

# Carbohydrates: The Unexpected Ally in Your Fat Loss Journey

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## STORY AT-A-GLANCE

- › Carbohydrates are not inherently fattening and can be beneficial for fat loss when included in a calorie-controlled diet. Including carbs in a fat loss diet can improve long-term adherence and satisfaction, making sustainable weight loss more achievable
- › Insulin spikes from carbohydrates do not directly cause fat gain; obesity and inactivity are the primary contributors to insulin resistance
- › Including carbs in your diet helps preserve muscle mass during fat loss by reducing muscle protein breakdown and supporting exercise performance
- › Low-carb diets can negatively impact hormones, decreasing testosterone and increasing cortisol in both males and females
- › Carbohydrates play a role in maintaining progesterone levels, which is important for hormonal balance in both men and women. Adequate carbohydrate intake also supports thyroid function and metabolic health by maintaining T3 hormone levels during calorie deficits

Let's start with a myth: carbohydrates are inherently fattening and should be removed from your diet if you want to lose weight. This is not true! Carbohydrates can and should be included in a healthy fat loss phase. So in this article let's talk about why including carbs in your diet is **BENEFICIAL** for fat loss.

## **But What About Insulin?**

When it comes to fat loss, carbohydrates are demonized in many diet camps likely because of the fear mongering around insulin and blood sugar.

The logic seems so clear and appealing: High carbs lead to insulin which leads to fat storage. Low carbs keep insulin low, which should get you effortlessly lean while you enjoy endless amounts of fat, right? No! Do carbs increase insulin levels? Yes, they do. Does increased insulin after meals lead to fat gain? No. Did you know that dietary protein spikes insulin?<sup>1</sup> So following the above logic, does dietary protein cause fat gain? No!

Insulin isn't the devil people want you to believe. Like every other hormone in your body, insulin has a specific purpose and isn't always a bad thing. (For example – insulin plays a crucial role in promoting muscle growth and maintenance since it facilitates glucose and amino acid uptake into muscle cells, preventing muscle protein breakdown).<sup>2</sup>

Research demonstrates that obesity and inactivity are the biggest contributors to insulin resistance<sup>3,4,5,6</sup> not carbs. In fact, high fat diets can negatively impact insulin sensitivity.<sup>7,8</sup> Dietary fat is not a bad thing – but moderate fat and the inclusion of carbs can be beneficial for a number of reasons.

Let's look at what happened in one study comparing low carb (5% cal) vs. moderate carb (40% cal) where calories were controlled and protein was matched (this is a huge problem in the research: many low carb diet studies don't match protein intake between the groups leading to more variables.)

Subjects who ate the moderate carb diet reported significantly better mood and lost about the same amount of weight as those on a ketogenic low-carb diet – demonstrating that carb consumption does not inhibit weight loss.

The group who ate more carbs showed a small (though not statistically significant) tendency to lose more body fat as compared to those on a low carb diet (5.5 kg vs 3.4 kg in 6 weeks).

Can a low-carb diet work to help people lose weight? Of course it can. Is it because it is low in carbs? No. As a weight loss strategy, cutting carbs (while reducing the total number of calories) can work well for some people! But cutting carbs can come with costs:

- Reduced thyroid and metabolic function
- Decreased glycogen levels
- Increased muscle loss
- Hormonal imbalances
- More frequent binge eating episodes

So, let's explore why carbs might actually be good for fat loss:

**1. Metabolic health: The carb and thyroid connection** — Carbohydrates play a vital role in supporting metabolic health. The liver requires glucose (derived from carbohydrates) to convert T4 to T3, a crucial thyroid hormone. T3 is a thyroid hormone that plays a significant role in regulating metabolism.

When T3 levels are low, the body's metabolic processes tend to slow down, which means that fewer calories are burned at rest, making fat loss more challenging.

Research has shown that maintaining carbohydrate intake during a calorie deficit helps sustain T3 levels, which is essential for overall metabolic health.<sup>9</sup> "During the low carbohydrate diet rT3 increased and T3 decreased but they remained unchanged during the carbohydrate-rich diet."<sup>10</sup>

The research is clear that including more carbohydrates tends to increase T3 levels in the body, while low-carb diets tend to lower T3 levels.<sup>11,12</sup>

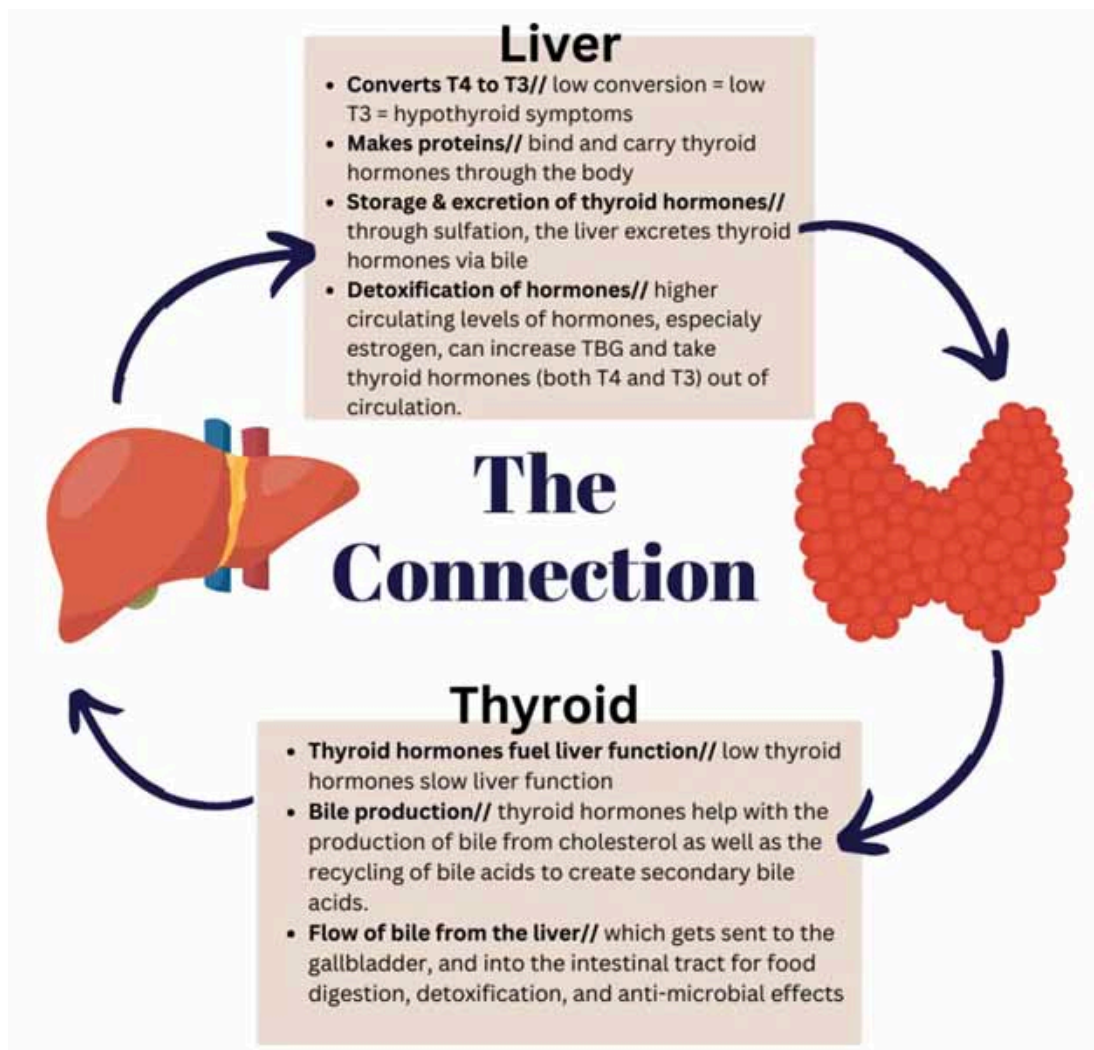


Image from: [Chews Food Wisely](#)

Low Energy Availability (LEA) is a condition where the body doesn't have enough energy to support normal physiological functions after accounting for the energy expended in exercise and daily activities. This can lead to various health problems, including hormonal imbalances, reduced bone density, and impaired immune function.

Studies indicate that adequate carbohydrate intake can help prevent LEA, even during a calorie deficit.<sup>13</sup> By providing your body with a steady source of easily accessible energy, you minimize the risk of entering this low energy state, supporting overall health and well-being during your fat loss journey.

In conclusion, including carbs in your diet during a fat loss phase might help sustain T3 levels, potentially supporting metabolic rate and preventing some of the negative effects associated with low-calorie diets on thyroid function.

**2. The glycogen factor: Beyond water weight** – One of the primary advantages of including carbohydrates in your fat loss diet is their role in maintaining muscle glycogen stores. (Glycogen is stored carbohydrates that serve as a quick-release energy reserve.) Your body can store approximately 400 to 500 grams of glycogen in muscles and 80 to 120 grams in the liver.<sup>14</sup>

Interestingly, each gram of glycogen is stored with about three grams of water, which means that 500 to 600 grams of glycogen can account for 3 to 4 pounds of your body weight.

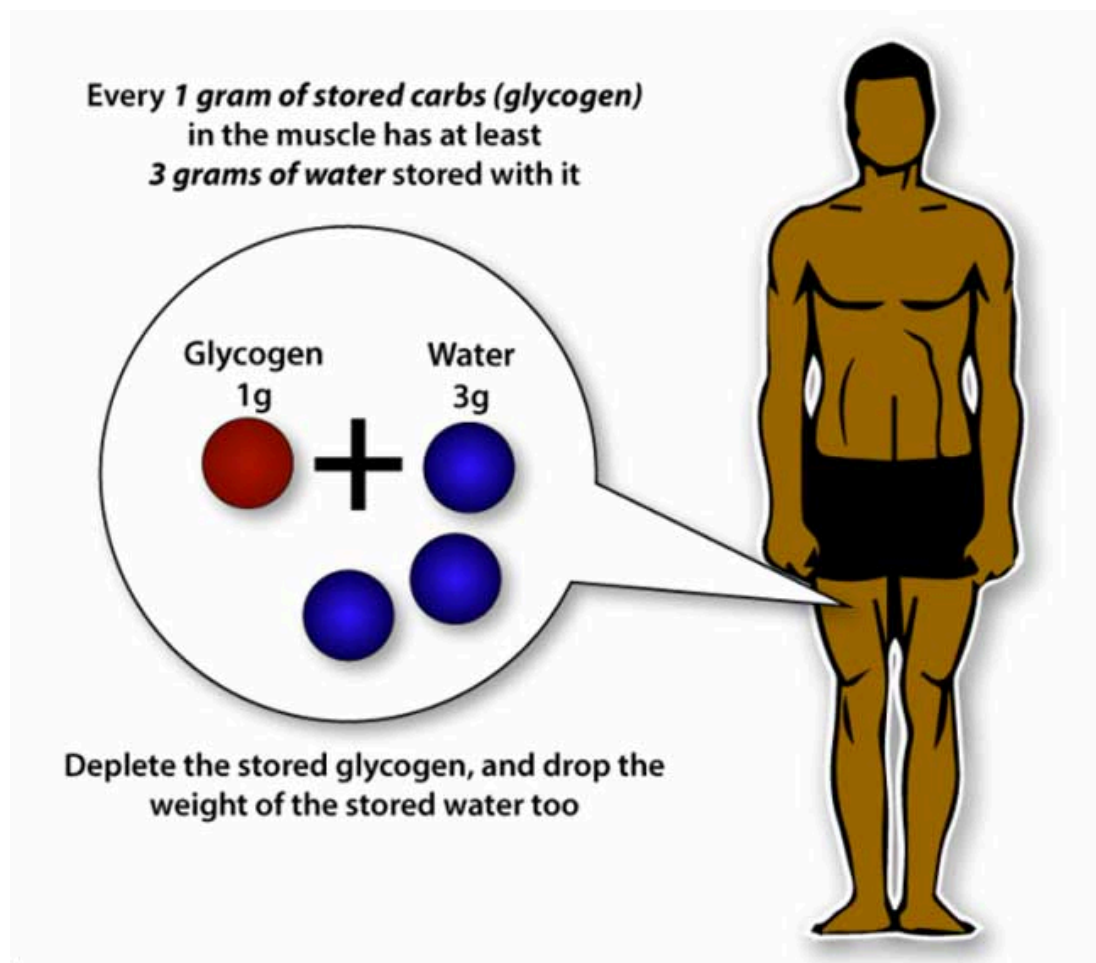


Image from: [Heatrick](#)

This glycogen-water relationship explains why people on low-carb diets often see rapid initial weight loss. As the body burns through stored glycogen (since you aren't consuming carbs), the body releases the associated water, leading to a quick drop in scale weight.<sup>15</sup> However, this is primarily water loss, not fat loss.

By maintaining carbohydrate intake, you ensure that your weight loss comes primarily from fat stores rather than this initial water weight.

If you stay in a calorie deficit on a keto diet for long enough, you will of course lose body fat as well. However, when you reintroduce carbs, you'll likely regain some water weight back as your glycogen stores are replenished.

**3. Reduce muscle protein breakdown** – Researchers have found that low-carb diets can increase muscle protein breakdown, as measured by increased urinary nitrogen excretion.<sup>16</sup>

As we just discussed above, consuming carbs keeps your muscle glycogen levels full, which improves your gym performance and helps your recovery – increasing your chances of maintaining muscle mass during a calorie deficit.

When you lose weight, that includes some fat and muscle. But by including carbs, you reduce the amount of muscle you lose since you are reducing muscle protein breakdown! When you get enough carbs to meet your needs, you replenish muscle glycogen and create an anabolic (building-up) hormonal environment.

Conversely, when you don't eat enough carbohydrate, muscle glycogen is depleted and a catabolic (breaking-down) hormonal environment is created,<sup>17</sup> which means more protein breakdown and less protein synthesis. This means slower muscle growth – or even muscle loss.

Research shows that lowering carb intake can affect your muscle mass even if protein remains constant.<sup>18</sup> Low carb diets likely increase muscle breakdown, because severely low carbs lowered insulin levels.

Another reason for the reduction in muscle protein breakdown is that carbs can help enhance your performance in the gym. The more you can push yourself in the gym with pushing close to muscular failure at heavier weights, the better mechanical tension and stimulus you can achieve, sending a message to the muscle: "please stick around!"

Carbs are also protein sparing, meaning they supply the body the glucose it needs for vital functions so that it doesn't have to break down muscle tissue to produce those carbs. When you don't consume carbs, your body will use some of your dietary protein to perform higher amounts of gluconeogenesis<sup>19</sup> in order for your body to meet its baseline glucose needs.

Gluconeogenesis is primarily performed in the liver, so consuming carbs will support liver health since you are reducing one more thing the liver must do (amongst its list of 500 tasks) – more gluconeogenesis!

Carbohydrates play a crucial role in preserving muscle mass during a calorie deficit by maintaining glycogen stores. Plus, muscles that are full of glycogen look MUCH better aesthetically than muscles depleted of glycogen.

- 4. Negatively impacts hormones** – Low carbohydrate diets have been shown to negatively impact hormones for both males and females, decreasing testosterone while increasing cortisol.<sup>20,21,22,23</sup>

When in a low carb state, your body activates stress hormones in order to make the carbs that your body requires for basic physiological functions.<sup>24</sup>

Most people nowadays are estrogen dominant due to xenoestrogens, [phytoestrogens in certain foods](#), modern pollutants, birth control, and estrogen hormone replacement.<sup>25</sup> For example – [menopause](#) and PCOS are not conditions of estrogen deficiency, instead it is excess estrogen.

Improving progesterone production helps balance hormones and reverse estrogen dominance. Well, low carb diets can negatively affect progesterone production. Dr. Katharina Dalton, a pioneer in hormonal balance and PMS, found that dietary changes could significantly influence hormonal levels and alleviate symptoms of PMS.

To properly restore the progesterone hormonal function and hormone balance, she had her patients eat carbs (primarily starches) at each meal.<sup>26</sup> Dr. Dalton had two

main reasons:

- a. **To avoid dips in blood sugar** – "Progesterone receptors cannot transport or bind to, a molecule of progesterone if there has been a drop in blood sugar."
- b. **To keep adrenaline as low as possible** – "Progesterone receptors do not transport progesterone molecules into the nucleus of cells if adrenaline is present."

We are bombarded with estrogenic substances in daily life, so progesterone is vital for truly everyone, including males! And carbs can help optimize progesterone production.

Female hormones are extremely sensitive to diet. For example, one study following 45 patients aged 12 to 19 on a ketogenic diet found menstrual dysfunction was the most common side effect (45% of female subjects) and 6 experienced amenorrhea.<sup>27</sup>

- 5. **Improved diet adherence and satisfaction** – Perhaps one of the most underappreciated benefits of including carbohydrates in a fat loss diet is improved adherence. Carbs contribute to greater food variety, making meals more enjoyable and satisfying. This increased satisfaction can make it easier to stick to your diet long-term, which is crucial for sustainable weight loss.

Finding a diet approach that you can remain consistent with that is not unnecessarily restrictive will help you avoid the never ending restrict-binge-restrict-binge cycle where you may lose 10 lbs, regain it, lose 10 lbs, regain it ... that is not sustainable and is a sign what you are doing isn't working!

This psychological factor is often overlooked but can be crucial in achieving and maintaining your fat loss goals. When you feel less restricted in your food choices, you're more likely to adhere to your diet plan in the long run.

## **Conclusion: The Carbohydrate Balance**



While creating a calorie deficit is necessary for fat loss, completely eliminating carbohydrates may not be the most effective or sustainable approach. The removal of carbs may help you initially lose weight (since you remove an entire food group, and thus a lot of calories). But, then what? How do you come out of that state? Can you maintain that day in and day out?

By including quality carbohydrates in your diet, you can support your fat loss goals while maintaining muscle mass, metabolic health, better hormones and diet satisfaction. While everyone's metabolism will be slightly lowered when dieting (this is why you may stall after a while and have to make tweaks along the way), research shows that consuming carbs while eating in a caloric deficit leads to LESS of a metabolism reduction due to higher thyroid functioning.

It is important to point out, however, that even if carbs are included, CHRONICALLY eating lower calorie will eventually lead to a low-energy-availability state. Which is why it is important to have planned out fat loss phases, and not chronically under eat calories.

Remember, sustainable weight loss is about finding a balanced approach that works for you in the long term. So, before you jump on the no-carb bandwagon, consider the potential benefits of keeping carbs as part of your fat loss strategy. Your body – and your taste buds – might thank you for it.

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# About the Author

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

## Sources and References

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- <sup>1</sup> [Physiol Rep. 2023 Jan; 11\(2\): e15577](#)
- <sup>2</sup> [Am J Physiol Endocrinol Metab. Author manuscript; available in PMC 2010 Jan 12](#)
- <sup>3</sup> [Am J Med. 2006 May;119\(5 Suppl 1\):S10-6, doi: 10.1016/j.amjmed.2006.01.009](#)
- <sup>4</sup> [Free Radic Res. 2014 Jan;48\(1\):93-108, doi: 10.3109/10715762.2013.847528. Epub 2013 Oct 17](#)
- <sup>5</sup> [Am J Physiol Endocrinol Metab. 2021 Dec 1;321\(6\):E766-E781, doi: 10.1152/ajpendo.00254.2020. Epub 2021 Nov 1](#)
- <sup>6</sup> [Clin Nutr. 2010 Jun;29\(3\):386-90, doi: 10.1016/j.clnu.2009.09.006. Epub 2009 Oct 28](#)
- <sup>7</sup> [Front Public Health. 2023 Mar 16;11:1115333](#)
- <sup>8</sup> [Eur J Nutr. 2017 Feb;56\(1\):431-443. doi: 10.1007/s00394-015-1108-6. Epub 2015 Nov 28](#)
- <sup>9</sup> [J Clin Endocrinol Metab. 1976 Jan;42\(1\):197-200. doi: 10.1210/jcem-42-1-197](#)
- <sup>10</sup> [Am J Clin Nutr. 1982 Jan;35\(1\):24-35. doi: 10.1093/ajcn/35.1.24](#)
- <sup>11</sup> [Nutrients. 2018 Jan; 10\(1\): 5](#)
- <sup>12</sup> [PLoS One. 2022; 17\(6\): e0269440](#)
- <sup>13</sup> [Med Sci Sports Exerc. 2022 Mar 1;54\(3\):377-387. doi: 10.1249/MSS.0000000000002819](#)
- <sup>14</sup> [Nutr Rev. 2018 Apr; 76\(4\): 243–259](#)
- <sup>15</sup> [Nutrients. 2022 Feb; 14\(3\): 423](#)
- <sup>16</sup> [J Clin Endocrinol Metab. 2003 Aug;88\(8\):3801-5. doi: 10.1210/jc.2002-021087](#)
- <sup>17, 18</sup> [Journal of Applied Psychology, Volume 109, Issue 2, August 2010, Pages 431-438](#)
- <sup>19</sup> [The Journal of Clinical Endocrinology & Metabolism, Volume 85, Issue 5, 1 May 2000, Pages 1963–1967, doi: 10.1210/jcem.85.5.6573](#)
- <sup>20</sup> [Eur J Appl Physiol Occup Physiol. 1993;66\(4\):304-8. doi: 10.1007/BF00237773](#)
- <sup>21</sup> [Eur J Appl Physiol. 2010 Apr;108\(6\):1125-31. doi: 10.1007/s00421-009-1220-5. Epub 2009 Dec 20](#)
- <sup>22</sup> [Life Sciences, 40\(18\):1761-8 40\(18\):1761-8, doi: 10.1016/0024-3205\(87\)90086-5](#)
- <sup>23</sup> [Eur Food Res Technol 242, 2001–2009 \(2016\). doi: 10.1007/s00217-016-2772-3](#)
- <sup>24</sup> [Jay Feldman Wellness, April 30, 2024](#)
- <sup>25</sup> [Ray Peat, Aging, estrogen, and progesterone](#)
- <sup>26</sup> [Shakespeare & Co., Once a Month: Understanding and Treating PMS \(Paperback\)](#)
- <sup>27</sup> [Epilepsia. 2003 Jun;44\(6\):847-51. doi: 10.1046/j.1528-1157.2003.57002.x](#)