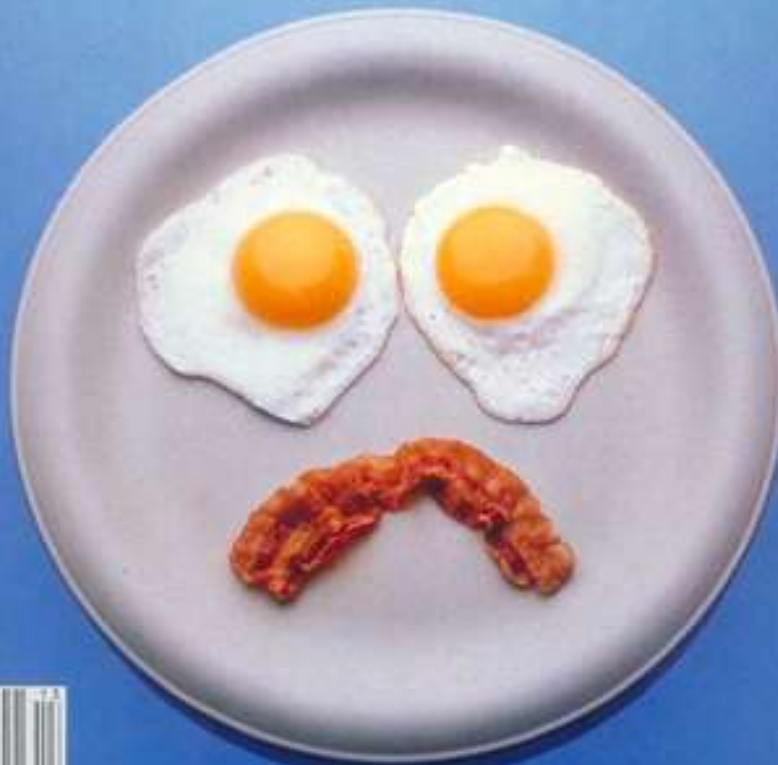
NOVEMBER 26, 1994

\$4.75

TIME

CHOLESTEROL

And Now the Bad News...



AFTER SUPER TUESDAY
The Democrats
Brace for a
Marathon



What is the evidence?

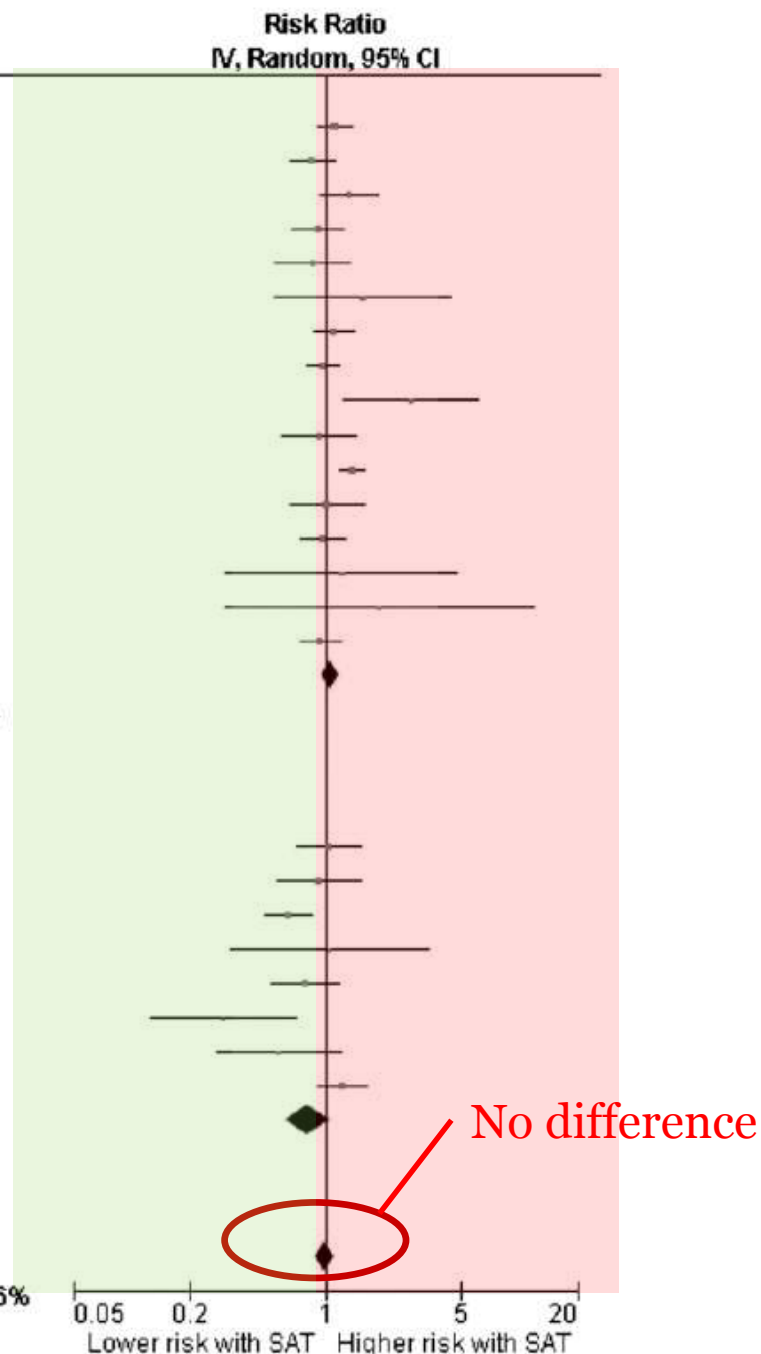
Study or Subgroup	Risk Ratio IV, Random, 95% CI	Year
Coronary Heart Disease		
Shekelle et al(17)	1.11 [0.91, 1.36]	1981
McGee et al(9) [†]	0.86 [0.67, 1.12]	1984
Kushi et al(13)	1.33 [0.95, 1.87]	1985
Posner et al(18)	0.92 [0.68, 1.24]	1991
Goldbourt et al(35) [†]	0.86 [0.56, 1.35]	1993
Fehily et al(28)	1.57 [0.56, 4.42]	1994
Ascherio et al(4) [†]	1.11 [0.87, 1.42]	1996
Esrey et al(6)	0.97 [0.80, 1.18]	1996
Mann et al(32)	2.77 [1.25, 6.13]	1997
Pietinen et al(15)	0.93 [0.60, 1.44]	1997
Boniface et al(5) [†]	1.37 [1.17, 1.60]	2002
Jakobsen et al(8) [†]	1.03 [0.66, 1.60]	2004
Oh et al(33)	0.97 [0.74, 1.27]	2005
Tucker et al(18) [†]	1.22 [0.31, 4.77]	2005
Xu et al(10)	1.91 [0.31, 11.84]	2006
Leosdottir et al(14)	0.95 [0.74, 1.21]	2007
Subtotal (95% CI)	1.07 [0.96, 1.19]	

Heterogeneity: $\tau^2 = 0.02$; $\chi^2 = 25.54$, $df = 15$ ($P = 0.04$); $I^2 = 41\%$
 Test for overall effect: $Z = 1.22$ ($P = 0.22$)

Stroke		
McGee et al(9) [†]	1.04 [0.72, 1.50]	1984
Goldbourt et al(35) [†]	0.92 [0.56, 1.51]	1993
Gillman et al(11)	0.64 [0.49, 0.84]	1997
Iso et al(31)	1.05 [0.33, 3.39]	2001
He et al(29) [†]	0.79 [0.52, 1.19]	2003
Iso et al(30)	0.30 [0.13, 0.71]	2003
Sauvaget et al(34)	0.58 [0.28, 1.20]	2004
Leosdottir et al(14)	1.22 [0.91, 1.64]	2007
Subtotal (95% CI)	0.81 [0.62, 1.05]	

Heterogeneity: $\tau^2 = 0.08$; $\chi^2 = 18.03$, $df = 7$ ($P = 0.01$); $I^2 = 61\%$
 Test for overall effect: $Z = 1.58$ ($P = 0.11$)

Total (95% CI) **1.00 [0.89, 1.11]**
 Heterogeneity: $\tau^2 = 0.03$; $\chi^2 = 52.63$, $df = 23$ ($P = 0.0004$); $I^2 = 56\%$
 Test for overall effect: $Z = 0.06$ ($P = 0.95$)



JUNE 23, 2014

TIME

Eat Butter.

Scientists labeled fat the enemy. Why they were wrong

BY BRYAN WALSH



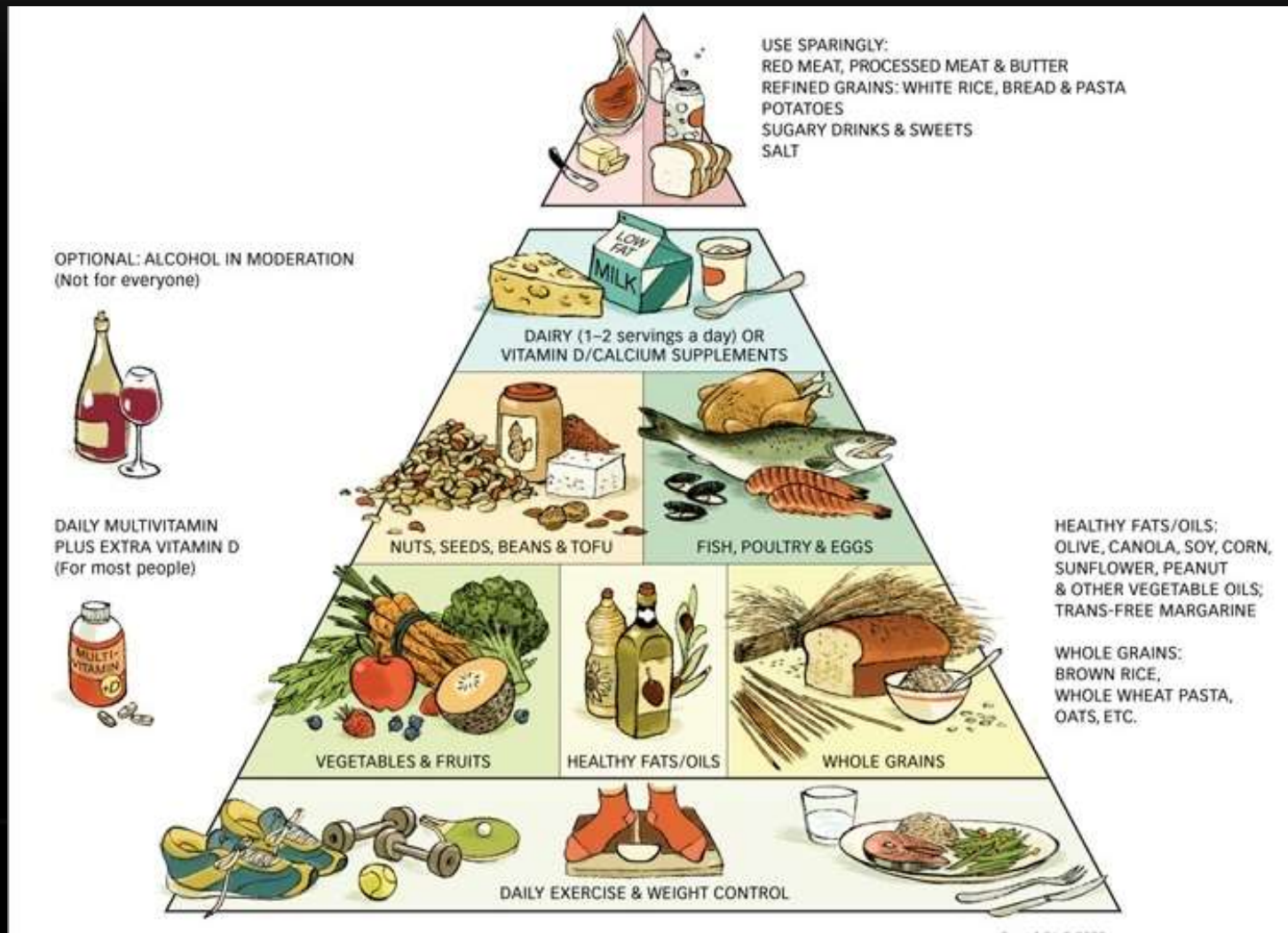
time.com

Eating too much fat
makes us fat

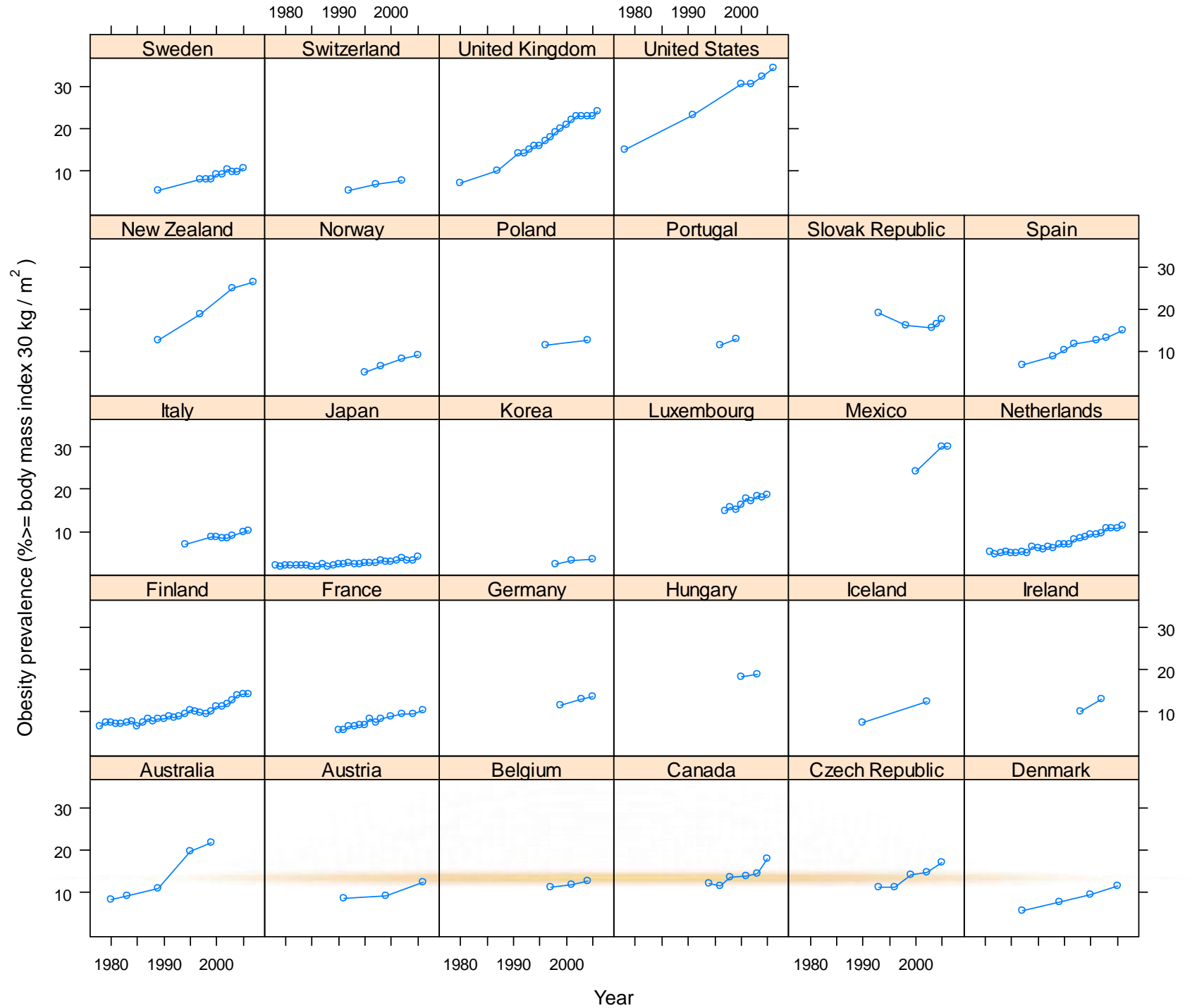
If Energy in > energy out,
then obesity



American Heart association: 1970s



What happened to our waist
lines?





**Largest man in
the world in 1903**



**American police
officer in 2012**

AMERICA'S GROWING EPIDEMIC



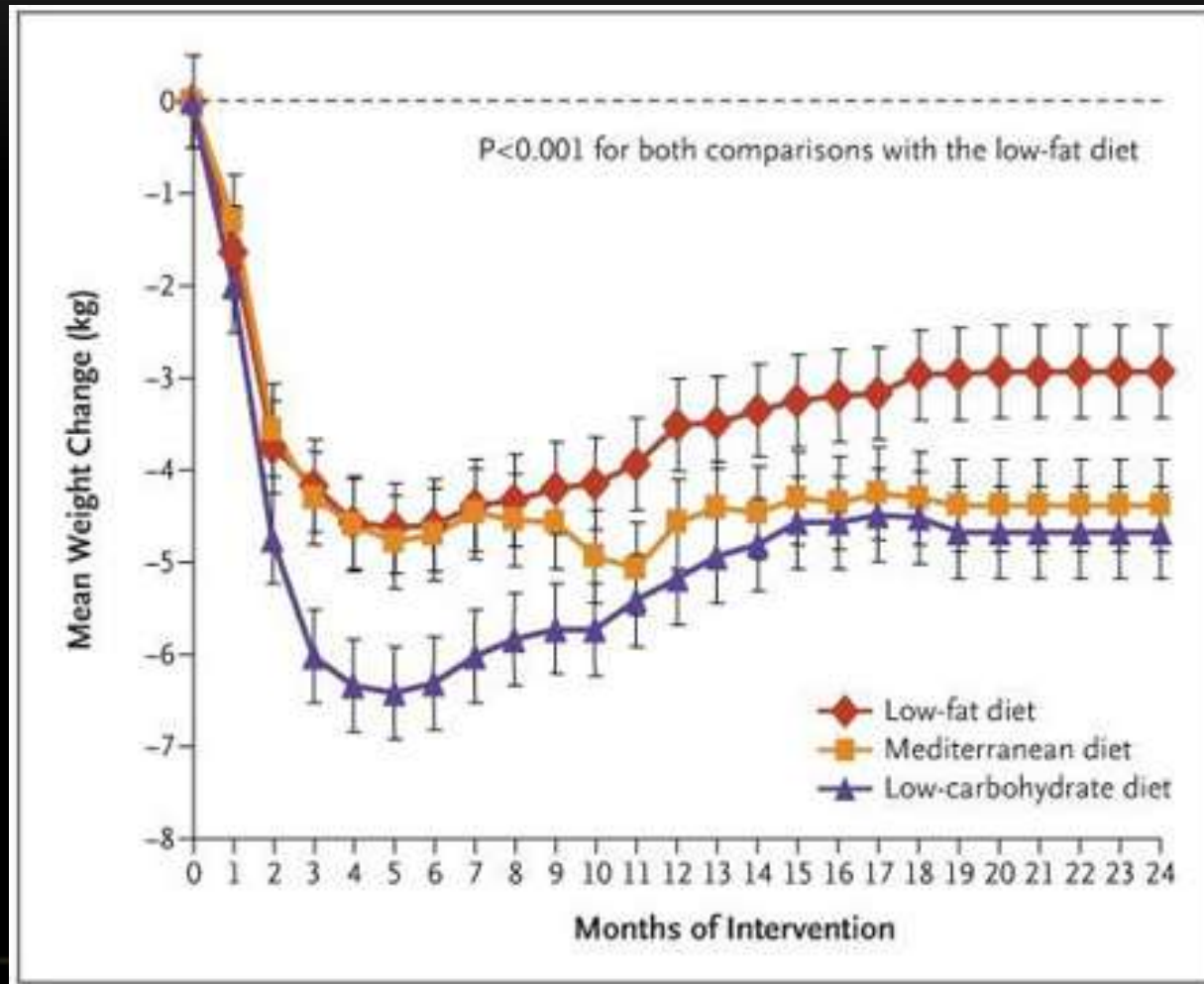
Low carb diets are
fads and don't work

How can eating energy
dense food make us thin?





Low Fat vs. low carb vs. Mediterranean (n=322)



Shai I, Schwarzfuchs D, Henkin Y, et al. Weight loss with a low-carbohydrate, Mediterranean, or low-fat diet. *N Engl J Med.* 2008; 359:229 - 41.

Eating is
about rational
choices



Automatic eating

- 40 secretaries (cross-over)
- Ate 4.6 more chocolates/day if at desk (& visible), rather than shelf 2m away

Wansink B, Painter JE, Lee YK. The office candy dish: proximity's influence on estimated and actual consumption. *Int J Obesity* 2006;30(5):871-5.

Why smoke?

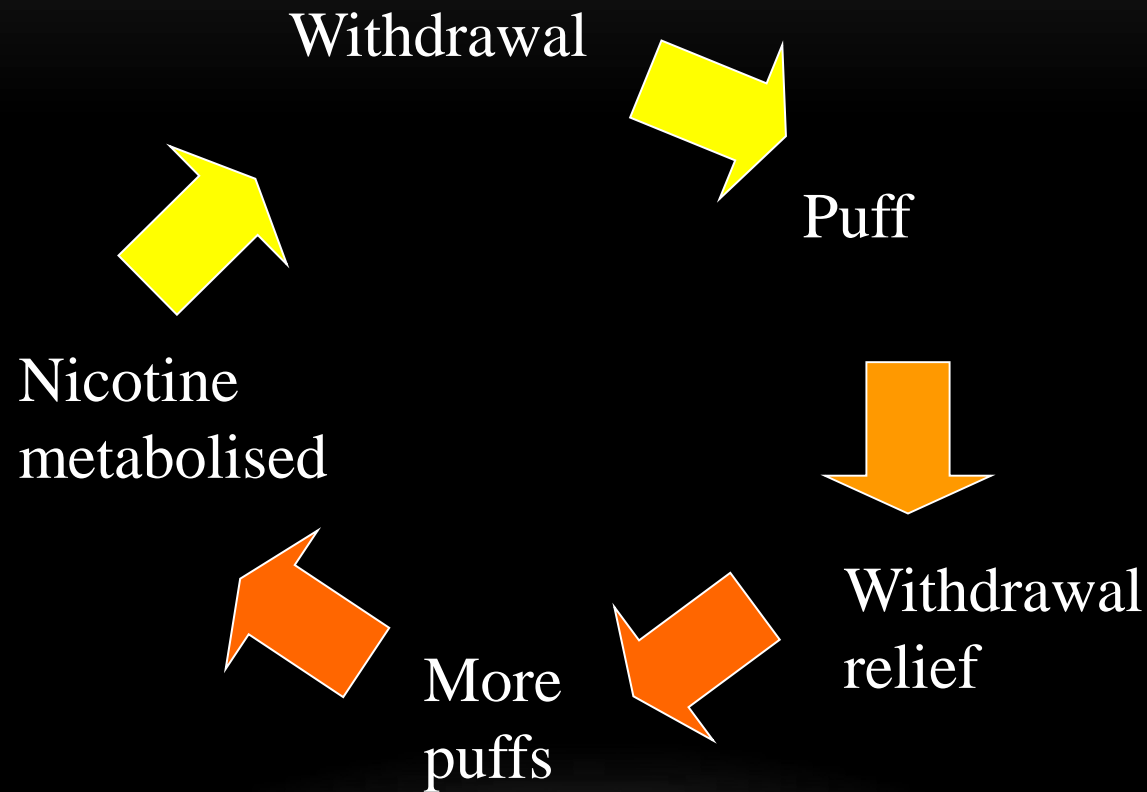


Tobacco Withdrawal

Symptoms	Duration (weeks)	Prevalence (%)
Irritable	< 4	50
Depressed	< 4	60
Restless	< 4	60
Poor concentration	<2	60
↑↑ appetite	>10	70
Craving	>2	70

‘Appetite for drugs’

Negative re-inforcement



Automatic behaviour

**Rational
behaviour**

**Addiction
Automatic**

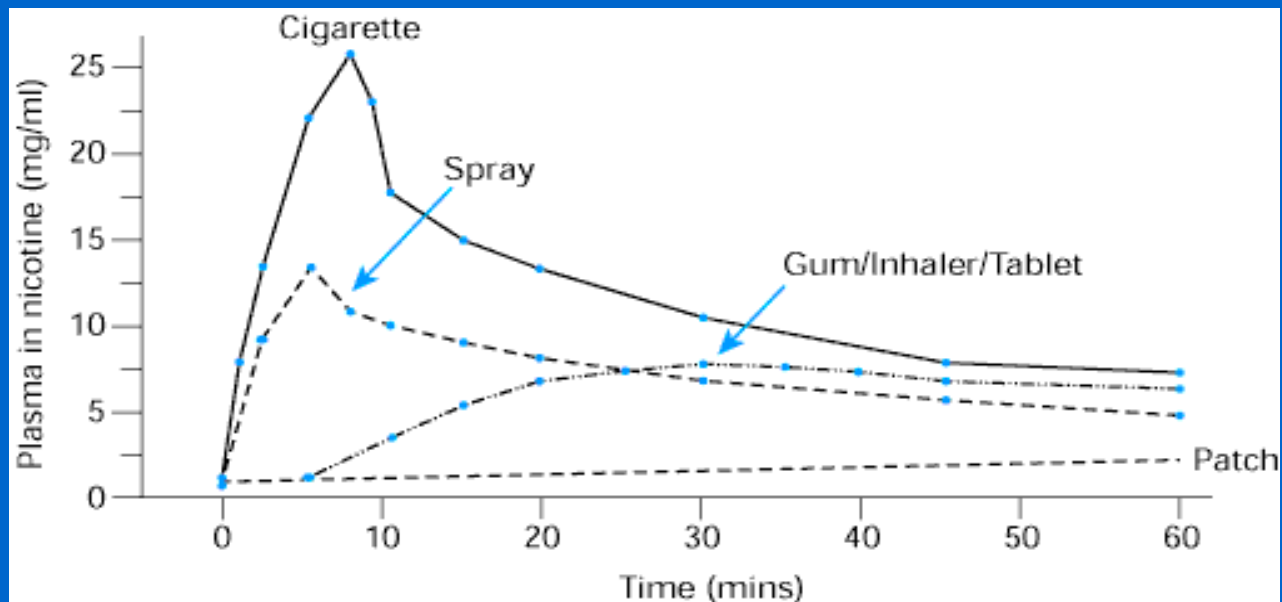


Cortex

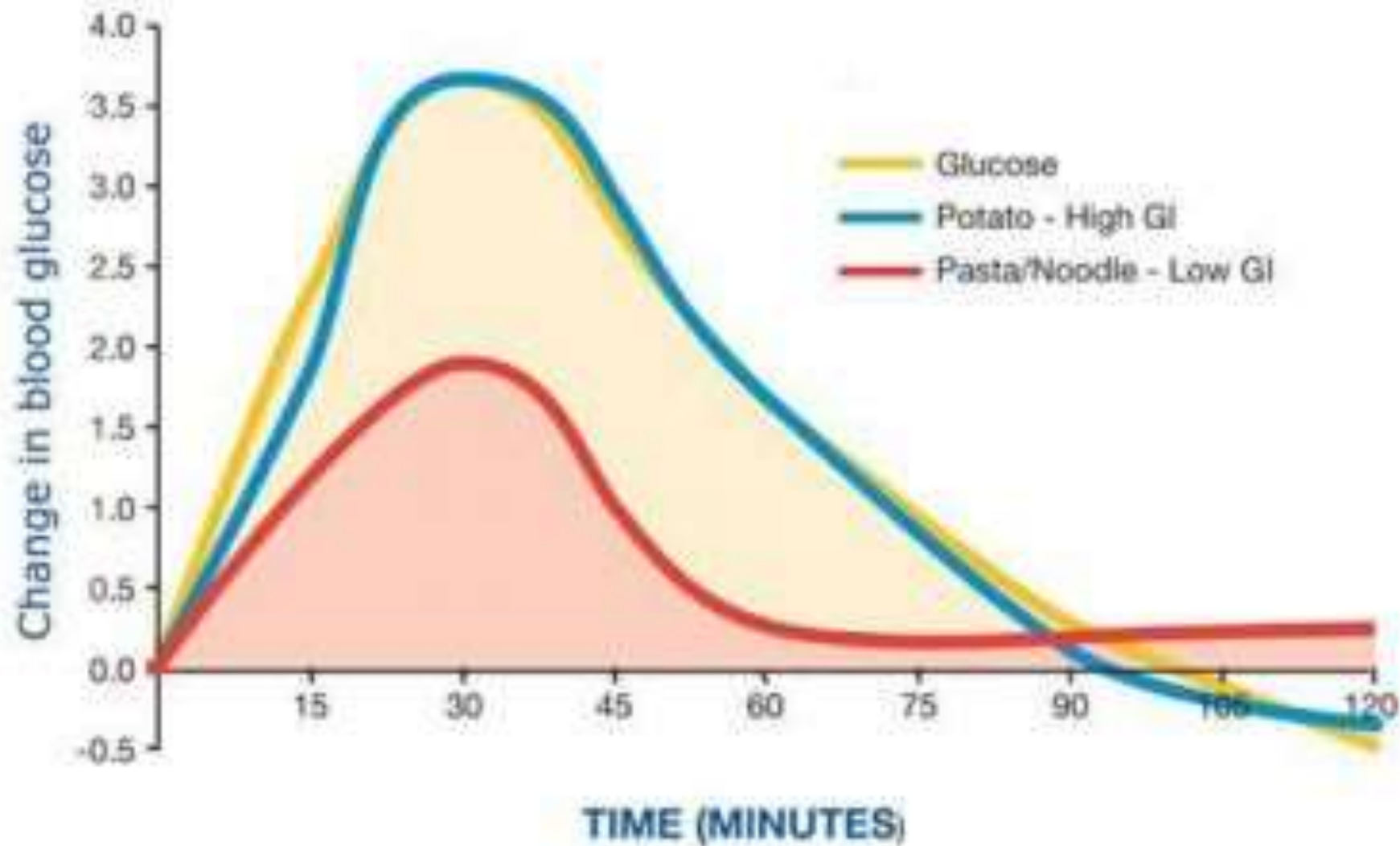
**Mid brain, brain
stem**

Why are cigarettes addictive?

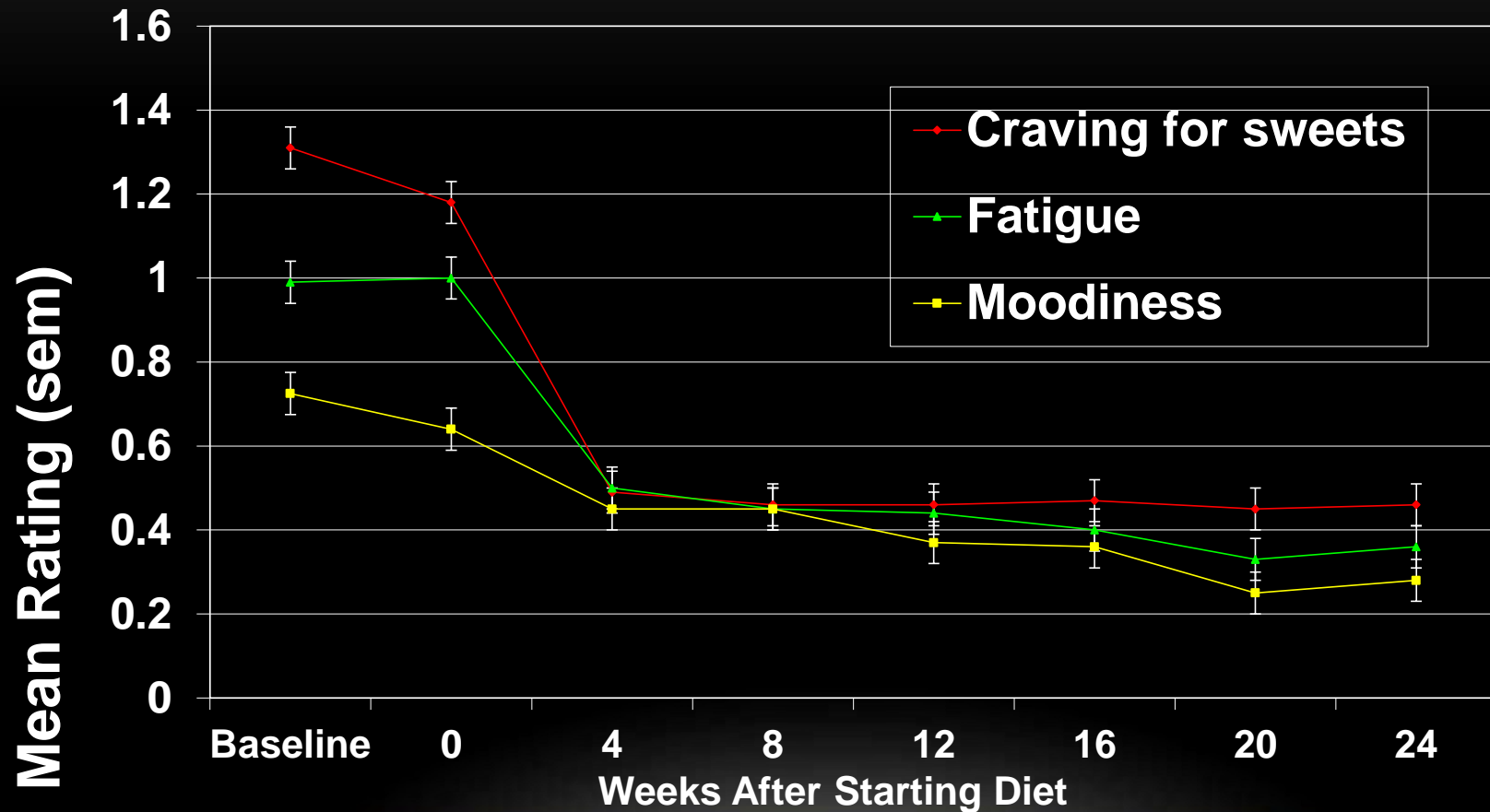
Nicotine delivery



Royal College of Physicians, *Nicotine in Britain*, 2000



Case-series: withdrawal after low carb diet.



Changes in a Symptom Questionnaire During a Very Low Carbohydrate Diet Program. Westman et al.

Eating & addiction?

- Executive, had tried: obesity surgery, laxatives, diets, everything

*“I would **shake** until I could put some **sugar** in my mouth”*

Atkins R. *Dr Atkins New Diet Revolution*. London: Vermillion, 2003.



- Rats:
 - **sugar** reliably induces **withdrawal**
 - fat doesn't.

Avena NM, Rada P, Hoebel BG. Sugar and Fat Bingeing Have Notable Differences in Addictive-like Behavior. *J. Nutr.* 2009;139(3):623-28.

Sugary drinks and mental health

- **Sugary drinks** strongly linked to:
 - **Violence**
 - **Suicidal behaviour**
 - **↓ learning**
 - **ADHD**



Sugary drinks and violent behaviour

- Strong link:
 - 4+ sodas/day 154% more likely to destroy belongings of others (95% CI: 70% to 280%), compared to none.

Howard AL, Robinson M, Smith GJ, Ambrosini GL, Piek JP, Oddy WH. ADHD Is Associated With a “Western” Dietary Pattern in Adolescents. *J. Atten. Disord.* 2011;15(5):403-11.

Solnick SJ, Hemenway D. Soft drinks, aggression and suicidal behaviour in US high school students. *Int. J. Inj. Contr. Saf. Promot.* 2013;1-8.

Azadbakht L, Esmailzadeh A. Dietary patterns and attention deficit hyperactivity disorder among Iranian children. *Nutrition* 2012;28(3):242-49.

Suglia SF, Solnick S, Hemenway D. Soft Drinks Consumption Is Associated with Behavior Problems in 5-Year-Olds. *The Journal of Pediatrics* 2013;163(5):1323-28.

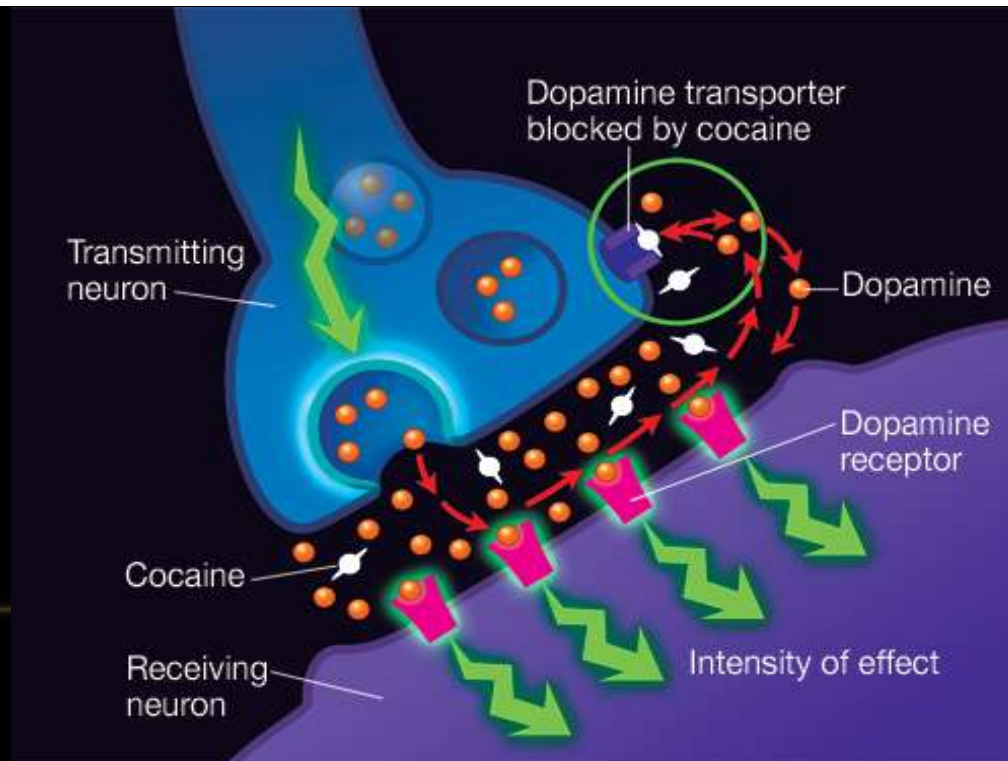
Carbohydrates and mental health

370

Current Neuropharmacology, 2011, 9, 370-375

Carbohydrate Reward and Psychosis: An Explanation For Neuroleptic Induced Weight Gain and Path to Improved Mental Health?

Simon Thornley^{1,*}, Bruce Russell² and Rob Kydd³



Sugar is a
harmless
treat?

Or is it?



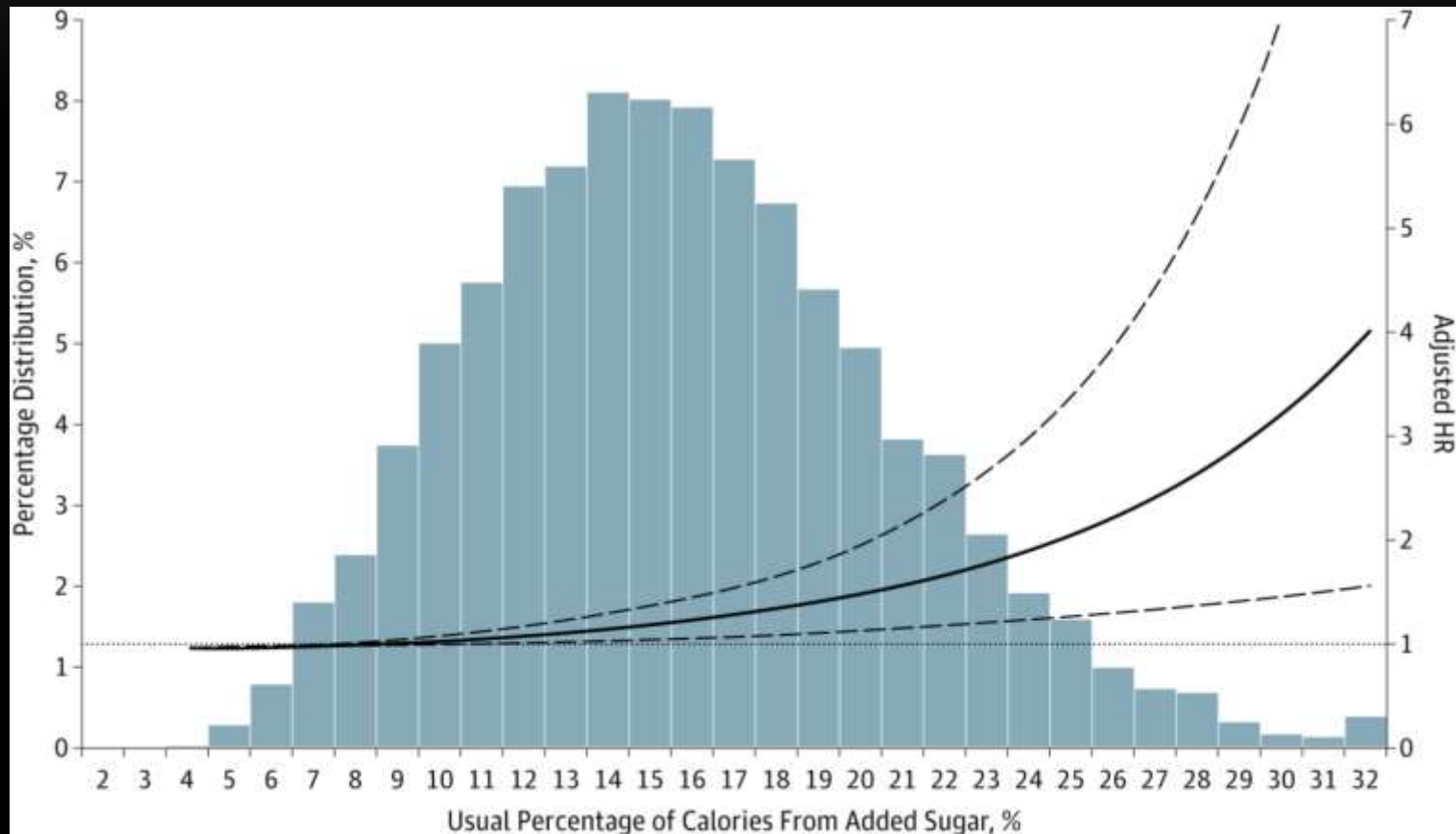
Australian dietary guidelines... 2013

- “no new evidence that *sugars* play a causal role in the development ... of *cardiovascular risk factors*.”

Next Line?

- *“However, ... studies indicate that **sugar-sweetened drinks** may increase the risk of developing **type 2 diabetes**.”*

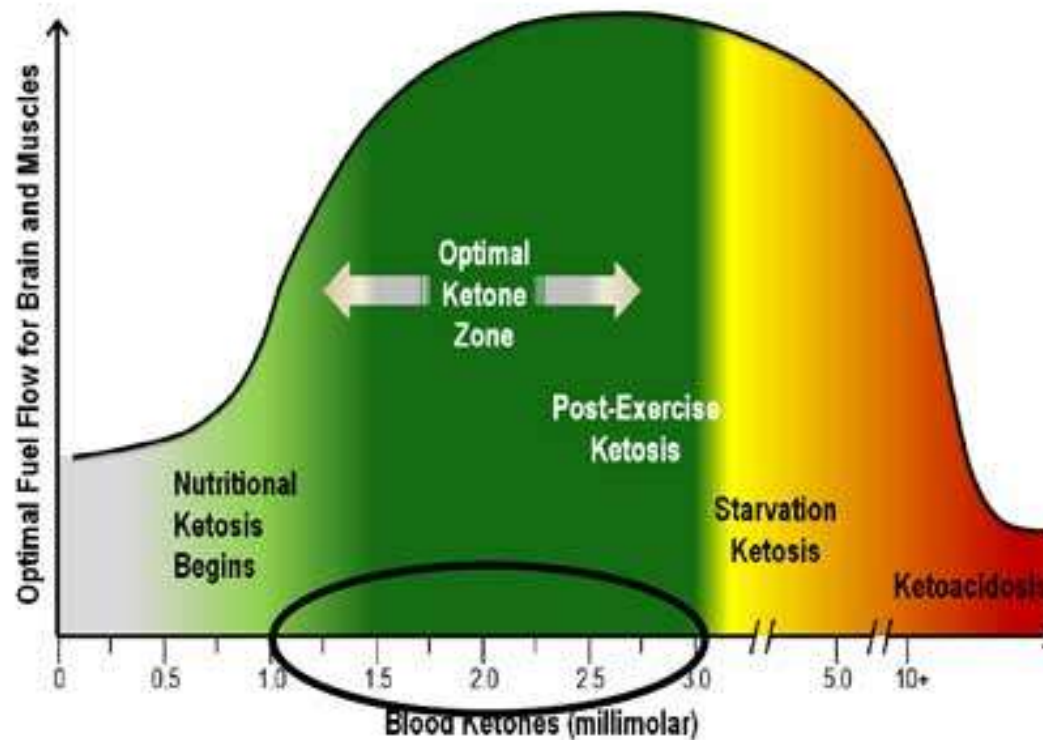
Sugar strongly associated with CVD



Yang Q, Zhang Z, Gregg EW, Flanders W, Merritt R, Hu FB. Added sugar intake and cardiovascular diseases mortality among US adults. *JAMA Internal Medicine*. 2014.

Burning fat

What level of Ketosis is optimal?



Where to from here?



What do I recommend?

- Sugar > refined starch > low GI, whole grain carbs > protein > fat



Practical points

- Not a diet!
 - Limit certain foods
 - Others unlimited.
- Sugar, starch withdrawal
 - (stevia, sugar alternatives)

Practical advice

- **Eliminate**
 - Sugary drinks (soft drinks, cordials, fruit juice)
 - Sugary desserts, breakfast cereals, lollies, milk chocolate, biscuits
- **Limit**
 - Starches: bread, pasta, potatoes, kumara, noodles, rice, couscous
 - Aim for <50g of carbohydrate per day (<2 slices of bread or equivalent weight).
- **Increase (no limit)**
 - Fat (eggs, cheese, cream, butter, sour cream, meat, fish, shellfish, poultry)
 - Salad greens, vegetables, nuts.
 - Salt

TYPICAL DAY

- Breakfast

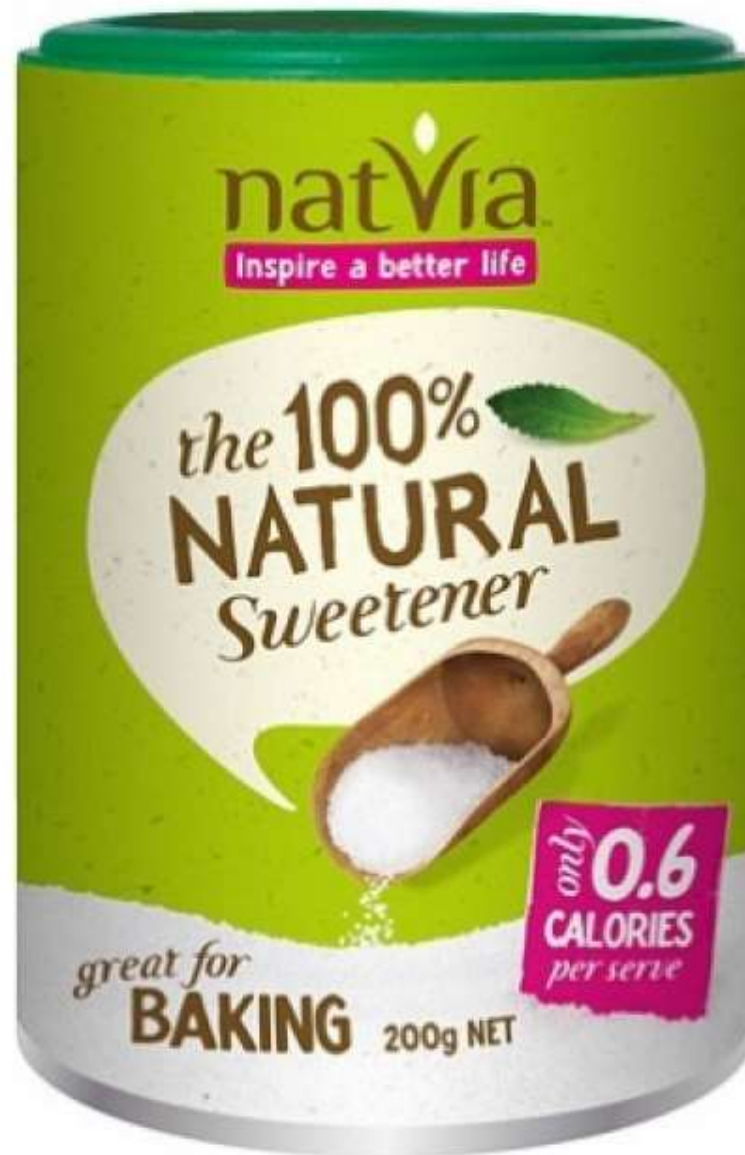


Lunch

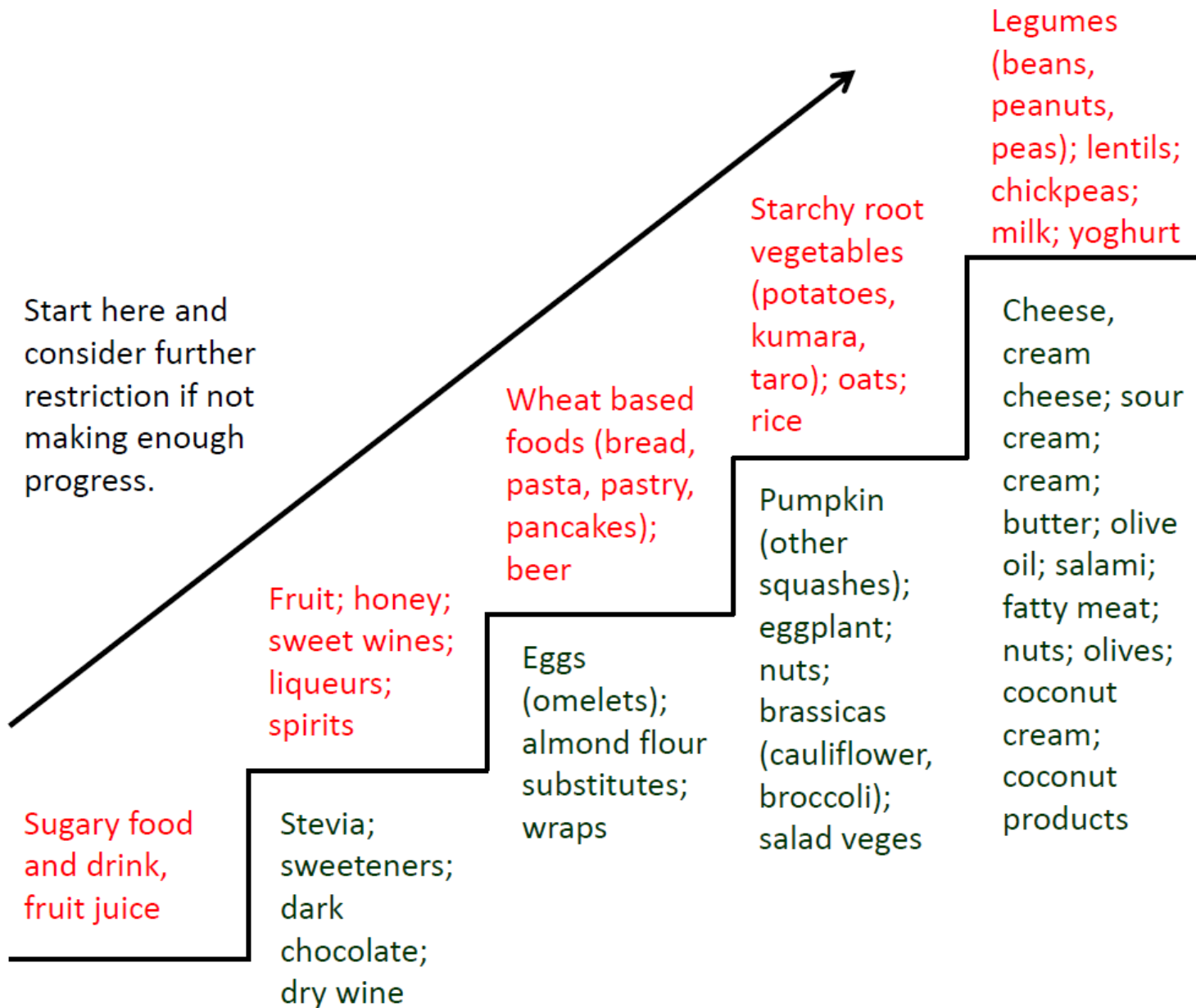


Dinner









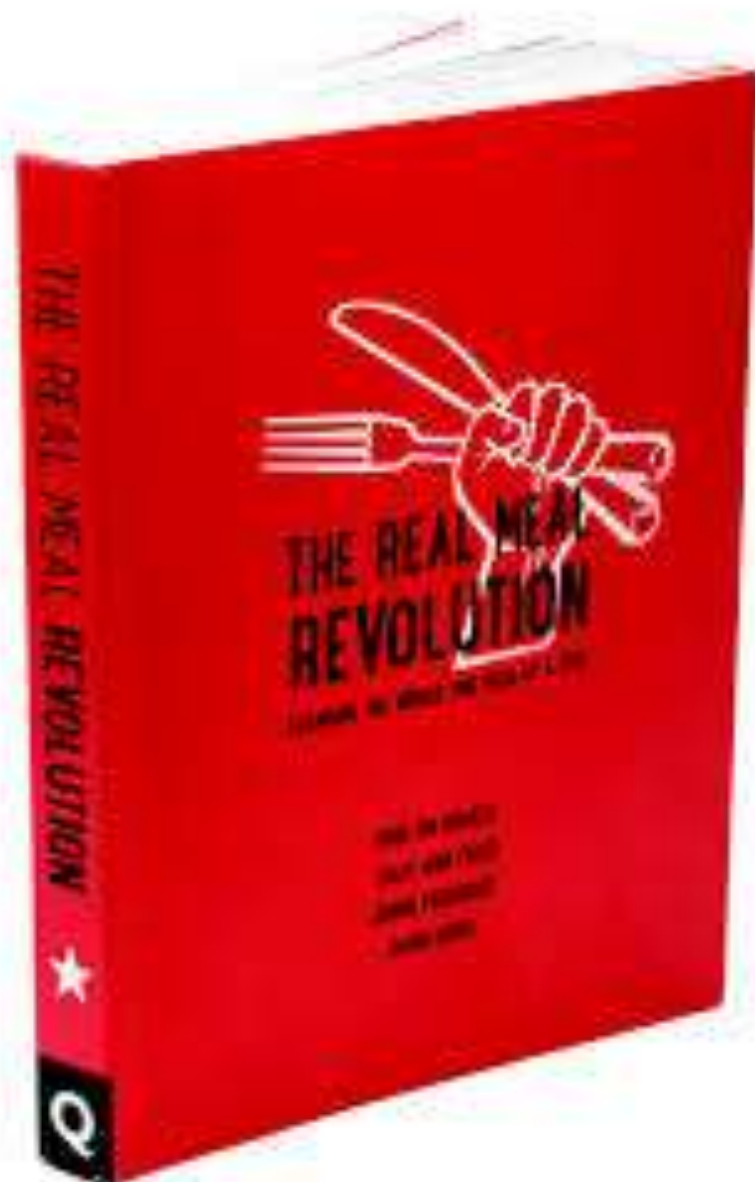


LOW CARB REVOLUTION

COMFORT EATING
FOR GOOD HEALTH

ANNIE BELL

Foreword by Dr. Richard K. Johnson, MD, PhD



Conclusion

- Diet is a key strategy in battling addiction
- Diet is better than drugs
- Don't fear fat and salt!
- Fear sugar and starch!

Free ebook, with recipes

- http://www.stphotostudio.co.nz/wp-content/uploads/2014/08/Patient_document.pdf
- sithor@gmail.com