



Weighing in on Weight-Loss Diets:

What Does the Science Say?



Presented By:

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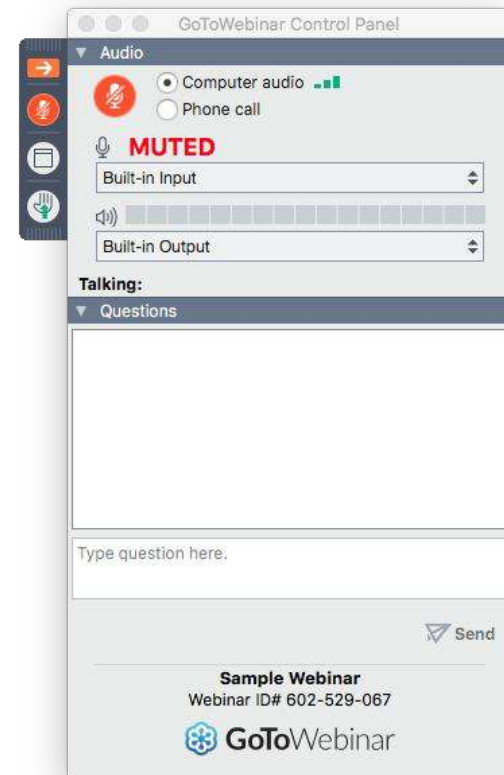
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Presenters



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Objectives

Participants will be able to:

- Articulate the differences between current popular weight loss diets available today
- Report on the science related to different popular diets
- Discuss the potential impact of popular diets on overall health, wellness and long-term weight loss goals
- Share science and education gained with patients, clients, consumers, colleagues, students and others to increase their knowledge and understanding of this topic



Weight loss remains a big concern among consumers

- Since 2007-2008 survey, NHANES data show that obesity rate has increased from 34% to nearly 40% of population ⁽¹⁾
- 49% of adults tried to lose weight in last year (2018 report) ⁽²⁾

Our personal histories shape our views on weight-loss dieting

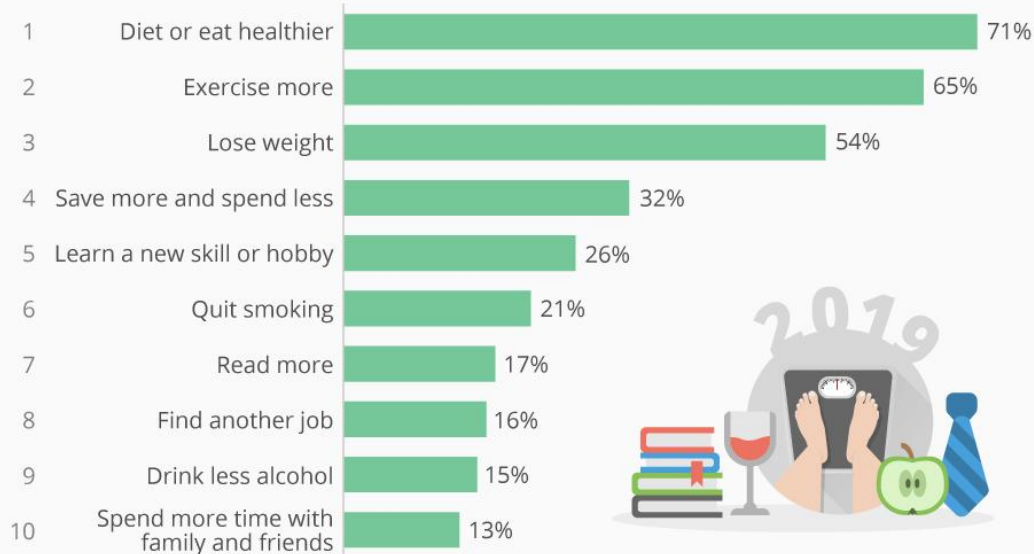
(1) [JAMA. 2018;319\(16\):1723-1725](#)

(2) [NCHS Data Brief](#)

Why Are We Here?

The Top New Year's Resolutions For 2019

What U.S. people are wishing for the most in 2019



n=2,000
@StatistaCharts Source: Inc

statista

Survey of 2,000 Americans by Inc., 2018



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The Diet Industry

U.S. weight loss market was estimated to be worth \$70 billion in 2018

Diet shakes/meal replacement bars outpace diet pill sales

Multi-level marketing weight loss programs continue to be a major force

Source: [Market Research.com: Top 6 Trends for the Weight Loss Industry in 2018](https://www.marketresearch.com/top-6-trends-for-the-weight-loss-industry-in-2018)

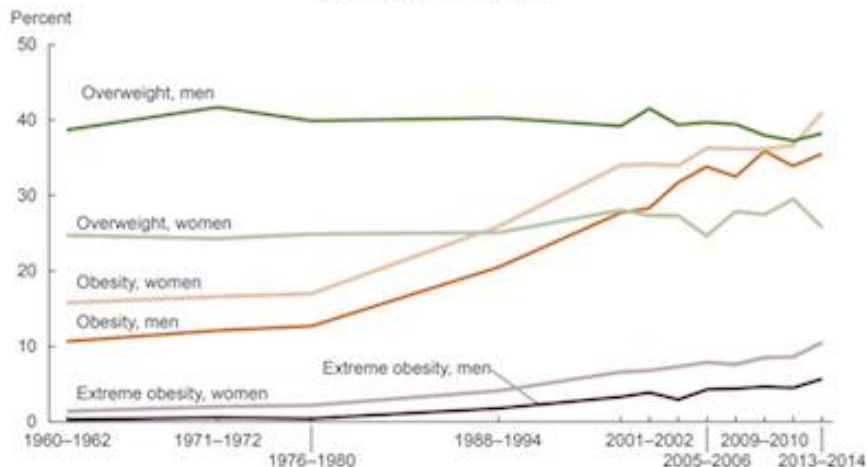




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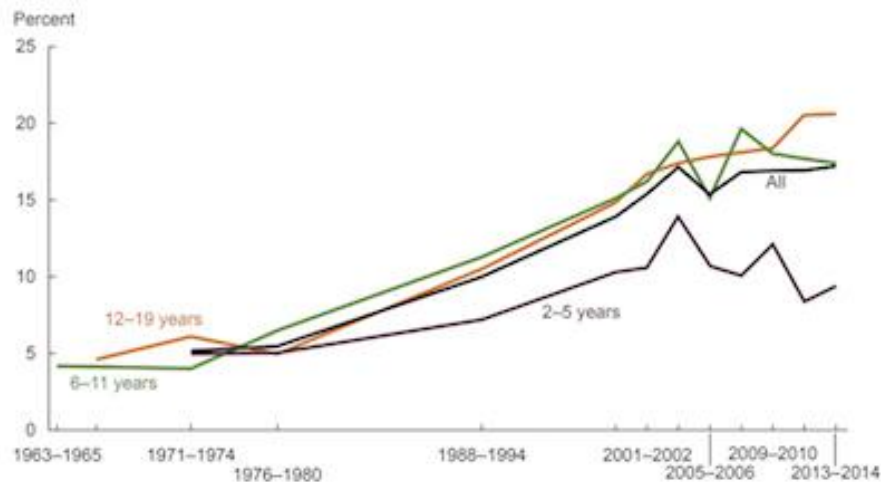
Obesity Rates Rising Despite the Diet Industry

Trends in adult overweight, obesity, and extreme obesity among men and women aged 20–74: United States, 1960–1962 through 2013–2014



NOTES: Age-adjusted by the direct method to the year 2000 U.S. Census Bureau estimates using age groups 20–39, 40–59, and 60–74. Overweight is body mass index (BMI) of 25 kg/m² or greater but less than 30 kg/m², obesity is BMI greater than or equal to 30, and extreme obesity is BMI greater than or equal to 40. Pregnant females were excluded from the analysis.

Trends in obesity among children and adolescents aged 2–19 years, by age: United States, 1963–1965 through 2013–2014



NOTES: Obesity is defined as body mass index (BMI) greater than or equal to the 95th percentile from the sex-specific BMI-for-age 2000 CDC Growth Charts.

Source: [NIDDK Statistics](#)



Diving into the Science

Who funds weight loss research?

NIH, NIDDK, other federal agencies, public and private organizations, weight-loss programs themselves

Scientific consensus—is there any?

People can lose weight on virtually any weight loss diet

Few areas of consensus about a “best” diet, but some general weight loss consensus

Resources page

Sources: [NIH Nutrition Research Report 2015-2016](#), [NIDDK Funding Policy 2019](#)



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How We Selected The Diets

Weight-loss diets vs general healthy eating plans

About half of Americans who successfully lose weight use a structured plan

45% created their own diet; 55% use structured program

National Weight Control Registry

Most have failed at weight loss several times (early weight loss not always indicative of weight loss success)

Commercial diets





Ketogenic Diet

Basics:

True keto diet calls for intake that's very high fat (75-90% of daily kcals), very low in carbohydrate (about 5% kcals) and low-moderate in protein (about 10-20% kcals), intended to stimulate ketosis.

Science status:

There is some research supporting the keto diet as a means to more substantial weight loss (as well as better maintenance of losses) and also better blood sugar control in people with diabetes. Multiple mechanisms are likely involved. Research supports the diet's use in neurological conditions.

Bottom line:

The nearly complete elimination of an entire macronutrient group and the need for strict adherence to the diet (or risk leaving ketosis) make this diet challenging for all but the most motivated. Although effective for weight loss, the health consequences (including increased LDLs and nutrient imbalances, among others) as well as potential difficulty in sustaining the diet must be considered.



Atkins & South Beach Diets

Basics:

Atkins: historically included higher fat proteins & saturated fats, today includes leaner proteins/healthier fats

South Beach: AKA “modified carbohydrate” diet, more mono- and polyunsaturated fats/lean protein

Science status:

Correlational study: Subjects with metabolic syndrome on South Beach Diet lost 11 lbs & increased CCK ⁽¹⁾

Healthy low fat diet vs a healthy low carb diet; neither had a greater impact on weight loss ⁽²⁾

Calorie for calorie, restricting dietary fat leads to more body fat loss than a low carbohydrate diet ⁽³⁾

Bottom line:

Remaining on a low carb diet for a long term requires modifications and can't be done with strict carbohydrate restriction; weight loss is likely due to caloric restriction



Carb Cycling

Basics:

No formal definition, but alternating between low-carbohydrate intake days and moderate-high-carbohydrate intake days for the purpose weight control, fat loss and optimum refilling of glycogen stores. Carb cycling is individually-tailored, can be used with other eating plans (like keto, paleo, etc) and is typically combined/timed with physical training.

Science status:

There is some scientific basis for success via carb cycling with respect to fat loss, improved insulin sensitivity and modest weight loss. However, since energy restriction is usually present in tandem with carb cycling, one cannot attribute success solely to the varying macronutrient modification.

Bottom line:

The cyclical nature of this plan may hold psychological appeal and allow for better plan adherence, making this a good possibility for some. It typically emphasizes healthy carbs on the higher-carb days. Drawbacks include the amount of planning and macro tracking needed.



Basics:

A highly restrictive diet that is used for 30 days. Not just meant to be a weight loss diet, this diet is sometimes used for identifying food intolerances and shifting a person's relationship with food.

Science status:

Currently there are no scientific studies that have specifically looked at this diet. Past studies on low carb, calorie restricted diets would likely apply to this diet.

Bottom line:

This is a highly restrictive diet and therefore is difficult to sustain. Followers of this diet may see weight loss and the positive changes that come with it, but will have to transition to a different long term diet. It can be difficult to get a balanced diet with such limited intake.

Whole 30



Paleo

Basics:

AKA “Cave Man” diet, the plan attempts to mimic the diet of the Paleolithic era. High in protein, moderate in fat and low-to-moderate in carbohydrate, it’s low in sodium and refined sugars due to avoidance of processed foods. It also omits whole grains, legumes and dairy.

Science status:

A fairly large body of research aims to describe the actual Paleolithic diet, compare a Paleo diet to modern diets, and link the presumed Paleo diet to weight loss, fat loss and impacts on metabolic syndrome. Findings are mixed, though weight loss on the diet described above may be substantial and bring some metabolic improvements. Quality of conclusions suffers from lack of accurate, standardized definition of what the Paleo diet is, and long-term impacts of the diet are not well-studied.

Bottom line:

As a lower-carb diet, weight loss is commonly seen short-term, but overall losses appear to be equal to that of other plans at the 1 year mark. Some metabolic improvements may be seen on this diet, though nutritional deficiencies may also be associated with it due to elimination of food groups. Sustainability may be difficult.



Intermittent Fasting

Basics:

IF is an increasingly popular eating approach that includes various protocols.. Time Restricted Eating (TRE), 5/2 and alternate day fasting are common protocols. Some plans allow up to 500kcal/day during fasts..

Science status:

A growing body of human research that indicates IF leads to not only weight loss, but also improved cardiometabolic health. However, overall, IF was comparable to continuous energy restriction for weight loss in overweight/obese adults in short-term studies. Metabolic benefits with certain protocols were seen even without weight loss. Various aspects of IF protocols have also been studied, showing varying results.

Bottom line:

IF in various forms is likely as effective as continuous energy restriction and may offer additional health benefits. IF combined with energy restriction may be most effective for weight loss. However, for a variety of reasons, it's certainly not for everyone.



Alkaline Diet

Basics:

This diet suggests that when we metabolize foods a metabolic waste is left behind that can be alkaline (neutral) or acidic. Maintaining a neutral state maintains our health & protects from illness, while an acidic status increases risk for chronic disease.

Science status:

No association found between this diet and decreased risk of cancer ⁽¹⁾
An alkaline diet may benefit patients with chronic kidney disease ⁽²⁾

Bottom line:

Our body knows how to keep our blood pH- the way we eat doesn't impact it in the direct way presented here. While following this diet can be restrictive, it isn't unsafe. More importantly, we should rely on other proven methods to reduce disease risk.



Basics:

12 week instructional program based on choosing foods with low energy-density and high volume to keep kcal content low while providing generous portions sizes for satiety.

Science status:

The low-fat/high-volume approach is backed up by numerous scientific studies conducted with both sexes/varying ages over decades by many researchers (not just Rolls).

Bottom line: The program teaches an eating style that can be used for a lifetime of weight management, it's flexible and encourages nutritional balance. But, it does not reflect some of the newer nutritional acceptance of certain higher-fat foods that provide beneficial nutrients, such as nuts, seeds, avocados, etc.

Volumetrics Diet



Commercial Diet Programs

Basics:

Programs that require financial commitment via memberships, dues, food purchases, etc in exchange for participation in proprietary, structured programs that offer a mixture of weight loss advice, eating plans/systems, monitoring, food supplies and social support (WW, Jenny Craig, HMR, Nutrisystem).

Science status:

2015 study found clinical trial data on only 11 of the 32 programs reviewed, and only 2 of the programs provided data at 12 months out.

Bottom line:

Most commercial programs have not been rigorously evaluated, and long-term outcomes data is sparse. In addition, some don't focus on educating participants on "real-life" skills to help them continue or maintain weight loss after stopping the program. Consumers need to evaluate whether the financial costs of these programs is worth the modest amount of weight loss typically seen.



Working with a Dieter

If the client wants to follow a particular diet program (despite the presentation of a balanced, alternative approach), give a thorough and accurate description of the diet

There is something to be said for people being successful in whatever “vehicle” they choose to journey in toward better health. So how can we help them do it in the safest way possible (is it helping the person who is eating a high sat fat diet eat less bc of their potential risk for heart disease?)





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Tools to Assist Dieters

Hunger scale and
mindfulness tools

Food diaries in various forms

Tracking apps

Guiding Stars program for
food selection, and GS-rated
recipes via website, Pinterest





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The formula **credits** a product's score for:

Vitamins
Minerals
Dietary Fiber
Whole Grains
Omega-3s



The formula **debits** a product's score for:

Saturated Fat
Trans Fat
Added Sodium
Added Sugar
Artificial Colors

The resulting score represents a ***weighted total***



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Good

Two Guiding Stars indicate better nutritional value



Better

Three Guiding Stars indicate the best nutritional value



Best



Some Points of Scientific Consensus

- Good health can be achieved for many on diets with a broad range of carb-to-fat ratios.
- Replacement of sat fat with naturally occurring unsaturated fats is beneficial; industrially produced trans fats are harmful and should be eliminated.
- Replacement of highly processed carbs with unprocessed carbs provides health benefits.
- Biological factors appear to influence responses to diets of different macronutrient composition.
- A ketogenic diet may confer particular metabolic benefits for some people with abnormal carb metabolism (requires more study).
- Well-formulated low-carb, high-fat diets do not require high intakes of protein or animal products.
- There is broad agreement regarding the fundamental components of a healthful diet that can inform policy, clinical management and individual dietary choice.

Source: [Science](#) 16 Nov 2018; Vol. 362, Issue 6416



Closing Food for Thought

“Diets don’t work, dieters do!”

In general, any weight-loss diet will work in the short-term

Health outcomes are not typically considered part of diet “success” studies

Employ alternate strategies to assist consumers in long-term maintenance of healthy weights





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Q&A





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General Resources

[US News' 41 Best Diets Overall](#)

[2015 Review of Commercial Diet Program Efficacy](#)

[Obesity Action Coalition](#) (*nonprofit, national obesity awareness and support organization*)

[National Weight Control Registry](#)

[Science Magazine - *Dietary Fat: From Foe to Friend*](#)

[Long-term Effects of Dieting: Is Weight Loss Related to Health?](#)

[Staying Away from Fad Diets](#)

[5 Ways to Spot a Fad Diet, and NIDDK on Choose a Safe Weight-Loss Program](#)



Resources by Diet Type

Keto Diet

[Today's Dietitian Keto Diet Review, Jan 2019](#)

BMJ: [2013 Meta-analysis: Ketogenic diet vs. low-fat diet for long-term weight loss](#)

Am J Clin Nutr: [Energy expenditure and body composition changes after isocaloric keto diet in overweight/obese men](#)

Atkins/South Beach - Low Carbohydrate

J Nutr: [A carbohydrate-restricted diet alters gut peptides and adiposity signals in men and women with metabolic syndrome.](#)

JAMA: [Low-Fat vs Low-Carb Diet on 12 Month Weight Loss in Overweight Adults; the DIETFITS Randomized Clinical Trial](#)

Cell Metabolism: [Calorie for Calorie, Dietary Fat Restriction Results in More Body Fat Loss than Carbohydrate Restriction in People with Obesity](#)

Carb Cycling

Br. J Nutr: [The effect of intermittent energy & carbohydrate restriction v. daily energy restriction on weight loss & metabolic disease risk markers in overweight women](#)

J Strength Cond Res: [Effects of a short-term carbohydrate-restricted diet on strength and power performance.](#)



Resources by Diet Type

Whole 30

US News & World Report: [Whole 30 Diet](#)

Healthline.com: [The Whole30, A 30-Day Diet for Better Health?](#)

Paleo

Scientific American: [2013 article “How to Really Eat Like a Hunter-Gatherer”](#)

Am J Clin Nutr: [Meta-analysis: Paleolithic diet for metabolic syndrome](#)

Obesity Reviews: [Hunter-gatherers as models in public health](#)

Intermittent Fasting

Food Sci & Human Nutr: [Intermittent energy restriction for weight loss: Spontaneous reduction of energy intake on unrestricted days](#)

Ovid Database of Systematic Reviews: [Meta-analysis of IF in overweight/obese men](#)

Cell Metabolism: [Early Time-Restricted Feeding in Men with PreDiabetes](#)

Nature: [Intermittent energy restriction improves weight loss efficiency in overweight men](#)



Resources by Diet Type

Alkaline Diet

BMJ: [Systematic review of the association between dietary acid load, alkaline water and cancer](#)

J Ren Nutr: [Reducing the Dietary Acid Load: How a More Alkaline Diet Benefits Patients With Chronic Kidney Disease.](#)

Volumetrics Diet

Obes Res: [Provision of foods differing in energy density affects long-term weight loss.](#)

Nutrients: [Link between food energy density and body weight changes in obese adults.](#)

Am J Clin Nutrition: [Dietary energy density in the treatment of obesity: a year long trial](#)

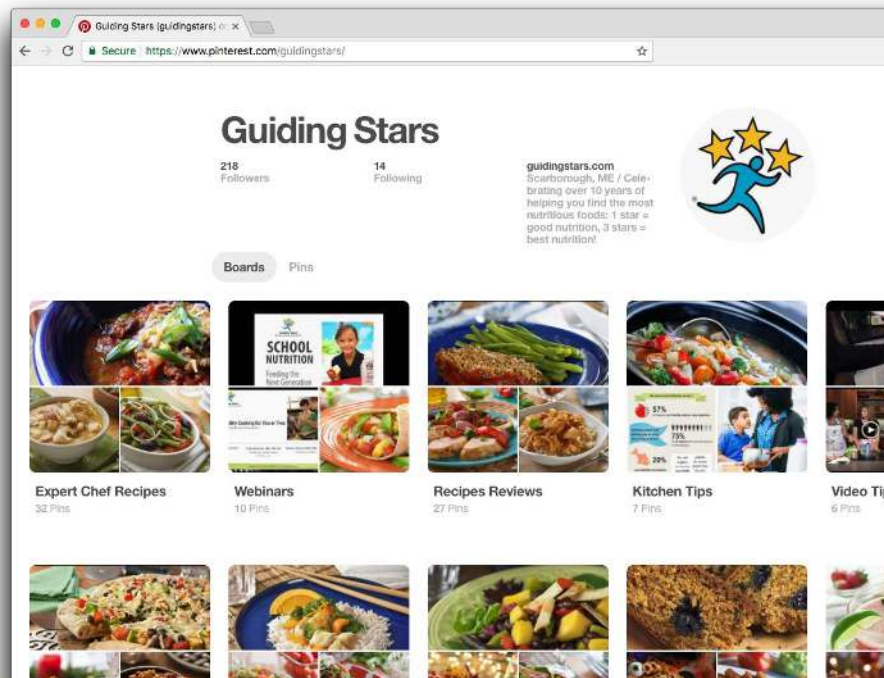


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