WHY DIETS ( USUALLY ) FAIL

21st Century Medicine Lecture Series

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Prof Jeanrenaud
and Dr Rohner-Jeanrenaud
The Famine Reaction is controlled by the hypothalamus
The Famine Reaction is controlled by the hypothalamus.
ENERGY RESTRICTION INCREASES HYPOTHALAMIC NEUROPEPTIDE Y EXPRESSION

Photo courtesy of Dr Shu Lin, Garvan Institute of Medical Research
The most common consequence of the Famine Reaction
HYPOTHALAMIC CHANGES CONTRIBUTING TO FAMINE REACTION ARE REVERSED BY FOOD

- Satiated rats
- Food deprived rats
- Re-fed rats

Beck et al, Brain Research, 1990
THE MATADOR TRIAL

Minimizing Adaptive Thermogenesis And Deactivating Obesity Rebound

Queensland University of Technology
Garvan Institute of Medical Research / University of Sydney

NHMRC Project Grant APP497223 (2008-2012)
THE
DON’T GO
HUNGRY
DIET

The scientifically based way to lose weight and keep it off forever

How Australia’s leading weight-loss scientist put her theories to the test to lose nearly 30 kilos

‘This book will revolutionise the way we think about weight control. Everyone should read it.’
Professor Jennie Brand-Miller, co-author of The New Glucose Revolution

Don’t Go Hungry for Life

Your practical guide to losing weight and keeping it off throughout life with the scientifically based principles of The Don’t Go Hungry Diet

‘This book will revolutionise the way we think about weight control. Everyone should read it.’
Professor Jennie Brand-Miller, co-author of The New Glucose Revolution
VERY LOW CALORIE DIETS

› 400 – 800 calories per day
› Replace all meals with 3-5 sachets, 2 cups low starch veg, 1 tsp oil / day
› KicStart® & Optifast® are the closest to being nutritionally adequate
**Very Low Calorie Diets**

**Not Associated with Increased Hunger**

12 obese, sedentary men

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<th>8 weeks</th>
<th>1 week</th>
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<td>Very low calorie diet (Optifast) (average weight loss = 18 kg)</td>
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Chearskull et al Am J Clin Nutr 2008
**VERY LOW CALORIE DIETS**

**NOT ASSOCIATED WITH INCREASED HUNGER**

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* Hunger & satiety before & after a standard meal
* Circulating ketone concentrations

Chearskull et al Am J Clin Nutr 2008
VERY LOW CALORIE DIETS

ATTENUATES APPETITE AND ENHANCES SATIETY

Chearskull et al Am J Clin Nutr 2008
VERY LOW CALORIE DIETS

ENHANCES CIRCULATING KETONE CONCENTRATIONS

Chearskull et al Am J Clin Nutr 2008
DO THEY BLOCK OTHER PARTS OF FAMINE RXN BESIDES HUNGER?
THE TEMPO DIET TRIAL

Type of Energy Manipulation for

Promoting optimum metabolic health and body composition in Obesity

NHMRC Project Grant APP1026005 (2012-2015)
VERY LOW CALORIE DIETS

DO THEY BLOCK OTHER PARTS OF FAMINE RXN BESIDES HUNGER?

100 obese post-menopausal women randomized

- Severe energy restriction (4-5 months) then moderate ER
- Moderate energy restriction (ER)

Time (months)

- 0
- 0.25
- 1
- 4
- 4.25 (VLDD only)
- 6
- 12
- 24
- 36

☑️ In-depth comparison of the Famine Reaction

- Appetite before & after a standard meal
- Physical activity
- Resting metabolic rate
- Neuroendocrine status & circulating gut hormones, ketones

NHMRC Project Grant APP1026005 (2012-2015)
THE TEMPO DIET TRIAL

› 3 – 5 VLCD sachets / products (shakes, soups, bars)
› 1 – 6 scoops Beneprotein (protein intake 1 g / kg body weight per day)
› 2 cups non-starchy ‘free’ vegetables
› 1 teaspoon oil or fat
› 2 litres fluid

Courtesy of Alice Gibson, Accredited Practicing Dietitian and PhD Candidate, The University of Sydney
Fast vs slow weight loss; which is better?

Health professionals have long advocated ‘slow and steady’ weight loss. However, recent evidence shows benefits of fast weight loss for motivation and appetite control.

The Boden Institute of Obesity, Nutrition, Exercise & Eating Disorders is seeking participants for a head-to-head comparison of the health benefits of fast vs slow weight loss.

You will receive a free weight loss program for 12 months to help you achieve your weight loss goals.

If you are female, aged 44-65, postmenopausal and you have a body mass index (BMI*) of 30 to 40 kg/m², you may be eligible for this study.

*To calculate your BMI, divide your weight in kilograms by the square of your height in meters, or use this web-based BMI calculator: [http://www.nhlbisupport.com/bmi/bmi-m.htm](http://www.nhlbisupport.com/bmi/bmi-m.htm).

If you are interested, please contact:

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Email: rhadika.seimon@sydney.edu.au

Associate Professor Amanda Sainsbury-Salis  
Ph: 9036 3158  
Email: amanda.sainsbury-salis@sydney.edu.au

This study has been approved by the Sydney Local Health Network Ethics Review Committee (RPAH Zone).
A GOOD START, COULD BE IMPROVED…

› Why semi-fast for only 1-2 days when the benefits for appetite suppression kick in only after about 4 days?

› Why take a break from semi-fasting for only 5 days when it can take up to 1 month or more to deactivate the Famine Reaction?

› Why choose your own food when doing so makes it hard to get enough protein (+ other nutrients) to suppress appetite and prevent loss of lean body mass (e.g. muscle)?

› Our version: We are testing 2-4 weeks on the diet, 2-4 weeks ‘off the diet’, using meal replacement formulas.
WHY DIETS ( USUALLY ) FAIL

SUMMARY AND CONCLUSIONS

› The Famine Reaction is a survival instinct that protects us from wasting away: don’t feel bad about yourself for feeding your hunger!

› Taking a break from trying to lose weight should not be seen as a failure; doing so may even help you to lose weight more efficiently.

› Rapid weight loss using a formulated very low calorie diet is a valid option for some people, if done under expert medical supervision. It suppresses appetite and potentially also other effects of the Famine Reaction.

› If you or someone you know would be interested in participating in our weight loss trial, please take a flyer (front of room) or contact me.
QUESTIONS OR COMMENTS?

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