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Nutrition Myths Busted with Katie and Ashley

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Nutrition Myths vs Facts

Some false ideas about nutrition seem to linger in American culture.

Let’s help set the record straight.

Presenter Introduction

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Agenda

- Protein intake
- Plant-based protein
- Plant milks
- Dietary Cholesterol
- Coconut Oil
- Ketogenic Diet
- Carbohydrates – are all bad for you?
- Soy-based foods and cancer risk
- Type 2 diabetes and fruit intake
- Detox diets
- Gluten Free Diets
- Intermittent Fasting

MYTH:
Most Americans do not eat enough protein.

- Traditional RDA 0.8g/kg: aimed at preventing protein deficiency in healthy, sedentary adults and provided a minimum value
- Many Americans eat about 1g/kg protein per day; closer to new dietary guidelines of 1.2-1.6g/kg
- Adequate protein intake is crucial for building and maintaining muscle, tissue repair, immune function, enzyme and hormone production, blood sugar management, satiety and weight management
- Protein recommendations should be tailored to the individual based on weight status, age, activity level, medical history, goals.

MYTH:
Plant protein is inferior to animal protein.

- Amino acid profile
- Digestibility / protein utilization varies
- Muscle building edge in animal protein due to higher leucine content
- Plant-based diet cardiovascular benefits; linked to lower risk of heart disease and certain types of cancer
- Plant-based proteins also supply fiber, antioxidants, and other nutrients that we need more of in our diet.

Recommendations

- Prioritize fish and skinless poultry
- Portion awareness (3-4oz)
- Red meat in moderation
- Limit processed meats

- Adopt a "plant-forward" diet - animal protein complements rather than dominates

MYTH:
Plant milk is healthier than dairy milk.

- Dairy-free alternatives are derived from nuts, seeds, grains, or legumes (i.e., oat, almond, soy, coconut, cashew, pea milk)
- Cow's milk: ~8g/cup (great source of protein and calcium)
- Almond milk: ~1-2g/cup almond milk (lower calorie, lower protein)
- Oat milk: 2-3g/cup (naturally sweet, fiber content, higher carb)
- While the nutrition of plant-based beverages does vary, many have more added ingredients than cow's milk like sodium and added sugars.

Comparison of Cow's Milk and Unflavored Milk Alternatives*

MILK ALTERNATIVE	KCAL	PROTEIN (g)	FAT/SAT FAT (g)	CARBOHYDRATE/ SUGARS** (g)	CALCIUM (mg)	VITAMIN D (IU)	VITAMIN B_{12} (mcg)	IRON (mg)
Cow's Milk, 1%***	105	8.5	2.4/1.5	12.2/13	314	98	0.9	0.1
Califia Farms Unsweetened Almondmilk	35	1	3/0	1/0	450	0	0	0.4
Silk Unsweetened Cashewmilk	25	<1	2/0	1/0	450	150	0	0.3
So Delicious Unsweetened Coconutmilk	45	0	4.5/4	1/<1	100	180	1.2	0
Good Karma Unsweetened Flaxmilk	25	0	2.5/0	1/0	300	150	0.6	0
Elmhurst Unsweetened Milked Hazelnuts	100	3	9/0.5	1/1	25	0	0	1
Pacific Foods Unsweetened Hemp Non-Dairy Beverage	60	3	4.5/0	0/0	282	80	0	2
Milkadamia Unsweetened Macadamia Nut Milk	50	1	5/1	1/0	450	150	1.2	0.3
Pacific Foods Original Oat Milk	130	4	2/0	25/17	121	80	0	1
Good Groceries Company Unsweetened Quinoamilk	70	2	1/0	12/2	300	150	0	0.6
Rice***	113	0.7	2.3/0	22/12.7	283	101	1.5	0.5
Soy***	80	7	1.61/0.2	4.2/1	301	119	2.7	1.1

— SOURCES: USDA FOOD COMPOSITION DATABASE; COMPANY WEBSITES

* All measures are per 8-oz serving.
** Includes naturally occurring and added sugars.
*** USDA Standard Reference

Nutrient Content of Milk and Plant-Based Milk Substitutes

Understanding the nutritional properties and limitations of plant-based products that are marketed as substitutes for dairy can help us decide how to fit these innovative, environmentally-friendly beverages into a healthy dietary pattern.

	Protein (g)	Calcium (mg)	Vitamin D (IU)	Vitamin A (IU)	Fiber (g)	Sugars (g) (Plain)	Sugars (g) (Chocolate)	Calories (Plain)	Calories (Chocolate)
Milk, whole, with added vitamin D	8	276	124*	395	0	12**	24	149	208
Milk, nonfat, with added vitamins A and D	8	299	115*	500*	0	12**	21	83	168
Soymilk, fortified	7	301*	119*	503*	1	1	19	80	153
Hemp milk, fortified,	3	499*	101*	499*	1	N/A	23	N/A	199
Almond milk, fortified,	1	451*	101*	499*	1	2	15	39	91
Coconut milk, fortified	<1	451*	101*	499*	0	6	N/A	74	N/A
Rice milk, fortified	<1	283*	101*	151*	<1	13	N/A	113	N/A

Data from USDA Nutrient Database, standard reference
*added during processing **natural milk sugars, not added during processing
g = grams; mg = milligrams; IU = International Units; N/A = standard reference data not available

https://www.nutritionletter.tufts.edu/healthy-eating/nutrition-and-plant-based-milk-substitutes/

MYTH: dietary cholesterol is the biggest factor impacting blood cholesterol levels.

- About 75-80% of the cholesterol that circulates in the blood is made in the liver and 20-25% comes from dietary sources.
- The liver regulates cholesterol, producing its own supply as needed (impacted by genetics, thyroid function, insulin sensitivity, and stress).
- Individual cholesterol levels vary significantly even if diets are similar.
- Food high in dietary cholesterol include high-fat meat/processed meats, eggs, butter, full-fat dairy.

MYTH: dietary cholesterol is the biggest factor impacting blood cholesterol levels.

- Evidence shows that consumption of high levels of saturated fat raises the “bad” LDL cholesterol and increases the risk of heart disease, more so than eating foods high in dietary cholesterol.
- Reduce saturated fat intake to less than 10% of total caloric intake.
- Strictly limit/avoid foods that are both high in cholesterol AND saturated fats (processed meats, fried foods, baked goods, and sweets).
- Include monounsaturated fats (such as nuts and olive oil), polyunsaturated fats (such as fish and canola oil), and soluble fiber (such as oats, beans and lentils).
- Minimize added sugar consumption.

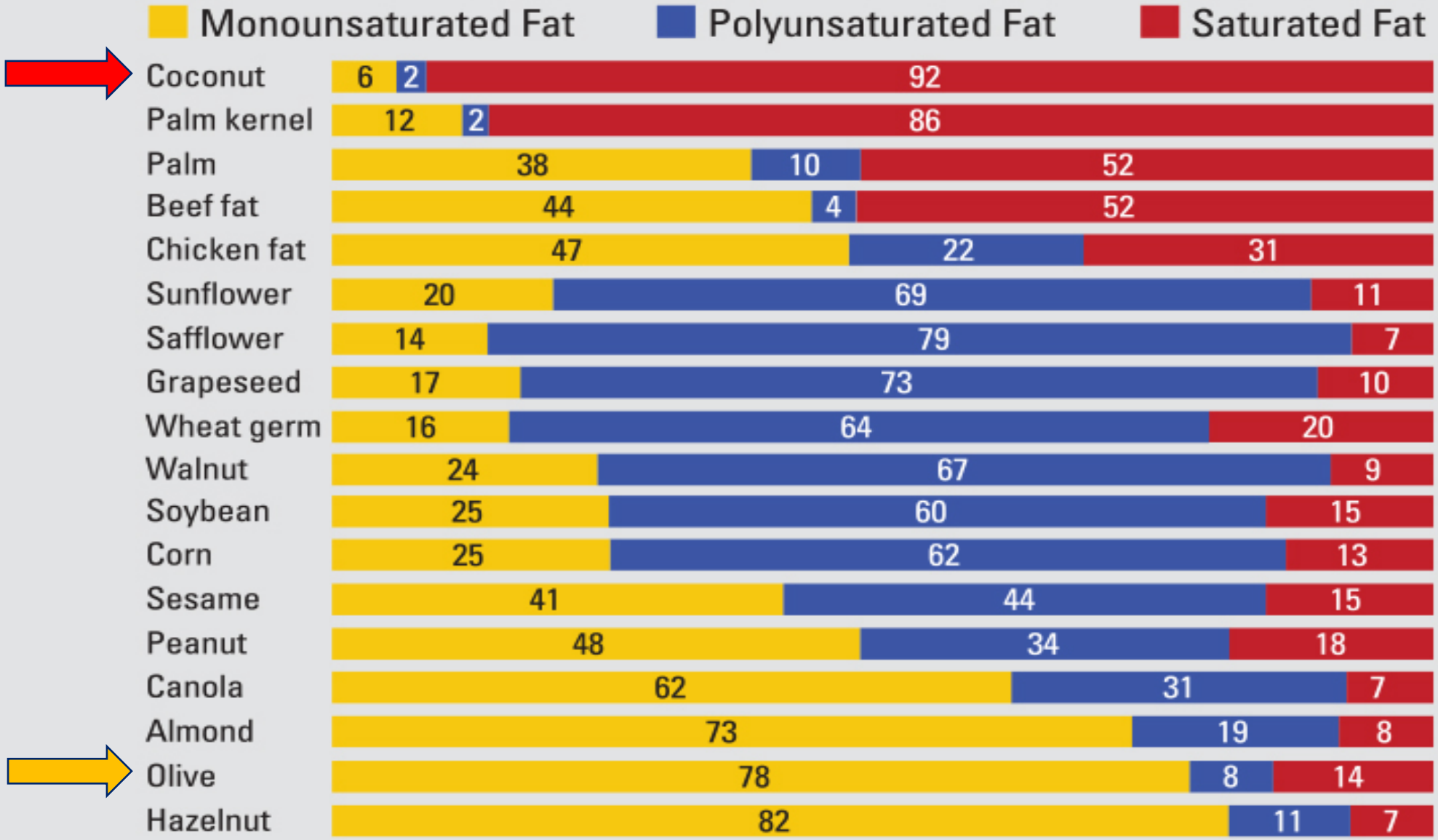
MYTH: Coconut oil is a heart-healthy cooking oil alternative.

- May improve “good” HDL cholesterol levels
- High-heat stability
- Coconut products contain medium-chain triglycerides (MCTs) which are considered healthy fat, can promote satiety and aid in weight management

BUT:

- Coconut oil is 92% saturated fat
  - Excess saturated fat consumption can increase LDL cholesterol, total cholesterol, and triglycerides—all heart disease risk factors —more than other plant-based oils like olive or canola.

Oil Comparison



Diet trends: Ketogenic Diet

- Very low carbohydrates (keeping under 50 grams per day); most calories derived from fat. Forces the body to use a different type of fuel called ketones.
- Short-term benefits in some people include weight loss and improvements in total cholesterol, blood sugar, and blood pressure.
- Can be effective and safe for kickstarting weight loss if aiming for healthier sources of fat and protein (i.e. olive oil, avocado, almonds, walnuts).
- Limited research to show long-term safety or efficacy except in individuals who follow the diet for medical reasons.
- Generally higher than recommended fat/saturated fat content increasing risk for CVD.
- Restrictions on nutrient-rich fruits, vegetables, and grains can create nutrient deficiencies.

Myth: All carbohydrates are bad for you.

- Carbohydrates (carbs) are essential macronutrients that are the body's preferred fuel source. Carbs provide energy for our organs and tissues.
- It is the **type** and **quantity** that can impact health and weight.
- Complex carbs contain fiber and/or protein→ require body to work harder to digest→ blood sugar levels go up slowly→ keeps you fuller longer.
- Refined carbs have been stripped of fiber and often contain added sugar → broken down more easily → blood sugar levels rise quickly →body stores these sugar molecules as fat if not burned off.

Bottom Line: Carbohydrates are an essential part of our diet that we need to function and have a role in a healthy, balanced diet. Choose complex carbs that contain fiber and/or protein, vitamins, and minerals, and avoid simple carbs as much as possible.

thebmj Visual abstract

Changes in carbohydrate intake and long term weight changes

Summary

Limiting low quality carbohydrate food sources (eg, added sugar, sugar sweetened beverages, refined grains, and starchy vegetables) in favor of high quality sources (eg, whole grains, fruit, and non-starchy vegetables) may support efforts to control body weight

Study design

Prospective cohort study | 24 to 28 years of follow-up | 4 year changes in different forms and types of carbohydrate intake

Population

136 432 participants based in the US | Mean age: 50.2 years | Sex: 83.5% women | No major chronic diseases at baseline

Outcomes

Concurrent 4 year change in body weight

Food source	Daily increment	
Carbohydrate from non-starchy vegetables	per 100 g	3.0 kg
Fibre	per 10 g	0.8 kg
Added sugar	per 100 g	0.9 kg
Starch	per 100 g	1.5 kg
Carbohydrate from starchy vegetables*	per 100 g	2.6 kg

All values were larger among people with existing overweight or obesity

Less weight gain — Average change — More weight gain

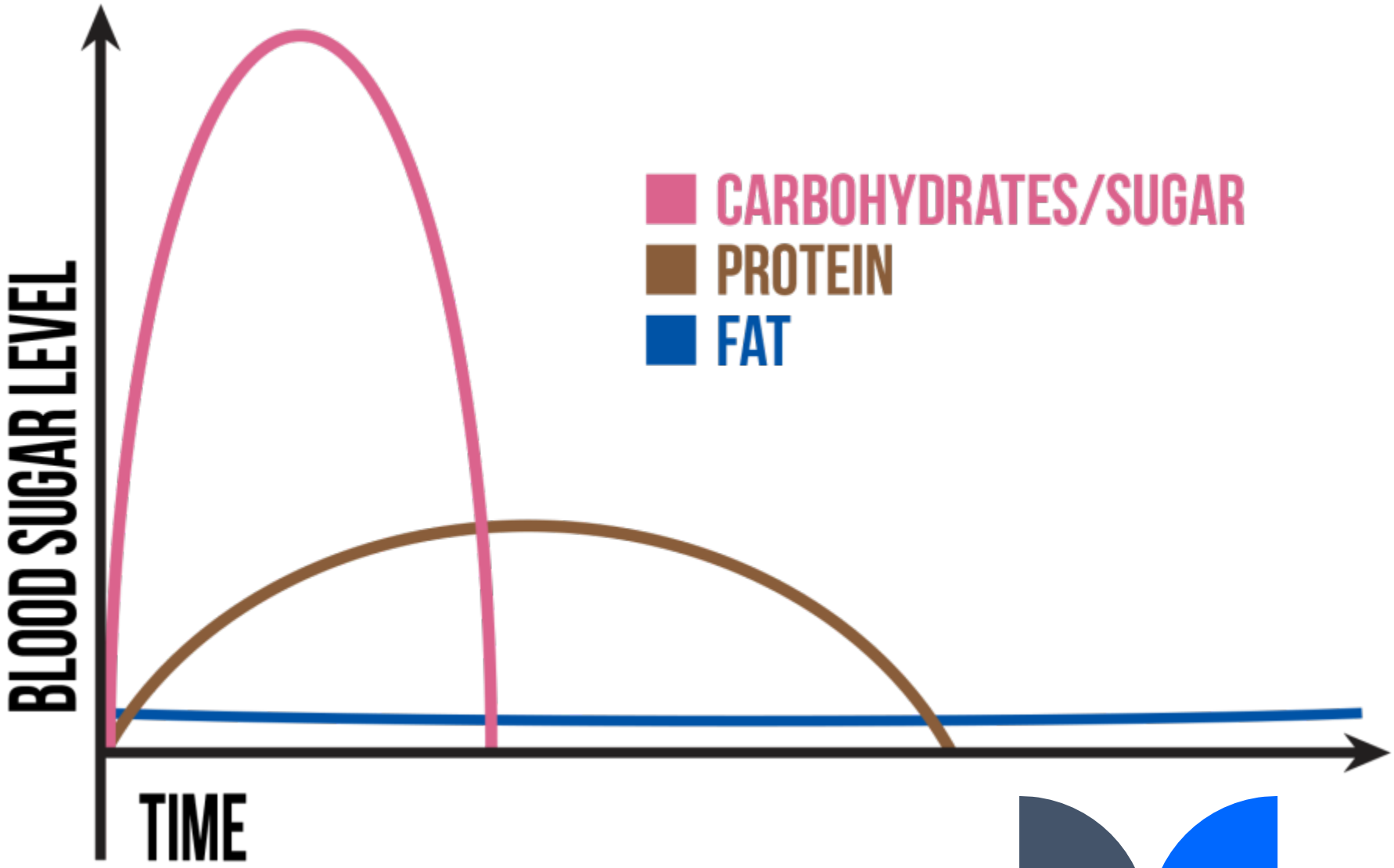
https://bit.ly/BMJItcarb

*Mostly potatoes

Myth: People with Type 2 diabetes shouldn’t eat fruit.

- Fruit juice ≠ Whole fruits
- Fruit juice raises blood sugar levels because high sugar & low fiber
- What does the research say:
  - Some studies show that those who consume one serving of whole fruit per day — particularly blueberries, grapes and apples — have a lower risk of developing Type 2 diabetes.
  - And other research suggests that if you already have Type 2 diabetes, eating whole fruits can help control your blood sugar.

Bottom Line: Everyone can benefit from the health-promoting nutrients in fruit like fiber, vitamins, minerals and antioxidants. Still concerned? Pay attention to the composition of your meal or snack that includes fruit and eat fruit with a meal or paired with protein or fat to minimize the impact on blood sugar.


BLOOD SUGAR LEVEL
TIME
CARBOHYDRATES/SUGAR
PROTEIN
FAT

Myth: Eating soy-based foods can increase the risk of breast cancer.

- High doses of plant estrogens (phytoestrogens) in soy called isoflavones have been found to stimulate breast tumor cell growth in animal studies - however, this relationship has not been validated in human studies
- Science does NOT indicate a link between soy intake and breast cancer risk in humans.
- Consuming soy-based foods and drinks — like tofu, tempeh, edamame, miso and soy milk — may even have a **protective effect** toward breast cancer risk and survival.
- Soy *foods* are a powerhouse of beneficial nutrients
- Soy or isoflavone *supplements* generally contain higher levels of isoflavones. Talk to a doctor or dietitian before taking supplements.

Bottom Line: Feel confident incorporating soy foods into your diet.

https://www.cancer.org/cancer/latest-news/soy-and-cancer-risk-our-experts-advice.html

Myth: A detox diet will clean toxins from my body.

- Little evidence that detox diets get rid of toxins in your body.
- Detox diets rarely show long-term effects and can cause more harm than good.
- The body naturally gets rid of toxins in the body by your liver, kidneys, and lungs.
- Cause dehydration, disruption of normal gastrointestinal bacteria, electrolyte imbalance, and impairment of bowel function.
- Feelings of energy and focus more likely due to non-processed foods and/or fruits and vegetables which are healthy habits not specific to “detox”.

Bottom line: Detox diets can be more harmful than beneficial. Our body is designed to detox on its own. Best thing you can do for your body is to limit the number of toxins naturally by keeping a healthy diet, limiting processed foods, drinking lots of water, and moving your body daily.

Myth: Following a gluten free diet is healthy.

- Necessary for individuals with celiac disease. An additional 16 million may suffer from a sensitivity to gluten. Up to 30% report trying to follow a gluten-free diet, even though gluten is processed quite normally by most people.
- Many associate “gluten” with “disease” and “gluten-free” with “healthy.”
- Gluten-free products
  - Many are highly processed
  - Higher in fat, salt or sugar compared to gluten containing counterparts
  - Can be expensive
  - It is easy to overeat—even on gluten-free foods!
  - Avoiding whole grains because of gluten may deprive a person of fiber, and some vitamins and minerals.

Bottom Line: Most people do not need to follow a gluten-free diet. However, if you are thinking about following a gluten-free diet, check with your doctor or dietitian first. Explain your symptoms and if you suspect you may have celiac disease, or have a relative with celiac disease, a simple blood test can provide the answer. Your doctor can help you decide if gluten-free is right for you or if another treatment is best.

Diet trends: Intermittent Fasting

- Help people lose weight and enhance their health.
- Time-restricted eating, alternate-day fasting, modified alternate-day fasting, and twice-week fasting – all variations of an eating pattern that alternates between periods of fasting and eating throughout the day or week.
- Benefits – during fasting periods, body exhausts its sugar stores and starts burning fat. Following IF for longer periods has been shown to improve blood sugar levels, insulin sensitivity, blood pressure and more. Can decrease chronic inflammation caused by oxidative damage. Fasting triggers autophagy.
- Pitfalls – Hunger and tiredness are common side effects. Anyone who is pregnant, breastfeeding, have diabetes, or has underlying health problems should avoid IF because it can be extremely harmful to their health.

Bottom Line: There are many factors to consider, just as there are with any other diet. To begin, determine your IF goal, learn about your lifestyle and personality, understand your relationship with food, and talk with a dietitian or doctor to make sure this type of diet is safe for you.

https://www.hopkinsmedicine.org/health/wellness-and-prevention/intermittent-fasting-what-is-it-and-how-does-it-work

Questions & Thank You

Email us at mcner@villanova.edu with follow-up questions.