

Food as Medicine: What's the Right Way to Eat in the 21st Century?

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Disclosures



Financial Relationships

- Faculty University of Connecticut,
Department of Extension

Non-Financial Relationships

- Board member of the Connecticut Academy
of Nutrition and Dietetics

Objectives

Learning Objectives:

- 1) Discuss diet-related confusion to help guide patients in achieving optimal health.
- 2) Identify current evidence-based practices for nutrition and health education.

What have you been hearing?



Fad Diets: Why?

Multifactorial

- Celebrities or identification with book author
- news influence (magazines, social media)
- quick fix for weight loss



Trending Fad Diets

- Keto
- Whole 30
- Intermittent fasting (IF)

Keto for Weight Loss

Keto - This diet aims to force the body into using ketone bodies for fuel instead of relying on sugar (glucose) that comes from carbohydrates (such as grains, legumes, vegetables, and fruits).

Concerns -

- keto 'flu'
- Fatigue
- Constipation
- need more fluid and electrolytes
- difficult to maintain ketosis, takes several days to achieve - no "cheating" allowed
- challenging to eat 'on the go' or at social functions
- lack of long term evidence (stay tuned -- may change)

Whole 30



- Elimination diet removing processed foods
- Dieters are promised improved digestion, skin health, metabolism, fitness and overall well-being

Concerns:

Strict list of 'no' foods including all forms of sugar, alcohol

Difficult to follow long term

Challenges: eating with others or 'on the go', requires great deal of prep and planning ahead

Anecdotal, not science-based

Intermittent Fasting (IF)

Eating pattern that cycles between periods of eating and fasting.

Does not specify *what* foods you eat but *when*

Periods of fasting require the body to rely on fat stores for energy

Most popular

- “16/8” = fasting 16 hours, eating ‘window’ for 8 hours, example 1pm-9pm
- 5:2 format: consume only 500 calories on two non-consecutive days of the week, but eat normally the other 5 days (The Fast Diet, Dr. Michael Mosley, Dr Caroline Apovian)
- Eat-Stop-Eat: involves fasting for 24 hours, once or twice a week

Intermittent Fasting (IF) Continued

“Evidence support the hypothesis that eating patterns that reduce or eliminate nighttime eating and prolong nightly fasting intervals may result in sustained improvements in human health

IF regimens are hypothesized to influence metabolic regulation via effects on

(a) circadian biology, (b) the gut microbiome, and (c) modifiable lifestyle behaviors, such as sleep.”

Patterson RE, et al. Metabolic Effects of Intermittent Fasting. [Annu Rev Nutr.](#) 2017 Aug 21;37:371-393. doi: 10.1146/annurev-nutr-071816-064634. Epub 2017 Jul 17.

What can we do?



Steps for Practitioners

-Toby Amidor MS, RDN

Recognition

- Praise client for seeking health professionals advice

Safety

- Evaluate proposed diet and caution, may lead to nutrition inadequacies or adverse health

Support

- Be a partner, help client/pt to make the healthy, positive aspects of their chosen diets part of a sustained lifestyle change

Sustainability

- Achieve reasonable, appropriate, client-specific small changes that can be maintained over time

What else is trending?

Join

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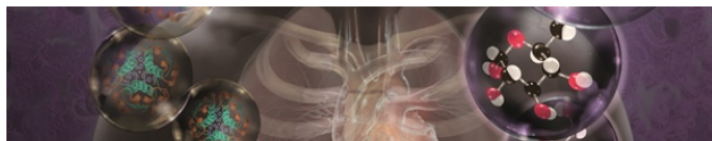
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Existing user? LOGIN

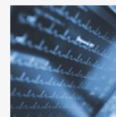
Cardiovascular diseases

The cholesterol and calorie hypotheses are both dead — it is time to focus on the real culprit: insulin resistance

Clinical Pharmacist | 14 JUL 2017 | By [Maryanne Demasi](#), [Robert H Lustig](#), [Aseem Malhotra](#)



Top Stories



Pharmacists to identify AF patients at risk of stroke in £9m NHS England programme

- › RPS expresses concerns over apprenticeship scheme funding
- › Lloyds given £17m contract to run pharmacy services in Scottish prisons
- › All opioid medicines to contain clear warnings about addiction, health secretary announces
- › Scottish government announces £2.6m funding boost for community pharmacies

Keto for Type 2 Diabetes

- Keto traditionally used for management of seizure disorders in children
- Studies on the use of the ketogenic diet for treatment of type 2 diabetes have demonstrated reductions in HbA1c and inflammatory markers such as C-reactive protein, in addition to improvements in insulin sensitivity.

The Ketogenic Diet as a Therapeutic Dietary Intervention for Type 2 Diabetes

Brigid Titgemeier, MS, RDN, LD, IFNCP



Brigid Titgemeier is a functional nutrition dietitian, adjunct instructor, and entrepreneur. She is the CEO and co-founder of a virtual functional nutrition company, N1 Nutrition, and co-instructor of a graduate course in integrative & functional nutrition. Previously, she was one of the founding dietitians at the Cleveland Clinic Center for Functional Medicine where she worked for three years and a nutritionist at the Cleveland Clinic Wellness Institute for two years. She received her board certification in integrative and functional nutrition through IFNA and is studying for her functional medicine board certification exam through IFM. Website: <https://beingbrigid.com> Instagram: @BeingBrigid; Contact: Brigid@beingbrigid.com

benefits of a ketogenic diet reach further than seizure management. In 1983, Phinney et al published one of the first research studies looking at the metabolic effects of a ketogenic diet in humans.¹ Many studies have been published since that time. There appears to be a strong association between the ketogenic diet and weight loss through its ability to lower appetite, reduce lipogenesis, and increase metabolic efficiency. Other strong areas of research include improved outcomes for cardiovascular disease, type 2 diabetes, cancer, and neurodegeneration.²

it is converted to fat through de novo lipogenesis. Consequently, higher levels of saturated fats enter circulation, which further increases the risk of cardiovascular disease and type 2 diabetes.² In addition to insulin resistance, inflammation also plays a participatory role in the pathogenesis of type 2 diabetes. Proposed inflammatory mechanisms that are involved with the disease include the activation of the nuclear factor- κ B (NF- κ B) pathway, the JUN N-terminal kinase (JNK) pathway, and interleukin 1 β (IL-1 β).³

Studies on the use of the ketogenic diet for treatment of

CNBC Top 50 Disruptor Companies



29. Virta Health

Reversing diabetes

PUBLISHED 10 HOURS AGO

UPDATED 13 HOURS AGO

Founders: Sami Inkinen (CEO), Stephen Phinney, Jeff Volek

Launched: 2014

Headquarters: San Francisco

Funding: \$73.8 million (PitchBook)

Valuation: \$320 million (PitchBook)

Key technologies: Artificial intelligence, machine learning

Industry: Health care, diabetes treatments



George Kavalines | CNBC

Meet the 2019 CNBC Disruptor 50 companies. These start-ups are on the cutting edge of big consumer, technology and business shifts — and already worth billions.

CNBC.com, published May 15, 2019

More than 100 million people in the U.S. live with diabetes or pre-

U.S. News Best Diets

- Mediterranean Diet
- DASH Diet
- Flexitarian diet

Best Diets 2019

U.S. News evaluated 41 of the most popular diets and identified the best. Find which top-rated diet is best for your health and fitness goals.



Best Diets Overall

- 🏆 #1 [Mediterranean Diet](#)
- 🏆 #2 [DASH Diet](#)
- 🏆 #3 [The Flexitarian Diet](#)



Mediterranean Diet

- Low in sugar, saturated fat, and red meat
- High in produce, nuts, olive oil and seafood
- Pros: nutritionally sound, diverse foods and flavors
- Cons: considerable prep work, moderately pricey



DASH Diet

DASH = Dietary approaches to stop hypertension (NHLBI)

Emphasizes vegetables, fruits, whole grains, and low fat dairy
Key nutrients are calcium, potassium, protein and fiber to help combat blood pressure

Pros: nutritionally sound, heart healthy

Cons: somewhat pricey, lots of prep work





Flexible and vegetarian, mostly plant based, meat very occasionally

Flexitarian

Pros: nutritionally sound, diverse foods and recipes

Cons: lots of home cooked meals, difficult if you don't care for produce

Evidence-Based Educational Tools

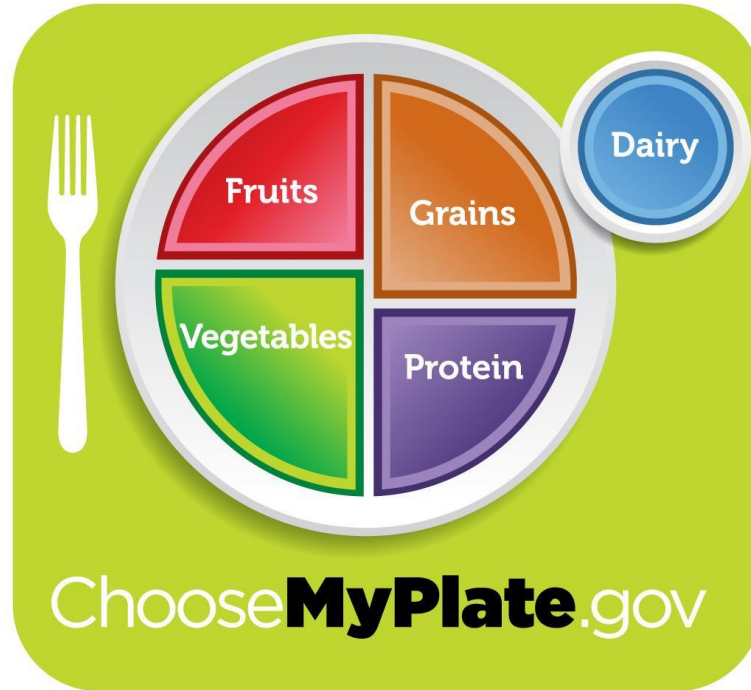


Malnutrition

- **Malnutrition** lack of proper nutrition, caused by not having enough to eat, not eating enough of the right things, or being unable to use the food that one does eat.
- **'Undernutrition'**—which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals).
- **"Overweight"** obesity and diet-related noncommunicable diseases (such as heart disease, stroke, diabetes and cancer).

Estimated cost of disease-associated malnutrition in the U.S. \$157 billion

U.S. Dietary Guidelines



UConn

COLLEGE OF AGRICULTURE,
HEALTH AND NATURAL RESOURCES

EXTENSION

MyPlate healthy eating pattern includes:

- A variety of vegetables from all of the subgroups—dark green, red and orange, legumes (beans and peas), starchy, and other
- Fruits, especially whole fruits
- Grains, at least half of which are whole grains
- Fat-free or low-fat dairy, including milk, yogurt, cheese, and/or fortified soy beverages
- A variety of protein foods, including seafood, lean meats and poultry, eggs, legumes (beans and peas), and nuts, seeds, and soy products
- Oils

Daily Recommendations



FRUIT
1 to 2 cups

VEGETABLES
1 ½ to 3 cups



Registered Dietitian
Nutritionists (RDN) can help

Nutritionist vs RDN

Anyone can call themselves a nutritionist, only a RDN has completed education and training established by the Accreditation Council for Education in Nutrition and Dietetics.

All RDNs must:

- Get a four-year degree which includes a specially designed, accredited nutrition curriculum. **AND**
- Complete an 1000 hours of supervised program of practice including: clinical, foodservice and community. **AND**
- Pass a rigorous registration exam.
- Maintain at least 75 hours of CEUs in a 5 year period

Half of all RDs and RDNs hold graduate degrees and many have certifications in specialized fields, such as sports, pediatric, renal, oncology or gerontological nutrition.

Where do RDNs work?

The majority of RDNs work in the treatment and prevention of disease, providing
MNT(Medical Nutrition Therapy)

- Hospitals-Clinical and Foodservice
- Integrative and Functional Medicine
- Private Practice and Consulting
- Senior Living- Nursing homes, MOW, senior meals
- Community and Public Health- SNAP-Ed, WIC
- Fitness Centers, sports teams
- Food and Nutrition-Related Business
- Universities -Nutrition education
- Research and Nutrition Informatics
- Schools -preschool through college
- Culinary
- Media

Find a Registered Dietitian Nutritionist

- The Academy of Nutrition and Dietetics online referral service allows you to search a national database of Academy members.
- Find a qualified registered dietitian nutritionist

<https://www.eatrightct.org> then go to “Find an Expert”

Search near you-
enter your zip code

Or

[Search by expertise](#)

Considerations when providing nutrition guidance

Considerations



Assess for food insecurity

- 1 in 8 people living in CT are food insecure
- 1 in 6 children in CT live in food insecure homes
- 40% of CT's households have incomes that are below the level needed to pay for basic necessities

Household food insecurity and medication "scrimping"

“Conclusion: One-quarter of adults with diabetes may have difficulty obtaining foods appropriate for a diabetic diet; a substantial number of these individuals also fail to obtain or take medications. Practitioners may miss either problem unless targeted questions are included in clinical encounters. Clinicians should consider referring FI and MFS diabetic patients to community food resources.”

Knight CK, et al. Household food insecurity and medication “scrimping” among US adults with diabetes.

[Prev Med.](#) 2016 Feb;83:41-5. doi: 10.1016/j.ypmed.2015.11.031. Epub 2015 Dec 4.

Considerations

Cultural Background

Food Beliefs

Food Preferences

Job/Career schedule (bus driver, factory worker, etc.)

Health Literacy -- Does the patient/client demonstrate understanding?

Food Pantries



Mobile Food Pantries



Fresh Food Resources



CT Food Bank: <http://www.ctfoodbank.org/get-help/connecticut-mobile-pantry-schedule/>

Foodshare

http://site.foodshare.org/site/DocServer/Mobile_Foodshare_Calendar.pdf?docID=10024

Southeastern CT

<http://www.uwsect.org/foodbank/mobile-pantry-distributions>

Free resources to the public

SNAP-Ed - Supplemental Nutrition Assistance Program Education

- Free nutrition classes held in community settings statewide
- Free 'Ask the Nutritionist' Q and A
- <https://www.snap4ct.org/>

CT Academy of Nutrition and Dietetics

Visit us: www.eatrightct.org

Over 1,000 Registered Dietitian members
statewide

Resources, information, media spokespersons

Questions?

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<https://www.ers.usda.gov/publications/pub-details/?pubid=90022>

Household food security statistics are based on a measure of food security calculated from responses to a series of 10 questions, with an additional 8 questions if children are in the household, about conditions and behaviors that characterize households when they are having difficulty meeting basic food needs. See page 3 in Household Food Security in the US 2017: see:

<https://www.ers.usda.gov/webdocs/publications/90023/err-256.pdf?v=0>

ALICE Report http://alice.ctunitedway.org/wp-content/uploads/2018/08/CT-United-Ways-2018-ALICE-Report-8.13.18_Hires-1.pdf

US Dietary Guidelines for Americans <https://health.gov/dietaryguidelines/2015/>