

Your
Guide
to
Paleo

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PALEO NUTRITION P.5

This section gives you an overview of human nutrition from a Paleo standpoint – not specific foods, but the big-picture scientific reasoning behind a Paleo diet.



PALEO FOODS P.28

A Paleo diet includes a huge variety of fresh, healthy foods! This section has specific information about which foods are Paleo or not, and why.



FOODS TO AVOID P.59

People used to conventional nutrition wisdom might find some major “health foods” missing from the Paleo menu. This section details which foods aren’t encouraged on Paleo, and why.



PALEO COOKING P.69

A change in your eating habits means you’ll need some new recipes – learn how to plan and cook delicious Paleo meals.



PALEO LIFESTYLE P.77

It’s not just about the food! Exercise, sleep, and stress reduction are also important for reaping the full benefits of a Paleo diet.

INTRODUCTION TO PALEO

Think of Paleo, and you might picture a “cave-man diet” full of half-raw meat gnawed off the bone and antisocial “modern cavemen” who shun razors, air conditioning, and personal hygiene. **But Paleo isn’t about slavishly re-enacting life in the cave.** It’s about combining evolutionary biology with modern scientific research in search of the optimal human diet – the diet that makes us healthiest, strongest, and happiest.

In the modern world, an astonishing rise of chronic, diet-related illnesses (like diabetes and obesity) has followed the adoption of processed “food” products loaded with added sugars, industrially processed vegetable oils, and unpronounceable preservatives and flavorings. Clearly, **the way we eat today isn’t working.** But human beings weren’t designed to be sick and overweight. The real problem is the modern food environment and sedentary lifestyle. Paleo nutrition is a return to pre-modern nutrition: **foods that make us healthy, not foods that make us profitable to corporations.**

PALEO PRINCIPLES

- **Eat real foods.** Not processed “food products,” not sugary sodas, and nothing with a list of unpronounceable colors and flavors.
- **Avoid toxins.** This includes processed modern foods, but also some whole foods that humans aren’t designed to digest well and thrive on.
- **Use evolutionary principles,** but not imitation. Using our evolutionary history for clues about how we’re biologically built to live is great, but mindlessly imitating some modern “caveman” lifestyle is silly.
- **Rely on evidence.** Evolutionary speculation is nothing but guesswork unless it’s backed up by some actual scientific or anthropological evidence.
- **Individualize.** Nutrition is an imperfect science, and what works for one person might not work for another. Individual tweaks and modifications are great, and self-experimentation is encouraged.

PALEO NUTRITION

THE BIG-PICTURE SCIENCE BEHIND PALEO
NUTRITIONAL RECOMMENDATIONS



Your
Guide
to
Paleo

PROTEIN

High-quality protein is incredibly important on a Paleo diet because your body needs it for everything, from cell structure to muscle contraction to digestion. Proteins are made of amino acids; your body can make some of these amino acids by itself, but other kinds (called “essential” amino acids) it has to get through diet. Paleo foods emphasize **complete proteins**, proteins that contain all the essential amino acids.

PALEO PROTEIN SOURCES:



MEAT AND EGGS

- Animal products are complete proteins, with all the essential amino acids.
- The proteins in these foods aren't gut irritants, unlike many plant proteins.



LEGUMES AND GRAINS

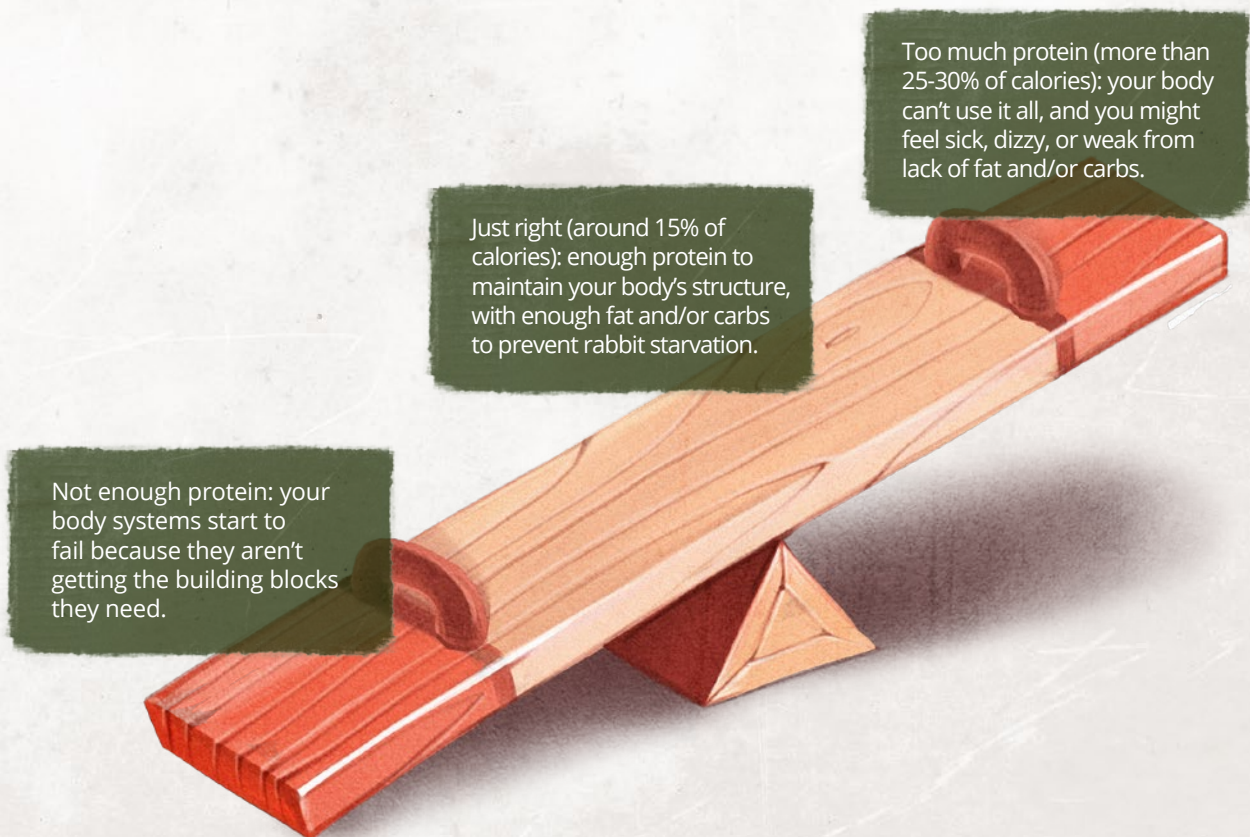
- Legumes and grains are not complete proteins; this is why vegans have to worry about combining them to get all the essential amino acids.
- The proteins in these foods (like gluten) are often gut irritants.

PALEO TAKEAWAY:

Eat around 15% of your calories as protein from high-quality animal sources – avoid processed protein shakes and gut-irritating grains and legumes. For more information, flip to the [Further Reading](#) page, or see the [full article](#) on protein.

HOW MUCH PROTEIN?

Since protein is such a fundamental part of our physical structure, it's important to get enough, but more isn't always better! Relying too heavily on protein can actually make you sick – the Canadian Inuit called this “rabbit starvation” because they started to show symptoms when they had to survive only on rabbit, which is a very lean meat. Eating more carbs and fat cured the symptoms completely.



FAT: THE BIG PICTURE

Fat is one of the most important (and tastiest) parts of a Paleo diet. Don't get sucked into the lie that "eating fat makes you fat."

Since the start of the low-fat craze in the 1980s, obesity rates have been steadily rising – because sugar, modern processed “food” products, and a sedentary lifestyle are what really drive obesity, not the natural fatty foods we’ve been eating since we could club them over the head and drag them back to the cave!

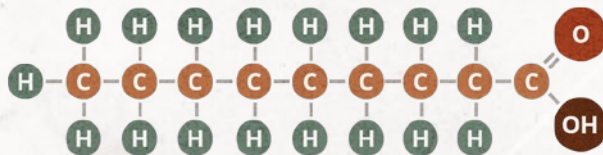
Paleo is fat-positive, but not all fats are created equal: check out the following page for an overview, and the next two pages for special reports on **saturated fat** and **PUFAs**.

PALEO TAKEAWAY:

Naturally occurring fats (especially those coming from animal sources) are healthy and delicious. Artificial fats are unhealthy because they're processed industrial products, not because they're fat.

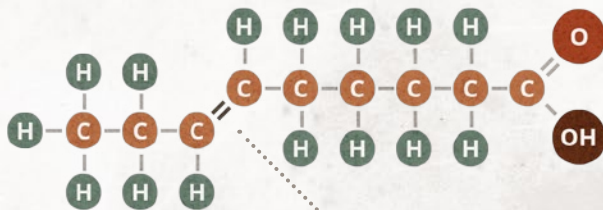
THE 3 MAJOR TYPES OF FAT

C CARBON **H** HYDROGEN **O** OXYGEN



SATURATED FAT (SFA)

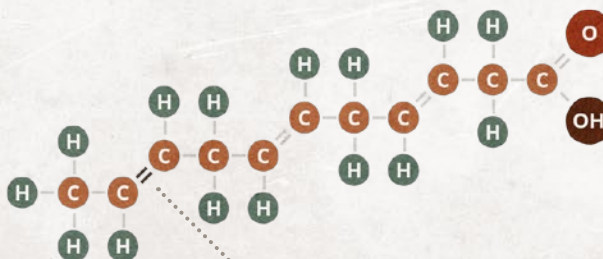
- Found in meat, animal products, and coconut oil.
- The most stable kind of fat, best for cooking.
- Unfairly demonized by mainstream nutrition – it doesn't actually cause heart disease (see p. 10 on saturated fat).



MUFAs have one link in the chain that's different from the rest. This is called a double bond, and it's chemically less stable.

MONOUNSATURATED FAT (MUFA)

- Found in olive oil.
- Less stable than saturated fat, but still healthy.
- This is the "good fat" that everyone agrees on.



PUFAs have many of these unstable double bonds. They're very fragile and tend to break down, causing inflammation and stress in the body.

POLYUNSATURATED FAT (PUFA)

- Found in industrial vegetable oils – very common in modern processed foods.
- Chemically unstable and easily goes rancid.
- 2 main types: Omega-3 and Omega-6 (see p. 12 on PUFA).

FAT: SATURATED FAT

Saturated fat causes heart disease. Most of us don't even bother to wonder why – it's true because it is.

BUT IT ISN'T.

"There is no significant evidence for concluding that dietary saturated fat is associated with an increased risk of CHD [Coronary Heart Disease] or CVD [Cardiovascular Disease]"

Siri-Tarino, Patti, et. al., Meta-analysis of prospective cohort studies evaluating the association of saturated fat with cardiovascular disease . American Journal of Clinical Nutrition, January 2010.

So why do USDA nutritional guidelines insist that eating saturated fat will kill you? Because they're looking at studies that compare several different countries. Countries with a higher intake of saturated fat are also the world's most developed countries. They do have higher rates of heart disease, but that's just because saturated fat **is a measure of how much junk food they eat.**

According to the USDA Dietary Guidelines, the biggest sources of saturated fat in the American diet for 2005-6 were: full-fat cheese (9%), pizza (6%), grain-based desserts (6%), and dairy desserts (6%) (the link to the full report is in the [Further Reading](#) section). Not exactly a diet of traditional whole foods!

On the other hand, consider the Kitavans, who live on an isolated chain of islands in Papua New Guinea, do not eat modern processed foods, but get a full 17% of their calories from saturated fat (mostly coconut).

For reference, the average American gets 11% of calories from saturated fat, and the USDA recommendation is 10% or below. So are the Kitavans keeling over left and right from heart attacks? Not exactly! A study in 1993 found that:

"stroke and ischaemic heart disease appear to be absent in this population."

-Lindeberg, S., and Lundh, B., Absence of stroke and ischaemic heart disease in a traditional Melanesian island: a clinical study in Kitava . Journal of International Medicine, vol. 233, issue 3, pp.269-75, March 1993.

It's not conclusive evidence, but all this should at least give you pause for thought. Saturated fat is a very unsatisfactory "cause" of heart disease. You owe it to yourself to at least do some more research than blindly following USDA guidelines.

PALEO TAKEAWAY:

The Paleo Takeaway: Whole foods containing saturated fat are healthy and delicious. Junk foods are dangerous, no matter what kind of fat they have.



CHOLESTEROL Q&A

Cholesterol is the most unfairly demonized victim of modern nutritional science. It's crucial for maintaining healthy cells, neurological function, synthesizing Vitamin D, and balancing hormone levels.

Even the researchers behind the original cholesterol studies concluded that it doesn't cause heart disease in humans, but you wouldn't know that from the USDA's dietary guidelines!

Q: DO CHOLESTEROL-RICH FOODS GIVE YOU HIGH CHOLESTEROL?

A: Not for most people. People with a genetic disorder called familial hypercholesterolemia react differently to dietary cholesterol and should talk to a doctor before switching to Paleo.

Q: HOW IS THE PALEO TAKE ON CHOLESTEROL DIFFERENT?

A: Conventional medicine sees "high cholesterol" as an isolated problem to be fixed with statin drugs. The Paleo approach is much more nuanced. A lot of physical processes, including thyroid health, hormonal fluctuations, and genetics factor into blood cholesterol levels. In the Paleo view, what's important is maximizing overall health and making sure all the body's systems are working properly, not just focusing on one health marker that we don't fully understand.

Q: DOES HIGH CHOLESTEROL CAUSE ATHEROSCLEROTIC PLAQUE (HEART DISEASE)?

A: High cholesterol levels in the blood don't cause plaque. But they aren't totally unrelated, either. Oxidized LDL cholesterol may be associated with the development of plaque, but even this relationship isn't clear.

Q: IS IT TRUE THAT LDL IS "BAD" AND HDL IS "GOOD" CHOLESTEROL?

A: Cholesterol is complicated! LDL and HDL cholesterol both play an important role in immune function and other physical processes. One specific type of LDL cholesterol (particles that are small and dense) is easily damaged by inflammation in the body, and this damaged (or "oxidized") LDL cholesterol may contribute to heart disease. But here the problem is the inflammation that damages the cholesterol, not the cholesterol itself.

Q: SO WHY DO MODERN DOCTORS STILL FOCUS ON CHOLESTEROL AS THE BAD GUY?

A: Partly because the conventional wisdom about cholesterol is rarely even questioned, partly because a lot of reputations are built on the current model, and partly because statins are a \$29 billion industry with a lot of lobbying power.

PALEO TAKEAWAY:

Cholesterol isn't the bad guy. The real demons are the factors that contribute to oxidation of that cholesterol, like excessive PUFA and malnutrition. If you're not convinced, or you want to see more evidence, turn to the [Further Reading](#) section to dive into the studies.

PUFAs

Most Polyunsaturated Fatty Acids (PUFAs) in the modern diet come from industrially processed vegetable oils like peanut oil, soybean oil, and canola oil. These are **completely artificial fats** that could never exist without modern processing techniques.

The problem with PUFAs is that they're very chemically fragile. They easily break down and become rancid, especially when they're exposed to light, heat, and oxygen (PUFAs that have broken down this way are **called oxidized PUFAs**). These oxidized fats are like an injury to the body: they cause chronic, long-term inflammation. Inflammation is a natural response to injury, but long-term inflammation keeps the body in a constant state of injury; it's a major contributor to "diseases of civilization" like diabetes.

O3 AND O6 PUFA

There are two different kinds of PUFA, Omega-6 (O6), and Omega-3 (O3). It's not just the total amount of PUFA that matters, but also the balance between the two different kinds.

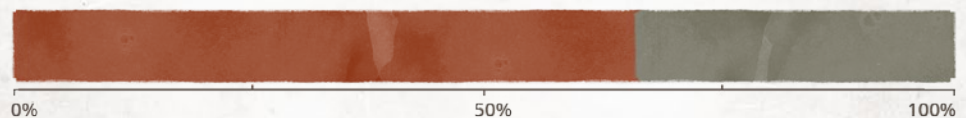
Major Sources of O6 PUFA:

Industrial seed oils, factory farmed meat, nuts

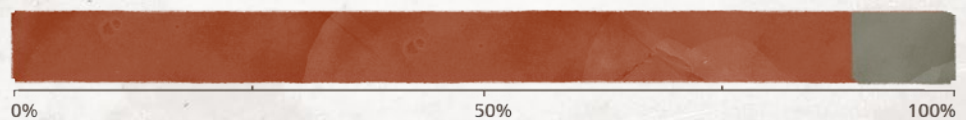
Major Sources of O3 PUFA:

Fish, fish oil, pastured eggs

ANCESTRAL DIET



MODERN DIET



OMEGA-6 PUFA



OMEGA-3 PUFA

TRADITIONAL DIET

A traditional diet has an O6:O3 ratio between 1:1 and 4:1, while the modern diet has an O6:O3 ratio closer to 10:1. O3 fats tend to “balance out” the inflammation of O6 fats, so this skewed ratio in the modern diet is very inflammatory.

The American Heart Association actually advises eating more Omega-6 PUFA, but this recommendation is based on studies that don’t accurately distinguish between Omega-3 and Omega-6 fats. A study that looked more closely at the evidence concluded that:

“For non-fatal myocardial infarction (MI)+CHD death, the pooled risk reduction for mixed n-3/n-6 PUFA diets was 22 %... compared to an increased risk of 13 % for n-6 specific PUFA diets...Risk of non-fatal MI+CHD death was significantly higher in n-6 specific PUFA diets compared to mixed n-3/n-6 PUFA diets... Advice to specifically increase n-6 PUFA intake, based on mixed n-3/n-6 [trial] data, is unlikely to provide the intended benefits, and may actually increase the risks of CHD and death.”

Ramsden, Christopher, et. al. n-6 Fatty acid-specific and mixed polyunsaturate dietary interventions have different effects on CHD risk: a meta-analysis of randomized controlled trials. British Journal of Nutrition, vol. 104 issue 11, pp. 1586-1600, December 2010.

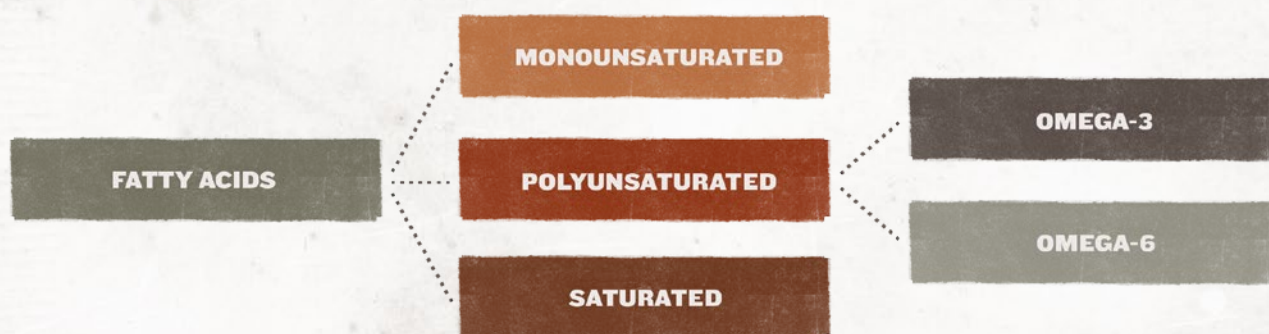
PALEO TAKEAWAY:

Steer clear of modern processed foods! That's where you'll find excessive levels of PUFA, especially inflammatory Omega-6 PUFA. For more information and a more detailed explanation, see the [Further Reading](#) section.

OMEGA-3 FATS

Walk down the egg/dairy aisle of your local grocery store and count the number of packages screaming about their “Heart-healthy Omega 3s!!!” – it’s a lot. Some of this is advertising, but some of it is also based in truth – Omega-3 fats really are good for you, and most of us don’t get enough.

THE BIG FAT CHART:



As you can see, Omega-3s are a type of PUFA, and PUFAs in general are inflammatory fats to avoid (see p. 12 for more details). But it’s not quite as simple as PUFA = bad. You need some PUFA to live. The problem with the modern diet is that we have **too much PUFA** and in the **wrong ratio of O6 to O3s**.

“A high omega-6/omega-3 ratio, as is found in today’s Western diets, promotes the pathogenesis of many diseases, including cardiovascular disease, cancer, osteoporosis, and inflammatory and autoimmune diseases, whereas increased levels of omega-3 polyunsaturated fatty acids (PUFA) (a lower omega-6/omega-3 ratio), exert suppressive effects.”

– AP Simopoulos, Evolutionary aspects of diet, the omega-6/omega-3 ratio and genetic variation: nutritional implications for chronic diseases, Biomedical Pharmacotherapy vol. 60 issue 9, pp. 502-7, November 2006

SOURCES OF OMEGA-3S:

Animal sources of Omega-3s are immediately available to your body (in the form of EPA and DHA), while plant sources have to be converted first, so prioritize animal sources over plants. Animal products with high levels of EPA and DHA include:

- Fish (especially wild-caught fatty fish, like salmon, sardines and herring)
- Fish oil (see p. 24 for guidelines on choosing a fish oil supplement)
- Eggs from pastured chickens

PALEO TAKEAWAY:

For optimum health and well-being, reduce your Omega-6 intake and choose Omega-3 rich foods like fish and pastured eggs.

CARBOHYDRATES

Carbs are a hotly debated macronutrient in the Paleo world. Earlier versions of Paleo were strictly low-carb, because they focused too heavily on a few hunter-gatherer populations, like the Canadian Inuit, who ate a very low carb diet, and assumed that carbohydrates were responsible for the “diseases of civilization” caused by the modern diet.

However, it's becoming increasingly clear that carbohydrates by themselves are not the problem :

- Many traditional hunter-gatherer groups eat a large proportion of calories as carbohydrates without suffering from diabetes or other “diseases of civilization.” Others eat an almost zero-carb diet. The human body seems to be highly adaptable to a wide range of carb intakes, as long as those carbohydrates aren't accompanied by any food toxins.
- A very low carbohydrate diet can actually be dangerous for athletes, pregnant or nursing women, and people fighting off diseases or infections.

The danger is really in the toxins that often come packaged with the starches or carbs, not the starches themselves. For many people, “safe starches” – carb sources that don't include toxins or harmful proteins like gluten – are perfectly healthy.

Other people might benefit from a **ketogenic** diet, a diet that forces the body to use fat, instead of carbohydrates, for fuel (see the next page on ketosis for more details).

Safe starches are great for:

- Athletic performance
- Fertility and pregnancy
- Recovery from infection
- Younger children
- Energy and mood
- Breaking a weight loss plateau

Lower-carb diets may be useful for:

- Epilepsy, migraines, and other neurological disorders
- Diabetes
- Weight loss



PALEO TAKEAWAY:

There is no one-size-fits-all level of dietary carbs. As long as the carbs are coming from non-toxic foods (see p. 42-44), it's really an individual decision.

KETOSIS

Ketosis is a metabolic state in which your body runs on fat (ketones) instead of carbs. The brain does need some carbohydrates, but you can manufacture these from ketones; you don't need to get them in the diet. It's usually recommended for rapid weight loss and as a therapeutic diet for certain diseases. It's not for everyone though, and you don't have to be in ketosis to be Paleo.

It's also not an all-or-nothing proposition; many people dip in and out of ketosis on a daily or weekly basis. Also, note that nutritional ketosis is not the same as ketoacidosis, a life-threatening complication of diabetes (more on this in the [Further Reading](#) section).

PROS

The shift in brain metabolism from glucose to ketones makes ketosis therapeutic for epilepsy, migraines, and other neurological disorders.

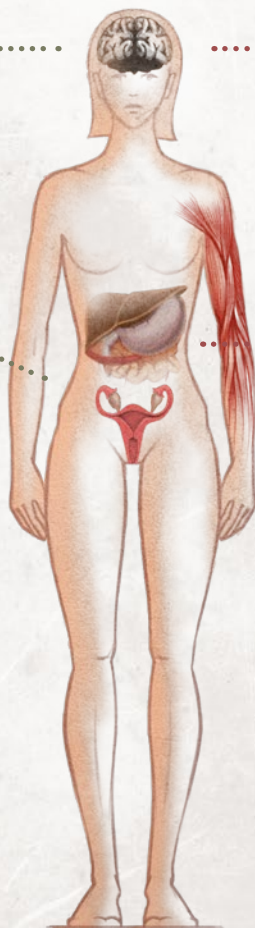
Ketosis is very helpful for controlling diseases of metabolism (including diabetes and metabolic syndrome). It's also beneficial for weight loss, because it suppresses hunger.

CONS

Many people find that adding moderate amounts of carbohydrates improves their mood and mental health.

Ketosis is not for athletes who need enough dietary glucose to fuel their workouts.

Pregnant women should not be in ketosis – it's metabolically similar to starvation, and the body knows better than to continue a pregnancy if you're starving.



HOW TO ACHIEVE KETOSIS:

- Restrict protein to about 15% of calories, and carbs to about 5%.
- Eat plenty of ketogenic fats, like coconut oil.
- To test for ketosis, you can buy commercial test strips (ketostix).

PALEO TAKEAWAY:

Think of ketosis as an optional tweak to the basic Paleo diet that some people find useful.

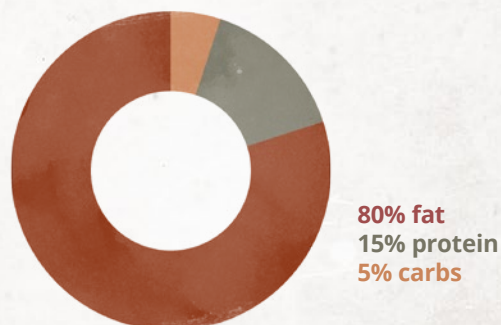
MACRONUTRIENT RATIOS

Protein, carbs, and fat all have a place in the Paleo diet, but how much of each do you need? Instead of trying to meet a rigid requirement, think of macronutrient ratios as more of a sliding scale – there are many equally healthy places on that scale, so pick whatever fits your nutrition and lifestyle goals.

VERY LOW CARB PALEO

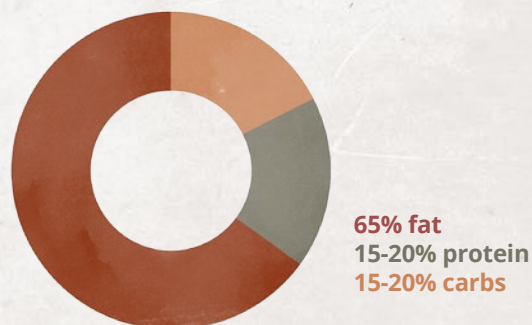
KETOSIS:

The major source of energy in ketosis is fat. A ketogenic diet should focus on fatty meats and oils, with carbs only from non-starchy vegetables. Read up on ketosis (p. 16) for more information.



AVERAGE PERSON:

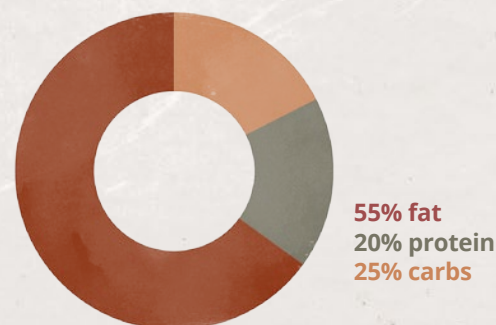
Most people's macronutrient breakdown will look something like this: enough protein and carbs for great health, with plenty of delicious fat.



MODERATE CARB PALEO

ATHLETES:

Serious athletes need enough carbs to fuel their workouts – safe starches like sweet potatoes and white rice should definitely be included in the diet.

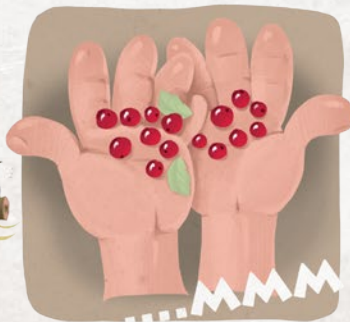


MICRONUTRIENTS

These are the vitamins and minerals that we all know we should eat more of. As a rule, Paleo discourages counting and tracking micronutrients because it just isn't necessary. If humans were so fragile that we couldn't survive without Nutrition Facts panels, we would have died off long ago.

For healthy people, eating a variety of whole, nutrient dense foods is the best multivitamin you can take.

CAVEMEN DIDN'T NEED MULTIVITAMINS!

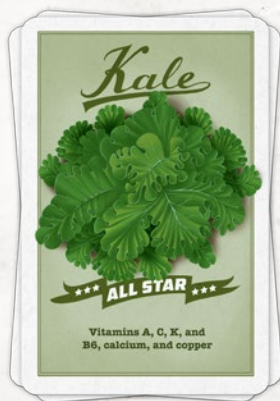


PALEO NUTRITIONAL ALL-STARS INCLUDE:



LIVER

*Nature's multivitamin!
Vitamins A and B, folate,
iron, phosphate, zinc,
copper, and selenium*



KALE

*Vitamins A, C, K, and B6,
calcium, and copper*



MOLLUSKS

*B vitamins, Vitamins
A and C, iron, phos-
phorous, zinc, copper,
manganese, iodine,
selenium*

BUT WHERE DO YOU GET YOUR...?

- **CALCIUM:** you don't need dairy to get your calcium in! Bone-in fish like sardines, nuts, and dark green leafy veggies like collard greens and kale are excellent sources of calcium. Homemade bone broth is another. Paleo also includes high levels of other micronutrients (like Vitamins C and K and magnesium) that are essential to using the calcium you get in your diet.
- **FIBER:** whole grains are not the only sources of fiber around. Fruits and vegetables can give you all the fiber you need.

SUPPLEMENTS

Supplements are usually unnecessary, but there are a few exceptions – see [p. 24](#) for the details.

PALEO TAKEAWAY:

Micronutrients are important, but most people don't need to worry about tracking them. If you eat a wide variety of real food, including organ meats, seafood, and vegetables, you'll be set.

VITAMIN D

*Vitamin D is one of the few vitamins you might not get enough of on Paleo, because you don't get it from food! The best source of this crucial nutrient is **sunlight**.*

When you're out in the sun, your skin can synthesize Vitamin D from cholesterol. This is one of the many reasons why cholesterol isn't a demon to fear.

VITAMIN D: FACTS AND RECOMMENDATIONS

- Before everyone worked inside, we all got plenty of Vitamin D from the sun. But today's indoor lifestyle makes deficiency common.
- 42% of US adults are deficient in Vitamin D. That number rises to 82% of African Americans and 69% of Hispanics.
- Vitamin D is crucial for bone health, mineral balance in the body, reducing inflammation, and regulating cell growth.
- Food sources of Vitamin D include fatty, cold-water fish and egg yolks, but most people can't get enough from food alone.
- On top of your food intake, you can either get regular time in the sun, or take a supplement.
- If you go for sunshine, leave the sunscreen at home – it prevents your skin from synthesizing Vitamin D.
- Increase your sun exposure slowly, so you don't burn.
- If you choose a supplement the RDA is 400 IU, but it's safe to take up to 10,000 IU/day.



PALEO TAKEAWAY:

Unless you eat a very large amount of fish or spend a significant amount of time outdoors in the sun, a Vitamin D supplement is a good investment.



SALT

Reduced salt soup. Reduced salt tomato sauce. Reduced salt ketchup. Reduced salt potato chips. If there's any other food package health claim that might give "low fat" a run for its money, "reduced salt" is it.

But why?

The claim is that salt raises blood pressure, but the science backing this up is less conclusive than the experts would have you believe...

SALT: A TIMELINE

1972

A rat study shows that feeding rats the human equivalent of 4.5 cups of table salt a day is dangerous. No kidding.

1988

The INTERSALT study measures salt consumption and blood pressure in 32 countries. One of INTERSALT's graphs is shown below. Notice the four circled data points below the general cluster. These are outliers and should be excluded from analysis, because they suggest a correlation that doesn't actually exist. As you can see, the rest of the data shows no relationship.

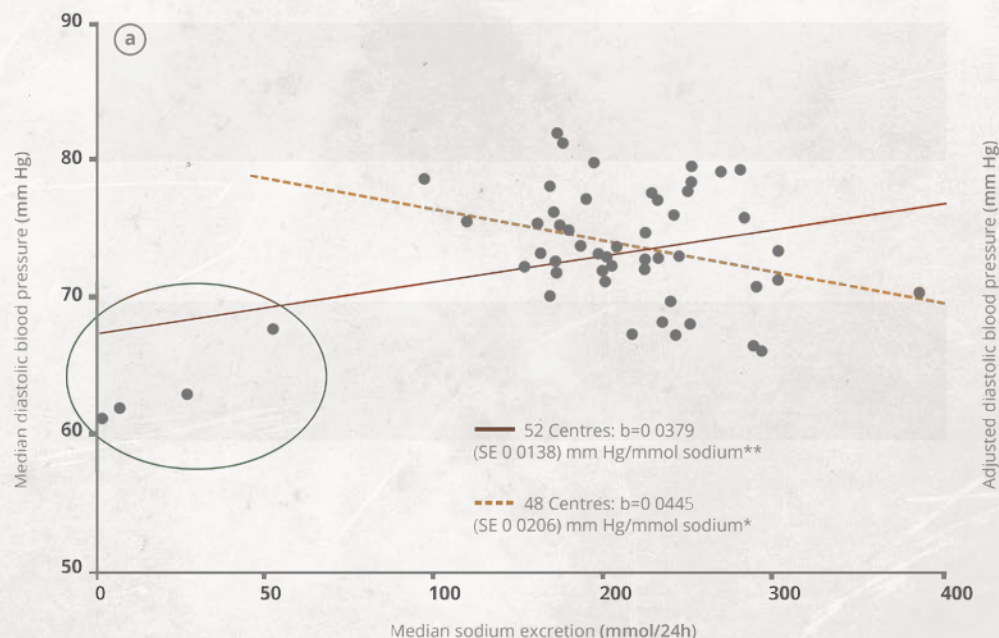
Even the authors of the INTERSALT study admitted it. But based on this evidence, the USDA started advising everyone to avoid salt.

1997

The DASH (Dietary Approaches to Stop Hypertension) study found that a diet with unrestricted salt but plenty of fruits, vegetables, and low-fat dairy was much more effective for reducing blood pressure than salt restriction. USDA dietary recommendations did not change.

Humans have a complex system for controlling blood pressure that relies on magnesium and potassium as well as sodium – this is why diets high in potassium-rich fruits and vegetables (like Paleo and the DASH diet) show benefits for blood pressure. **Claiming that “salt raises blood pressure” is overly simplistic and inaccurate.**

Also, consider that most of America's salt intake comes from processed foods, not the salt you add at the table. This might be why we think salt is so unhealthy: it's not the salt itself, it's the junk food we get it from.



PALEO TAKEAWAY:

When you stop eating processed junk food, your taste buds are a reliable guide to how much salt you need.

SUPPLEMENTS

Supplements are a touchy subject. Ideally, in a perfect diet, you shouldn't need to supplement – after all, there were no drugstores in the Paleolithic era. But a lot else has also changed, and not only for the better. The result is that some supplements are useful as responses to uniquely modern problems.

- We have to fight the environmental toxins of industrial society (air pollutants like exhaust, factory runoff in our water, and toxic cleaning supplies, to name a few) that weren't around in the Paleolithic era.
- We have to recover from diseases of civilization (like diabetes and obesity) and years of grain-based malnutrition that our ancestors never had to deal with.
- Our food processing methods (factory farms, large monoculture crops, and pesticides) no longer produce food as micronutrient-rich as it used to be.

Make sure to get high-quality supplements, especially for the fish oil. Fish oil should always be kept refrigerated in a dark container to preserve the fragile structure of the Omega-3s. Don't be tempted by the 2 for \$5 special on the cheap gel caps: it's better not to supplement at all than to take a lousy one!

Some people with certain health problems may also benefit from other therapeutic supplements, but for healthy people, a row of bottles in the medicine cabinet isn't necessary.

Paleo Supplement Recommendations

Supplement

Reasons

Vitamin D

Some foods are rich in Vitamin D, but our best source is the sun. With today's indoor lifestyle this means many people are deficient. Since Vitamin D is so crucial for bone health and metabolism, a supplement is a wise idea.

Fish Oil

Fish oil contains essential Omega-3 fats that are lacking on a modern diet (see the special page on Omega-3s). Unless you eat fish every day, consider taking a fish oil supplement to get a healthy dose of these anti-inflammatory goodies.

Probiotics

Your gut flora affects everything from digestion to immunity to skin health. Modern antibiotics and hygiene are bad for them, so give them a boost with a high-quality probiotic supplement.

PROBIOTICS

It's a pretty strange thought, but you aren't the only one living inside your skin! Your gut gets by with a little help from its friends - about 100 trillion of them. These are called gut flora, and they're friendly bacteria that help you do everything from digest your food to resist diseases.

Your gut microbiome is fundamental to your health. You cannot be healthy and well-nourished without your gut flora. Unfortunately, the modern food environment is aiming straight for your gut.

Sometimes these attackers kill off the friendly gut bacteria, and sometimes they create the opposite problem: bacterial overgrowth. The consequences of unhealthy gut flora can echo across your entire body - not only in digestive diseases like IBS and Crohn's Disease, but even in apparently unrelated conditions like diabetes, acne, and autoimmune disorders (take a look at the [Further Reading](#) section for the full list).



KEEPING YOUR GUT FLORA HAPPY



Traditional approaches to keeping the gut flora healthy include **fermented foods like sauerkraut, kimchi, and kefir**. These foods are healthy and delicious, and often not emphasized enough on a Paleo diet.



Since almost everyone comes to Paleo with a gut microbiome that's already damaged, **a probiotic is a good therapeutic supplement** for recovering from the modern diet and protecting the gut in the future.



Prebiotics are much more dubious – they can actually make things worse in people who have gut flora overgrowth. They're fine to experiment with, but be cautious with them.

PALEO TAKEAWAY:

If your gut flora aren't healthy, you won't be, either. Keep them happy with plenty of fermented foods and maybe a boost with a probiotic supplement.



WATER

Whether your Paleo glass is half full or half empty, there better not be any Kool-Aid inside! Sugary soft drinks are out on Paleo, even the diet kinds (they're still full of all kinds of chemical nastiness).

Water, on the other hand, is strongly encouraged, and once you get off the Coke, you won't miss the overbearing sugary taste. Try adding lemon juice, mint, cucumber, or other flavoring to a pitcher of cold water and letting it chill for a few hours, or experiment with different flavors of tea.

WATER BY THE NUMBERS

8

Don't worry about getting 8 glasses a day. The original recommendation was 64 oz a day, including water from food, so there's no reason to chug down 8 glasses of pure water if you don't want to. Your body has a sophisticated internal system for regulating your fluid intake – trust it! **Drink when you're thirsty and stop when you like.** The exceptions:

- Athletes – need to stay hydrated for sports, but make sure to also get enough electrolytes (sodium and potassium): try some water with a pinch of salt.
- Sick people – a nasty stomach bug can dry you out in short order. If you're having diarrhea or vomiting, drink enough to stay hydrated even if you don't feel like it.

204

A 2009 report on US water quality found that tap water was contaminated with 204 industrial chemicals, 97 agricultural pollutants, 86 chemicals connected with urban runoff, and 42 toxic chemicals added during the treatment process. These nasty contaminants can also react with minerals in the water to form disinfection by-products (DBPs). To avoid these:

- Use a water filter, even if you drink well water.
- Avoid plastic – drink from glass, metal, or ceramic containers.

2000

Concerned about their tap water, many people turn to bottles instead. **Don't think bottled water is any cleaner than tap water**, though – the safety standards are actually even looser, and it costs 2,000 times as much (assuming a \$1 bottle of water). It's also an environmental disaster. Filtering your tap water is cheaper, safer, and better for everyone involved.

PALEO FOODS

WHAT YOU SHOULD BE EATING:
DELICIOUS FOOD, AND PLENTY OF IT!



Your
Guide
to
Paleo

FOOD CHART

Looking for the Cliffs Notes version of a Paleo menu? You found it! Use this handy chart to help you plan meals and adjust your grocery shopping.

	BEST	OK	AVOID
ANIMAL FOODS	All unprocessed meats (beef, chicken, pork, fish, lamb, alligator, bear...), eggs, animal fats (lard, tallow, lambfat, etc.)	Processed meats (bacon, ham, sausage) – see the section on meat for more	
VEGETABLES	All non-starchy vegetables	Starchy tubers like potatoes and yams - eat in moderation, according to your exercise levels.	Corn (actually a grain)
FRUITS	All fresh fruits	Dried fruit, preserves, and jams	Fruit juice
GRAINS		White rice	All grains except for white rice, including corn, whole grains, sprouted grains, and pseudo-grains like quinoa
LEGUMES	Green beans, sugar snap peas		All other legumes, including soy, other types of beans, lentils, and peanuts
NUTS	Macadamia nuts, chestnuts	Other kinds of nuts (almonds, cashews, pistachios, etc.)	Peanuts (actually a legume, not a nut)
DAIRY	Butter and ghee (clarified butter)	Fermented dairy (yogurt and kefir), goat dairy, cheese, raw milk	Pasteurized milk, processed dairy (e.g. commercial yogurt full of sugar), whey protein
OILS	Coconut oil, olive oil, avocado oil, red palm oil		Seed oils (canola oil, vegetable oil, soy oil, peanut oil, etc.)
OTHER FOODS	Coconut milk, tea, all herbs and spices, vinegars	Dark chocolate, coffee, caffeinated drinks, alcoholic drinks	

MEAT

Meat: it's what's for dinner! High quality animal products are the cornerstone of a Paleo diet



RUMINANT MEAT

(beef, goat, lamb, bison, venison)

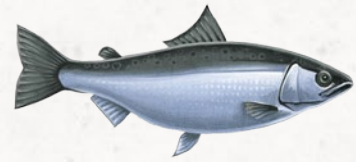
- Rich in vital nutrients like iron and B Vitamins
- Excellent fat profile: lots of saturated fat with few unstable PUFAs (see the [p. 10](#) on saturated fat and [p. 12](#) on PUFA for more details)
- Grass-fed is best (see following page on grass-fed meat)



POULTRY

(chicken, turkey, pheasant, goose, duck)

- More affordable than ruminant meat in most areas
- Higher in PUFA than ruminant meat



SEAFOOD

(salmon, tuna, grouper, shrimp, mussels...)

- High in iodine and selenium, two essential nutrients
- Excellent source of anti-inflammatory Omega-3 fats ([p. 14](#) on Omega-3s)
- Overfishing is a serious problem, so prioritize sustainably harvested fish (see [p. 34](#))



PORK

- More affordable than ruminant meat in most areas
- Higher in PUFA than ruminant meat



PROCESSED MEAT

(ham, bacon, salami...)

- Often contains sugar or harmful preservative chemicals like nitrates
- Choose high-quality preserved meats, not cheap bologna
- Use to add flavor to other dishes, or as a treat, not a staple source of calories



EVERYTHING ELSE

(insects, rodents, E.T....)

- If it's unprocessed meat, it's Paleo!

GRASS-FED VS. GRAIN-FED

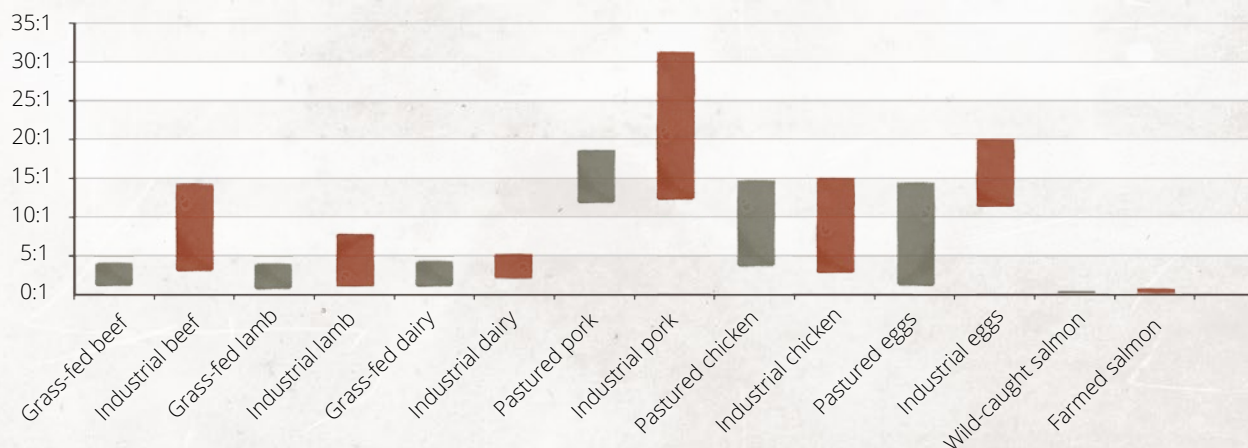
Factory farmed meat isn't just cruel, it's also less healthy. Meat from animals raised naturally (whether that means grass-fed beef, wild-caught fish, or pastured chickens) is healthier, tastier, and more sustainable.

One of the biggest advantages of naturally raised meat is a **better ratio of O6:O3 fats**. This ratio should be between 1:1 and 4:1, but the modern American diet contains ratios closer to 10:1, which contributes to inflammation and chronic disease.

Grass-fed meat also has more vitamins and minerals, especially **Vitamins A and E and iron**, since the animals are eating their natural food instead of industrial grain slurry.

GRASS-FED VS. GRAIN-FED: FAT QUALITY

The graph below compares the average ratio of Omega-6 to Omega-3 fats for several different animal products – **lower is better**. Notice that the grass-fed versions are almost always superior, and that the salmon is in a league of its own, with more Omega-3s than Omega-6s.



MONEY AND PRIORITIES

Just about the only drawback of grass-fed meat is the cost. Instead of assuming that you won't be able to pay for it, try the following:

- Pick every other item in your budget, and fill it in the blank: "I would buy grass-fed meat, but _____ is a higher priority." This is about being honest with yourself. Maybe all your sentences make sense to you – great. If not, you know where to make room in your budget.
- Look at your local farmer's markets or use Eat Wild (www.eatwild.com) to find a local supplier – the prices are often much better than at the supermarket.
- Buy in bulk! Many butchers sell a quarter of a cow for a significant discount per pound; share with your friends, or stock up for a while.

PALEO TAKEAWAY:

If you can make it work, grass-fed meat is healthier and more ethical than anything coming out of a factory farm.

ORGAN MEATS

If a six-year-old refuses to try a new vegetable because it “looks icky,” we all know he’s being unreasonable. Before you assume that you won’t like organ meats, at least consider what they might bring to your table.

BENEFITS OF ORGAN MEATS

- **They’re cheap.** You can often buy pasture-raised, grass-fed organ meats for less than the “normal” cuts from factory farms.
- **They’re nutritious.** Liver wins the gold star for micronutrient content, but just about any kind of organ meat is highly nutrient-dense.
- **They’re tasty.** Yes, tasty – you just have to cook them properly.

COOKING WITH ORGAN MEATS

If you already love liver and onions and just needed verification that it’s healthy, you’re all set! But if your inner six-year-old is cringing at the thought of eating something so “icky,” read on for some tips and tricks to make it work.

- **Start with Heart.** Heart is a muscle, just like the muscle meat you get in a steak or a pork chop. It tastes very mild, like a roast – not at all “liver-y.” If you didn’t know it was an organ meat, you’d never guess (and if you don’t tell your kids, they’ll never guess either!).
- **Eat at a Restaurant.** Organ meats are trendy right now, so you should be able to find a restaurant that serves them. Get someone else to prepare it for you so you can get used to the taste first, and then deal with buying the raw meat on your own when you already know it can be good.
- **Disguise it.** You can buy sausages that taste exactly like normal sausages, only with heart or liver mixed in. Add some ground organ meats to spaghetti sauce, chili, or soup along with other meat; you’ll never know the difference.

RECIPES WITH ORGAN MEATS

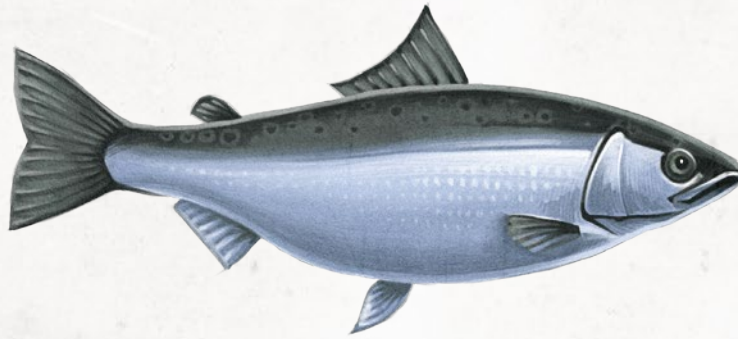
“SPOT THE LIVER – IF YOU CAN!”



- **Beanless chili** or **meatloaf** – a pound of ground liver will disappear into these recipes with nobody the wiser!
- **Roasted bone marrow** – impress your friends with a classy appetizer.
- **Liver pâté** – a classic delicacy, delicious with crunchy vegetables as a snack, or straight off the spoon.
- **Irish kidney soup** – once you’re a little bit more used to the idea of eating organs, try this simple but flavorful recipe.
- **Our cookbook, the [Paleo Recipe Book](#)** offers a great selection of recipes prepared with organ meat.

PALEO TAKEAWAY:

You can eat Paleo without ever touching organ meats, but they’re a cheap and healthy way to add variety to your diet – try them before you assume they’ll be gross!



FISH AND SEAFOOD

If your experience with seafood is limited to tuna salad and shrimp rings, you have a lot of taste-testing to do! Seafood is strongly encouraged on Paleo.

ONE SERVING OF FISH PROVIDES...

- **More O3 than O6 fat.** The ratio of O6:O3 in the diet should be between 1:1 and 4:1, but modern diets are much higher in O6 (see [p.12](#) for details). Fish is the only naturally occurring meat with more O3s than O6s, so it helps balance out O6-rich foods.
- **Selenium.** An important nutrient for thyroid function and mental health, selenium is hard to get from other food sources unless you really like Brazil nuts.
- **Iodine.** Another thyroid essential, iodine also supports fertility and immune function. In the US, all commercial salt is fortified with iodine, but if you stop eating salty processed foods, it's possible to develop a deficiency.
- **Calcium.** Bone-in fish like salmon and sardines are an excellent source of calcium.

WHAT ABOUT THE MERCURY?

The mercury levels in fish aren't an issue unless there's more mercury than selenium – which there almost never is. Selenium binds to the mercury so you don't absorb it. For more on this, look up the articles linked in the [Further Reading](#) section.

OVERFISHING

A more serious problem than mercury poisoning is overfishing. Right now, we're catching fish faster than they can reproduce, depleting the oceans' resources. This doesn't mean you should stop eating fish, but it is important to be aware of what you buy:

- Look for the Marine Stewardship Council logo on fish products – a lot of advertising doesn't mean anything, but this one is a good indication that the fish is sustainably harvested.
- Eat fish further down the food chain, like sardines.

FARMED VS. WILD-CAUGHT

One solution to overfishing seems to be fish farming – if we kept fish in farms, like cows and chickens, we could just breed more to meet demand. But the ocean ecosystem is much more complicated than that, and farmed fish can actually deplete species further down the food chain (the fish that feed the fish that end up on your plate). Farmed fish are also less nutritious and often fed antibiotics and other harmful additives.

The notable exception to this rule is oysters: oysters do just fine in farms, so they're one of the most sustainable kinds of seafood around. For everything else, new fish-farming technologies may even out the playing field in the future. Right now, sustainable wild-caught fish is a more nutritious option, and choosing ethical seafood is a vote with your dollar to support more of it.

PALEO TAKEAWAY:

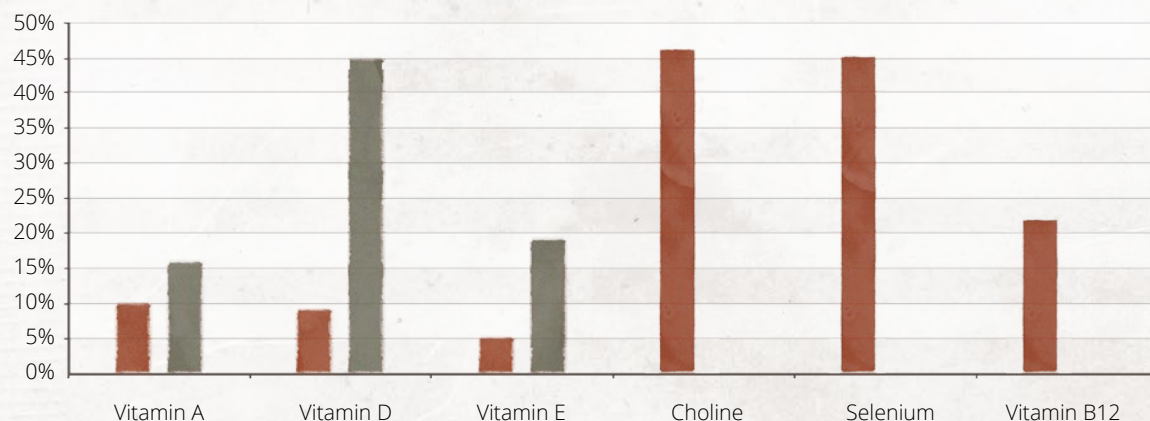
Eat plenty of seafood, preferably wild-caught using sustainable methods.



EGGS

Eggs boast high levels of Vitamins A, D, E, and B12. They're also excellent sources of two rarer but essential nutrients: choline (especially important for pregnant women, since choline deficiency is linked to neurological birth defects), and selenium (which has few other dietary sources and is important for thyroid health).

NUTRITIONAL CONTENT (% RDA) PER 100 GRAMS (ABOUT 2 EGGS)



CAGED HENS

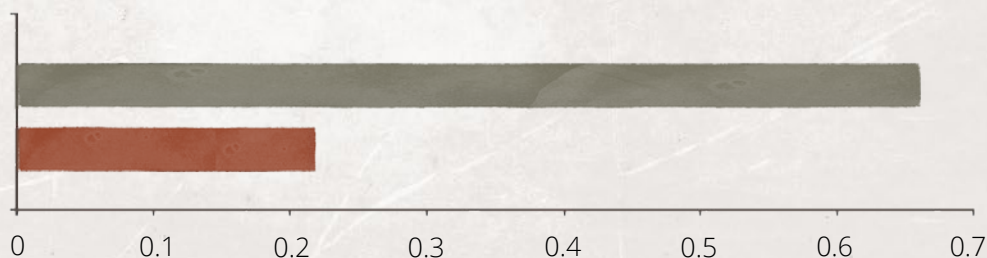
PASTURED HENS

Data for choline, selenium, and B12 for pastured hens is not yet available.

EGGS FROM PASTURED HENS ALSO HAVE MORE BENEFICIAL OMEGA-3 FATS:

OMEGA-3 CONTENT

(in grams, per 100g. Recommended daily intake is 1-3 grams.)



PASTURED HENS

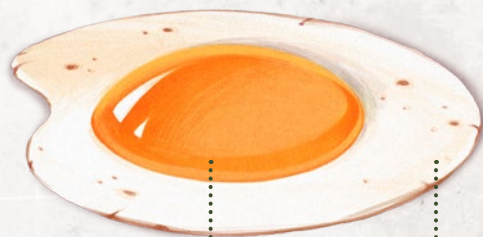
CAGED HENS

EAT YOUR YOLKS!

Egg whites are a decent source of protein, but all the vitamins and minerals are in the yolk.

90% of the calcium, 93% of the iron, 95% of the folate, 97% of the Vitamin B6, 92% of the Vitamin B12, and all the Vitamins A, E, D, and K, as well as all the Omega-3 fats are in the yolk.

NUTRITION IN AN EGG



Yolk:

75%

White:

25%

FINDING GOOD EGGS

Just picking up the closest box that says "cage free" on the grocery store shelf isn't going to get you the benefits of those lovely green lines on the previous page.

You can't find those eggs in a grocery store, but that doesn't mean they aren't available – try a farmer's market or a local supplier (see the [Resources page](#) for more suggestions)

VEGETABLES

"I eat more vegetables than most vegetarians!" has almost become a Paleo cliché, but it's cliché because it's true. Paleo is a very vegetable-friendly diet and loading up on all the colors is strongly encouraged!



BRIGHT RED AND ORANGE VEGETABLES:

These include red peppers, tomatoes, sweet potatoes, carrots, and many kinds of squash. Their bright color comes from carotenoids, a group of pigments that include a precursor form of Vitamin A and several powerful antioxidants. Many red vegetables also contain high levels of Vitamin C.



DEEP RED AND PURPLE VEGETABLES:

These include eggplant, beets, purple kale, red leaf lettuce, and purple carrots. Like their bright red cousins, they're full of antioxidants, and also feature several different micronutrients – eggplant, for example, is high in manganese, a mineral important for bone health.



GREEN LEAFY VEGETABLES:

Green leafy vegetables are so astonishingly nutritious that they get their own page (p. 38). The star of the show is kale, but the chorus line also features spinach, bok choy, Swiss chard, collard greens, and cabbage. These leafy greens are an important Paleo source of calcium, and feature their own laundry list of nutrients and antioxidants.



OTHER GREEN VEGETABLES:

Not to be outdone by their leafy cousins, other green veggies include broccoli, cucumbers, asparagus, Brussels sprouts, and green peppers. Besides adding crunch and texture to a salad, these vegetables feature micronutrients like calcium (broccoli), Vitamin K (asparagus and Brussels sprouts), and Vitamin C (green peppers).



WHITE VEGETABLES:

Mushrooms, cauliflower, parsnips, onions, and potatoes might not win any pigment prizes, but don't let that keep them off your plate. Turnips and cauliflower are full of vitamin C, and cauliflower (like other cruciferous veggies) also contains significant levels of Vitamin K.

It's not just the veggies, though: both animal and plant foods are important for optimal nutrition. Eat your broccoli, but eat your steak and egg yolks, too.



LEAFY GREENS

Simply put, leafy green vegetables are some of the most nutritious plant foods on the planet. The champion spot has to go to kale, but the rest of the “green leafies” definitely give it a run for its money: check out the vitamins found in 1 cup of these veggies:

VITAMIN A

Kale:	206%
Spinach:	56%
Swiss chard:	44%
Collard greens:	48%
Turnip greens:	127%
Broccoli:	11%
Bok choy:	63%

VITAMIN C

Kale:	134%
Spinach:	14%
Swiss chard:	18%
Collard greens:	21%
Turnip greens:	55%
Broccoli:	125%
Bok choy:	52%

VITAMIN K

Kale:	684%
Spinach:	181%
Swiss chard:	374%
Collard greens:	230%
Turnip greens:	173%
Broccoli:	116%
Bok choy:	40%

ETC EVERYTHING ELSE

Kale:	Copper 10% / manganese 26%
Spinach:	Manganese 13% / folate 15%
Collard greens:	Folate 15%
Turnip greens:	Manganese 13% / folate 27%
Broccoli:	Manganese 10% / folate 14%
Bok choy:	Folate 12%

Green leafy vegetables also contain smaller amounts of other micronutrients, as well as several different kinds of antioxidants.

COOKING WITH LEAFY GREENS

Forget limp, overcooked broccoli and piles of soggy spinach! Vegetables are delicious sautéed in a Paleo cooking fat with some salt for a simple side dish, or added to soups, stews, and curries for flavor and nutrients. Kale can also be roasted in the oven to make kale chips, a crunchy Paleo snack that you can customize to be spicy or salty. Smoothies are another option – throw a handful of spinach into just about any smoothie recipe for a vitamin boost that changes the color of the mix, but barely affects the flavor.

SEAWEED

Seaweed is a vegetable that most of us don't think of eating, but it's worth looking into because it provides iodine, an essential nutrient for thyroid health.

Most people in the developed world get their iodine from iodine-fortified salt, but most of their salt intake comes from processed foods like bread, cold cuts, and cookies. If you don't eat these processed foods, it's easy to develop an iodine deficiency, especially if you also start using unrefined sea salt (which isn't fortified with iodine).

5 WAYS TO GET YOUR SEAWEED IN:



ROAST IT!

Seaweed doesn't have to be slimy and fishy; you can roast your own, or buy a pre-roasted snack pack (just check the ingredients list to make sure it's made with a Paleo oil).

NORI WRAPS

Nori is the kind of seaweed used to wrap sushi, but there's no reason to limit yourself to rice – try a sheet of Nori wrapped around some meat and veggies for an interesting twist on your lunch.

SEAWEED SOUP

Try your seaweed hot in a warm, comforting soup, or even put it in bone broth for an extra nutritional boost.

SEAWEED SALAD

Best known as “that weird green container by the sushi,” seaweed salad is a traditional Asian side dish and a tasty accompaniment to any kind of fish.

DULSE FLAKES

If you really can't handle seaweed as a main dish, dulse flakes are powdered seaweed ground up like a spice. They taste a little salty and seafood-y; just sprinkle them onto a fish or seafood dish and you won't even notice the taste.

FODMAPS

“I’m eating Paleo! I’m doing everything right! Why am I still so bloated all the time?”

– It’s not a common complaint, but it does crop up, and often the reason is this tricky group of carbohydrates. FODMAPs stands for Fermentible Oligosaccharides, Disaccharides, Monosaccharides, and Polyols. They’re found in several groups of foods including many fruits, brassica vegetables (broccoli and cauliflower), onions and garlic, and beans (the [full list](#) of Paleo FODMAPs foods is linked in the [Further Reading](#) section for reference).

NOT ALL CARBOHYDRATES ARE FODMAPS.

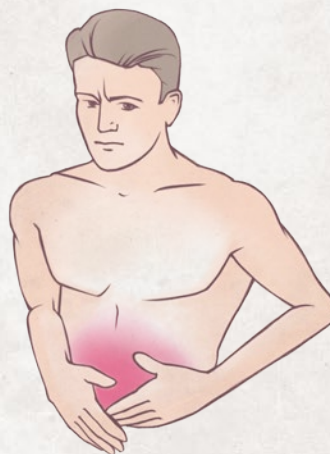
And not everyone is sensitive to FODMAPs – many people can eat high-FODMAPs foods without any problems. But if you’re suffering from IBS or any other kind of unexplained digestive problem, FODMAPs are a likely culprit. One study found that a low-FODMAPs diet brought significant relief to 75% of IBS patients.



FODMAPs start causing trouble in the **small intestine**. Most carbohydrates are broken down and absorbed here, but FODMAPs are either not completely broken down, or not completely absorbed.



When they get to the **large intestine**, FODMAPs provide too much food for your gut flora. The gut flora digest these carbohydrates by fermenting them, giving off gas in the process. FODMAPs also draw water into the intestine.



Bacterial overgrowth and too much water in the intestine cause gas, bloating, diarrhea and/or constipation, stomach pain, and other digestive problems.

PALEO TAKEAWAY:

Most people handle FODMAPs vegetables just fine, and there’s nothing unhealthy about them, but they’re one of the first places to look if you’re still having digestive symptoms on Paleo.

NIGHTSHADES

In 54 A.D., the Roman empress Agrippina murdered the emperor Claudius to make way for her son Nero. Her weapon of choice? A toxin called Deadly Nightshade. Deadly nightshade is a member of the nightshade family, which also includes more familiar vegetables like eggplant, bell peppers, white potatoes, and tomatoes.

This doesn't mean that all members of the nightshade family are poisonous – far from it! But nightshades are a problem food for one particular type of disease: autoimmunity. Auto-immune disorders are very common, and include well-known diseases like Type 1 Diabetes, Celiac Disease, and arthritis.

NIGHTSHADES AND JOINT PAIN

Of all the problems that nightshades might be connected to, the one with the most evidence is joint pain, especially arthritis. The theory is that a harmful form of Vitamin D in nightshade vegetables leeches calcium from bones, making arthritis more severe, or even causing it in the first place. There aren't any high-quality clinical studies, but there's enough evidence to make a case for an experiment, especially since there's not much to lose.

NIGHTSHADES AND AUTOIMMUNITY

Like grains and legumes, nightshades contain plant proteins called **lectins** that can irritate the intestine and cause intestinal permeability (leaky gut), a central feature of autoimmunity. All foods contain some lectins, but different people react to different kinds of lectins, and the lectins found in nightshades have a high chance of being irritating.

Nightshades are also high in a class of chemicals called alkaloids, which are what make the Deadly Nightshade so toxic. In high amounts, these alkaloids are inflammatory and dangerous to the nervous system, but edible nightshades contain such tiny amounts of alkaloids that hardly anyone notices. Eggplants, for example, contain nicotine, but nobody develops a pack-a-day eggplant habit.



PALEO TAKEAWAY:

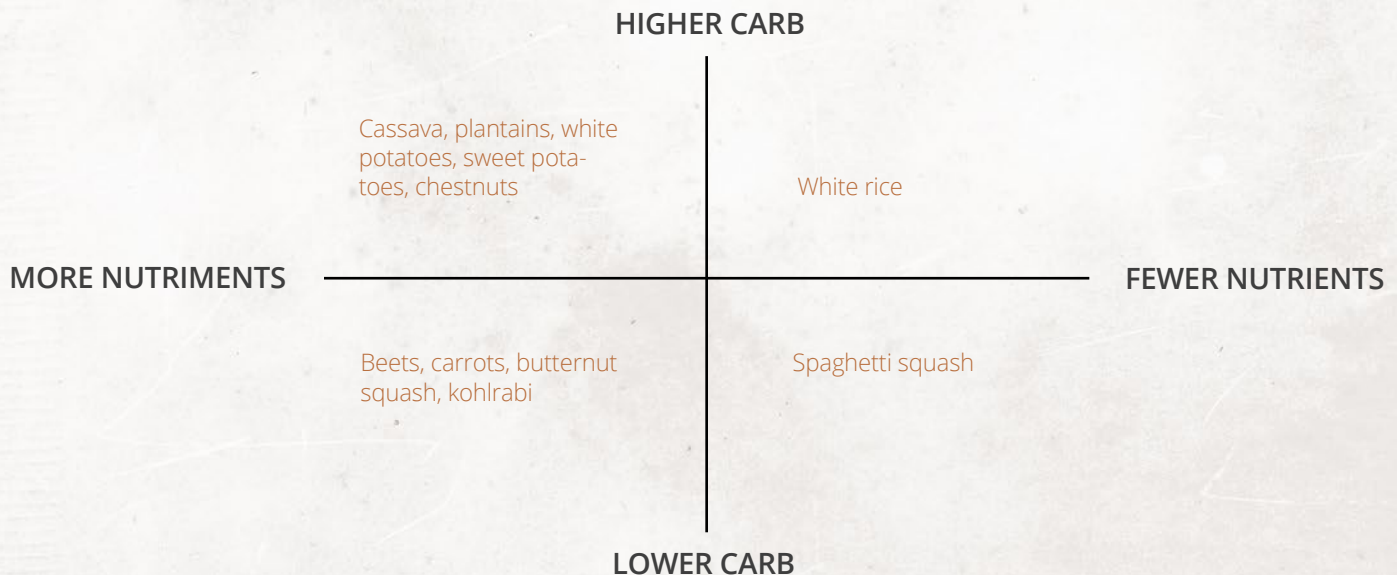
Most people have no need to eliminate nightshades. Some people who already have an autoimmune disease – especially a disease related to joint pain, like arthritis – may be particularly sensitive to nightshades and could benefit from trying a 30-day elimination to see if anything improves.

SAFE STARCHES

Paleo is about avoiding toxins, not avoiding carbohydrates. There's nothing wrong with carbs themselves; the problem is that many common sources of carbs, especially grains, come packaged with various food toxins.

"Safe starches" is a term invented by the authors of the Perfect Health Diet book (look for this in the [Further Reading](#) section), referring to toxin-free starches that are perfectly safe and healthy to eat. Root vegetables and squash are the best paleo carb sources.

SAFE STARCHES:



SAFE STARCHES FAQ:

Q: Isn't rice a grain? I thought grains weren't allowed!

A: Yes, it is. See the special page on white rice ([p. 44](#)) for details.

Q: Aren't sweet potatoes more nutritious than white potatoes?

A: Actually, not really. The carb and micronutrient content of both types is about the same, just with different nutrients (see [p. 43](#) for details).

Q: What about other tubers?

A: Most other tubers, like taro, boniato, and yucca, are also considered "safe" – try a quick Google search to make sure.

POTATOES

Sweet potatoes have long been the dominant “safe starch” in the Paleo world, but it’s hard to understand why exactly that is: sweet and white potatoes are different in nutritional content, but it’s misleading to say that one is better than the other. See how they stack up below:



SWEET POTATOES

VS



WHITE POTATOES

20 GRAMS	TOTAL CARBOHYDRATE	17 GRAMS
284%*	Vitamin A	0%
4%	Vitamin C	33%
1%	Vitamin E	0%
2%	Vitamin K	2%
5%	Thiamin	5%
4%	Riboflavin	2%
3%	Niacin	5%
10%	Vitamin B6	10%
3%	Folate	5%
8%	Pantothenic Acid	3%
12.3mg	Choline	11mg
3%	Calcium	1%
3%	Iron	3%
6%	Magnesium	5%
5%	Phosphorous	6%
10%	Potassium	12%
2%	Sodium	0%
2%	Zinc	2%
8%	Copper	6%
13%	Manganese	7%
1%	Selenium	0%

The “winner” is bolded whenever there’s a difference of two or more percentage points in the RDA for that micronutrient. As you can see, there isn’t a huge contrast between the two vegetables, and the sweet potato’s main claim to fame, Vitamin A, isn’t even that big of a deal. Two other points of comparison:

- White potatoes are nightshades, so avoid them if you’re sensitive.
- Sweet potatoes contain oxalates, which many people react to as well.

PALEO TAKEAWAY:

White potatoes and sweet potatoes are both fine sources of Paleo carbs. For a closer look, see the full article on white potatoes.

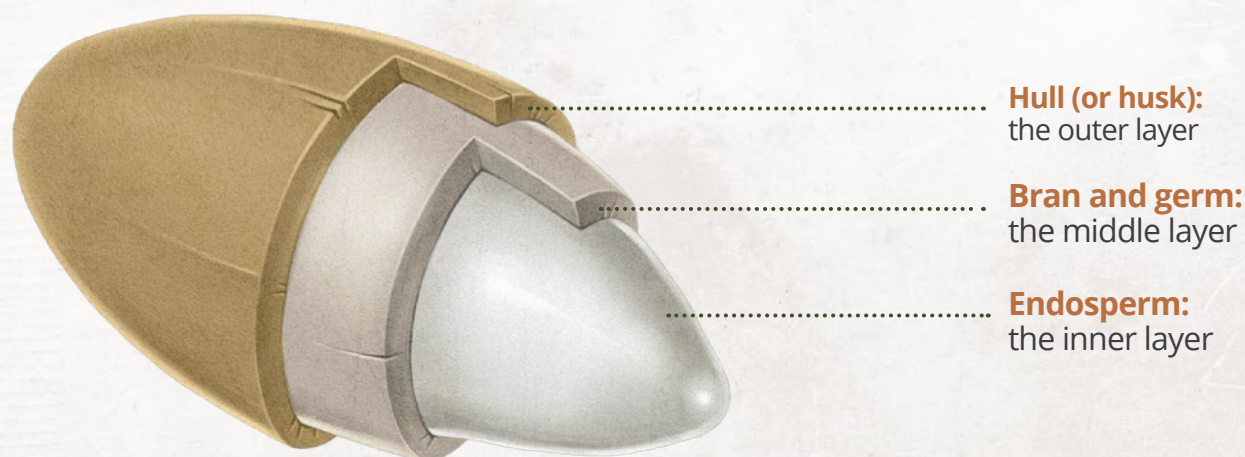
*although this is in a precursor form not readily available for the body

RICE

*Rice is a grain, though!
Grains aren't Paleo...right?*

This is a topic more fully covered on [page 60](#), but the short version is that most grains contain a variety of gut irritants and antinutrients that prevent you from absorbing the nutrition in them. Grains are seeds, and these antinutrients are part of a seed's defense against being eaten (since unlike an animal, it can't run away when threatened).

Think of the **antinutrients** as being like the seed's armor. Now take a look at a single grain of rice:



If you were designing some “armor” for this seed, where would you put it? Probably the same place you’d put armor on yourself: between the thing you want to protect and the rest of the world. In other words, on the outside.

All the antinutrient “armor” in a grain of rice is concentrated in the outer two layers. Brown rice still has the middle layer attached, so brown rice is actually less healthy than white rice, not more. Yes, there are more nutrients in these layers, but there are also more gut irritants, so it's healthier to just eat the middle.

White rice has no micronutrients, but also no toxins: it's pure starch. Unless you have diabetes or another metabolic disorder, there's nothing wrong with starch in itself.

The biggest condemnation you can really give it is that it takes space on your plate away from more nutrient-dense foods.

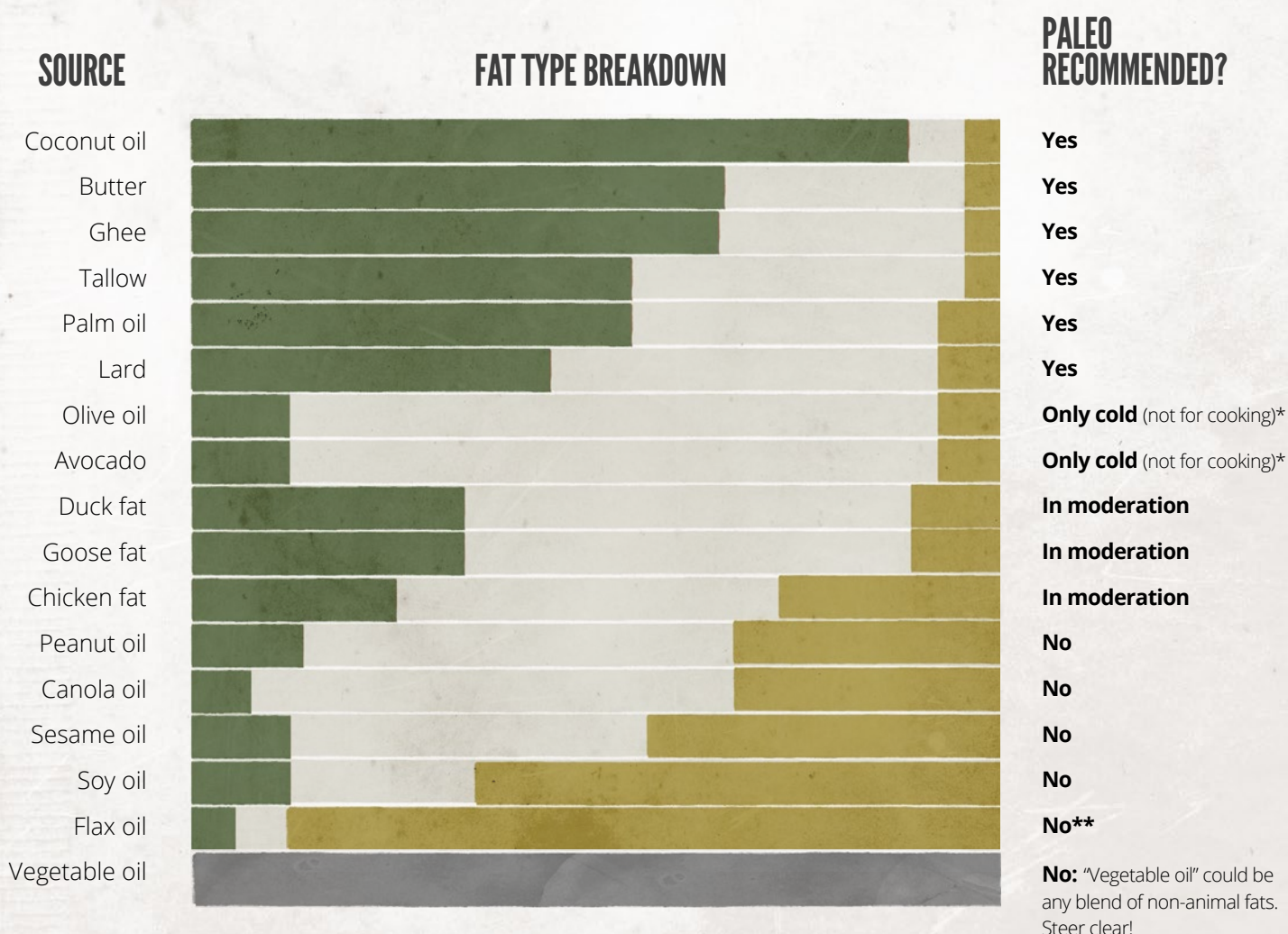
PALEO TAKEAWAY:

Treat white rice as you would treat any other source of starchy carbs; just make sure it isn't displacing critical nutrients from your diet.

SOURCES OF FAT

Fat is the backbone of Paleo nutrition. This chart is a handy, portable guide to your best fat choices and how to use them (look back at page 8 for an overview of why certain fats are better or worse for you).

In the Fat Type Breakdown, **dark green** represents saturated fat (very stable and healthy), **beige** represents monounsaturated fat (fairly stable and also healthy), and **yellow** represents polyunsaturated fat (unstable and best limited).



*The reason why olive oil is only recommended for cold uses is that it's very high in monounsaturated fat, which is unstable at high temperatures. So drizzling olive oil on, your salad is perfectly fine, but choose a different kind of oil for cooking.

**You'll sometimes see flax oil recommended as a healthy way to get Omega-3 fats. But flax, like other plant foods, only contains a precursor form of the Omega-3s your body actually needs, so it's not a very efficient way to get them. Eggs, fish, and fish oil are better sources of Omega-3s than any kind of plant product.

BUTTER

...yes, we're claiming butter is a health food.
You're welcome.

Butter has an excellent fatty acid profile: 63% saturated fat, 26% monounsaturated fat, and 1% polyunsaturated fat. This makes it very stable, unlikely to oxidize or go rancid even when used for cooking.

1% POLYUNSATURATED

63% SATURATED

26% MONOUNSATURATED

Grass-fed butter is a good source of Conjugated Linoleic Acid (CLA), a naturally occurring trans saturated fat (not like the kind of trans fats you used get on your fries at McDonald's before even the US government realized how dangerous they were and banned them). CLA shows promise for its cancer-fighting properties, and its ability to support the immune system, cardiac health, and even weight loss.

Butter also contains one especially beneficial saturated fat: **butyric acid**. Butyric acid is a short-chain saturated fat that shows metabolic benefits like improving insulin sensitivity.

"CLA reduces body fat, cardiovascular diseases and cancer, and modulates immune and inflammatory responses as well as improves bone mass."

Dilzer, A. and Park, Y. Implication of conjugated linoleic acid (CLA) in human health. Critical Reviews in Food Science and Nutrition, vol. 52 issue 6, 2012.

VITAMINS AND NUTRIENTS

In addition to beneficial fats, grass-fed butter contains Vitamin K2, an underappreciated nutrient that is not the same thing as the Vitamin K1 found in many vegetables. K2 helps your body use calcium, so that it ends up where you need it (your bones and teeth) and not in your arteries as plaque. Note that only grass-fed butter contains any amount of K2; the pale white kind at the grocery store isn't the same! Grass-fed butter also has significant amounts of Vitamin A (which gives it its lush yellow color).

BUTTER VS. GHEE

A lot of people get confused when it comes to ghee (also known as clarified butter): what's the difference? Is one healthier than the other? True butter is about 80% fat and 20% milk solids and water. Ghee is just butter with those milk solids removed, which makes it a better choice for people who react to any kind of dairy protein like casein. You can make your own ghee, or buy it online (preferably from grass-fed butter, to get the full benefit of the vitamins).

PALEO TAKEAWAY:

Butter is a whole food that's an excellent source of healthy and stable fat. Even grain-fed butter is a good choice for cooking, although grass-fed is by far nutritionally superior.

COCONUT OIL

Spend any amount of time reading Paleo recipes, and you'll notice the enormous amount of coconut products: coconut milk, coconut flour, coconut flakes, and of course, coconut oil. So what's so special about this tropical nut?



BENEFITS OF COCONUT OIL:

MEDIUM-CHAIN FATTY ACIDS

Medium-chain fatty acids (or medium-chain triglycerides) give you a quick energy boost because they're very easy to digest, even for people who usually have trouble digesting fat. These fats are also very ketogenic – they encourage your body to use fat, instead of carbs, for energy. If you're trying to enter ketosis (see [p. 12](#)), coconut oil will be your best friend!

LAURIC ACID

Lauric Acid (one of the major medium-chain fatty acids in coconut oil) is a potent natural antimicrobial: it fights viruses, bacteria, and fungi.

STABLE COOKING FAT

Coconut oil is approximately 90% saturated fat, making it very stable to use, even at high temperatures. Remember, saturated fat isn't the enemy!

"It appears that dietetic supplementation with coconut oil does not cause dyslipidemia and seems to promote a reduction in abdominal obesity"

Assuncao ML et. al., Effects of dietary coconut oil on the biochemical and anthropometric profiles of women presenting abdominal obesity. *Lipids*, vol. 44 issue 7, July 2009.



A WORD OF WARNING

Despite all the benefits, it's important to note that coconut oil isn't for everyone. Coconut can provoke the same reaction as any other nut if you're allergic, and those wonderful antimicrobial effects might even be harmful if you're struggling with a gut flora problem (see [p. 26](#) for more on gut flora). Coconut oil also doesn't have the micronutrients found in animal fats.

BONE MARROW

When predatory animals head in to devour a kill, they go straight for the bone marrow with the other organ meats – dogs will crack the bones with their teeth, and vultures drop them on rocks to break them open.

Wild animals know what's up: bone marrow is one of the body's most vital tissues. It produces blood and immune cells, and to keep this production line running, it's full of **monounsaturated fat, iron, and Vitamin K2**. It probably has other nutrients as well, but there haven't been many studies of its nutrition content, probably because official recommendations are too focused on scaring everyone off all that delicious fat.

But for the non-fatphobes in the audience, that's a blessing, not a curse! The fat makes it rich and creamy, a decadent treat that enthusiasts describe as "meat butter." To top it all off, it's exceptionally cheap, since it's usually sold as dog food.

WAYS TO EAT BONE MARROW

Whether you're eager to dig right in or a little more skeptical about eating the inside of a bone, there are plenty of ways to enjoy some marrow with your dinner.

MARROW: THE STAR OF THE SHOW

- Roast it plain – serve in the bones with a light parsley salad or just a garnish of sea salt.
- Try a batch of ossobuco, a traditional Italian recipe featuring veal shanks with the marrow bones included.

MARROW: THE SECRET INGREDIENT

- Add it to any rich-tasting soup or stew for more nutrients with just a hint of that delicious fatty goodness.
- Mash it into potatoes or turnips as a meaty alternative to butter.
- Make a batch of bone broth – simmer the marrow bones over low heat or cook them in a crock-pot for 12-24 hours, with any spices you like. The broth will be full of nutrients from the bones (this is why it gels in the fridge).

OLIVE OIL

Even if you know intellectually that there's nothing wrong with saturated fat, it's a major leap of faith to start enjoying lard as a health food! Olive oil is a great transition fat, because most people are far less nervous about it than they are about "unhealthy" saturated fat.

Beware olive oil fraud – even olive oil labeled "extra virgin" is often contaminated with cheaper oils, like canola oil. One study found that California oil is less likely to be contaminated than international oil, but it was funded in part by California olive growers, so this is definitely a finding to take with a grain of salt.

Olive oil should be in a dark container, to protect it from light damage. Check the packaging date – it should be less than a year old. You can also do a "fridge test:" stick the oil in the fridge, and if it doesn't solidify, it's contaminated with PUFA-rich seed oils. If it does solidify, that doesn't necessarily mean it's pure, though.

HEALTH BENEFITS OF OLIVE OIL

Olive oil didn't get its "healthy fat" laurels for nothing. It's mostly monounsaturated fat, which is much more stable than the polyunsaturated fat in other plant oils (see p. 12 for more on PUFA). Olive oil is also rich in natural antioxidants called polyphenols, which have been linked to lower rates of everything from heart disease to cancer.

COOKING WITH OLIVE OIL

Olive oil is a monounsaturated fat, so it's more stable than PUFA, but still not ideal for high temperatures. Enjoy the distinctive flavor drizzled over salads or whipped into homemade mayonnaise, but avoid using it as a staple cooking oil.

QUALITY COUNTS

All these amazing health benefits are only found in fresh, high-quality olive oil that's been handled correctly.



Extra virgin is from the first pressing. It's the most flavorful, and has highest levels of the beneficial antioxidants.



Virgin is from the second pressing. It's more acidic and less intense in flavor, but still high-quality oil.



Pure is made from the leftovers of virgin extraction – cheaper, but not as tasty or healthful.

NUTS AND SEEDS

Nuts are technically “Paleo” (they were around in the Paleolithic), but that doesn’t automatically make them healthy. They’re really a borderline-Paleo food, but in small amounts they can deliver some nutrition and variety in the diet and they’re a lot better for snacking on than Cheetos!



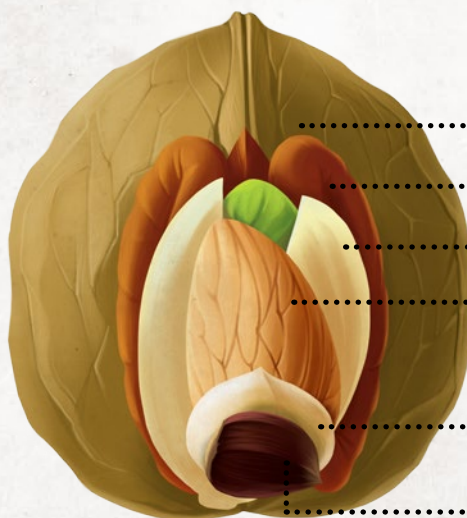
PHYTIC ACID

Nuts are high in phytic acid, a chemical that binds to minerals in the food and prevents them from being absorbed. Phytic acid is one of the reasons why legumes aren’t very good for you, but there’s actually even more of it in some nuts than there is in legumes. **FOR EXAMPLE, ALMONDS HAVE 1.6 TIMES AS MUCH PHYTIC ACID AS LENTILS!**

OMEGA-6 PUFA

Remember that Omega-6 Polyunsaturated Fatty Acids are very unstable and inflammatory fats – in the modern world, we get far too many of these, especially compared to their anti-inflammatory cousins, Omega-3 fats. Unfortunately, many nuts are very high PUFA, and most of it is Omega-6.

Some nuts, like chestnuts and macadamia nuts, are relatively low in total PUFA; these nuts are much better choices for regular snacking.



GRAMS OF TOTAL PUFA per 100 grams of nuts

..... WALNUTS: 47.2 GRAMS

..... PECANS: 21.6 GRAMS

..... PISTACHIOS: 13.2 GRAMS

..... ALMONDS: 12 GRAMS

..... MACADAMIA NUTS:
1.3 GRAMS

..... CHESTNUTS: 0.9 GRAMS

PEANUTS

...aren’t nuts! They’re actually legumes, and one of the worst legumes you can eat, to boot (see p. 66). Avoid them completely.

NUT BUTTERS AND FLOURS

There are three main problems with nut butters and flours.

- They’re much easier to overeat – try stopping at just one spoon of almond butter!
- They’re more processed, which leaves the fragile PUFA in the nuts more vulnerable to oxidation and damage.
- Paleo “baking” with nut flours just isn’t as good as the real thing, but it keeps you stuck in a “diet” mindset of trying to imitate your old favorites instead of moving on.

PALEO TAKEAWAY:

Nuts aren’t terrible for you, but they aren’t doing you many favors either. Instead of eating a smear of sunflower seed butter on your almond flour bread for lunch every day, think of nuts as a Paleo dessert, a fairly harmless indulgence every now and again, but not a staple food.

GRAY AREA FOODS

There are some foods that are definitely Paleo, some foods that are definitely not, and others that are...somewhere in between.

The biggest gray area foods on Paleo are dairy, chocolate, coffee, and alcohol:



YES!

MAYBE?



NO!



Whether these foods are healthy for you or not is really individual: how do you feel after eating them? A good idea is to eliminate the gray area foods for 30 days as a trial, and then add them back in one at a time to really notice how they affect your body and whether they're positive or negative. Questions to ask yourself:

- Does this food taste good to me? (many old "favorite" foods stop tasting so great once you re-train your taste buds to enjoy real foods instead)
- Is this food involved in a valuable part of my social life? Would I feel isolated and unhappy if I couldn't eat it?
- How does my stomach feel after I eat this food? Do I feel fine, or gassy, bloated, and nauseous?
- How is my mood after I eat this food? Do I feel energetic or exhausted?
- Do I notice any flare-ups of conditions that got better on a strict Paleo diet?
- Does this food trigger any urge to binge on it? Do I struggle with overeating it?
- Do I get intense cravings for this food, or suffer withdrawal symptoms when I don't get it?

These questions will help you decide if you have a healthy mental and physical relationship with the food. If you write your answers down in a journal after trying the food, you might discover some valuable new information about your own health and body.

DAIRY



THE GOOD

- Milk is complete nourishment for baby cows, so dairy is loaded with nutrients, healthy fats, protein, and carbohydrates. Grass-fed dairy in particular is a great source of Vitamin K2.
- Fermented dairy products (yogurt and kefir) are full of beneficial bacteria that support healthy gut flora.
- Dairy is delicious and very versatile.

THE BAD

- Dairy contains the protein casein, which many people react poorly to.
- Many people can't fully digest the milk sugar lactose.
- In acne patients, dairy can trigger an outbreak.
- Dairy causes a large spike in insulin, so it's not for people with weight problems or metabolic disorders.

GOOD DAIRY CHOICES

- **Fermented dairy** eliminates the lactose, so even the lactose-intolerant can often have yogurt and kefir.
- **Goat dairy** has a different form of the protein casein, so people who can't tolerate cow's milk can often enjoy goat or sheep dairy.
- **Butter** is almost entirely fat, with very little protein (casein) or carbohydrate (lactose) to cause any reactions. **Ghee** (clarified butter) is an even purer source of fat; almost nobody reacts to it and it's delicious!

PASTURE-RAISED DAIRY

PASTURED DAIRY

- More nutritious – only pastured dairy contains Vitamin K2.
- Better balance of Omega-6 and Omega-3 fats.
- Good source of CLA (Conjugated Linoleic Acid), very healthy fat.

FACTORY FARM DAIRY

- Less nutritious because cows were fed on corn, not grass.
- Contains growth hormones and antibiotics fed to the cows to keep them alive in unnatural conditions.

PALEO TAKEAWAY:

There's nothing in dairy that you can't get from other foods, but if you enjoy it and don't react to it, there's nothing wrong with eating it either, especially if it's pasture-raised and fermented dairy.

CHOCOLATE

Chocolate: everyone's favorite guilty-pleasure indulgence. The cheap, sugary junk is definitely out, but what about a really high-quality bar of dark chocolate?



THE GOOD

- Dark chocolate is a good source of several minerals, including iron, copper, manganese, and magnesium.
- Dark chocolate usually has very little sugar, so it's a fairly safe treat to satisfy sweet cravings.
- Dark chocolate contains antioxidants that can help reduce inflammation.
- Cocoa butter is a healthy fat; it's very saturated and low in PUFA.



THE BAD

- Chocolate is high in phytic acid, which binds to minerals and makes them unavailable to the body.
- Even dark chocolate contains some sugar.
- Chocolate often contains soy (soy lecithin), although in low amounts.
- Chocolate companies often use slave labor or child labor to keep costs down.
- Chocolate can be a binge trigger for some people.

Overall, chocolate is one of the “gray area” foods most likely to trigger an unhealthy emotional response (overeating), and for many people, it’s easier to just avoid it altogether than to constantly be fighting to restrict their consumption.

If you do choose to enjoy some chocolate as an occasional treat, go for the best quality you can get. Make sure to find a brand that's free from any cross-contamination with gluten grains, from a company that pays its workers fair wages and doesn't use child labor. Get the darkest kind you can – at least 70% and preferably darker. If you like your chocolate very bitter, you can even buy raw cacao nibs, which have a more sophisticated chocolate flavor without any sugar. For a different way of tasting that rich chocolate flavor, also try chocolate powder as an ingredient in savory dishes like soups and stews.

COFFEE

Coffee: elixir of the gods, or vile brew of the devil? Whatever your opinion is, chances are it's a strong one.



THE GOOD

- If you're a coffee lover, it's a delicious way to stay on track and start the day right.
- Used occasionally, it improves both mental and athletic performance.
- Coffee can help prevent and relieve constipation.
- Antioxidants in coffee protect against inflammation and free radical damage.



THE BAD

- The caffeine high is followed by a crash, often leading to a cycle of highs and crashes throughout the day and an unhealthy dependence on chemical stimulants.
- Caffeine can throw your hormones out of whack, with negative consequences for everything from your immune system to your waistline.
- Coffee can be a gut irritant to people with IBS or other gut disorders.
- Like chocolate, coffee is often produced by workers who are very badly treated, essentially slaves.

Of course, every other week, there's a new study out showing that coffee either prevents or causes some chronic disease (heart disease, cancer, diabetes, aging...take your pick). These studies are interesting, but ultimately your own personal responses are more relevant.

PICK YOUR COFFEE WISELY

If you're happy with a moderate coffee consumption in the morning and it doesn't affect your sleep, don't worry about it. Consider decaf if you like the taste but can't handle the rush. Find a high-quality coffee from a fair trade source, so you don't have to disguise the taste with tons of creamer (or worse, sugary syrups and artificial flavorings). Alternately, coconut milk, butter, and coconut oil are all Paleo-approved coffee additions to start the morning off with an energy-dense, caffeinated bang!

ALCOHOL

Sorry Germany, but beer isn't Paleo, since it contains gluten from the wheat. But what about non-gluten alcohols, like wine?



THE GOOD

- Many social events are structured around alcohol, so a glass of wine can help you relax and enjoy a party.
- Moderate alcohol consumption has been associated with all kinds of health benefits, from lower risk of heart disease to insulin sensitivity. Wine, for example, contains several beneficial antioxidants.



THE BAD

- In large doses, alcohol is damaging to the liver.
- Some people have trouble sticking to a moderate level of consumption – blacking out is nobody's friend.
- Alcohol has calories, but no nutritional value.
- Alcohol is dehydrating.
- For diabetics, alcohol can be very dangerous since the metabolism of alcohol spikes blood sugar.

Each person's choice to drink or not is very individual, and depends on a complicated array of social factors. If you do choose to have a glass or two, make sure to pick your drinks carefully: not all booze was created equal!

WEIGHT LOSS

Paleo is known for dramatic weight loss stories, but **Paleo is not a “diet” that’s only focused on dropping pounds.** Instead, it’s about eliminating the mismatch between our bodies and our food:

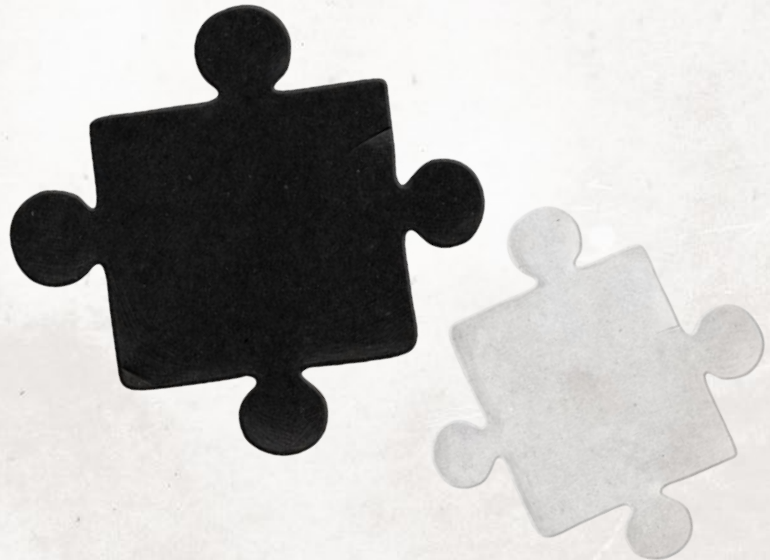
MODERN FOOD

- High in calories, low in nutrients.
- Deliberately designed to be addictive and overwhelm our bodies’ natural “off switch” for hunger.

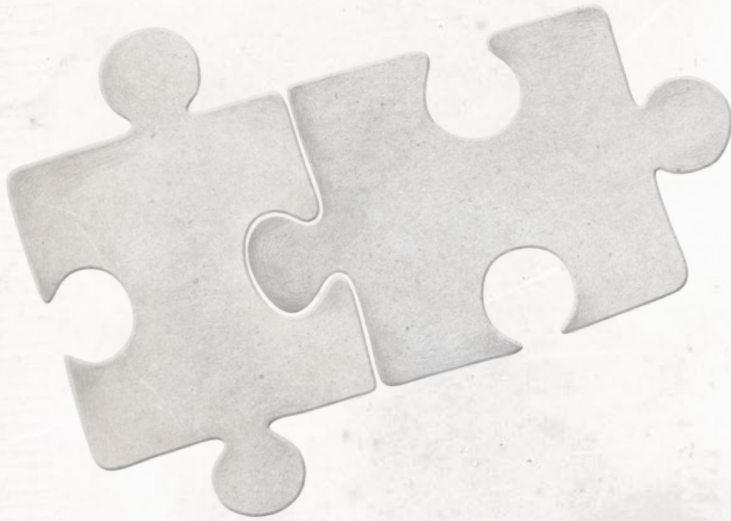
Human beings weren’t designed to be obese. We weren’t born broken. But there is a multibillion dollar modern industry dedicated to designing and marketing products that addict us to high-calorie, low-nutrient “food.” Our bodies have no idea what to do with this, and they break down in response: **obesity is just one symptom of malnourishment.**

ANCIENT BODIES

- Will continue giving hunger signals until they have adequate nutrients.
- React to modern processed foods with a downward spiral of hormonal dysfunction and cravings.



Treating this malnourishment means eating nourishing foods that don't throw your body's natural weight regulation out of whack:



IT'S NOT JUST ABOUT CALORIES

Weight loss is about healing the whole person from the damage of the modern “food” system. You can't do that with a starvation diet (depriving yourself of energy and micronutrients). Instead, eat foods that your body knows how to respond to, and avoid the ones it doesn't.

PALEO FOOD

- High in nutrients, adequate in calories.
- Do not present artificially intense flavors; were not designed to be addictive.

ANCIENT BODIES

- Healthiest with plenty of nutrients and adequate calories.
- Well-adapted to taste and enjoy the flavors of real foods.

THAT'S ALL? **NO.**

Obesity and weight loss are incredibly complex topics, and it's impossible to compress them down to a single page. What is the “off switch” for hunger? How do modern foods overwhelm it? What is the “hormonal dysfunction?” For the answers, take a look at our [longer article](#) on weight loss, and check out the [Further Reading](#) section for more information.

FOODS TO AVOID

SOME FOODS JUST AREN'T GOOD FOR YOUR
HEALTH - STEER CLEAR OF THEM.



Your
Guide
to
Paleo

GRAINS

After years of nutritional information from the USDA, most of us can barely hear “whole grains” without inserting “heart-healthy” in front of it. But is this actually true?

TIMELINE OF HUMAN FOOD HISTORY

PREAGRICULTURAL ERA (150,000 YEARS) – MINIMAL OR NO GRAINS

*Post-Agricultural Revolution (10,000 years ago)
– grains become a major source of calories.*

This doesn't necessarily prove that we're poorly adapted to eating grains, but it suggests that we might be. Modern nutritional science supports this theory with some specific answers:

PROBLEMS WITH GRAINS: LECTINS

Lectins are proteins found in all kinds of foods, but not all lectins are harmful. The lectins in grains and legumes are dangerous because they damage the lining of the gut. The cells lining the gut have to let nutrients through to the bloodstream, but keep everything else out. Lectins in grains damage these barrier cells, so the gut becomes abnormally permeable, or “leaky.” This “leaky gut syndrome” is known to cause autoimmune problems, and is increasingly associated with all kinds of chronic diseases.

“In the past two decades we have realised that many lectins are (a) toxic, inflammatory, or both; (b) resistant to cooking and digestive enzymes; and (c) present in much of our food.”

-Freed, David. Do dietary lectins cause disease? British Medical Journal vol. 318, April 1999.

PROBLEMS WITH GRAINS: PHYTIC ACID

A lot of people like to claim that there are valuable nutrients in whole grains that you can't get anywhere else. This isn't true (there's nothing in grains that isn't also in vegetables and animal products), and in fact, grains are actually a very poor source of nutrients because they contain a compound called phytic acid. Phytic acid binds to the minerals in the food and prevents your body from absorbing them. Birds and other animals designed to eat grains have an enzyme called phytase, which digests phytic acid. Humans have no phytase, so phytic acid is dangerous for us.

“PA has the strong ability to chelate multivalent metal ions, especially zinc, calcium, and iron. The binding can result in very insoluble salts that are poorly absorbed from the gastrointestinal tract, which results in poor bioavailability (BV) of minerals.”

-Zhou, JR, and Erdman, JW., Phytic Acid in Health and Disease. Critical Reviews in Food Science and Nutrition, vol. 35, issue 6, November 1995.

IS THAT ALL? NOPE!

Grains also contain various other antinutrients and gut irritants, some of which are discussed on the next page. If you want even more proof before eliminating an entire food group from your diet (we can't blame you), see the [Further Reading](#) section.



"WGA stimulates the synthesis of pro-inflammatory cytokines and thus the biological activity of WGA should be reconsidered by taking into account the effects of WGA on the immune system at the gastrointestinal interface."

-Pellegrina, D. et. al., Effects of wheat germ agglutinin on human gastrointestinal epithelium. Toxicology and Applied Pharmacology, vol. 237, issue 2, Jun 2009

WHEAT

Wheat is one of the nastiest grains around. Along with the phytic acid and lectins found in all grains, wheat also has...

WHEAT GERM AGGLUTININ

Remember that lectins are antinutrients found in grains and legumes – they're the seed's natural insecticide. Wheat contains a particularly nasty lectin called Wheat Germ Agglutinin (WGA), not to be confused with gluten, which is an entirely different problem:

- **WGA** is particularly good at permeating the gut lining, with serious autoimmune consequences.
- **WGA** is highly inflammatory.
- **WGA** imitates the action of insulin, with serious metabolic consequences.



GLUTEN

Gluten is another protein found in wheat, and it's not just dangerous for Celiac patients:

Even if you aren't noticing any intestinal symptoms (gas, bloating, constipation, or stomach upset), gluten might still be causing other problems.

"Although neurological manifestations in patients with established coeliac disease have been reported since 1966, it was not until 30 years later that, in some individuals, gluten sensitivity was shown to manifest solely with neurological dysfunction"

-Hadjivassiliou, M. et. al., Gluten sensitivity: from gut to brain. Lancet Journal of Neurology, March 2010.

"The aims of this study were to determine whether gluten ingestion can induce symptoms in non-celiac individuals...participants received either gluten or placebo...patients were significantly worse with gluten within 1 week for overall symptoms."

-Biesiekierski, JR. et. al., Gluten causes gastrointestinal symptoms in subjects without celiac disease: a doubleblind randomized placebo-controlled trial. American Journal of Gastroenterology, vol. 106, issue 3, Mar. 2011.

MODERN DWARF WHEAT

If wheat is so toxic, why didn't humans die out long ago? In part, it's because it isn't toxic enough to kill us before we reproduce, but wheat itself has also changed. In the 1960s, scientists developed a new breed called "dwarf wheat." Modern dwarf wheat has fewer vitamins and minerals and a different form of gluten that's more likely to trigger reactions.

We also no longer prepare wheat using traditional methods like soaking and sprouting it, which reduce the antinutrient content. We also no longer grind it fresh. Instead, we bleach it and leave it to go rancid on the store shelf – yum!

PALEO TAKEAWAY:

Skip the wheat. It harms you just slowly enough that you don't notice it at first, but you'll feel better when it's gone.

LEGUMES

Quick, what do peanut butter, tofu, veggie burgers, and lentil soup all have in common? The answer is: they're all legumes! Legumes include soy, beans, peas, and lentils, and they're not nearly as "heart-healthy" as the vegan lobby would have you believe.

COOKING METHODS

To some extent, proper cooking methods (soaking, sprouting, and fermenting) legumes can make a sizeable dent in the antinutrient content. This is how traditional cultures (for example, vegetarian cultures in India who eat lentils as a staple food) prepared their legumes to avoid nutrient deficiency. A dish of soaked, fermented soybeans is a far cry from a dish of unsoaked, heat-treated isolated soy protein. But that doesn't make legumes an ideal food choice and they should still stay off your plate as much as possible.

THE EXCEPTIONS

- Green beans are technically legumes, but contain negligible amounts of antinutrients because they're mostly the pod, rather than the seed, of the plant. The same goes for sugar snap peas and snow peas.
- Vanilla beans and coffee beans aren't actually beans, despite their names.



LECTINS are antinutrients found in legumes (and grains). They irritate the gut and contribute to the development of autoimmune disorders. Some, but not all, can be destroyed by cooking.



PHYTIC ACID in legumes binds to the nutrients in them and prevents those nutrients from being available to your body. Unless you soak or sprout your lentils before you cook with them, you're seriously losing out on nutrient content.



SAPONINS are another kind of antinutrient that can be especially damaging to people with autoimmune disorders. Saponins can't be destroyed by cooking or by soaking.



INDUSTRIAL MONOCULTURE FARMING, used to produce legume crops on a vast scale, strips soil of nutrients and forces farmers to use toxic pesticides. It's far more environmentally destructive than natural, grass-fed meat production.

SOY

PROCESSED SOY VS. TRADITIONAL SOY

Like other legumes, soy is full of gut-irritating lectins and phytic acid that ties up its nutrient content. But soy also has some other special problems, especially in the way we treat it:

MODERN SOY	TRADITIONAL SOY
<ul style="list-style-type: none"> • Eaten in processed foods or as isolated protein or oil; undergoes very harsh chemical and mechanical treatment. • Rarely fermented (soy milk, soybean oil, etc.) • Part of industrial monoculture farms. • Sprayed with pesticides and herbicides • Often genetically modified. 	<ul style="list-style-type: none"> • Eaten as a whole food – not deconstructed with harsh chemicals and industrial processing methods. • Often fermented (fermented tofu, natto, etc.) • Part of a farm ecosystem that included other plants and animals as well.

You can make a case for traditional soy. It's a lot harder to make the same argument for the highly processed modern version. And genetically modified soy is another quandary that we just don't have enough information to make an informed decision about. Monsanto doesn't actually let independent researchers study its seeds, so we have very little idea what their real health effects might be.

The environmental and ecological impact of soy monoculture is also huge factor to consider. Industrial agriculture does long-term damage to the soil and pollutes the environment with toxic pesticides and herbicides.

PALEO TAKEAWAY:

Soy, especially GMO soy, is bad news.

OTHER SOY SKEPTICS CITE EVEN MORE REASONS TO AVOID IT:

- **Isoflavones** (phytoestrogens) in soy can mimic the activity of estrogen in the body, although the jury is still out concerning what concentration is actually harmful.
- **Trypsin inhibitors** in soy interfere with protein digestion.
- **Goitrogens** in soy are dangerous for people with thyroid disorders, although not a problem for everyone else.

SOY SAUCE

Soy sauce is double trouble: it not only contains soy, but also wheat. A healthier Paleo alternative is sauce made from coconut aminos, which you can find online or at a health food store. It has the same salty, Asian flavor, just without the toxins.

PEANUTS

THEY'RE AMERICA'S FAVORITE "NUT" BY FAR, BUT THESE SNEAKY IMPOSTERS ARE ACTUALLY LEGUMES!



Lectins are a group of proteins; they're found in every kind of food, but only some of them are dangerous. Peanut lectins are bad news because they can penetrate the lining of the gut and leak out into the bloodstream. This kind of damage to the intestinal wall is called "leaky gut syndrome," and it's a serious risk for autoimmunity, all kinds of digestive disorders, and other problems.

Some lectins can be destroyed by cooking methods, but peanut lectins are particularly resistant to heat treatment. So even if you buy roasted peanuts, or peanut butter made from them, you're still getting the full whammy.

Aflatoxins aren't a problem in the peanuts themselves. They're actually a kind of mold that grows on the peanuts when they're grown in hot environments or stored in warm, humid places. In other words, they're in almost any kind of peanut or peanut butter you can buy.

In the first world, aflatoxins don't usually cause acute symptoms (although they sometimes do in other countries). But even in small doses, a steady flow of aflatoxins is a known risk factor for liver cancer.



One way that a lot of us get peanut products without realizing it is through peanut oil. If you buy roasted nuts at a grocery store, chances are they were cooked in peanut oil; it's also very common in Thai food and other Southeast Asian dishes. Peanut oil has some monounsaturated fat, so it's a healthier choice than corn oil, but it's also very high in Omega-6 PUFA (see [p. 12](#)).

Because it has such a high concentration of unstable fats, peanut oil is unhealthy and inflammatory – look for dry-roasted nuts instead, and see [p. 45](#) for some better cooking fats.

SUGAR

NATURAL VS. ARTIFICIAL SUGAR

Added sugar is one of those rare foods that we can all agree on (well, all of us except the sugar industry): it's bad news. But does that mean everything sweet-tasting is out?



- Comes packaged with fiber, so you feel full after eating it and naturally reduce your other food intake to match.
- Comes with valuable vitamins and minerals, like the Vitamin C in oranges or the potassium in bananas.
- Not connected with obesity or other diseases in healthy people.



- Does not come with fiber, so you just add it on to your regular caloric intake without feeling less hungry afterwards.
- Comes with a laundry list of additives and preservatives, but no nutritional benefits.
- Strongly connected with obesity, hypertension, and other chronic diseases.

THE SUGAR CONTINUUM

Most of us will suffer if we eat a lot of added sugars. On the other hand, most of us won't see any problems from eating a small amount of naturally sweet foods, like fruit.

MINIMAL SUGAR

Keeping sugar intake as low as possible is good for:

- Diabetics, or other people with metabolic disorders
- People who have difficulty digesting fructose (the sugar in fruit). If you get uncomfortable digestive symptoms after eating fruit, you might want to stay away from it.

MODERATE SUGAR

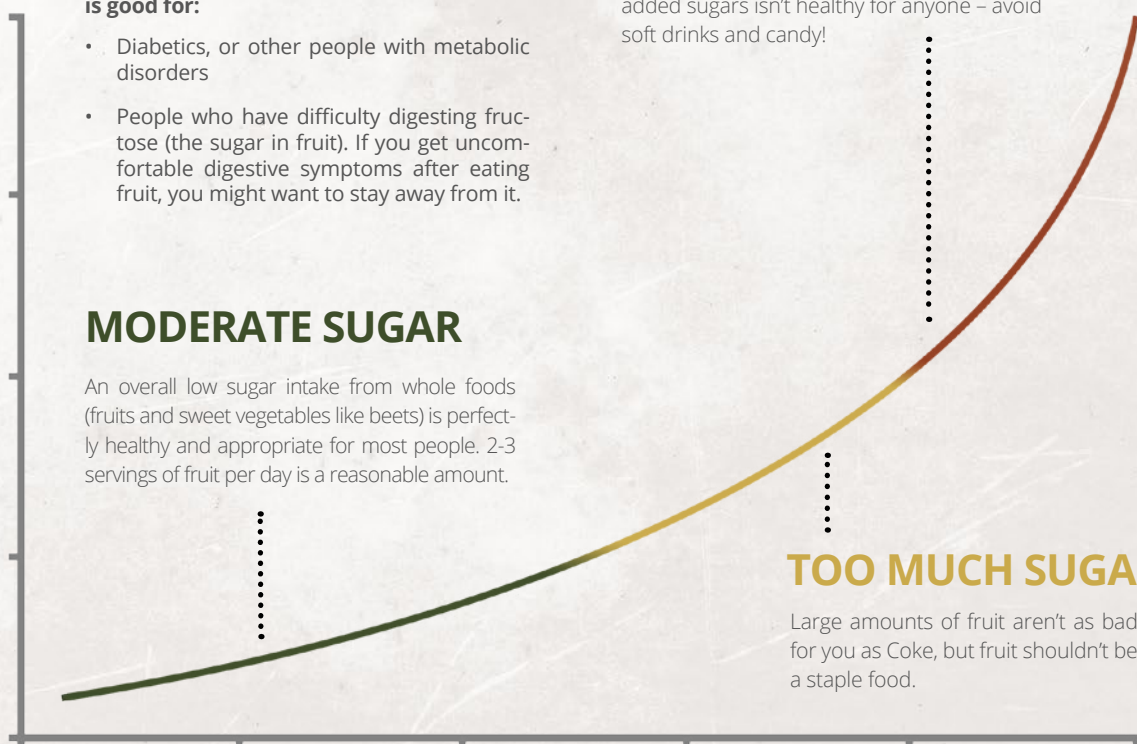
An overall low sugar intake from whole foods (fruits and sweet vegetables like beets) is perfectly healthy and appropriate for most people. 2-3 servings of fruit per day is a reasonable amount.

SUGAR OVERLOAD

A high sugar intake from refined foods and added sugars isn't healthy for anyone – avoid soft drinks and candy!

TOO MUCH SUGAR

Large amounts of fruit aren't as bad for you as Coke, but fruit shouldn't be a staple food.



PALEO COOKING

YOU KNOW WHAT TO EAT,
NOW FOR THE FUN PART: HOW TO EAT IT!



Your
Guide
to
Paleo

MEAL PLANNING TIPS

The easiest way to save time, money, and energy on healthy food is to have a plan for your meals and a weekly shopping list. **Our Paleo Weekly Planner** offers exactly this, so be sure to check it out!

BENEFITS OF MEAL PLANNING

- **Save time:** no wondering what to cook, no last-minute trips to the grocery store.
- **Save money:** no wasting food because you forgot about it or couldn't figure out how to cook it.
- **Save energy:** beat junk food cravings by making healthy food even more convenient than takeout.

MAKING A MEAL PLAN

Spend just half an hour on Saturday, and you'll get it back with interest during the week. Sit down with two pieces of paper: one for your meals, and one for your shopping list, and think about Monday. Write down a rough idea of what you want to eat on your meal list. Write down the ingredients on your shopping list. Repeat for the rest of the week!

Your plan won't work perfectly at first. That's OK. You'll get better every week; eventually you'll be whipping up Paleo meals like a pro.



Sample meal plan

MONDAY

- Breakfast: omelet (3 eggs + onions and red peppers)
- Lunch: tuna salad (can of tuna, celery, potatoes)
- Dinner: pork chops (pork chops, mustard, honey, onions) and spinach salad

Sample shopping list

MONDAY

MEAT

- Pork chops
- Can of tuna

OTHER

- Mustard
- Honey
- Eggs

VEGETABLES

- Spinach
- Onions
- Mushrooms
- Red peppers
- Celery
- Potatoes

TIP

Notice how the shopping list is arranged by section of the store. This makes shopping more efficient – no running back and forth.

STOCKING YOUR KITCHEN

Your meals should fit into your life, not the other way around. Build flexibility into your meal plan so you aren't thrown off by unexpected changes. If you always have some canned fish and frozen veggies on hand, you can always put together a healthy meal in just a few minutes.



CUPBOARDS

- Cans of fish
- Cooking oil
- Coconut milk
- Spices (nutmeg, cinnamon, ground ginger, vanilla extract, curry powder, cumin, chili powder, paprika, garlic powder, red pepper flakes)
- Baking soda and baking powder
- Almond and coconut flour
- Salt and Pepper

FRIDGE/FREEZER

- Frozen veggies and frozen berries
- Homemade freezer meals: cook in bulk and freeze the left overs for super-fast dinners
- Frozen grass-fed or pastured meat (buy in bulk for cost savings)
- Frozen homemade chicken and beef stock

BREAKFAST IDEAS

Some quick and simple breakfast recipes to break the habit of cereal and toast in the morning:

THE CLASSICS

- **Eggs** – throw just about anything in an omelet (veggies, left-over meat, spices...). If you're bored with ham and onions, try a Thai-inspired omelet with coconut milk and spicy fish sauce, or an Italian omelet with basil and tomatoes. Or cook up an easy frittata for a change of pace. Hard-boiled eggs make a nutritious and portable breakfast on the go.
- **Sausages** – make sure to get high-quality sausage (not cheap ones full of sugar and preservatives), or make your own exactly to your taste.
- **Bacon** – processed meat isn't a healthy everyday food, but for a special occasion it really takes breakfast to the next level.
- **Home Fries** – if you work out first thing in the morning, breakfast is the time to get your post-workout carbs in. Homemade fries or hash browns are even tastier than their greasy restaurant counterparts, and much better for you.
- **Banana Pancakes** – you can make a mean pancake with just a banana and an egg, mashed together (fruit and other toppings optional).

NEW AND DIFFERENT

- **Mini Meatloaves** – these bacon-wrapped mini meatloaves are easy to make ahead and save for a quick meal if you're pressed for time.
- **Dinner** – there's no reason why you have to eat "breakfast foods" for breakfast. Try some salmon salad, pork chops, or another lunch or dinner food; you might like it!
- **Nothing** – some people just aren't breakfast eaters, and that's OK. In fact, a shorter eating window can actually have some health benefits for weight loss and athletic performance (see p. 82 for more details). It's perfectly fine to skip breakfast and make up for it at lunch and dinner if you like.

BREAKFASTS TO SKIP

- **Nut-based Imitations** – skip the trail mix "cereal," the almond flour "muffins," and any other recipes that use technically Paleo ingredients to imitate grain-based foods. Nuts aren't healthy for you in high amounts, and the imitations never compare to the real thing.
- **Fruit by Itself** – fruit is a fine addition to breakfast, but it shouldn't be the only thing on your plate. Have some protein and fat with your fruit, or you'll be hungry again and craving sweets an hour later.

LUNCH IDEAS

Quick and easy lunches to power you through the workday, and some more impressive meals for weekends or guests.

ON THE GO

- **Bento Lunch** – bento boxes are a Japanese style of lunchbox with several small compartments (instead of the American version with one big compartment for a sandwich). Fill a bento box with anything you like: leftover roast beef, cucumber slices, and some carrot sticks, or maybe chicken drumsticks with steamed cauliflower and broccoli.
- **Canned fish** – keep a couple cans of sardines or tuna in your desk at work or stashed in your car.
- **Thermos Lunch** – even if you don't have a microwave for lunch, you can get a thermos bottle that keeps your lunch hot for hours. Try cooking up some Paleo chili or egg drop soup, or just keep a big thermos of bone broth for a cold day.

LUNCH TO IMPRESS

- **Tuna Avocado Boats** – tuna salad served inside an avocado for a fancy presentation. You could also do this with salmon or any other kind of fish salad.
- **Portobello Burgers** – who said you can't have a burger on Paleo? Mushrooms are richer and juicier than the dry, tasteless bun that you'll get in a restaurant, so this Paleo adaptation of a summer favorite is even more savory than the original.
- **Paleo Spaghetti** – team cookout? Church potluck? Any time you need a surefire crowd-pleaser, haul out this classic recipe and watch people's jaws drop when they realize what the "spaghetti" is. Everyone knows the sauce is the best part anyway, and the homemade sauce in this dish is miles above the cheap sugary grocery-store imitations.

LUNCH AT HOME

- **Salad** – salads are great for adding variety to your meals even if you're eating leftovers. You can use the same leftover chicken with different sets of veggies so you won't get bored. Try branching out from iceberg lettuce into arugula, spinach, dandelion greens, beet greens, peppers, onions, olives, and other vegetables you might not have tried!
- **Hearty Soup** – if you're not having a sandwich with your soup, make the soup itself rich and satisfying by adding coconut milk, potatoes, or root vegetables like carrots and parsnips.
- **Stir-Fry** – stir-fries are a simple way to use up any odd vegetables you have left over, so that nothing goes to waste. A classic Asian-style combination is carrots, water chestnuts, and bok choy with some ginger, but you could also get creative and add spinach, peppers, kale, or anything else you have in the fridge.

DINNER IDEAS

Whether you're throwing together a quick plate of food after work or cooking up a storm for a fancy party, you have plenty of Paleo options.

DINNER FOR ONE

- **Beef Scramble** – round up half a pound of ground beef and any vegetables you have on hand, and toss it all in a pan with your favorite spices. Dinner is served in 10 minutes flat! You can make endless variations by changing the veggies and seasonings.
- **Roast chicken** – throw a chicken in the oven to roast; eat some of it hot for dinner, and save the rest for salads, stir-fries, or soups later in the week.
- **Baked Fish** – fish is quick and easy to bake in the oven; just lay it on a baking sheet with some lemon and herbs, cover with tinfoil, and cook until it's done (approximately 10 minutes per inch of thickness).

GUESTS FOR DINNER

- **Whole grilled fish** – it's easier than you think, and definitely makes an eye catching centerpiece! Serve with a side salad or some roasted asparagus for a summer meal, or a heartier vegetable like parsnips or potatoes for a coldweather feast.
- **Spiced duck breast** – serving your guests a meat they don't usually think of is one way to show off the variety and flexibility of a Paleo diet. Duck is rich and fatty, delicious served over root vegetables and squash.
- **Herb and Prosciutto Stuffed Steak** – prosciutto is an Italian cured ham; together with the fragrant herbs, it adds a new dimension of flavor to a simple steak.
- **Veal Paupiettes** – a traditional French dish that wraps up the meat in serving sized "packages," paupiettes are elegant but filling. Just make sure to get humanely raised veal (details in the recipe).

FAMILY DINNER

- **Pork Roast** – you can make a pork roast in a slow-cooker so it's ready by the time you walk in the door. Serve it spicy, or with a sweet honey-mustard sauce.
- **Stuffed Peppers** – fill up your favorite color of bell peppers with whatever ground meat and vegetables you have handy (or try some eggs for variety) and set them to bake in the oven. Easy to modify for however many you have to feed, and they're also good cold the next day!
- **Beanless Chili** – on a cold, gloomy day, nothing beats a hot bowl of chili for warming you up. You won't even notice that the beans are gone!
- **Chicken Pineapple Stir-Fry** – the sweet and savory taste of Chinese food without the seed oils, sugar, and MSG. Try it with riced cauliflower for the full effect.

SNACK IDEAS

Snacks are often a huge temptation to stray away from healthy eating, because they're so tied up in emotions. A lot of people feel tempted to snack because they're bored, angry, or lonely, not because they're actually hungry. This is tough to overcome, but remember: if you're eating to fill an emotional need, you will never be full. Don't compromise your own health like that. You deserve better.

On Paleo, eat as much as you want to fill your physical hunger, but find more productive ways of dealing with emotions. Many people on Paleo don't snack at all; they're happy with three filling meals full of fat and protein.



But sometimes you do get unexpectedly hungry or have to delay a meal, and snack food can be quite a challenge.

SNACKING ON NUTS AND FRUIT

Nuts and fruit are the first two snack ideas most people come up with when they're looking at a list of Paleo foods. Unfortunately, these two are the least optimal snacks:

- **Nuts** are high in Omega-6 PUFAs (see p.12), unstable and easily damaged fats that can provoke an inflammatory response if you get too much of them. Paleo “cookies” and “crackers” made with nut flours are even worse, since grinding the nuts into flour is damaging to the PUFAs. Nuts are also very tempting to overeat, and a lot of people find it easier to just avoid them altogether.
- **Fruit** is sweet and tasty, but it's all carbs with no fat or protein, so it doesn't fill you up for long. It can also set off cravings for sugary foods and lead to much worse food choices down the line. It's better to eat fruit with your meals, not by itself as a snack.

BETTER SNACK CHOICES

There are actually plenty of snack options on Paleo that don't involve fruit or nuts; you just have to know how to look for them. Try...

- Full-fat yogurt
- Egg muffins
- Coconut flakes
- A chicken drumstick or a couple of meatballs (make a few ahead and keep them in the fridge)
- Deviled eggs
- Avocado slices with balsamic vinegar and sea salt
- Pemmican
- A slice or two of full-fat cheese
- Coconut water
- A hard-boiled egg
- Thinly sliced deli meats with mustard or homemade mayo
- A small serving of leftovers
- Carrot or celery sticks with mustard, homemade mayo, or almond butter
- Veggie chips (made with kale, plantains, or other veggies)
- Olives
- Dill pickles or sauerkraut
- Jerky (just make sure it isn't full of sugar)
- Can of fish
- Raw veggies with salsa, guacamole, or another dip

PALEO LIFESTYLE

FOOD IS JUST ONE PART OF HEALTH: LEARN HOW TO APPLY
PALEO PRINCIPLES TO THE REST OF YOUR LIFE, TOO!



Your
Guide
to
Paleo

SLEEP

Eating good food is one of the best things you can do for yourself, but poor sleep habits can destroy your health just as fast as bad food choices.

SOME EFFECTS OF SLEEP DEPRIVATION

POOR COGNITIVE PERFORMANCE

"After 17-19 hours without sleep...performance on some tests was equivalent or worse than that at a BAC of 0.05%. Response speeds were up to 50% slower for some tests and accuracy measures were significantly poorer."

Williamson, A., and Feyer, A. Moderate sleep deprivation produces impairments in cognitive and motor performance equivalent to legally prescribed levels of alcohol intoxication. *Occup. Environm. Med.*, vol. 57 issue 10, October 2000.

INFLAMMATION AND CHRONIC DISEASE

Sleep deprivation increases whole-body inflammation, a risk factor for just about every chronic illness from cancer to heart disease.



DEPRESSION AND MOOD DISORDERS

Insomnia isn't just another symptom of depression; it can actually be a cause as well.

INSULIN RESISTANCE AND OBESITY

Sleep deprivation completely derails your hormones, including leptin (which makes you feel full) and insulin (which helps you process carbohydrates). Naturally, this puts you at risk for overeating:

"In persons sleeping less than 8 h ... increased BMI was proportional to decreased sleep."

Taheri, S., et al., Short Sleep Duration is Associated with Reduced Leptin, Elevated Ghrelin, and Increased Body-Mass Index. *PLoS Med.*, vol. 1 issue 3, December 2004.

TIPS FOR HEALTHY SLEEP

TOTAL DARKNESS

Cover the windows with blinds, and even cover your alarm clock or other LED displays.

SKIP THE SCREENTIME

Turn off your computer at least an hour before bed; the blue light from the screen is very similar to the sun, and your body takes it as a signal to stay awake.



GET COMFORTABLE

Keep the room at a comfortable, but cool temperature and invest in a good mattress.

MAGNESIUM SUPPLEMENTS

Can help if you're suffering from insomnia.

ROUTINE IS EVERYTHING

Pick a bedtime and stick to it – even on the weekends.

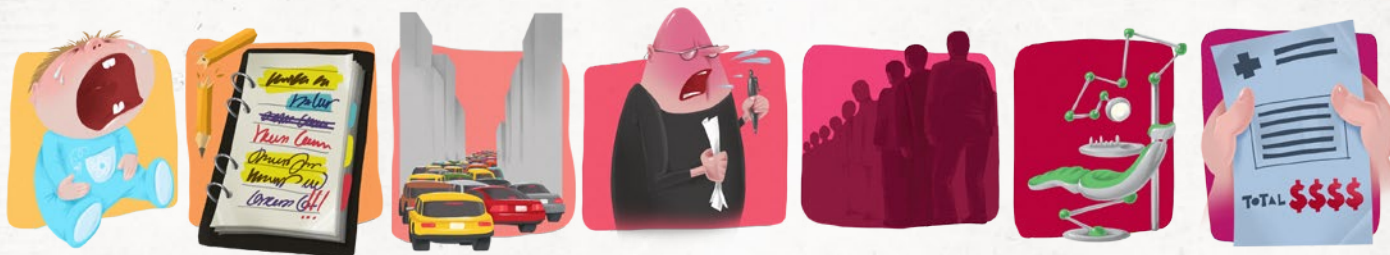
Learn to relax and unwind by practising meditation.

Reserve bedtime for sleeping only. Avoid eating, reading or watching TV in bed.

STRESS

Our bodies are actually very well adapted to handling stress – certain kinds of stress. Unfortunately, our body thinks all stress is an acute threat to survival...

WHAT YOU SEE



WHAT YOUR BODY SEES

All your stress responses are designed to handle this kind of acute threat – your nonessential functions (like digestion and reproduction) get turned down, adrenaline spikes, and your heart rate skyrockets. This is great if you need to escape from a tiger once a month, but deadly when it happens every day in rush-hour traffic.



CONSEQUENCES OF CHRONIC STRESS

- **Hormone dysregulation:** chronically high levels of the stress hormone, cortisol, interfere with production of the hormones you need for sleep and digestion. You're more likely to store carbohydrates as fat instead of using them for energy, and it's harder to get a restful night of sleep.
- **Immune dysfunction:** when your body thinks a lion is after it, it's not worried about getting a cold. Chronic stress makes it easier to get sick and harder to recover.
- **Mental health:** Chronic stress is a huge risk factor for anxiety, depression, and other mental health problems.
- **Poor digestion:** Stress changes the gut flora, friendly intestinal bacteria that help you digest your food. Stress is a huge factor in the development of IBS and other gut disorders.

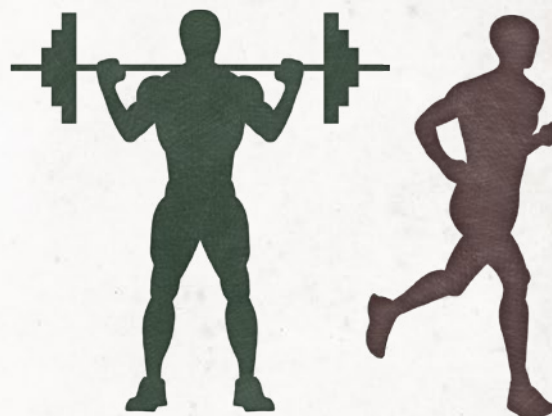
STRESS MANAGEMENT

There are two main ways to avoid all the damage of stress: avoid the stressor (not always possible), or take steps to handle it in a better way.

- **Avoid the Stressor:** can you start looking for a new job to get away from your insane boss? Or say "no" to a few more social functions to get some time for yourself?
- **Manage your Stress:** try meditation, journaling, or just a hot bubble bath to help yourself calm down and get out of the crazy stress cycle. For more information and tips, see the [full article](#) on sleep and stress.

EXERCISE

Physical activity is an important part of the Paleo lifestyle. But hours of drudgery on the treadmill are strongly discouraged.



HEALTHY EXERCISE

- Practice functional movements to build strength and skill for real-life challenges.
- Every day should not be intense: take at least a few rest days every week to recover.
- Use a variety of paces, from long walks to short bursts of sprinting.
- Lift heavy weights sometimes: it builds muscle and bone strength.

VS

UNHEALTHY EXERCISE

- **DON'T** see exercise as a way to erase calories. Eat healthy foods and control your portions for weight loss; exercise to be strong and fit.
- **DON'T** train yourself into the ground, or “push through” an injury.
- **DON'T** do exercise you hate!
- **DON'T** focus only on low-intensity cardio; lifting heavy weights has too many health benefits to ignore.

CHALLENGE YOUR BODY

Breaking away from the “cardio mindset” (hours of cardio exercises to burn calories that you feel guilty about eating) is so important. You do not need to “earn” your calories. You deserve to eat a satisfying amount of healthy, nourishing food, no matter how much you exercise.

Instead of an hour on the treadmill every day, try a greater variety of exercises to keep yourself interested and constantly challenge your body with new movements:

- Take a long hike in a state park or other natural area.
- Join a recreational sports team.
- Run some minute sprints (1 minute as fast as you can, then 3 minutes of rest, repeated for 3-4 sets) or tabata sprints (20 seconds on, 10 seconds off, repeated for 8 minutes). This is called HIIT, or High Intensity Interval Training; you won't believe how challenging it is until you try it.
- Learn a martial art.
- Lift free weights: heavy squats and deadlifts build strength, coordination, flexibility, power, and bone strength. And no, ladies, it won't make you look like She-Man unless you also take a lot of steroids.
- Join a class – Crossfit is a popular Paleo choice, but many other gyms have group exercise classes as well.

INTERMITTENT FASTING

You can see the benefits of a Paleo diet no matter when or how often you eat. But one optional tweak is to change your meal timing.

WHAT IS INTERMITTENT FASTING?

Intermittent fasting, or IF, means following any meal schedule other than the regular 3 meals a day. Some people add a random 24-hour fast into their week whenever they feel like it; other people compress all their meals into a few hours (usually by skipping breakfast).

3 POSSIBLE IF SCHEDULES

Remember, these are suggestions, not your only options!

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

WEEKLY 24-HOUR FAST

Every week, pick one day to skip eating anything. It is especially important to hydrate properly with water on these days.



DAILY 20-HOUR FAST

Eat every day between 4 and 8pm.



DAILY 16-HOUR FAST

Eat every day between noon and 8pm.

BENEFITS OF INTERMITTENT FASTING

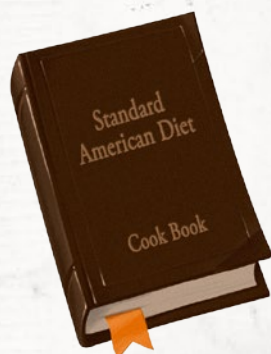
- Fasting is like a detox for your body; since it's not using so much energy on digestion, it has more to spare for housecleaning.
- The hormonal changes of fasting are beneficial for weight loss. Eating within a limited window also lets you eat bigger, more satisfying meals when you do eat, so you don't have to always worry about limiting portions.
- Fasted athletic training teaches your body to use its energy stores more efficiently, giving you an advantage if you train fasted and then compete fed.

DON'T FAST IF...

- It makes you feel lousy. If you're tired and cranky during the fast, and constantly thinking about food or waiting until you can finally start eating, don't worry about it. Some people's bodies just don't fast well, and that's OK.
- You're under a lot of stress already. Fasting is a beneficial stressor because your body bounces back stronger from it. But any kind of stress is bad if you overdo it. Adding more stress on top of your existing stress will not make you healthier!
- You're pregnant or nursing. Pregnant women need to send their bodies a strong and clear message that "there's plenty of food for me and the baby."

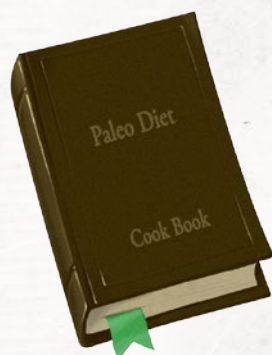
MONEY SAVING TIPS

Think you just can't afford to eat Paleo? Think again!



- Box of Granola - \$4.99
- Loaf of Bread - \$2.99
- Jar of Peanut Butter - \$2.50
- Jar of Jam - \$2.50
- Box of Cookies - \$4.99
- 3 2-liters of Coke - \$1.99 each
- 2 frozen pizzas - \$6.99 each
- 2 Lean Cuisines - \$2.99 each

TOTAL: \$43.90



- 3 lbs chuck roast @ 3.99/lb - \$11.97
- 1 chicken (2.5lbs @ 1.99/lb) - \$3.98
- 1 can Alaskan salmon - \$2.99
- 1 dozen eggs - \$2.50
- 5-lb bag of potatoes - \$1.99
- 2 bunches of kale - \$2.50 each
- 1 head broccoli - \$2.50
- 2lbs green peppers @\$1.50/lb - \$3.00
- 1lb bag of onions - \$1.50
- 1 can coconut milk - \$1.99
- 3lbs butternut squash @1.99/lb - \$5.97

TOTAL: \$43.39

*The moral of the story: **real food is cheaper than processed food**. You save more money than you think by just getting rid of junk that comes in boxes and packages.*

PALEO MONEY-SAVING TIPS

If you're tight on cash, you'll want to get the most nutritional bang for your buck:

- **Think Outside the Grocery Store:** Farmers' markets, ethnic markets, and local butchers are often actually cheaper, especially if you go towards the end of the day when they need to sell the food or see it wasted. Build a relationship with a local butcher and you'll sometimes get bones (to add flavor and nutrition to soups and stews), organ meats, and fat for significant discounts or even free! Look for a CSA (Community Supported Agriculture) program in your area for a weekly delivery of fresh, local produce at a significant saving. Consider bulk stores like Costco and Sam's club for nonperishable staples like coconut oil or frozen meat.
- **Eat Everything** – learn to cook with organ meats, less popular cuts, and whole chickens instead of chicken breasts.
- **Prioritize** – if you can afford a huge cable package, a new car, or a restaurant lunch every day, you can afford real food. Whether or not you choose to prioritize your health is up to you.
- **Don't Sweat the Small Stuff:** grass-fed meat is best, but grain-fed is still better than bread and pasta. Organic veggies are nice, but actually many of them are very overpriced for what they are, and any veggies are better than none.
- **Eat In Season:** Raspberries are expensive in Vermont in November. Seasonal produce saves money and adds some variety to your diet.

For even more thrifty Paleo tips, check out our full article on all the ways you can make your grocery dollars stretch further.

KIDS AND PALEO

(YES, IT IS POSSIBLE, EVEN FOR PICKY EATERS!)

For most of human history, kids ate exactly the same food as their parents. Nutrition is crucial for kids; their food now will be the building blocks of their body for the rest of their lives. But take a look around and every major food company is aggressively marketing “kid food” full of sugar, processed grains, and food coloring.

Kids want that junk because it's constantly advertised to them as cool and exciting, not because they naturally prefer Froot Loops to real food. With a slow, age-appropriate transition, it's possible to switch your whole family to a Paleo diet – it's not easy, but it's definitely worth it.

TIPS FOR TRANSITIONING TO PALEO WITH KIDS

- **Go Slow.** Don't try to overhaul everything right away. Some people start with just one Paleo meal a day (like switching from cereal to eggs for breakfast) and work from there. Others prefer to just stop buying one type of junk at a time (like pasta for example), and gradually replace each old food with a healthier option.
- **Communicate.** Even younger kids understand that some foods will make them healthy and strong, and other foods aren't good for them. Focus on the positives (“we're eating this tasty spinach because it's so good for us”) instead of trying to scare them with horror stories of how grains will make them sick or weak.
- **Stay Consistent.** Decide on a set of workable and realistic food rules for your family and stick to them. If your kids figure out that they can get their Goldfish crackers back by throwing a hissy fit, they'll do it every time.
- **Don't micromanage.** You will never be able to control your kids' diets 100%. If you don't give them the chance to make their own decisions sometimes, non-Paleo food will be a huge, tempting forbidden fruit that they'll go running for as soon as they have their own money. Let them try unhealthy foods sometimes (especially when it's socially important, like at birthday parties), and talk about how it makes them feel – then they learn to make good choices on their own.

KID-FRIENDLY PALEO FOODS

Food advertisers know that kids love bright colors and fun shapes. That's how they make their junk food attractive. Steal their tactics to use in your own kitchen:

- Carrots come in red, purple, and white as well as orange! Multicolored carrot sticks are an easy way to jazz up a lunchbox.
- Egg molds form hard-boiled eggs into cute shapes – easy for little hands to pick up and convenient to store in the fridge for snacks.
- Cut deli meats into hearts, stars, or other shapes with cookie cutters.
- Anything mini is a huge hit: try mini meatloaves or mini burgers.
- Kids love to cook! Have them help you with dinner and they'll be more excited about eating it. Take them shopping and let them pick out their favorite fruits and vegetables.

HOUSEHOLD PRODUCTS

Changing your cleaning and beauty products is a triple whammy of benefits: healthier, cheaper, and more environmentally friendly!



KITCHEN PRODUCTS

- Teflon-coated pots and pans contain **Perfluorooctanic Acid (PFOA)**, which is linked to higher risk of death from kidney disease and diabetes.
- Dish soaps and all-purpose cleaners contain **formaldehyde**, a carcinogen and skin irritant, and hormone-disrupting chemicals called **volatile organic compounds**.



BEAUTY PRODUCTS

- Makeup and personal hygiene products like shampoo contain **phthalates and parabens**, chemicals that keep the color and scent of the products consistent. These chemicals are endocrine disruptors (bad for your hormones and reproductive system).
- **Antibacterial hand soaps** don't work any better than the regular kind, but they help bacteria develop a resistance to antibiotics, so when you do get sick, it's harder to treat.

BETTER ALTERNATIVES



Vinegar

A safe allpurpose grease remover and window washer. Dilute it with some water in a spray bottle.



Baking Soda

An easy scouring paste (just sprinkle some on a rag) and deodorizer (leave some out in a bowl to tackle stubborn smells). You can also use it as shampoo (follow up with vinegar or lemon juice as conditioner), and in homemade toothpaste.



Coconut Oil

Coconut oil is a simple and cheap moisturizer, lip balm, makeup remover, and hair conditioner.



Lemon Juice

Lemon juice smells great and is a natural antimicrobial. Add it to other recipes to level up your cleaning power.



Essential Oils

Essential oils make everything smell wonderful – add just a couple drops to infuse your homemade cleaning and beauty products with your favorite scent.

FURTHER READING

Your
Guide
to
Paleo

FURTHER READING

For the skeptics and the science lovers in the audience, the links below will lead you more in-depth explanations of the concepts in the intro guide. The resources include both the raw text of scientific studies and blog posts or websites that do a really great job of interpreting the evidence for people without a scientific background. You can also check out the [Paleo diet Lifestyle index page](#) for articles covering almost every topic in the guide.

To help you find what you're looking for, each source below contains a Science Factor rating, from 1 to 3:

- **Science Factor: 1** means the source is intended for a completely non-scientific audience and unlikely to confuse anyone. An article in the New York Times would get a rating of 1.
- **Science Factor: 2** means the source might take some head-scratching or strategic Wikipedia searches for a non-scientific reader, but it's generally clear. A college textbook would get a rating of 2.
- **Science Factor: 3** means the source will be pretty tough to understand for a reader without a scientific background because it assumes an extensive level of background knowledge. Most of the studies get a rating of 3.

The sources for each page are organized from 1 to 3, with the more readable sources at the top and the heavy science at the bottom.

For all information about nutrients in specific foods, the source is the [USDA National Nutrient Database for Standard Reference](#), unless otherwise noted.

PALEO NUTRITION

PROTEIN

Article on the Site: [Paleo and Protein](#)

['Whey'ing In: Are Protein Powders Paleo?](#) (Robb Wolf)

- Science Factor: 1
- This post discusses all the problems with protein powder from a Paleo perspective.

[Protein for Athletes](#) (Perfect Health Diet)

- Science Factor: 2
- This post breaks down how much protein athletes really need, and when too much protein becomes toxic.

Martin, William, et. al. [Dietary protein intake and renal function](#). *Nutrition and Metabolism*, vol. 2, issue 25, September 2005.

- Science Factor: 2
- This paper shows that there are no risks from a “high-protein diet” for people with normal kidney function; their definition of “high protein” is 1.5 grams/kilogram of bodyweight per day. For a 120-pound person, that would be around 327 calories of protein (16.4% of a 2,000 calorie diet). For a 160-pound person, it's around 436 (21.8% of a 2,000 calorie diet).

Bilsborough, S., and Mann, N. [A review of issues of dietary protein intake in humans](#). *International Journal of Sport Nutrition and Exercise Metabolism*, vol. 16, issue 2, April 2006.

- Science Factor: 2
- This paper proposes 25% of calories from protein as the maximum upper limit of protein intake to avoid negative consequences.

FAT

Article on the Site: [The Importance of Fat](#)

[The Definitive Guide to Fats](#) (Mark's Daily Apple)

- Science Factor: 1
- This post provides a very brief overview of all the kinds of fats for people without a scientific background.

(for further reading on specific types of fat, see the pages on saturated fat, PUFA, and Omega-3 fats).

SATURATED FAT

Article on the Site: [The Fear of Saturated Fat and Cholesterol](#)

[The Definitive Guide to Saturated Fat](#) (Mark's Daily Apple)

- Science Factor: 1
- A basic explanation of the Paleo stance on saturated fat that doesn't veer off into overcomplicated scientific explanations.

[USDA Dietary Guidelines on fat and cholesterol, 2010.](#)

- Science Factor: 1
- This is NOT a recommendation for how to eat, but it's the source for the information about where Americans get our saturated fat.

[The New USDA Dietary Guidelines...](#) (Raw Food SOS)

- Science Factor: 2
- Definitely biased, but worth a read – a Paleo-friendly deconstruction of the USDA's 2010 Dietary Guidelines for Americans on saturated fat.

[Does Dietary Saturated Fat Increase Blood Cholesterol? An Informal Review of Observational Studies](#) (Stephan Guyenet)

- Science Factor: 2
- A slightly complicated but very interesting explanation of the diet-heart hypothesis (the idea that saturated fat causes heart disease)

Siri-Tarino, Patty, et. al., [Meta-analysis of prospective cohort studies evaluating the association of saturated fat with cardiovascular disease](#). American Journal of Clinical Nutrition, January 2010.

- Science Factor: 3
- This is the meta-analysis that showed no relationship between saturated fat and cardiovascular disease.

Lindeberg, S. and Lundh, B. [Apparent absence of stroke and ischaemic heart disease in a traditional Melanesian island: a clinical study in Kitava](#). Journal of International Medicine, vol. 233, issue 3, March 1993.

- Science Factor: 3
- The study showing the absence of heart disease among the Kitavans, despite their high intake of saturated fat.

CHOLESTEROL

The Definitive Guide to Cholesterol (Mark's Daily Apple)

- Science Factor: 1
- An overview of the idea that cholesterol isn't the demon it's made out to be, for a non-scientific audience.

Cholesterol and Disease (Chris Masterjohn)

- Science Factor: 2
- A comprehensive look at the idea that dietary cholesterol causes heart disease and stroke. Use the links in the box on the left to get information about specific diseases. The entire site is a wealth of information about cholesterol.

Blood Lipids and Infectious Disease, Part I (Perfect Health Diet)

- Science Factor: 2
- Explores one crucial role of blood cholesterol: immune function. Includes a wonderful graph showing that the lowest all-cause mortality comes with total cholesterol levels of 200-240 mg/dl, not lower.

Fernandez, M. and Calle, M., Revisiting Dietary Cholesterol Recommendations: Does the Evidence Support a Limit of 300 mg/d? Current Atherosclerosis Reports, vol. 12, issue 6, November 2010.

- Science Factor: 3
- A study demonstrating the lack of evidence for the idea that dietary cholesterol raises blood cholesterol or causes cardiac disease.

PUFA

Article on the Site: The Many Dangers of Excess PUFA Consumption

Precious Yet Perilous: Understanding the Essential Fatty Acids (Weston A. Price Foundation)

- Science Factor: 2
- An in-depth article explaining the history behind the recommendations to eat more PUFA, the biology of PUFA, and how much you really need.

Ramsden, C. et. al., n-6 Fatty acid-specific and mixed polyunsaturate dietary interventions have different effects on CHD risk: a meta-analysis of randomised controlled trials. British Journal of Nutrition, vol. 104, issue 11, December 2010.

- Science Factor: 3
- This is the study showing that the "health benefits" of Omega-6 PUFA aren't all they've cracked up to be.

Simopoulous, A. P., Evolutionary aspects of diet, the omega-6/omega-3 ratio and genetic variation: nutritional implications for chronic diseases. Biomedical Pharmacotherapy, vol. 60, issue 9, November 2006.

- Science Factor: 3
- This article discusses the Omega-6:Omega-3 ratio from an evolutionary perspective and describes the dangers of too much inflammatory omega-6.

OMEGA-3S:

Omega-3 Fatty Acids (University of Maryland Medical Center)

- Science Factor: 1
- This page discusses the role of dietary and supplemental omega-3 fats in treating various diseases.

Swanson, D., et. al. **Omega-3 Fatty Acids EPA and DHA: Health Benefits Throughout Life.** *Advances in Nutrition*, vol. 3, issue 1, January 2012. (free full text)

- Science Factor: 2
- This article describes the health benefits of Omega-3 fatty acids and the need to get them from animal sources rather than plants.

Calder, P. n-3 **Polyunsaturated fatty acids, inflammation, and inflammatory diseases.** *American Journal of Clinical Nutrition*, vol. 83, issue 6, June 2006.

- Science Factor: 2
- This article discusses the anti-inflammatory properties of Omega-3 fats, and also how the plant form of Omega-3s (ALA) doesn't work as well as the animal form.

CARBOHYDRATES

Article on the Site: **Eat your Starches: Why Safe Starches are Healthy**

Strohle, A. and Hahn, A. **Diets of modern hunter-gatherers vary substantially in their carbohydrate content depending on ecoenvironments: results from an ethnographic analysis.** *Nutrition Research*, vol. 31, issue 6, June 2011.

- Science Factor: 2
- This article describes the diversity of carbohydrate intakes in hunter-gatherer diets – they're not all low-carb!

The Carbohydrate Hypothesis of Obesity: a Critical Examination (Stephan Guyenet)

- Science Factor: 2
- This post takes on the idea that carbohydrates are the cause of obesity independent of the toxins some of them contain.

Zero-Carb Dangers (Perfect Health Diet)

- Science Factor: 2
- From the original adopters of the "safe starch" label, a series of posts explaining the potential drawbacks of a zero-carbohydrate diet.

KETOSIS

Article on the Site: [Ketosis](#)

[Metabolism and Ketosis](#) (Michael Eades)

- Science Factor: 1
- “How ketosis works” for people without a scientific background.

Dashti, H., et al., [Long-term effects of a ketogenic diet in obese patients](#). *Experimental and Clinical Cardiology*, vol. 9, issue 3, fall 2004. (free full text)

- Science Factor: 2
- In this study, 83 obese patients lost a significant amount of weight and saw their blood lipids improve on a ketogenic diet.

Liu, Y. and Wang, H. [Medium-chain Triglyceride Ketogenic Diet, An Effective Treatment for Drug-resistant Epilepsy and A Comparison with Other Ketogenic Diets](#). *Biomedical Journal*, vol. 36, issue 1, 2013.

- Science Factor: 2
- This paper discusses the possibilities of using Medium-Chain Triglyceride oil to achieve the benefits of a ketogenic diet without the need for such severe carbohydrate and protein restriction. Definitely worth a read if you're considering a ketogenic diet for any reason.

Manninen, A., [Metabolic Effects of the Very-Low-Carbohydrate Diets: Misunderstood “Villains” of Human Metabolism](#). *Journal of the International Society of Sports Nutrition*, vol. 1, issue 2, December 2004.

- Science Factor: 3
- “How ketosis works” for people with a scientific background.

Stafstrom, C. and Rho, J. [The Ketogenic Diet as a Treatment Paradigm for Diverse Neurological Disorders](#). *Frontiers in Pharmacology*, vol. 3, issue 59, April 2012. (free full text)

- Science Factor: 3
- This study explains the potential benefits of a ketogenic diet for aging, epilepsy, Alzheimer's disease, Parkinson's disease, Amyotrophic Lateral Sclerosis, cancer, stroke, autism, migraines, and other neurological problems.

MACRONUTRIENT RATIOS

Article on the Site: [The Question of Macronutrient Ratios](#)

(for more links, see the individual pages on protein, fat, and carbohydrates)

MICRONUTRIENTS

Article on the Site: [Micronutrients for a Nourishing Diet](#)

NIH Office of Dietary Supplements [fact sheets](#)

- Science Factor: 1
- If you want more information on a specific micronutrient, the fact sheet on it is a pretty good place to start.

VITAMIN D

Article on the Site: [Everything You Need to Know About Vitamin D](#)

Bosomworth, N., [Mitigating epidemic vitamin D deficiency](#). Canadian Family Physician, vol. 57, issue 1, January 2011. (free full text)

- Science Factor: 1
- This paper gives an evolutionary overview of humans' need for and sources of Vitamin D, including reasons why Vitamin D deficiency is serious and isn't being adequately addressed today.

Forrest, K, and Stuhldreher, W. [Prevalence and correlates of vitamin D deficiency in US adults](#). Nutrition Research, vol. 31, issue 1, January 2011.

- Science Factor: 2
- This paper describes the rates and severity of Vitamin D deficiency.

Reinhold, V. [Vitamin D Toxicity, Policy, and Science](#). Journal of Bone and Mineral Research, vol. 22, issue supplement S2, December 2007. (free full text)

- Science Factor: 3
- This paper discusses the evidence for the USDA's Vitamin D recommendation and concludes that studies have shown no dangerous effects below 10,000 IU.

SALT

Article on the Site: [Salt and a Paleo Diet](#)

[Shaking Up the Salt Myth](#) (Chris Kresser)

- Science Factor: 1
- In a series of posts aimed at a general audience, Chris Kresser takes on the idea that salt causes high blood pressure.

[Salt, We Misjudged You](#) (New York Times)

- Science Factor: 1
- An overview of the public health effort to reduce sodium: their origins and consequences.

Intersalt Cooperative Research Group, [Intersalt: an international study of electrolyte excretion and blood pressure](#). British Medical Journal, vol. 297, issue 6644, July 1988.

- Science Factor: 2
- The INTERSALT study – so you can see the original data for yourself.

Strom, B. et al., [Sodium Intake in Populations: Assessment of Evidence](#) (National Academies Press, 2013) (free full text)

- Science Factor: 2
- The Food and Nutrition Board, the Board on Population Health and Public Health Practice, and the Institute of Medicine sponsored an overall examination of the evidence which concluded that there no convincing evidence for salt restriction as a public health goal.

SUPPLEMENTS

Articles on the Site:

- [Supplementing on a Paleo Diet](#)
- [Should you Take a Magnesium Supplement?](#)
- [Fish Oil](#)

(for Vitamin D, see the Further Reading on the page for Vitamin D. For Probiotics, see the Further Reading on probiotics. For fish oil, see the Further Reading on omega-3 fats)

PROBIOTICS

Everything you Always Wanted to Know about Probiotics (Whole9 Life)

- Science Factor: 1
- This page is a practical guide to choosing a probiotic, and a very easy-to-follow explanation of why you might want to.

Rabizadeh, S., and Sears, C. New Horizons for the Infectious Diseases Specialist: How Gut Microflora Promote Health and Disease. Current Infectious Disease Reports, vol. 10, issue 2, May 2008.

- Science Factor: 2
- This article describes how gut flora are related to health and disease, including irritable bowel syndrome, cancer, and obesity.

Bischoff, S. 'Gut health': a new objective in medicine? BMC Medicine vol. 9, issue 24, March 2011. (free full text)

- Science Factor: 2
- This article reviews what "gut health" is, how the gut flora function, and the causes and consequences of poor gut health.

Prakash, S. et. al., The Gut Microbiota and Human Health with an Emphasis on the Use of Microencapsulated Bacterial Cells. Journal of Biomedicine and Biotechnology, 2011.

- Science Factor: 2
- This article discusses the benefits, drawbacks, and challenges of using probiotic and prebiotic supplements.

WATER

Article on the Site: Paleo Hydration

Hydration 101: How Much Water Do You Really Need? (Chris Kresser)

- Science Factor: 1
- This post compiles all the evidence on water recommendations into a simple, easy-to-read article with a clear take-home message: drink however much you want.

EWG Tap Water Database 2009 (Environmental Working Group)

- Science Factor: 1
- This report from the Environmental Working Group details common toxins in tap water.

As Cheap as Water (New York Times)

- Science Factor: 1
- This article from the New York Times compares the price of tap water and bottled water.

PALEO FOODS

MEAT

Article on the site: [Which Meat to Choose?](#)

[The Trouble with Pork, Part 2](#) (Perfect Health Diet) (warning: contains very disturbing images of mistreated factory-farm pigs; not appropriate for young children)

- Science Factor: 1
- This post explains why pork is not as healthy of an everyday meat choice as ruminant meat like beef or lamb.

[The Truth about Red Meat](#) (Chris Kresser)

- Science Factor: 1
- This special report goes into detail on why red meat isn't actually bad for you; it touches on human health, sustainability and the environment, and common concerns like the myths that "red meat causes cancer."

De Smet, S. **[Meat, poultry, and fish composition: Strategies for optimizing human intake of essential nutrients](#)**. *Animal Frontiers*, vol. 2, no. 4, October 2012. (Free full text)

- Science Factor: 2
- This article defends the role of meat and animal products in supplying not only protein and fat, but also important micronutrients.

ORGAN MEATS

Article on the Site: [A Paleo Guide to Liver](#)

[It's Not So Offal](#) (Mark's Daily Apple)

- Science Factor: 1
- This post profiles several of the more common kinds of organ meats and how to cook them.

[Odd Bits: How to Cook the Rest of the Animal](#) (Jennifer McLagan)

- Science Factor: 1
- This cookbook gives you delicious recipes for just about any part of an animal you can think of.

[Is Vitamin A Toxicity a Concern?](#) (Stephan Guyenet)

- Science Factor: 1
- This post discusses a common fear that many people have about organ meats: getting too much Vitamin A.

GRASS-FED VS. GRAIN-FED

The Conscientious Omnivore (Whole 9 Life)

- Science Factor: 1
- This series of posts explores what “ethically raised” animal products are, how to choose them, and where to get them. It’s less nutritional science and more practical advice.

Pickett, H. Nutritional Benefits of Higher Welfare Animal Products. Report compiled for Compassion in World Farming.

- Science Factor: 2
- This report summarizes the advantages of ethically raised animal products (grass-fed beef, pastured chickens and their eggs, wild-caught fish) over factory-farmed equivalents.

Daley, C. et al. A review of fatty acid profiles and antioxidant content in grass-fed and grain-fed beef. Nutrition Journal vol. 9, issue 10, March 2010.

- Science Factor: 2
- This report looks at the difference between grass-fed and grain-fed beef products – unsurprisingly, grass-fed comes out on top.

Cortinas, L. et al., Fatty Acid Content in Chicken Thigh and Breast as Affected by Dietary Polyunsaturation Level. Poultry Science vol. 83, 2004.

- Science Factor: 2
- This paper shows that chickens fed a higher percentage of Omega-6 fats (grains) had more Omega-6 in their meat.

Cordain, L., et al., Fatty acid analysis of wild ruminant tissues: evolutionary implications for reducing diet-related chronic disease. Nature vol. 56, issue 3, March 2002. (free full text)

- Science Factor: 3
- This paper examines what we know about the fatty acid content of prehistoric animals, concluding (unsurprisingly) that grass-fed meat is healthier.

FISH AND SEAFOOD

Article on the Site: [Fish and Seafood on a Paleo Diet](#)

[Seafood Recommendations](#) (Monterey Bay Aquarium)

- Science Factor: 1
- The Monterey Bay Aquarium provides easy-to-follow guidelines for choosing sustainably harvested fish.

Malde, M., et al. [Calcium from salmon and cod bone is well absorbed in young healthy men: a double-blinded randomized crossover design](#). *Nutrition and Metabolism*, vol. 7, issue 61, July 2010. (free full text)

- Science Factor: 2
- This study shows that fish bones are a good source of calcium.

Mozaffarian, D. [Fish, Mercury, Selenium and Cardiovascular Risk: Current Evidence and Unanswered Questions](#). *International Journal of Environmental Research and Public Health*, vol. 6, issue 6, June 2009.

- Science Factor: 2
- This study reviews the evidence about fish, mercury toxicity, PCBs, dioxins, and cardiovascular disease, and concludes that the health benefits of fish far outweigh the risks.

Ralston, N. et al. [Dietary and tissue selenium in relation to methylmercury toxicity](#). *NeuroToxicology*, July 2008.

- Science Factor: 3
- This study suggests that mercury in fish is not toxic as long as it's accompanied by selenium – [which it almost always is](#).

EGGS

Article on the Site: [An Egg Yolk a Day Keeps the Doctor Away](#)

[The Incredible, Edible Egg Yolk](#) (Chris Masterjohn)

- Science Factor: 1
- An easy-to-read comparison of the nutritional value of egg yolks vs. egg whites: the yolks win, hands down.

[Meet the Real Free-Range Eggs](#) (Mother Earth News)

- Science Factor: 1
- Discusses a series of tests that show how much more nutritious pasture-raised eggs are than their battery-caged cousins.

Blesso, C., et al., [Whole egg consumption improves lipoprotein profiles and insulin sensitivity to a greater extent than yolk-free egg substitute in individuals with metabolic syndrome](#). *Metabolism*, vol. 62, issue 3, March 2013.

- Science Factor: 3
- The title says it all! One study isn't definitive evidence weighed against the weight of mainstream opinion, but at least it should give you pause for thought.

VEGETABLES

Article on the Site: [Vegetables are Not the Holy Grail](#)

Carlsen, M., et al. [The total antioxidant content of more than 3100 foods, beverages, spices, herbs, and supplements used worldwide](#). Nutrition Journal, vol. 9, issue 3, January 2010. (free full text)

- Science Factor: 2
- This paper reviews the levels of antioxidants in all kinds of vegetables (and other foods) around the world; scroll down to the bottom for the full table of results.

GREEN LEAFY VEGETABLES

[Why You Should Eat Leafy Greens](#) (Mark's Daily Apple)

- Science Factor: 1
- If you need a refresher on why green vegetables are so incredibly healthy for you, this post is it.

SEAWEED

[Kombu, a nutritional powerhouse from the sea](#) (Washington Post)

- Science Factor: 1
- This article briefly describes the health benefits of one kind of seaweed and gives suggestions for how to cook it.

[Homemade Seasoned Seaweed](#) (Perfect Health Diet)

- Science Factor: 1
- This post shows you how to make seaweed tasty, the Korean way.

FODMAPS:

Article on the Site: [FODMAPs](#)

Gibson, P. and Shepherd, S. [Evidence-based dietary management of functional gastrointestinal symptoms: The FODMAP approach](#). Journal of Gastroenterology and Hepatology, vol. 25, issue 2, February 2010.

- Science Factor: 2
- This article is an overview of what FODMAPs are, why they can cause gastrointestinal symptoms, and what you can do about it.

NIGHTSHADES:

The WHYs behind the Autoimmune Protocol: Nightshades (Sarah Ballantyne)

- Science Factor: 2
- This post is part of a series explaining how you can modify Paleo to help with autoimmune disorders. It explains why nightshades can be problematic for autoimmunity.

Childers, N., and Margoles, M. An Apparent Relation of Nightshades (Solanaceae) to Arthritis. Neurological and Orthopedic Medical Surgery vol. 12, 1993.

- Science Factor: 3
- This article discusses the relationship between nightshades and arthritis.

SAFE STARCHES:

(for the science behind why you should include carbs in your diet, go to page 10)

Paleo Carb Fest (Balanced Bites)

- Science Factor: 1
- This post provides a handy look at most of the Paleo “safe starches,” with only two minor problems: she lists white potatoes as less nutritious than sweet (see p. 32 on potatoes), and she doesn't include white rice (see p. 33 on rice).

RICE:

Is Shou-Ching to Blame for our Rice Habit? (Perfect Health Diet)

- Science Factor: 1
- This post looks at rice as a “safe starch” – free from toxins and safe to eat after cooking.

FATS:

Article on the Site: Paleo Fats

(for information about why saturated and monounsaturated fat are healthier than PUFA, see pp. 5, 6, and 8).

Healthy Cooking Oils (Real Food University)

- Science Factor: 1
- This post lists some Paleo-friendly cooking oils, as well as some to avoid.

A Primal Primer: Animal Fats (Mark's Daily Apple)

- Science Factor: 1
- If you're more interested in animal fat than oils, check out this post for a report on lard, tallow, and other animal fats.

BUTTER:

Articles on the Site: [The Many Virtues of Butter](#) and [Making Clarified Butter \(Ghee\)](#)

[Vitamin K2: The Missing Nutrient](#) (Chris Kresser)

- Science Factor: 1
- This post covers the health benefits of Vitamin K2, a nutrient only found in grass-fed butter.

Dilzer, A. and Park, Y. [Implication of conjugated linoleic acid in human health](#). *Critical Reviews in Food Science and Nutrition*, vol. 52, issue 6, 2012.

- Science Factor: 2
- This paper explores the potential benefits of conjugated linoleic acid, a naturally occurring fat found in beef and butter (also another reason why ruminant meat is superior to poultry or pork).

Khanal, R. [Potential Health Benefits of Conjugated Linoleic Acid \(CLA\): A Review](#). *Asian-Aust. Journal of Animal Science*, vol. 17, issue 9, 2004. (free full text)

- Science Factor: 3
- Another paper that demonstrates health benefits of CLA consumption.

COCONUT OIL:

Article on the Site: [Coconut, an Optimal Source of Fat?](#)

Smart Fuel: Coconut Oil (Mark's Daily Apple)

- Science Factor: 1
- This post is an overview of coconut oil's health benefits for the non-scientists in the audience.

20 Other Uses for Coconut Oil (The Paleo Network)

- Science Factor: 1
- And you thought it was just tasty! 20 non-food uses for coconut oil.

Assuncao ML et. al., [Effects of dietary coconut oil on the biochemical and anthropometric profiles of women presenting abdominal obesity](#). *Lipids*, vol. 44 issue 7, July 2009

- Science Factor: 2
- This paper found that dietary coconut oil may be useful in treating abdominal obesity (belly fat).

St.-Onge, M. and Jones, P. [Physiological Effects of Medium-Chain Triglycerides: Potential Agents in the Prevention of Obesity](#). *Journal of Nutrition*, vol. 132 issue 3, March 2002. (free full text)

- Science Factor: 2
- This study explores the metabolism of medium-chain triglycerides and how they might be helpful for maintaining a healthy weight.

Fischer, C. [Antibacterial Activity of Sphingoid Bases and Fatty Acids against Gram-Positive and Gram-Negative Bacteria](#). *Antimicrobial Agents and Chemotherapy*, vol. 56, issue 3, March 2012. (free full text)

- Science Factor: 3
- This paper discusses the antimicrobial properties of lauric acid, one of the fatty acids found in coconut oil.

Eckel, R. et al. [Dietary substitution of medium-chain triglycerides improves insulin-mediated glucose metabolism in NIDDM subjects](#). *Diabetes* vol. 41, issue 5, May 1992.

- Science Factor: 3
- This paper looks at the effect of medium-chain triglycerides (found in coconut oil) on glucose metabolism in diabetic patients and found that MCT oil may help with blood sugar control.

BONE MARROW:

Bone Marrow: Delicious, Nutritious, and Underappreciated (Mark's Daily Apple)

- Science Factor: 1
- This post outlines the health benefits and the best cooking methods for bone marrow.

OLIVE OIL:

UC Davis Olive Center

- Science Factor: 1
- A research facility focused on olives and olive oil; it provides plenty of useful information, although it's understandably biased towards California olives.

Slippery Business: The Trade in Adulterated Olive Oil (The New Yorker)

- Science Factor: 1
- A fascinating read if you're interested in where your food comes from: it describes the market for counterfeit olive oil

How to Pick Real Olive Oil (Mark's Daily Apple)

- Science Factor: 1
- How to get the good stuff, and avoid the counterfeit products.

Martin-Pelaez, S. et al. Health effects of olive oil polyphenols: Recent advances and possibilities for the use of health claims. Molecular Nutrition and Food Research vol. 57, issue 5, May 2013.

- Science Factor: 2
- This study gives an overview of the evidence for the antioxidants in olive oil and their role in the famously healthy "Mediterranean diet."

Olive oil, extra virgin (World's Healthiest Foods)

- Science Factor: 2
- A good review of the evidence for the antioxidants in olive oil: based on scientific research, but explained in a way that's easy to understand for the rest of us.

NUTS

Article on the Site: Are Nuts and Seeds Healthy?

Another Reason you Shouldn't go Nuts on Nuts (Chris Kresser)

- Science Factor: 1
- This post explains the problem of phytic acid in nuts, and how to prepare nuts to make them more nutritious.

Sex With Your Pants On (Whole9 Life)

- Science Factor: 1
- This post touches on a common way people abuse nuts on Paleo: creating "Paleo cookies," "Paleo brownies," or "Paleo pizza" using nut flours. These creations might not have grains or sugar, but that doesn't make them healthy!

GRAY AREA FOODS

Article on the Site: [On Chocolate, Coffee, and Alcohol](#)

DAIRY

Article on the Site: [The Place of Dairy on a Paleo Diet](#)

Alm, L. [Effect of fermentation on lactose, glucose, and galactose content in milk and suitability of fermented milk products for lactose intolerant individuals](#). *Journal of Dairy Science*, vol. 65, issue 3, March 1982.

- Science Factor: 2
- This article demonstrates that fermentation substantially reduces lactose and that even lactose-intolerant people can often consume fermented dairy products safely.

[Dairy Goat Milk Composition](#) (UC Davis)

- Science Factor: 2
- This article discusses the difference between cow and goat dairy, including the differences in casein that may make goats' milk more suitable for people with casein intolerance.

CHOCOLATE

[Food Empowerment Project's Chocolate List](#) (Food Empowerment Project)

- Science Factor: 1
- This is one of several slightly different lists of chocolate companies that use environmentally sustainable processes and treat their workers ethically.

Jalil, A. and Ismail, A., [Polyphenols in Cocoa and Cocoa Products: Is There a Link between Antioxidant Properties and Health?](#) *Molecules*, vol. 13, issue 9, September 2008. (free full text)

- Science Factor: 3
- This article explains the potential health benefits of chocolate and the research to date.

Galleano, M. et al., [Cocoa, chocolate, and cardiovascular disease](#). *Journal of Cardiovascular Pharmacology*, vol. 54, issue 6, December 2009. (free full text)

- Science Factor: 3
- Another study on the potential health benefits of cocoa, this time focusing on cardiovascular disease.

COFFEE

The Pros and Cons of Coffee (Sarah Ballantyne)

- Science Factor: 1
- A balanced look at coffee consumption from a Paleo perspective.

Caffeine Talk (Mark's Daily Apple)

- Science Factor: 1
- Another take on coffee and caffeine as part of the human diet.

(note: there are also thousands of studies on coffee and its potential benefits and dangers, but the topic is so trendy that the research changes every week – what's more important is how you personally respond to it.)

ALCOHOL

Is it Possible to Drink and Still be Healthy? (Nerd Fitness)

- Science Factor: 1
- A balanced look at alcohol as part of a healthy social life and diet, and a guide to the best and worst choices out there

Choose your Booze: A Guide to Healthy Drinking (Mark's Daily Apple)

- Science Factor: 1
- This post also examines the best and worst alcohol from a Paleo perspective.

WEIGHT LOSS

Article on the Site: Sustainable Weight Loss on a Paleo Diet

Jonsson, T. et al., **A Paleolithic diet is more satiating per calorie than a Mediterranean-like diet in individuals with ischemic heart disease.** Nutrition and Metabolism, vol. 7, issue 85, November 2010. (free full text)

- Science Factor: 2
- This paper demonstrates that a Paleo diet may be more satiating than a grain-based Mediterranean diet: subjects instructed to eat as much as they wanted ate less on Paleo but felt equally satisfied.

Jonsson, T. et al., **Beneficial effects of a Paleolithic diet on cardiovascular risk factors in type 2 diabetes: a randomized cross-over pilot study.** Cardiovascular Diabetology, vol. 8, issue 35, July 2009. (free full text)

- Science Factor: 2
- In this study, a Paleo diet was more effective for weight loss than a conventional "diabetes diet."

FOODS TO AVOID

GRAINS:

Article on the Site: [What is Wrong With Grains?](#)

Cordain, L. [Cereal Grains: Humanity's Double-Edged Sword](#) in Simopoulos, AP (ed): *Evolutionary Aspects of Nutrition and Health. Diet, Exercise, Genetics, and Chronic Disease. World Review of Nutrition and Dietetics*, vol. 84, 1999. (free full text)

- Science Factor: 2
- This paper is a comprehensive overview of all the reasons why grains are unhealthy. If you only have time to read one article, it should be this one.

The Argument Against Cereal Grains, [Part 1](#) and [Part 2](#) (Kurt Harris, MD)

- Science Factor: 2
- Evolutionary biology done right – a slightly different aspect of the “why grains are bad” argument.

Mellanby, M. and Pattison, C. [Remarks on The Influence of a Cereal-Free Diet Rich in Vitamin D and Calcium on Dental Caries in Children](#). *British Medical Journal* vol. 1, issue 3715, March 1932. (free full text)

- Science Factor: 2
- An old paper, but interesting: the researchers fed children with serious dental problems a grain-free but nutrient-rich diet and noted dramatic improvements in the children's dental health.

Akande, K. et al., [Major Antinutrients Found in Plant Protein Sources: Their Effect on Nutrition](#). *Pakistan Journal of Nutrition* vol. 9, issue 8, 2010. (free full text)

- Science Factor: 3
- This paper takes a further look at all the antinutrients lurking in those “heart-healthy whole grains.”

Freed, D. [Do dietary lectins cause disease?](#) *British Medical Journal*, vol. 318, no. 7190, April 1999. (free full text)

- Science Factor: 3
- This paper examines lectins in particular: what they are, what they do, and what effect they have on human health.

Bohn, T. et al., [Phytic acid added to white-wheat bread inhibits fractional apparent magnesium absorption in humans](#). *American Journal of Clinical Nutrition*, vol. 79 no. 3, March 2004.

- Science Factor: 3
- This study demonstrated that phytic acid inhibits the absorption of magnesium as well as iron and zinc.

WHEAT

Article on the Site: [11 Ways Gluten and Wheat can Damage Your Health](#)

[Wheat and Serious Mental Illness](#) (Psychology Today)

- Science Factor: 1
- A look at the evidence connecting wheat to serious mental disorders, including bipolar disorder, schizophrenia, and autism.

[Non-Celiac Gluten Sensitivity](#) (National Foundation for Celiac Awareness)

- Science Factor: 1
- This site provides information about non-celiac gluten sensitivity: it's more common than you might think.

[The Problems with Modern Wheat](#) (Mark's Daily Apple)

- Science Factor: 1
- An interesting overview of the differences between ancient and modern wheat.

[Wheat Belly – The Toll of Hubris on Human Health](#) (Chris Masterjohn)

- Science Factor: 2
- An insightful review of Wheat Belly, a book that takes on the problems of modern dwarf wheat compared to ancestral varieties. This is a slightly more scientific/technical take on the subject than the post above.

Ford, R. [The gluten syndrome: a neurological disease](#). Medical Hypothesis, vol. 73, issue 3, September 2009.

- Science Factor: 2
- This paper discusses the hypothesis that non-celiac gluten sensitivity can manifest as neurological symptoms even without any gut problems.

[The Case Against Gluten: For Everyone](#) (Evolvify)

- Science Factor: 2
- This post collects several interesting studies on the dangers of gluten in one place for easy browsing.

MacFarlane, A. et al., [A Type 1 Diabetes-related Protein from Wheat \(*Triticum aestivum*\)](#). Journal of Biological Chemistry, vol. 278, January 2003. (free full text)

- Science Factor: 3
- This paper examines the link between Type 1 Diabetes (which is an autoimmune disease) and the proteins in wheat, concluding that wheat may be a factor in developing diabetes.

WHEAT *(CONTINUED)*

Fasano, A. and Shea-Donohue, T. **Mechanisms of Disease: the role of intestinal barrier function in the pathogenesis of gastrointestinal autoimmune diseases.** *Nature Clinical Practice Gastroenterology and Hepatology*, vol. 2, July 2005.

- Science Factor: 3
- This paper discusses the problem of intestinal permeability ("leaky gut") and how it can mediate autoimmune diseases. (free full text)

Visser, J., et al. **Tight Junctions, Intestinal Permeability, and Autoimmunity: Celiac Disease and Type 1 Diabetes Paradigms.** *Annals of the New York Academy of Sciences*, vol. 1165, May 2009. (free full text)

- Science Factor: 3
- This paper discusses the role of gluten as an environmental trigger of leaky gut syndrome leading to autoimmune diseases.

Pusztai, A. et al., **Nutritional Effects of Biologically Active Components of Plants: Antinutritive effects of wheat-germ agglutinin and other N-acetylglicosamine-specific lectins.** *British Journal of Nutrition*, vol. 70, issue 1, July 1993.

- Science Factor: 3
- This paper explores some of the problems with wheat germ agglutinin (one of the lectins found in wheat).

Pellegrina, D. et al., **Effects of wheat germ agglutinin on human gastrointestinal epithelium: insights from an experimental model of immune/epithelial cell interaction.** *Toxicology and Applied Pharmacology*, vol. 237, issue 2, June 2009.

- Science Factor: 3
- This paper discusses the effect of wheat germ agglutinin even at normal levels of human consumption on the epithelial cells (the lining of the gut) and the immune system.

Kusada, Y. and Fujita-Yamaguchi, Y. **Affinity of anti-insulin-like growth factor I receptor antibody binding to the receptor altered by plant lectins.** *BioScience Trends*, vol. 5, issue 3, 2011. (free full text)

- Science Factor: 3
- This paper is another report on the ability of lectins (specifically wheat and peanut lectins) to alter immune function.

LEGUMES

Article on the Site: [What's Wrong with Beans and Legumes?](#)

[Living With Phytic Acid](#) (Weston A. Price Foundation)

- Science Factor: 1
- This article is an overview of the problem of phytic acid in nuts, grains and legumes, and gives some suggestions for preparing these foods to make them less bad.

[Modern Agriculture: Ecological impacts and the possibilities for truly sustainable farming](#) (Miguel Altieri, University of California, Berkeley)

- Science Factor: 1
- This post explains the differences between modern and traditional farming, and how modern agriculture is environmentally disastrous.

Hurrell, R. [Influence of Vegetable Protein Sources on Trace Element and Mineral Bioavailability](#). *Journal of Nutrition*, vol. 133, issue 9, September 2003. (free full text)

- Science Factor: 2
- This article discusses the potential for the phytic acid in legumes and cereal grains to impair the absorption of minerals, specifically iron and zinc.

PEANUTS

Magnussen, A. and Parsi, M. [Aflatoxins, hepatocellular carcinoma and public health](#). *World Journal of Gastroenterology*, vol. 19, issue 10, March 2013. (free full text)

- Science Factor: 1
- This article further describes the risks of aflatoxins, especially as carcinogens.

[AFLATOXINS: Occurrence and Health Risks](#) (Cornell University Department of Animal Science)

- Science Factor: 2
- This page gives an overview of aflatoxins: what they are, what kinds of foods can be contaminated, and why they're dangerous.

SOY

Article on the Site: [The Dangers of Soy](#)

GMO Foods: Super Solution or Franken Future? (Mark's Daily Apple)

- Science Factor: 1
- This post reviews the potential issues with GMO foods.

Wanted: GM Seeds for Study (Seed Magazine, July 2010)

- Science Factor: 1
- This article describes one of the many problems in determining the health of genetically modified seeds: there's almost no research that isn't controlled by the seed companies themselves.

Sorting Out the Soy Story (Kathleen DesMaisons, Ph.D.)

- Science Factor: 2
- This post collects several different studies from both sides of the soy debate to review the evidence.

Setchell, K. [Phytoestrogens: the biochemistry, physiology, and implications for human health of soy isoflavones](#). American Journal of Clinical Nutrition, vol. 68, 1998. (free full text)

- Science Factor: 3
- This paper describes the health effects of the estrogenic compounds (isoflavones) in soy.

Doerge, D. and Sheehan, D. [Goitrogenic and estrogenic activity of soy isoflavones](#). Environmental Health Perspectives, vol. 110, supplement 3, June 2002. (free full text)

- Science Factor: 3
- This paper examines the effects of soy on human hormonal activity and thyroid health, concluding that there is serious need for "rigorous, high-quality experimental and human research into soy toxicity."

Seralini, G., et al., [Genetically modified crops safety assessments: present limits and possible improvements](#). Environmental Sciences Europe, vol. 23, issue 10, 2011. (free full text)

- Science Factor: 3
- This study examines the evidence to date for and against the safety of GMOs, and concludes that we just don't have enough information to decide.

PALEO LIFESTYLE

SLEEP

Article on the Site: [Paleo Living and the Sleep-Stress Cycle](#)

[Sleep and Chronic Disease](#) (CDC)

- Science Factor: 1
- This page gives a very brief overview of the role of sleep deprivation in a few common chronic diseases: more of a starting point for research than anything else.

[The Definitive Guide to Sleep](#) (Mark's Daily Apple)

- Science Factor: 1
- A quick overview of the many reasons why you need to get enough sleep; easy to understand and skim through.

Taheri, S. et al., [Short Sleep Duration Is Associated with Reduced Leptin, Elevated Ghrelin, and Increased Body Mass Index](#). PLoS Medicine, vol. 1, issue 3, December 2004. (free full text)

- Science Factor: 2
- This study shows the relationship between sleep disturbances, hormonal problems, and weight gain.

Mander, B. et al., [Prefrontal atrophy, disrupted NREM slow waves, and impaired hippocampal-dependent memory in aging](#). Nature Neuroscience, vol. 16, January 2013. (free full text)

- Science Factor: 2
- This study shows that sleep deprivation can hasten memory loss and decline in cognitive function during aging.

[Association of Inflammatory Markers with Cardiovascular Risk and Sleepiness](#). Journal of Clinical Sleep Medicine, vol. 7, October 2011. (free full text)

- Science Factor: 2
- This paper discusses the role of sleep deprivation in creating systemic inflammation, and the evidence for sleep deprivation as a cause of cardiovascular disease.

Alhola, P., and Polo-Kantola, P. [Sleep Deprivation: Impact on Cognitive Performance](#). Neuropsychiatric Disease and Treatment, vol. 3, issue 5, October 2007. (free full text)

- Science Factor: 2
- An overview of what sleep deprivation does to your brain (it isn't pretty).

SLEEP *(CONTINUED)*

Williamson, A. and Feyer, [A. Moderate sleep deprivation produces impairments in cognitive and motor performance equivalent to legally prescribed levels of alcohol intoxication](#). *Occupational and Environmental Medicine*, vol. 57, issue 10, October 2000. (free full text)

- Science Factor: 2
- This study showed that sleep deprivation made drivers just as dangerous as an illegal level of blood alcohol.

Palagini, L. et al., [Sleep loss and hypertension: a systematic review](#). *Current Pharmaceutical Design*, vol. 19, issue 13, 2013.

- Science Factor: 2
- This study looked at all the evidence about sleep and blood pressure, and concluded that sleep deprivation was a significant contributor to hypertension.

Spiegel, K. et al., [Impact of sleep debt on metabolic and endocrine function](#). *Lancet*, vol. 23, issue 354, October 1999.

- Science Factor: 3
- This paper concluded that sleep deprivation mimics the damage of aging on your hormones and your ability to metabolize carbohydrates.

STRESS

How stress wreaks havoc on your gut – and what to do about it and Manage Your Stress (Chris Kresser)

- Science Factor: 1
- The first post explains how chronic stress can affect your digestion; the second gives some useful tips and advice for managing stress in your own life.

Stress – The Body's Response and Stress – Complications (University of Maryland Medical Center)

- Science Factor: 1
- The first page describes the biological effects of acute stress. The second describes all the problems that result when acute stress becomes chronic.

Stress Addicts Anonymous Series, part 1 and part 2 (Whole9 Life)

- Science Factor: 1
- This two-part series discusses how you can actually get addicted to stress, why it matters, and what to do about it.

Danucalov, M. et al., A Yoga and Compassion Meditation Program Reduces Stress in Familial Caregivers of Alzheimer's Disease Patients. Evidence-Based Complementary and Alternative Medicine, vol. 2013, 2013. (free full text)

- Science Factor: 2
- There are plenty of papers demonstrating the usefulness of meditation and yoga for stress relief, but this one is very readable and available for free, and also measures the effects in a real-life situation instead of a lab.

EXERCISE

Article on the Site: Beyond the Treadmill: Exercise and the Paleo Lifestyle

A Case Against Cardio (from a former mileage king) (Mark's Daily Apple)

- Science Factor: 1
- One of the most commonly cited resources on Paleo exercise, this post describes the dangers of "chronic cardio," the addiction to the "burning calories through exercise" model of health.

Top Posts and especially How to NOT Suck at Working Out (Nerd Fitness)

- Science Factor: 1
- Nerd Fitness is an incredibly helpful website full of useful information, especially for people who are just starting out. The list of top posts includes several different free workout routines for total beginners, guides to warming up and stretching, and detailed posts on particular exercises, like squats, deadlifts, and pull-ups.

Rest vs. Recovery (Whole9 Life)

- Science Factor: 1
- This post takes on the importance of recovery (not just resting) to make sure your exercise program isn't doing you more harm than good.

INTERMITTENT FASTING

Article on the Site: [Intermittent Fasting and The Paleo Diet](#)

[How Intermittent Fasting Might Help You Live a Longer and Healthier Life](#) (Scientific American, January 2013)

- Science Factor: 1
- This article reviews the history of research into intermittent fasting, and the potential for it to improve health and longevity.

[The Health Benefits of Intermittent Fasting](#) (Mark's Daily Apple)

- Science Factor: 1
- This post is a brief overview of intermittent fasting for a non-scientific audience – unlike the Scientific American article, it takes a decidedly positive slant on the issue.

Varady, K. and Hellerstein, M. [Alternate-day fasting and chronic disease prevention: a review of human and animal trials](#). American Journal of Clinical Nutrition, vol. 86, issue 1, July 2007. (free full text)

- Science Factor: 2
- This article gives an overview of what scientists know about intermittent fasting so far, and compares it to the “calorie restriction” model of dieting.

[Top Ten Fasting Myths Debunked](#) (Martin Berkhan)

- Science Factor: 2
- Martin Berkhan's Leangains program is the original intermittent fasting-oriented approach to building muscle and strength – the entire site is worth browsing for anyone interested in losing fat while gaining muscle. This article takes on the ten biggest myths about intermittent fasting, with plenty of studies for reference.

[Shattering the Myth of Fasting for Women: A Review of Female-Specific Responses to Fasting in the Literature](#) (Paleo for Women)

- Science Factor: 2
- This post reviews all the medical reasons why intermittent fasting might not be the best idea for women.

MONEY SAVING TIPS

Article on the Site: [Money Saving Tips](#)

Metzgar, M. et al., [The feasibility of a Paleolithic Diet for low-income consumers](#). Nutrition Research, vol. 31, issue 6, June 2011.

- Science Factor: 1
- Yes, there's actually a study on this. In this article, the researchers compared Paleo to the USDA's Thrifty Food Plan, and found that it was possible to eat Paleo with the same budget constraints.

[Paleo Poor: Your Guide to the Grocery Store](#) (Whole9 Life)

- Science Factor: 1
- A door-to-door guide to navigating the grocery store to get the most bang for your buck.

[Shopping Lists](#) (Paleo on a Budget)

- Science Factor: 1
- Two different money-saving shopping lists: one to get you started, and one for a weekly routine.

[Eating Healthy Doesn't Have To Be Expensive](#) (Paleo Lifestyle Magazine)

- Science Factor: 1
- This article compares healthy food to junk food, and discusses the money savings of cheap food vs. the cost of medical care required to deal with the resulting health problems.

KIDS

Article on the Site: [Cave Babies: Raising Happy, Healthy Paleo Kids](#)

[Feeding the "Picky" Cavekid – Paleo with Sensory Processing Disorder](#) (The Paleo Parents)

- Science Factor: 1
- Advice from a Paleo parent who's been there on transitioning to Paleo with special needs kids (her son is autistic).

[Paleo Family Eats: How I'm Transitioning My Son to Paleo](#) (The Paleo Parents)

- Science Factor: 1
- Another post on The Paleo Parents, about transitioning a slightly older child (8 years old) to Paleo and how it works.

[Paleo and Older Kids: Where Do You Draw the Line?](#) (Paleo Non Paleo)

- Science Factor: 1
- Advice for parents of teenagers and older kids for helping their children make the best nutritional decisions without driving themselves or their families crazy.

[Paleo Kids – Combating Outside Influences](#) (The Primal Parent)

- Science Factor: 1
- Raising Paleo kids at home is hard enough, but what about birthday parties? School lunches? Playdates? Here are some ideas and tips to get you started.

HOUSEHOLD PRODUCTS

Natural Cleaning With Things You Already Have at Home (Everyday Paleo)

- Science Factor: 1
- This post covers ways to make your own cleaning products without spending \$10 on a tiny bottle of eco-friendly dishsoap.

Natural Do-It-Yourself Cleaning Solutions (National Geographic)

- Science Factor: 1
- Another post full of ideas for how to make your own natural cleaners.

Dunagan, S. et al., **Toxics Use Reduction in the Home: Lessons Learned from Household Exposure Studies**. Journal of Cleaner Production, vol. 19, issue 5, March 2011. (free full text)

- Science Factor: 2
- This paper discusses the levels and kinds of toxins found in typical homes.

De Coster, S. and van Larebeke, N. **Endocrine-Disrupting Chemicals: Associated Disorders and Mechanisms of Action**. Journal of Environmental and Public Health, 2012. (free full text)

- Science Factor: 3
- This paper discusses the risks of endocrine disruptors (chemicals in common household cleaners and other products that can affect the hormonal system).

Choi, H. et al., **Common Household Chemicals and the Allergy Risks in Pre-School Age Children**. PLoS One, vol. 6, issue 6, June 2011. (free full text)

- Science Factor: 3
- This paper discusses the evidence that household chemical residues may contribute to children's allergies.

RESOURCES

Can't get enough of the Paleo life? Check out the resources below for more information, recipes, and like-minded Paleo diet-ers to share them with.

LEARN ABOUT PALEO

The Paleo Diet (Loren Cordain). Loren Cordain's original low-fat, high-protein Paleo diet isn't without its critics, but it's still an incredibly valuable resource for anyone interested in evolutionary health.

- **The Paleo Diet** – the book that started it all
- **The Paleo Diet for Athletes** – A revised version of The Paleo Diet with a focus on athletic performance

Mark's Daily Apple (Mark Sisson) – If you're looking for a good introductory website to the high-fat, low-carb approach to Paleo, this is your stop. Written by a former triathlete, it's packed full of understandable and well-researched articles on almost any topic you can think of. The site also has a forum for general Paleo diet discussion.

- **The Primal Blueprint** – the book that fully explains the Primal diet
- **The Primal Connection** – a book that goes more into the "lifestyle" side of Paleo

Robb Wolf – A former research biochemist and powerlifting champion who now works as an athletic coach and nutritional advocate, Robb Wolf saw his health turn around with a Paleo diet and wrote an entertaining and accessible book about it.

- **The Paleo Solution** – Robb's book, thoroughly explaining his take on Paleo

Perfect Health Diet (Paul and Shou-Ching Jaminet) – Paul and Shou-Ching Jaminet are two of the nicest people in the Paleo world. They're genuinely trying to figure out what makes for the healthiest human diet, without getting caught up in scientific egos, dogma, or "caveman imitation."

- **Perfect Health Diet** – the Jaminets' book, thoroughly explaining their nutritional recommendations

Chris Kresser – a functional medicine practitioner and all-around science whiz, Chris Kresser runs a blog and a podcast full of useful information.

Whole 9 Life (Dallas and Melissa Hartwig) – Whole 9 Life is the home of the Whole30, a 30-day Paleo elimination diet that many people find useful for identifying hidden food intolerances, kick-starting a Paleo journey, or getting a "re-set" as necessary. The site also has an associated forum, for Whole30-related questions and concerns.

- **It Starts With Food** – Dallas and Melissa's book, outlining the Whole30 program and their tough-love approach to getting started with Paleo

Cholesterol and Health (Chris Masterjohn) – a postdoctoral student researching cholesterol, Chris Masterjohn runs a website and a blog dedicated to redeeming cholesterol's reputation from mainstream nutritional dogma.

PaleoHacks – Got a question? PaleoHacks probably has an answer. It's an online message board where you can post questions or puzzles anonymously and get a little help from the internet.

r/Paleo – if you're a Reddit user, there's a subreddit for you here.

OTHER INTERESTING BOOKS

Good Calories Bad Calories (Gary Taubes) – more of a scientific exposition than a comprehensive diet plan, this book details all the reasons why refined carbohydrates, not fat, are the villains behind modern lifestyle diseases.

The Vegetarian Myth (Lierre Keith) – this book is an ex-vegan's answer to claims that a vegetarian diet is healthier, more sustainable, and more ethical.

Nutrition and Physical Degeneration (Weston A. Price) – A dentist from Cleveland, Ohio who traveled the world in search of a cure for tooth decay, Weston A. Price wrote an invaluable book detailing the vibrant health of traditional cultures around the globe, and the damage of the modern diet.

- **The Weston A. Price Foundation** – a group dedicated to educating people about traditional diets and nutrition, in memory of Dr. Price
- **Nourishing Traditions** – the Weston A. Price Foundation cookbook – not exactly Paleo, but many of the recipes are Paleo-friendly

COOKBOOKS, FOOD BLOGS, AND OTHER COOKING RESOURCES

The Paleo Recipe Book – a complete Paleo cookbook in a convenient ebook format

Chowstalker and **Dessertstaker** – two sites compiling all kinds of Paleo recipes from across the internet; you can browse by main ingredient or by special diets

The Paleo Diet Cookbook – recipes that fit into Dr. Cordain's recommendations (relatively high in protein and lower in fat and carbs)

The Primal Blueprint Cookbook – recipes that go along with the Primal diet (high-fat, low-carb Paleo including some dairy products)

Nom Nom Paleo – a site featuring a wealth of free recipes and an accompanying iPad app

The Clothes Make the Girl (Melissa Joulwan) – a blog of strict Paleo (low-carb, no dairy) recipes from a self-confessed foodie

- **Well Fed** – Melissa's physical cookbook

The Food Lovers Kitchen (Bill Staley and Hayley Mason) – a site packed with recipes that you can easily search by whatever special dietary need you have

- **The 30-Day Guide to Paleo Cooking** – a simple month-long recipe guide to get you started
- **Make it Paleo** – a cookbook including cooking techniques and tips for finding ingredients
- **Gather, the Art of Paleo Entertaining** – more a collection of menus than a collection of recipes, wonderful if you like to throw dinner parties

Paleo Parents (Stacy Toth and Matthew McCurry) – a great resource for anyone transitioning kids to Paleo

- **Beyond Bacon: Paleo Recipes that Respect the Whole Hog** – Paleo is bacon-positive, but there's plenty of other porcine goodness go around!
- **Eat Like a Dinosaur** – a Paleo cookbook for kids

Balanced Bites (Diane Sanfilippo) – a blog and podcast run by a Paleo nutritionist

- **Practical Paleo** – Diane's cookbook

Everyday Paleo (Sarah Fragoso) – a useful site full of recipes for busy parents

- **Everyday Paleo Cookbook** – Sarah's physical cookbook.
- **Paleo Pals** – a storybook for introducing kids to Paleo.

Wild Fermentation – fermented foods are underappreciated but incredibly important for good gut health. This book shows you how to do it yourself.

Fat (Jennifer McLagan) – a cookbook completely dedicated to cooking with plenty of delicious fat – yum!

Odd Bits (Jennifer McLagan) – learn how to cook with organ meats, bones, and all the other less common parts of the animal.

FINDING PALEO FOOD

US Wellness Meats – an online source for grass-fed beef products

Pure Indian Foods – grass-fed ghee and oils

Tropical Traditions – coconut oil

Cultures for Health – to help you get started with your own fermentation

Local Harvest – find CSAs, farmers' markets, and other local foods.

Eat Wild – information and resources relevant to naturally-raised animal products and organic produce