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Keto Clarity: Your Definitive Guide to the Benefits of a Low-Carb, High-Fat Diet (English Edition)

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68 Highlights

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He learned that after a period of adaptation, consuming an Inuit diet with plenty of animal fat would sustain him even during hours of strenuous walking.

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Ketone bodies provide an alternative fuel for the brain, heart, and most other organs when serum glucose and insulin levels are low—i.e., on a very low-carbohydrate diet. Ketone bodies are preferred over glucose by the heart and can be used as efficiently as glucose by most portions of the brain. There is a growing body of research supporting their beneficial effects on aging, inflammation, metabolism, cognition, and athletic performance.

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increasing its production of ketone bodies, which appear in the blood primarily as beta-hydroxybutyrate (BHB). (We'll

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Ketones are actually the preferred fuel source for the muscles, heart, liver, and brain. These vital organs do not handle carbohydrates very well; in fact, they become damaged when we consume too many carbs.

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twice daily, and the highest reading I ever saw was 6.4 millimolar, less than one-third of the level considered dangerous.

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amount does not change. Most people in nutritional ketosis consume anywhere from 65 to 80 percent of their calories as fat.

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who wants to be in ketosis needs to keep total carbohydrate intake below 100 grams a day, and the vast majority need to keep it under 50 grams a day. If you are especially sensitive to carbohydrates (in general, that means most people

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Getting into ketosis is harder for some than others. Dr. William Wilson explains that people with type 2 diabetes or severe insulin resistance will very likely have trouble getting their blood sugar levels low enough. He suggests two shortcuts for circumventing this issue to help you produce ketones: first, have your doctor write a prescription for a medication called metformin, and second, get an over-the-counter supplement called CinSulin, a concentrated form of cinnamon. There is also a supplement called Glycosolve, made with berberine and banaba leaf, that helps to normalize blood sugar levels naturally.

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fish, eggs, non-starchy vegetables, nuts, and seeds, while avoiding the carbohydrates and gluten that accompany grains and fruit. That said, low-sugar fruits, including berries, could be a part of the ketogenic lifestyle.

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urge and instead eat a high-fat snack. I like to roll up a slice of full-fat cheese with grass-fed butter in the middle. It may sound crazy, but don't be surprised when your desire for carbs relaxes. We'll talk more about why fat consumption

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There are three reasons why people fail to reach a ketogenic state: too many carbohydrates, too much protein, or not enough fat. Most people who attempt to follow this approach understand the importance of limiting carbohydrates. In my experience, when they fail to do so it's usually because of their strong cravings for sweet or starchy foods.

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Ketosis simply takes the concept of high-fat dieting to a more extreme level, and rather than implementing the 20 percent carbohydrate, 65 percent fat, 15 percent protein approach, a ketogenic diet actually brings carbohydrate calories down to 5 to 10 percent, protein calories to 10 to 15 percent, and fat calories up to 75 to 80 percent.

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The most reliable way to get into a state of ketosis is to take carbohydrates down to 30 grams or less per day and protein down to around 0.5 grams per pound of body weight, and to consume fat throughout the day from a

combination of medium-chain triglycerides (MCTs) and animal sources like butter, heavy whipping cream, and fatty meats. – John Kiefer

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ketogenic diet is not high-protein but rather high-fat. Carbohydrate restriction is a must, but protein moderation is critical as well. Protein is an essential nutrient, but its consumption needs to be moderated. If you are sensitive to carbohydrates, protein needs to be reduced. Gluconeogenesis can be problematic for ketosis if too much protein is consumed. You don't have to eat carbs; your body will make its own carbs. Eating too much protein can prevent adequate ketone production.

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Making ketones takes much less protein than you might think.

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Once I ascertain that they have genuine butter, my next statement tends to make the server's eyes completely bug out: "Bring me more butter than you've ever brought any one human being in your life!" Sometimes they think I'm joking, but my wife, Christine, will usually chime in, "He's not kidding." It's always an interesting experiment in human behavior and societal constructs to see how this request is interpreted by the servers. I've received as little as two pats of butter all the way up to sixteen pats of butter, at the famous locally sourced restaurant 24 Diner in Austin, Texas. (Yes, I ate it all with my food!) You should see the reaction I get when people watch me eat a bite of butter with nearly every bite of food. In fact, they should give me my own reality show with cameras following me around and showing how people react to my butter consumption!

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the "Defibrillator" (another nod toward the mistaken notion that eating fat causes heart disease), a bunless bacon cheeseburger topped with a hot dog and chili. Jimmy ate a bit of butter with every bite.

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arteries, leading to a heart attack?" That is the prevailing message we have heard ad nauseum for most of our lives, and it doesn't help matters when pop culture reinforces the notion that there is something wrong with consuming

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of our previous book, *Cholesterol Clarity*, to learn the truth about the connection between saturated fat, cholesterol, and heart disease. The prevailing wisdom on this subject

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given intravenous ketones.” Several animal studies have shown that ketones improve heart function during periods of low blood supply or during a heart attack.

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Some fats are more apt to readily convert to ketones than others: short- and medium-chain fats, like those found in pastured butter, cultured ghee, coconut oil, and especially MCT oil (taken as a supplement), will readily convert to ketones. This can help improve the efficiency by which a person adapts to a healthy fat-based, ketone-fueled metabolism. – Nora Gedgaudas

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This is one of the reasons why the book you are holding is so sorely needed now more than ever before—to break through the decades upon decades of indoctrination we have been subjected to on the subject of fat. Here’s the truth of the matter: when you cut the fat in your diet, it’s replaced by carbohydrate, which is far more damaging to your health than fat will ever be. Saturated fats, like those in butter, coconut oil, and red meat, and monounsaturated fats, such as those found in avocados, olive oil, and macadamia nuts, are basically safe for consumption in terms of your health. They don’t raise your blood sugar, and they don’t cause any harm when eaten to satiety. In fact, they are quite beneficial: they are anti-inflammatory, raise HDL cholesterol, help you feel full, and—most important for our purposes—they help you create ketones. Compare this to the polyunsaturated fats found in vegetable oils, which increases systemic inflammation and are linked to multiple health problems, despite the fact that they are heavily touted as the healthy oils we should be consuming.

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Avoid using urine ketone test strips as a measure of keto-adaptation. This is akin to looking for banana peels in your garbage to figure out how many apples are in your refrigerator and how many of those you are eating. Apart from only measuring ketones eliminated as a waste product, urinary ketone test strips measure only one kind of ketone, acetoacetate, and fail altogether to measure the most critical and predominantly utilized ketone in a healthy state of ketosis: beta-hydroxybutyrate. This is always better and more accurately measured with a blood ketone meter.

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goals. Why wouldn’t these companies want to broaden the appeal of their products by marketing to those desiring to test for nutritional ketosis? That makes good business sense, and you’d think these companies would be all over it.

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I’m a fan of breath ketone testing, as it’s less invasive and painful than blood testing. For my personal experiments with ketosis, I used a breath test that detects levels of ketones (acetone) in breath condensate.

Breath condensate and blood ketone levels are well correlated, and they're more reliable and readily detectable than urine ketone levels. Several studies indicate that breath ketones are a reliable measurement for ketosis compared to blood and urine samples.

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for many more breath ketone meters and associated technologies to be developed in the coming years. According to the July 25, 2013, issue of the Journal of Breath Research, Japan's NTT Docomo is developing a breath ketone reader

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interested to know that there is a fantastic free website, The Low Carb Flexi Diet (www.flexibleketogenic.com), that provides a ketogenic ratio calculator. All you do is plug in how many grams of carbohydrates, protein, and fat you are consuming, and it tells you how ketotic you are. Give it

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deeper into the month-to-month details of my personal testing of NK, I updated my blog every thirty days to track my progress: lavinlavidalowcarb.com/blog/n1. The amazing health improvements I saw in nutritional

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Maybe they're eating a banana with breakfast, throwing off their carb intake, or having a chicken breast at dinner, sending their protein consumption too high. This probably explains why some people believe ketosis failed them: their diets weren't strict enough to actually get them into ketosis, so they never got to experience its health benefits. Figuring out the amounts of carbohydrate, protein, and fat that are right for you and adhering precisely to those amounts makes all the difference in the world.

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to justify such arguments, as well as more recent clinical studies, demonstrates that total and saturated fat intake

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using a glucometer to test their blood sugar levels. It is arguably one of the most invaluable and yet underutilized tools at our disposal for assessing how we are doing metabolically. Blood glucose meters are widely available in any pharmacy

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just mention the word fasting to someone on the street and the reaction you'll get will probably fall somewhere between complete scorn to sheer terror at the idea of going without food for more than a few hours. Believe me, I understand, because I had the same reaction in 2006 when I first heard about intermittent fasting (IF) from a

low-carb author, blogger, and physician named Dr. Michael Eades, author of the bestselling book Protein Power. Dr. Eades wrote a blog post about IF that captured a lot of attention, generating the most comments that he had ever received on a blog post. The traditional method of fasting calls for alternating days of fasting and eating (eat Monday, fast Tuesday, eat Wednesday, fast Thursday, and so on). The IF plan that Dr. Eades was attempting, however, was a bit more practical. Here's what his sample IF eating schedule looked like: Day 1 – Eat anytime until 6:00 p.m. and then stop eating Day 2 – Don't eat until 6:00 p.m. Day 3 – Eat anytime until 6:00 p.m. and then stop eating Day 4 – Don't eat until 6:00 p.m.

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Maybe that breakfast of two eggs and two slices of bacon should become four eggs cooked in butter and topped with cheddar

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and my blood sugar was 93. Yesterday I ate bacon, spaghetti squash, and ground beef with marinara sauce along with some grass-fed butter, coconut oil, and 85% dark chocolate and felt completely

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Failing to eat enough food when you are starting a ketogenic diet can also—unsurprisingly—bring on hunger pangs. So when hunger hits, it's time to eat up and enjoy the bounty of delicious and nutritious foods that are at your disposal on a low-carb, high-fat diet (a list of these satiating and mouthwatering foods is included in chapter 19). After you consume a meal like this, don't feel like you have to eat again the next time a “regular” mealtime rolls around just because of the time of day. If you're not hungry, then don't eat! It seems like a no-brainer, but far too many people succumb to the societal pull to eat by the clock and not by their need for food.

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spinach, Brazil nuts, almonds, fish, and dark chocolate can provide you with this key nutrient.

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increasing your consumption of indigestible fibers that do not convert to blood sugar. This translates to half of a raw sweet

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eating a diet, try eating the Standard American Diet (SAD). It's like a lesion that makes the practice of medicine extremely profitable for physicians

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There's a popular mixed drink called the “NorCal Margarita” that was created by Robb Wolf, one of the leaders in the Paleo community. The ingredients for this drink are simple: two shots of tequila, some lime juice, and club soda. You can get even more adult beverage ideas from the book Paleo Happy Hour by Kelly Milton. If

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Studies suggest that keto-adaptation, in which the impact of glycogen depletion is no longer relevant as the body is capable of running on ketones, appears to take approximately three to four weeks in most people.

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Remember, stressed is just “desserts” spelled backwards—and it can have the same negative effect on your efforts to get into ketosis as the sugar contained in most desserts.

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down. This is a very desirable state. This is what distinguishes health and longevity in many instances. Centenarians have lower thyroid than their elderly peers. When people criticize

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overall health as other numbers. What does matter is the LDL particle breakdown, which is presented separately in a more advanced cholesterol panel known as the NMR LipoProfile test.

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So what should you be paying attention to in your cholesterol tests? Make sure your HDL cholesterol is above 50, ideally higher than 70 (consuming saturated fat helps get you there). Get your triglycerides under 100, ideally under 70 (cutting your carbohydrate intake does this best). Shift your LDL particle size (determined with the NMR LipoProfile test, which any doctor can have run) to mostly the large, fluffy kind (by eating a low-carb, high-fat, ketogenic diet). Additionally, get an hsCRP (high-sensitivity C-reactive protein) blood test to check for signs of inflammation, the true culprit in heart disease, and a CT scan of your heart to look for any signs of disease.

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agreed to do a one-year metabolic ward study in which he was locked in a hospital ward so that all of his food intake could be tracked and his health analyzed. At the end of that experiment, during which he consumed a virtually all-meat diet, he exhibited no signs of any health problems and had no vitamin deficiencies. The results of that study were published in the Journal of Biological Chemistry in 1930. So much for trying to scare people away from keto with scurvy fears!

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The spontaneous reduction in calories consumed is a major benefit of ketosis. Weight loss on any diet begins with the loss of water weight before fat loss commences. The hysteria over very low-carb diets inducing hypothyroidism is unwarranted. Shifting from focusing on LDL-C and total cholesterol to focusing on LDL particles is better for determining actual heart health risk. There is no evidence that a ketogenic diet causes a

lack of mucus. Constipation on a low-carb diet can be fixed with vegetables, salt, magnesium, and water. The notion that a ketogenic diet causes nutrient deficiencies is unfounded as long as you

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consume a variety of nutrient-rich foods. Despite the scaremongering, scurvy from a lack of vitamin C isn't an issue on ketogenic diets. Kidney stones are the result of a high-carb diet, not a low-carb one. Very low-carb diets improve insulin sensitivity rather than inducing insulin resistance. There is no such thing as a "glucose deficiency."

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this in a guest blog post on Mark's Daily Apple. She noted that cholesterol levels began to fall the year Justin Bieber was born. But as soon as Facebook was invented, the levels went back up again. Therefore, this is "evidence" that Facebook cancelled out the cholesterol-lowering effects of Justin Bieber. Yes, this sounds preposterous, as it should. And

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controlled, clinical setting. That didn't happen. Instead, the headlines all touted the finding of "new evidence linking fruit and vegetable consumption with lower mortality." This is incredibly misleading to the general public, but unfortunately most people don't know this.

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Follow-up Study for up to 22 years and 83,644 women in the Nurses' Health Study for up to 28 years who were free of cardiovascular disease and cancer at baseline. Here's the kicker: their diets were assessed through questionnaires distributed every four years. Once again, recall of food consumed over the past few years was heavily relied on to generate the information used to make these correlations.

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exactly, 100 percent just like you. So even though there's a lot of great research that has been done to this point, none of it may ever be relevant to you! The only way to know for sure if something will work for you is to try it and see.

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Now that you know how to discern the difference between strong, solid experimental studies and weak observational studies that often get a lot more attention than they deserve, let's take a look at the science supporting ketogenic diets.

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disorders that is an inhibitor of histone deacetylase, as is the ketone beta-hydroxybutyrate. Histone deacetylase inhibitors are currently being investigated for their anticancer and antiaging properties. This may suggest an actual mechanism for the antiseizure properties of beta-hydroxybutyrate.

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Diet received a tremendous boost in popularity with . . . First Do

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First, the protein requirement is determined: 1 gram of protein per kilogram of body weight. Then, add in 10 to 15 grams of carbohydrate. The rest of the diet is comprised of fat. So if a child weighs 44 pounds (20 kilograms), the daily protein intake would be 20 grams and carbohydrate intake would be 10 grams, for a total of 30 grams that are not fat. Then, since the ratio of fat to protein and carbohydrate is 4, multiply 4 by 30 to get 120 grams of fat per day.

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Most of us have been taught that a low-fat diet is the healthiest, most nutritious diet, especially for cardiovascular health. At the same time, we've been told that a high-fat diet is completely unhealthy because it raises cholesterol, which in turn "clogs your arteries" and leads to heart disease (an erroneous idea that we debunked in Cholesterol Clarity). In the 1950s and 60s, virtually every major health organization came out against high-fat diets even though there was no direct evidence that they were harmful to anyone's health. They simply believed the hypothesis, promoted by Ancel Keys, that saturated fat raises cholesterol, which in turn increases your risk for heart disease. That concept was never actually tested by researchers.

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Dr. Mary Newport knows a thing or two about Alzheimer's disease. Her husband, Steve, was diagnosed with early-onset Alzheimer's at the age of fifty-one, and she quickly became frustrated by the lack of meaningful therapies to help slow its progression, much less reverse the damage that had already been done. But when Dr. Newport started feeding Steve large amounts of coconut and MCT oil while cutting out carbohydrate-based foods like bread, rice, and pasta, he started to "climb out of the Alzheimer's abyss." She shares the details of Steve's miraculous turnaround in her book *Alzheimer's Disease: What If There Was a Cure?*

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if you want to guarantee declining brain function, I suggest sticking with the Standard American Diet!

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Catherine Zeta-Jones checked herself into a clinic for help in dealing with her bipolar II disorder in 2011 and again in 2013,

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Phinney notes the importance of this period of adaptation in an August 27, 2004, paper entitled “Ketogenic Diet and Physical Performance” published in the journal Nutrition & Metabolism. You can Google the title of this paper to read it for yourself; it complements everything we’ve been sharing

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distance runner who is putting the idea of getting into ketosis for athletic performance to the test himself. At the time of writing, he is documenting his low-carb, high-fat experience in a movie tentatively called Two Forty, Forty One, a reference

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glucose as a fuel; in fact, doctors inject tagged glucose into cancer patients to find the exact location of tumors. Shouldn’t it

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carb, high-fat diet and noticed improvements in their vision. Because elevated blood sugar levels can lead to blurred vision, it may be that the normalization of blood sugar levels in

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fat-free are probably not a very good option (particularly if you are sensitive to carbohydrates, which means you’ll also need to be careful about the absolute amount of protein you eat). Ideally, the fat-to-protein ratio of a food should be

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Greek yogurt Blue cheese Heavy whipping

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think it is beneficial to include nutrient-dense foods such as organ meats, bone broths, fermented foods and sea vegetables in our diet while in ketosis.

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and pour the mixture into ice cube trays. Freeze for 2 hours. Once they’re frozen, you can pop the fat bombs out of the ice cube trays and store

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bowl, whisk briskly until a beautiful creamy sauce emerges. Use immediately and pour on top of spaghetti squash, grass-fed
