

The Fat of the Matter: Practical Tips to Improve Dietary Fat Choices and Boost Metabolic Health

Analysis by [Ashley Armstrong](#)

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STORY AT-A-GLANCE

- › The Western diet has shifted dramatically from saturated fats to polyunsaturated fatty acids (PUFAs) over the past century, coinciding with declining life expectancy and rising chronic disease rates in the U.S.
- › Dietary fats play crucial roles beyond energy provision, including cellular structure, hormone production, nutrient absorption, and metabolic signaling. High-PUFA diets may trigger hibernation-like signals in your body, potentially resulting in a lower metabolic rate, increased stress, and fat gain
- › PUFAs are prone to oxidation, producing toxic byproducts that can damage proteins, DNA, and cellular components. Excessive PUFA consumption may also interfere with thyroid hormone utilization and impair gut health, contributing to inflammation and metabolic issues
- › Common sources of PUFAs include vegetable oils, nuts, seeds, conventionally-raised pork and chicken, dairy alternatives, and many restaurant and packaged foods
- › Practical steps to improve dietary fat balance include choosing saturated fats for cooking, limiting nut consumption, opting for beef and lamb over pork and chicken, avoiding dairy alternatives, reducing restaurant meals, and minimizing packaged foods

Over the past century, there has been a dramatic shift in the types of fats consumed in the typical Western diet. Traditional diets, which contained saturated fats from animal sources, have given way to diets high in polyunsaturated fatty acids (PUFAs), particularly

those derived from vegetable oils. This shift was largely driven by the belief that saturated fats were harmful to cardiovascular health, a notion that has been increasingly challenged and debunked in recent years.

The impact of this dietary change has been profound. According to data from the Centers for Disease Control and Prevention (CDC), life expectancy in the United States declined for the third consecutive year in 2022, a trend not seen since World War I. Simultaneously, chronic diseases such as diabetes, heart disease, and cancer continue to rise, with the CDC reporting that 6 in 10 adults in the U.S. have a chronic disease, and 4 in 10 have two or more.

Obesity rates have also skyrocketed. The National Health and Nutrition Examination Survey (NHANES) data shows that the prevalence of obesity among adults increased from 30.5% in 1999-2000 to 42.4% in 2017-2018. These statistics paint a grim picture of the state of public health in the United States, and they beg the question: Could the changes in our dietary fat intake be a contributing factor?

The Role of Dietary Fats in the Body

To understand why the type of fat we consume matters so much, we need to look at the various roles that dietary fats play in our bodies. Far from being merely a source of energy, fats are integral to numerous bodily functions and structures.

- 1. Energy source** — Fats are the most energy-dense macronutrient, providing 9 calories per gram compared to 4 calories per gram for both carbohydrates and proteins.
- 2. Structural components** — Fats are essential components of our cells, influencing their fluidity and function. The type of fat in our diet can directly impact the composition of our tissues.
- 3. Hormone production** — Many hormones are derived from cholesterol, a type of lipid. Adequate fat intake is necessary for proper hormone production and balance.

- 4. Nutrient absorption** — Certain vitamins (A, D, E, and K) are fat-soluble, meaning they require fat for absorption and transportation in the body.
- 5. Signaling molecules** — Perhaps most intriguingly, dietary fats can act as signaling molecules, influencing various metabolic processes in the body.

How Dietary Fats Impact Your Metabolic Rate

One of the most critical aspects of dietary fat is its impact on metabolic rate. The ratio of different types of fats in our diet can significantly influence how our bodies function at a metabolic level.

Research suggests that a higher ratio of PUFAs to saturated fats in the diet may send different signals to the body compared to a diet higher in saturated fats. Specifically, a diet higher in monounsaturated fatty acids (MUFAs) and PUFAs relative to saturated fats may trigger hibernation-like signals in the body. These signals can lead to:

1. Lower metabolic rate
2. Increased reductive stress
3. Increased fat gain

Three health challenges associated with high-PUFA diets include:

- 1. PUFA oxidation and toxic byproducts** — PUFAs are particularly vulnerable to oxidation due to their chemical structure. They contain two or more double bonds, and it's the carbon atom between these double bonds that is susceptible to oxidation at physiological temperatures. When PUFAs oxidize, they can produce toxic and inflammatory byproducts.

Chris Masterjohn, a nutrition researcher, provides an apt analogy: "PUFAs, in this sense, are like delicate glass ... When glass shatters, it invariably leaves behind a mess of dangerous shards ... Likewise, when PUFAs shatter they leave behind

shards [aldehydes], which are capable of damaging proteins, DNA and other structurally and functionally important components of our cells."

- 2. Interference with thyroid hormone utilization** – PUFAs have been shown to interfere with thyroid hormone utilization,¹ which can lead to a slowdown in metabolic rate. The thyroid gland produces hormones that regulate metabolism, and any disruption to this system can have wide-ranging effects on overall health.

A study published in the "Journal of Nutritional Biochemistry" in 2020 found that high-PUFA diets can suppress thyroid function by interfering with the binding of thyroid hormones to their receptors. This interference can lead to symptoms of hypothyroidism, including weight gain, fatigue, and cold intolerance, even when thyroid hormone levels appear normal on blood tests.

- 3. Impairment of gut health** – The gut microbiome plays a crucial role in overall health, and recent research has shown that dietary fats can significantly influence gut health. High-PUFA diets have been associated with increased gut permeability, dysbiosis, and [inflammation](#).

A 2019 study published in "Nature Communications" found that diets high in omega-6 PUFAs promoted intestinal inflammation and increased the risk of inflammatory bowel diseases. The researchers observed that these fats altered the composition of the gut microbiome and increased the production of pro-inflammatory molecules.

Practical Tips for Improving Dietary Fat Intake

Given the potential health consequences of excessive PUFA consumption, it's important to be mindful of the types and amounts of fats in our diets. While it's not necessary (or possible) to eliminate PUFAs from the diet, here are my six key practical steps you can take to improve your dietary fat balance.

- 1. Limit consumption of nuts and seeds** – Nuts and seeds are often touted as healthy snacks, and while they do contain some beneficial nutrients, they are also typically

high in PUFAs. The ease of overconsumption is a particular concern with nuts and seeds. For example, only 1/2 half-cup of raw walnuts contains 23.6 grams of PUFAs, including 19 grams of omega-6 fatty acids. This amount far exceeds the recommended daily intake of PUFAs for most people.

Instead of relying heavily on nuts and seeds for snacks, consider alternatives that are rich in saturated fats. High-quality dark chocolate or coconut-based snacks can provide a satisfying crunch without the high-PUFA content. These options are rich in saturated fats, which are more stable and less likely to oxidize in the body.

2. Choose cooking oils wisely – One of the most significant sources of PUFAs in the modern diet is vegetable oils, which are often promoted as healthy cooking oils due to their high smoke points. However, the smoke point of an oil is not the best indicator of its stability or safety for cooking. Instead, we should focus on the oil's oxidative stability and PUFA content.

Oils high in PUFAs, such as soybean, corn, and sunflower oils, are highly unstable when heated. They can produce harmful compounds even before reaching their smoke point. On the other hand, fats high in saturated fatty acids are much more stable at high temperatures. For cooking, prioritize fats with a higher percentage of saturated fat:

- **For high-heat cooking (frying, searing)** – Use beef tallow, lamb tallow, or ghee.
- **For medium-heat cooking (sautéing, baking)** – Use ghee, tallow, butter, coconut oil, or lard.

TALLOW



- Rendered beef fat or suet
- Good for sautéing or high heat cooking like searing or frying due to high smoke point

 Smoke Point:
420°F



GHEE



- Butter with milk solids (whey, casein & lactose) removed
- Good for sautéing or high heat cooking like searing or frying due to high smoke point

 Smoke Point:
480°F

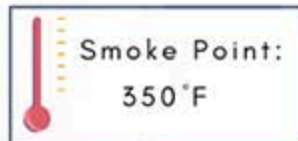


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BUTTER



- Made from churning cream
- Best for low to medium cooking (like saute) or used as a topping



COCONUT OIL



- Extracted from the kernel/meat of mature coconuts
- Should be solid at room temp
- Look for "unrefined", "extra virgin", and/or "cold pressed"
- Good for baking, sauteing and frying



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While high-quality olive oil and avocado oil can be used occasionally, their high monounsaturated fat content makes them less ideal for frequent use if **optimizing metabolic rate** is the goal.

- 3. Be mindful of pork and chicken consumption** – The fatty acid composition of animal products is heavily influenced by the animal's diet. Unfortunately, most commercially raised chickens and pigs are fed diets high in PUFAs, which results in meat and fat that are also high in PUFAs.

If you don't have access to pork and chicken products from farms that use low-PUFA feed, consider choosing leaner cuts of these meats to reduce overall PUFA

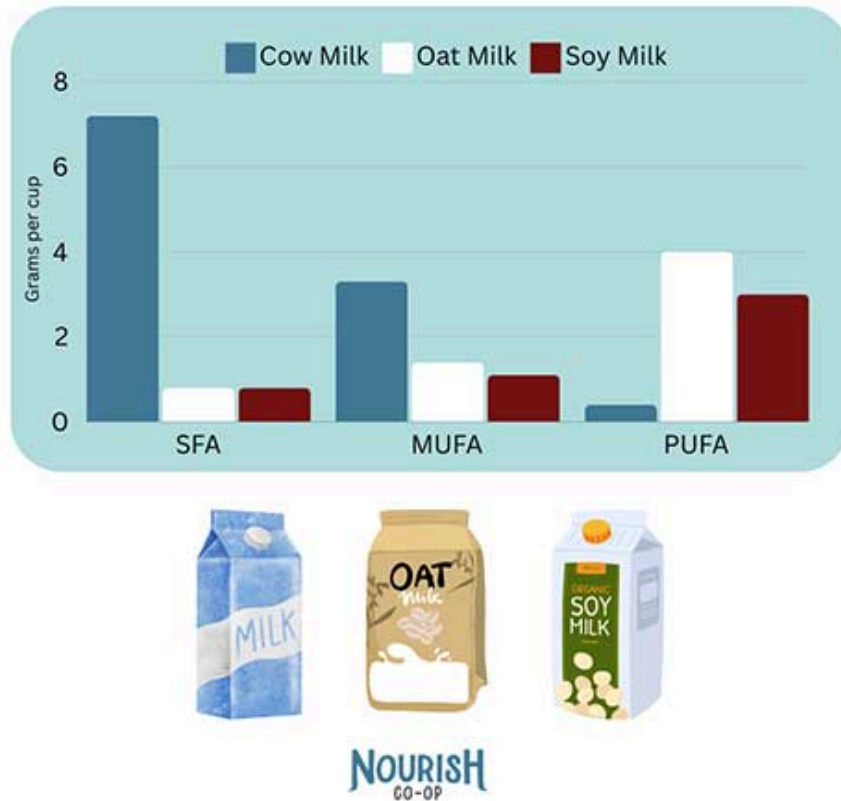
consumption. Alternatively, prioritize beef and lamb, which tend to have a more favorable fatty acid profile even when conventionally raised.

4. Avoid dairy alternatives – Many people have turned to dairy alternatives in recent years, whether due to lactose intolerance, ethical concerns, or perceived health benefits. However, these alternatives often fall short when it comes to fat composition and overall nutrient density. Let's compare whole milk to a popular alternative, oat milk:

- **One cup of whole milk contains about 8 grams of fat** – 4.6 grams saturated, 2 grams monounsaturated (MUFA), and only 0.5 grams polyunsaturated (PUFA).
- **One cup of oat milk contains about 7 grams of fat** – 0.8 grams saturated, 1.4 grams MUFA, and 4.0 grams PUFA.

The difference in PUFA content is striking!

DAIRY ALTERNATIVES CAN SIGNIFICANTLY INCREASE PUFA CONSUMPTION



The bar chart shows that cow milk is rich in SFAs and low in PUFAs. Whereas, oat milk and soy milk are significantly higher in PUFAs.

If you can tolerate dairy, stick with real dairy products. If dairy intolerance is an issue, coconut milk is a better alternative as it is rich in saturated fats. However, it's important to note that coconut milk cannot replicate the full nutritional profile of dairy.

5. Limit eating out – Eating out has become a common part of modern life, but it can pose significant challenges to maintaining a healthy fat balance in your diet. Here's a more detailed look at why limiting restaurant meals is important and how to navigate dining out when necessary:

- **Prevalence of vegetable oils** – Most restaurants, especially fast-food chains and casual dining establishments, use vegetable oils for cooking due to their

low cost and long shelf life. These oils are typically high in PUFAs, particularly omega-6 fatty acids.

- **High-temperature cooking** – Many restaurant cooking methods involve high temperatures (frying, grilling, sautéing), which can cause oxidation of PUFAs, leading to the formation of toxic byproducts. The level of oxidation can double or quadruple in a matter of just a few minutes of heating.²
- **Reuse of cooking oils** – To cut costs, many restaurants reuse their cooking oils multiple times. A study published in the "Journal of Food Science and Technology" found that repeated heating of vegetable oils leads to the formation of harmful compounds such as polar compounds and polymers. More than 80% of restaurant cooking oil is oxidized beyond the recommended limit.³
- **Alarming levels of harmful compounds** – A shocking study analyzing aldehyde levels found that the current daily consumption of fried vegetable oil in the US (approximately 5 tablespoons) is equivalent to smoking 25 cigarettes per day. This startling comparison underscores the potential harm of regularly consuming foods fried in vegetable oils.
- **Hidden oils in sauces and dressings** – Even dishes that aren't obviously fried often contain vegetable oils in sauces, dressings, and marinades. Check out the ingredient list of this ranch dressing that is used at many restaurants!



Ingredients: Soybean Oil, Water, Distilled Vinegar, Egg Yolk, Buttermilk Solids, Contains Less Than 2% Of Salt, Sugar, Lemon Juice Concentrate, Garlic, * Onion, * Xanthan Gum, Sorbic Acid (Preservative), Natural Flavor, Cream, Spice, Maltodextrin, Whey, Vinegar Powder, Buttermilk, Autolyzed Yeast Extract, Milk, Sour Cream Powder, Lactic Acid, Calcium Disodium Edta (To Protect Flavor), Citric Acid. *Dried. Contains Egg, Milk

Fig. A common ranch used at restaurants, which is predominantly filled with PUFAs. Data from WebstaurantStore.⁴

Strategies for healthier eating out:

- 1. Choose restaurants wisely** – Opt for establishments that prioritize fresh, whole ingredients and are transparent about their cooking methods.
- 2. Ask about cooking methods** – Don't hesitate to ask how dishes are prepared. Request that your food be cooked in butter if possible.
- 3. Opt for simple preparations** – Choose grilled, roasted, or steamed options over fried or sautéed dishes.
- 4. Customize your order** – Many restaurants are willing to accommodate special requests. Ask for vegetables to be steamed without oil, or for dressings and sauces on the side.
- 5. Focus on whole foods** – Choose meals centered around whole protein sources (like grilled fish or roasted chicken), a simple carb source (like rice or potatoes) and vegetables.
- 6. Be cautious with salads** – While salads seem healthy, they're often loaded with PUFA-rich dressings.

6. Minimize packaged foods – Many packaged and processed foods contain hidden vegetable oils. Reading ingredient labels is crucial if you must buy pre-prepared foods. Some common culprits include:

Butter alternatives like margarine	Baked goods
Plant-based milk alternatives	Coffee creamers
Potato chips	Crackers
Pre-made pizzas	Salad dressings
Microwave popcorn	

By preparing more meals at home using whole, unprocessed ingredients, you can have greater control over the types of fats in your diet. Assessing packaged food that you eat regularly and critically analyzing the ingredients would also be an important step!

Conclusion

The dramatic shift in dietary fat composition over the past century has coincided with alarming trends in public health. While correlation doesn't necessarily imply causation, the mounting evidence suggests that our increased consumption of PUFAs, particularly from vegetable oils, may be contributing to the rise in chronic diseases and metabolic dysfunction.

By being mindful of the types and amounts of fat in our diets, prioritizing saturated and monounsaturated fats over polyunsaturated fats, and implementing the practical tips outlined in this article, we can take significant steps towards improving our metabolic health.

Ultimately, the goal is not to eliminate PUFAs entirely from our diets, but to strive for a better balance. By making informed choices about the fats we consume, we can support

our body's natural metabolic processes and pave the way for better health and longevity.

About the Author

Ashley Armstrong is the cofounder of Angel Acres Egg Co., which specializes in low-PUFA (polyunsaturated fat) eggs that are shipped to all 50 states ([join waitlist here](#)), and [Nourish Cooperative](#), which ships low-PUFA pork, beef, cheese, A2 dairy and traditional sourdough to all 50 states. Waitlists will reopen shortly.

Sources and References

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