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Nutrition Myths

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Which is healthier?

- Brown eggs
- White eggs

Which is healthier?

- Regular peanut butter
- Reduced fat peanut butter

Which is healthier?

- Cane sugar
- Raw sugar

Which is healthier?

- Gluten free muffin
- Regular muffin

Which is healthier?

- Candy bar
- Protein bar

Which is healthier?

- Cow's milk
- Plant-based milk

Which is healthier?

- Beef
- Poultry

What is “healthy”?

- Merriam-Webster: beneficial to one’s physical, mental, or emotional state: conducive to health (e.g., healthy foods; a healthy lifestyle)

Why is it so hard to make the right choice?

Dietary guidelines for Americans 2020 to 2025

"Focus on nutrient dense foods and beverages, limit those higher in added sugars, saturated fat, and sodium and stay within calorie limits."

Why is it so hard to make the right choice?

Keto diet
You can eat:

- Seafood
- Low carb vegetables
- Cheese
- Avocados
- Meat and poultry
- Eggs
- Plain yogurt and cottage cheese
- Olive oil
- Nuts and seeds
- Berries
- Butter and cream
- Olives
- Unsweet coffee and tea
- Dark chocolate and cocoa powder

The ingredients we avoid

- 64% of people follow a diet that prohibits certain things

North America:

1. Monosodium glutamate (MSG)	55%
2. Antibiotics or hormones used in animal products	54%
3. Artificial sweeteners	54%
4. Artificial preservatives	53%
5. Food in a package with bisphenol A (BPA)	53%

There are no "good" or "bad" foods

- Good vs. bad foods
- Nutrient dense foods
- Energy dense foods
- Can a food be both?
- Foods and nutrients are not "cure-alls"

Health claims on foods

- Health claim
- Structure or function claim
- Nutrient content claim

“Adequate calcium as part of a healthful diet, along with physical activity, may reduce the risk of osteoporosis in later life.”

Health claims:
What's wrong with these pictures?

Health claims:
What's wrong with these pictures?

Health claims:
What's wrong with this picture?

Genetically Modified Organism (GMO)

- A genetically modified crop is a crop that has had its genetic makeup altered in order to produce a more desirable outcome, such as resistance to disease or change in size
- GMO crops: corn, soybeans, cotton, potatoes, papaya, summer squash, canola, alfalfa, apples, and sugar beets

Genetically Modified Organism (GMO)

- Never been detected in milk, meat or eggs derived from animals fed GM feed
- Other uses for these crops include common food ingredients: sugar, canola oil, corn starch, and soy lecithin
- You may also see non-GMO water and non-GMO salt, but here's the catch: it's not possible for either to be a GMO in the first place!

Genetically Modified Organism (GMO)

- Many products aren't among the commercially available GMO crops sold, you may still see certified GMO-free labels even though there's no GMO counterpart
- Some people may think there is such a thing as 'GMO cancer,' in the 20-plus years on the market, GMOs have not caused or contributed to a single illness or death

Genetically Modified Organism (GMO)

- The health and safety of GMOs have been validated by many independent scientists and organizations around the world
- GMOs allow farmers to preserve the land while doing more with fewer resources and help us address today's most pressing environmental challenges

Genetically Modified Organism (GMO)

- GMOs can increase productivity in agriculture without having to bring more land into production
- To produce the same amount of crops without GM technology, farmers would have needed to cultivate 59 million additional acres of land, so in this case, the environmental impact of genetically modified crops is hugely positive

Genetically Modified Organism (GMO)

- GM crops have contributed to higher yields (e.g., 30% more in some farming areas, and can contribute to poverty reduction and food security in developing countries)
- GMOs can also reduce soil erosion, help conserve water, improve air quality, and lead to fewer pesticide applications

Few things to take away regarding GMOs

- The non-GMO label doesn't always mean it's replacing a GMO alternative (remember, you're paying a premium for a meaningless label)
- The non-GMO label doesn't mean it's healthier
- The non-GMO label doesn't mean it's better for the environment
- The non-GMO label doesn't mean there aren't any GMOs

Food faddism

- A dietary practice based upon an exaggerated belief in the effects of food on health and disease
    - Raw milk
    - Carbs
- "Crash dieting"

Nutrition quackery

- Quackery is a "type of health fraud that promotes products and services that have questionable and unproven scientific basis"(Schiff, 2018)
- Recommendations for nutrition care based on products and services that are questionable and have unproven scientific facts to back it up

Signs of quackery

- No credentials
- False information without valid research to back it up
- Whole food groups are eliminated
- Testimonials over nutrition research
- Promised quick dramatic results
- “Natural” pill, supplements etc.
- Negative aspects not explained well
- Amount over or below the RDA recommendations

How can we be better informed?

Please don’t tell me I have to read research……

Research smesearch

- **Issue #1: Statistics are used and misused in disseminating health information**
  - **Types of instruments used in the study**
  - **One study vs. totality of evidence**
  - **Once adjusted for BP and cardiovascular disease, the association was no longer significant**
  - **French fry study**

“Eight-year study finds heavy French fry eaters have ‘double’ the chance of death.”

American Journal of Clinical Nutrition

What is the risk of death for a 60-year-old man, regardless of how many French fries he eats?

One percent. That means that if you line up 100 60-year-old men, at least one of them will die in the next year simply because he is a 60-year-old man.

What is the risk of death for a 60-year-old man, regardless of how many French fries he eats?

If all 100 of those men eat fried potatoes at least three times per week for their whole lives, yes, their risk of death doubles. But what is one percent doubled? Two percent. So instead of one of those 100 men dying over the course of the year, two of them will. This is a statistical concept called relative risk.

Research smesearch

- **Issue #2: Confusion can spark because research is constantly changing. At one point something is shown to be healthy for you but with further research it can be found to not be as beneficial.**
  - **Why a single study should not be used – multiple needed to have research-based proof**
  - **Media will use research that will grab the reader's attention (usually only one study)**

Research smesearch

- **Issue #3: Peer-reviewed journal articles are usually required to note any affiliations and financial support – also helps ensure the researchers are as ethical and objective as possible (impossible to eliminate all research bias)**
  - **For example: Beef industry would help fund researchers showing a high protein diet is beneficial for losing weight and not so much support ones that show high beef intake causes different types of cancer. This would have to be listed in the peer-reviewed journal article.**

Research smesearch

- **Issue #3: Peer-reviewed journal articles are usually required to note any affiliations and financial support – also helps ensure the researchers are as ethical and objective as possible (impossible to eliminate all research bias)**
  - **Peer-reviewed journals usually require authors of articles to disclose (mention) their affiliations and sources of financial support. Such disclosures might appear either on the first page or at the end of the article. By having this information, readers can decide whether research bias may have influenced the researchers.**

Research smesearch

- **Issue #4: Correlation does not mean causation**
  - **Does NOT mean one thing causes another**
  - **Determines whether, and to what extent, a relationship exists between two or more variables (e.g., lemonade consumption increases in summer and so does death by drowning)**
    - **Does this prove that drinking lemonade increases the risk of drowning?**
    - **No, this is a correlation not causation**

Fight against the spread of "bad" nutrition info!

- Become a more skeptical consumer
- Be wary of:
  - Salespeople
  - Nutrition "experts"
  - What's their educational background? Scientific?
  - Scientific-sounding terms
- Don't believe everything you hear
- Ask questions about source of information and motives

Fight against the spread of "bad" nutrition info!

- Become a more critical consumer of nutrition information
  - Nutrition "experts"
    - Anyone can call him or herself a "nutritionist" to appear to be a "nutrition expert"
    - What is the person's educational background? Are his or her nutrition degrees from accredited institutions? What is the person's professional experience? Is it limited to the industry that's marketing nutrition-related products?

Fight against the spread of "bad" nutrition info!

- Become a more critical consumer of nutrition information
  - Claims that the product was "scientifically tested" or "clinically tested at a major university"
    - Where can you read the article about the study?
    - Which university was involved in the clinical tests?
    - Is it an accredited university?
    - How was the testing done?

Fight against the spread of "bad" nutrition info!

- Become a more critical consumer of nutrition information
  - Scientific-sounding terms, such as "enzymatic therapy," "nutritionals," or "colloidal chelated extract"
    - Promoters typically use such vague or meaningless terms when presenting false or misleading information as factual and obtained by scientific methods – such terms are designed to convince people without science backgrounds that the nutrition-related information is true

Fight against the spread of “bad” nutrition info!

- Red flags
  - Quick and easy health remedies
  - Claims that sound too good to be true
  - Scare tactics
  - Money back guarantees
  - Testimonials and anecdotes
  - Information about benefits while overlooking risks
  - Single study recommendations
  - Disclaimer in small difficult to read print

Where do I go now?

- Registered dietitians
- Nutrition professors
- Medical associations
  - American Diabetes Association
  - American Heart Association
- Government Agency Sites
  - myplate.gov
  - fda.gov

Governmental Consumer-Protection Organizations

- **Federal Trade Commission (FTC) protects consumers by stopping unfair, deceptive, or fraudulent practices in the marketplace and conducts investigations, sues companies and people that violate the law, develops rules to ensure a vibrant marketplace, and educates consumers and businesses about their rights and responsibilities**

www.ftc.gov

Governmental Consumer-Protection Organizations

- **Food and Drug Administration**
  - **"The Food and Drug Administration is responsible for protecting the public health by ensuring the safety, efficacy, and security of human and veterinary drugs, biological products, and medical devices; and by ensuring the safety of our nation's food supply, cosmetics, and products that emit radiation."**
  - **"FDA also has responsibility for regulating the manufacturing, marketing, and distribution of tobacco products to protect the public health and to reduce tobacco use by minors"**

www.fda.org

Non-Governmental Consumer-Protection Organizations

- National Sanitation Foundation (NSF) International: as an independent global health and safety organization, NSF International tests and certifies products and writes standards for the food, water, and consumer goods industries

www.nsf.org

Fad, Fact, or Fiction?

Fad, Fact, or Fiction?

A juice cleanse eliminates toxins and will help you lose weight

A juice cleanse eliminates toxins and will help you lose weight

- What is a juice cleanse?
  - Juicing is a "detox" diet that can last from a few days to several weeks in which a person consumes only fruit and vegetable liquids to obtain nutrition while otherwise abstaining from eating food
  - Widely marketed as providing health benefits such as:
    - Weight loss
    - Flush toxins from the body
    - Increase energy
    - Reduce risk of cancer
    - Boost immune system
    - Aid in digestion

A juice cleanse eliminates toxins and will help you lose weight

- How the body naturally detoxifies
  - Ongoing process
  - Liver and kidneys
  - Endotoxins vs. exotoxins
  - Excreted via urine, feces, respiration, or sweat
  - Toxins can be stored in fat cells, soft tissue, and bone
- Detox programs
  - Eliminating “processed” foods and foods to which some people are sensitive
  - Fasting (may actually suppress natural detoxification pathways in the body)

A juice cleanse eliminates toxins and will help you lose weight

- No scientific evidence has proven that juicing, rather than eating whole fruits, provides the benefits many people claim
  - No evidence showing improved blood pressure or cholesterol
  - May be dangerous for persons with diabetes, especially if they take medicine for it
  - A few pounds may be lost but are quickly gained back once the person begins eating “normally” again
- The body can only absorb so much of any nutrient

A juice cleanse eliminates toxins and will help you lose weight

- Benefits of juicing
  - Increased intake of vitamins and minerals
  - Increased intake of fluids
  - Decreased intake of "junk foods"

Instead Support Your Body's Natural Detox Process!

- Maintain adequate hydration
- Eat 5-9 servings of fruit and vegetables per day
- Consume enough fiber each day from vegetables, nuts, seeds, and whole grains
- Eat cruciferous veggies, berries, artichokes, garlic, onions, leeks, turmeric, and drink green tea
- Consume adequate protein
- Consider a multivitamin/multimineral to fill any dietary gaps
- Eat naturally fermented food: kefir, yogurt, kimchi, sauerkraut, or take a high-quality probiotic
- Maintain bowel regularity

Fad, Fact, or Fiction?

A juice cleanse eliminates toxins and will help you lose weight

Fad, Fact, or Fiction?

Fad!

Fad, Fact, or Fiction?

I need to eat clean to be healthy

I need to eat clean to be healthy

- **What is clean eating?**
  - **No official definition**
  - **"Since there is no scientific consensus on the definition of clean eating, I define a clean eater as someone whose diet consists of 80 to 90 percent whole foods, 80 to 90 percent cooking and preparing their foods from scratch, using minimally-processed foods and including superfoods in their diets"**

    Manuel Villacorte, MS, RD, author of "Whole Body Reboot: The Peruvian Superfoods Diet"
  - **"Clean eating = eating foods where nothing healthful has been taken away, and nothing harmful has been added"**

    Dawn Jackson Blatner, RDN, author of "The Superfood Swap"

I need to eat clean to be healthy

- **What is clean eating?**
  - **“Clean eating is when I can see all of the ingredients I am eating. For example, a lunch of grilled salmon over salad with lots of veggies as opposed to a bowl of processed macaroni and cheese where I can't pronounce the ingredients on the label. Clean eating means the least processed fresh food that focuses on a rainbow of colors from fruits and vegetables, not from a cereal box.”**

Jayne Newmark, MS, RDN, owner of Newmark Nutrition, LLC, Phoenix, Arizona

I need to eat clean to be healthy

Is all other eating dirty?

I need to eat clean to be healthy

- FDA definition of “natural”

> The FDA has considered the term “natural” to mean that nothing artificial or synthetic (including all color additives regardless of source) has been included in, or has been added to, a food that would not normally be expected to be in that food

I need to eat clean to be healthy

- USDA definition of “processed food”

> - Any raw agricultural commodity that has been subject to washing, cleaning, milling, cutting, chopping, heating, pasteurizing, blanching, cooking, canning, freezing, drying, dehydrating, mixing, packaging, or other procedures that alter the food from its natural state
> - This may include the addition of other ingredients to the food, such as preservatives, flavors, nutrients and other food additives or substances approved for use in food products, such as salt, sugars and fats

- Are there any unprocessed foods?

Processed or not?

All foods are processed!

Superfoods

- Merriam-Webster definition: a food (salmon, broccoli, or blueberries) that is rich in compounds (antioxidants, fiber, or fatty acids) considered beneficial to a person's health

Superfoods?

- Matcha
- Turmeric
- Chia
- Flax
- Goji berries
- Acai
- Quinoa
- Coconut oil

Huh?

- Pyridoxine hydrochloride
- Ascorbic acid
- Cholecalciferol
- Cyanocobalamin
- Phylloquinone

Fad, Fact, or Fiction?

I need to eat clean to be healthy

Fad, Fact, or Fiction?

Fiction!

Fad, Fact, or Fiction?

Sugar is toxic

Sugar is toxic

- What is sugar?
  - This can be a tricky question to answer as there are many things that have sugar in them
  - Natural sugars vs. added sugars
  - Many naturally occurring foods have sugar already in them such as fruits and vegetables

Nutrition Facts

8 servings per container
Serving size **2/3 cup (55g)**

Amount per serving
Calories **230**

	% Daily Value*
Total Fat 8g	**10%**
Saturated Fat 1g	**5%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 160mg	**7%**
Total Carbohydrate 37g	**13%**
Dietary Fiber 4g	**14%**
Total Sugars 12g	
Includes 10g Added Sugars	**20%**
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Per capita sugar intake

Sugar is toxic

- High blood sugar (hyperglycemia)
  - According to diabetes.org sugar intake has been linked with a number of diseases like type 2 diabetes, cancer, and heart disease (ADA, 2014)
  - Frequent or ongoing high blood sugar can cause damage to your nerves, blood vessels, and organs (can also lead to other serious conditions)
  - Does eating too much sugar cause hyperglycemia?

Fad, Fact, or Fiction?

Sugar is toxic

Fad, Fact, or Fiction?

Fiction!

Fad, Fact, or Fiction?

B vitamins and/or caffeine will give me energy

Energy comes from calories

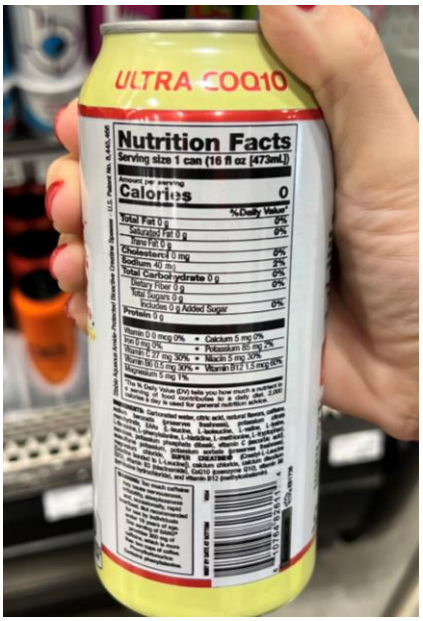
- What provides calories?
  - Carbohydrates - 4 calories per gram
  - Protein - 4 calories per gram
  - Fat - 9 calories per gram
  - Alcohol - 7 calories per gram

Vitamins

- Vitamins and minerals do not provide energy themselves but they are critical to the energy-producing process - B vitamins are cofactors in the metabolism process

Caffeine

- Caffeine is a stimulant
  - It provides "energy" primarily by acting on the nervous system and binds to receptors in the brain to increase the release of neurotransmitters
  - Caffeine increases alertness and decreases fatigue
  - Excess caffeine is toxic



Fad, Fact, or Fiction?

B vitamins and/or caffeine will give me energy

Fad, Fact, or Fiction?

Fiction!

Fad, Fact, or Fiction?

Organic foods are more nutritious than conventional foods

What does “organic” mean?

- Organic is a production claim, not a nutrition claim - studies indicate that organic foods are not more nutritious than conventionally grown crops

Fad, Fact, or Fiction?

Organic foods are more nutritious than conventional foods

Fad, Fact, or Fiction?
Fiction!

Which is healthier?

- **Brown eggs**
- **White eggs**

Which is healthier?

- Regular peanut butter
- Reduced fat peanut butter

Regular

Reduced fat

Which is healthier?

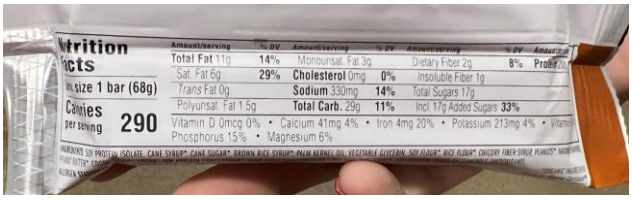
- Cane sugar
- Raw sugar

Which is healthier?

- Gluten free muffin
- Regular muffin

Which is healthier?

- Candy bar
- Protein bar



Which is healthier?

- Cow's milk
- Plant-based milk

Which is healthier?

- Poultry

Nutrition Facts
Serving Size 113g (4oz.)
Servings Per Container varies

Amount Per Serving		
Calories 120	Calories from Fat 10	
		% Daily Value*
Total Fat	1.5g	**2%**
Saturated Fat	0g	**0%**
Trans Fat	0g	
Cholesterol	75mg	**25%**
Sodium	70mg	**3%**
Total Carbohydrate	0g	**0%**
Dietary Fiber	0g	**0%**
Sugars	0g	
Protein	27g	

Vitamin A	0%	• Vitamin C	0%
Calcium	8%	• Iron	2%

Not a significant source of dietary fiber, sugars, vitamin A, vitamin C and iron.

*Percent Daily Values are based on a 2,000 calorie diet.

- Beef

Nutrition Facts
Serving Size 4 oz (112g)
Servings Per Container 2

Amount Per Serving		
Calories 150	Calories from Fat 50	
		% Daily Value*
Total Fat 6g		9%
Saturated Fat 3g		15%
Trans Fat 0g		
Polyunsaturated Fat 0g		
Monounsaturated Fat 2.5g		
Cholesterol 60mg		20%
Sodium 65mg		3%
Total Carbohydrate 0g		0%
Dietary Fiber 0g		0%
Sugars 0g		
Protein 24g		48%

Vitamin A	0%	• Vitamin C	0%
Calcium	0%	• Iron	15%

* Percent Daily Values are based on a 2,000 calorie diet.

Thank you for your attention!

Nutrition Myths

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