CLEAN HEALTH'S

# TOP 7

2026 EDITION

clean health

# NUTRITION MYTHS STRUGGLING PT'S STILL BELIEVE

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# ABOUT CLEAN HEALTH

Our goal is to prepare you for a successful fitness career by blending the latest science with real-world results that you can use in your business **instantly**!

Established in 2008, **Clean Health** is one of the **world's leading online fitness educators**, having taught more than 350,000 students in over 85 countries. We are the worlds leading e-learning group for personal trainers, nutritionist and fitness professionals.

Clean Health has ongoing partnerships with industry titans including James Smith, Layne Norton PhD, Sebastian Oreb, Jackson Peos PhD, Mark Carrol, Lauren Simpson, not to mention and features in numerous media and TV publications – including The Sydney Morning Herald, GQ, Men's Fitness, Australian Women's Health and Fitness and more.

Clean Health Group pivoted to online Fitness Education as an Australian Government Accredited Registered Training Organisation (RTO) in 2020, where prior Clean Health existed for 12 years in the Personal Training and Gym space. Led by Founder and Group CEO Daine McDonald, this period served as an incredible real life laboratory to hone understanding and build practicality into the cutting edge fitness training accreditations offered by Clean Health today.

After completing our first foray into mergers and acquisitions in 2023, with the purchase of Vast Fitness Academy, and the acquisition of the Australian Institute of Fitness , we're not just a platform for real world education and accreditations, Clean Health Group is here to continue to create a community of fitness professionals set on shifting the industry standard for the better.

Our range of online, easy-to-access courses are developed and created by the very best in the industry, across nutrition, sports science, fitness business and strength and conditioning.


THE TOP 7 NUTRITION
MYTHS
STRUGGLING PT'S
STILL BELIEVE

# A SCIENCE-BASED GUIDE FOR ASPIRING NUTRITION COACHES

## Introduction: The Evolution of Nutrition Science

Nutrition science is always developing. What we understand about food, health, and the human body continues to evolve as researchers conduct new studies, refine methodologies, and challenge long-held assumptions. This dynamic nature of scientific inquiry means that some beliefs that were once considered nutritional gospel have been revised or even completely overturned in light of new evidence.

For those pursuing a career in nutrition coaching, understanding these shifts is professionally essential. Your clients will come to you with questions shaped by decades of dietary advice, much of which may now be outdated. Being able to distinguish between evidence-based recommendations and persistent myths will set you apart as a knowledgeable, credible professional.

This guide examines seven nutrition myths that emerging research has shown to be erroneous, unfounded or simply false. Each section provides a comprehensive breakdown of where the original belief came from, what the current scientific consensus is, and how you can apply this knowledge in your practice.

All information is drawn exclusively from peer-reviewed research, systematic reviews, and meta-analyses published in leading scientific journals.


MYTH #1

# MYTH 1

## EATING EGGS INCREASES YOUR BAD CHOLESTEROL

***For decades, the humble egg has been at the center of a nutritional controversy, widely vilified for its high dietary cholesterol content and its supposed role in elevating blood cholesterol levels, thereby increasing the risk of cardiovascular disease (CVD).***

***However, a growing body of scientific evidence has challenged this long-held dogma, leading to a significant shift in our understanding of the relationship between dietary cholesterol, eggs, and heart health.***

### Where the Initial Position Came From

The initial concern over egg consumption stemmed from a simplified understanding of cholesterol's role in the body. The logic was straightforward: eggs contain a significant amount of dietary cholesterol (around 185-215 mg per large egg), and high levels of blood cholesterol, particularly low-density lipoprotein (LDL) cholesterol, are a major risk factor for heart disease. Therefore, it was assumed that consuming cholesterol-rich foods like eggs would directly translate to higher blood cholesterol levels.

This line of reasoning was supported by early research, such as the 1992 meta-analysis by Hopkins, which did find a relationship between dietary cholesterol and serum cholesterol, albeit a complex, non-linear one.(1) The study demonstrated that the effect of dietary cholesterol on serum cholesterol follows a hyperbolic curve, meaning the impact diminishes as baseline dietary cholesterol increases. This, combined with a broader push to reduce dietary fat and cholesterol intake in the latter half of the 20th century, solidified the egg's reputation as a food to be eaten with caution, if at all. The 2001 meta-analysis by Weggemans et al. further reinforced concerns by showing that dietary cholesterol from eggs increased the ratio of total cholesterol to HDL cholesterol.(2)

# MYTH 1

## EATING EGGS INCREASES YOUR BAD CHOLESTEROL

### The New Belief

The new scientific consensus is that for the majority of the population, dietary cholesterol from foods like eggs has a surprisingly small impact on blood cholesterol levels. The body's cholesterol levels are not simply a passive reflection of dietary intake; instead, they are tightly regulated by a sophisticated feedback mechanism. When you consume more cholesterol from food, your body compensates by producing less of its own cholesterol and vice versa. This homeostatic regulation means that for most people, dietary cholesterol has a minimal effect on circulating blood cholesterol levels.

This understanding has led to a paradigm shift, where the focus has moved away from single nutrients like dietary cholesterol and towards a more holistic view of diet and lifestyle. The 2015 Dietary Guidelines for Americans removed the long-standing recommendation to limit dietary cholesterol to 300 mg per day, acknowledging the weak association between dietary cholesterol and blood cholesterol levels.

# MYTH 1

## EATING EGGS INCREASES YOUR BAD CHOLESTEROL

### The New Research

Recent, large-scale studies have provided compelling evidence to debunk the myth that moderate egg consumption is harmful to heart health. A landmark 2020 study published in the BMJ by Drouin-Chartier et al. followed over 215,000 men and women from three large US cohorts for up to 32 years, accumulating more than 5.54 million person-years of follow-up.(3) The study found that consuming at least one egg per day was not associated with an increased risk of incident cardiovascular disease after adjustment for lifestyle and dietary factors.

An updated meta-analysis included in the same study pooled data from 33 prospective cohort studies involving over 1.7 million participants and 139,195 cardiovascular disease events. The analysis reached the same conclusion, finding no significant association between an increase of one egg per day and the risk of CVD, coronary heart disease, or stroke.(3)

It is important to note that the scientific community is not entirely in unanimous agreement. A 2022 meta-analysis in Circulation by Zhao et al. did find a positive association between egg consumption and CVD risk, particularly in US and European cohorts.(4) The study, which included 27,078 Finnish men followed for 31 years, found that each additional 50g of egg consumed daily was associated with a 6% higher risk of overall mortality and a 9% higher risk of CVD mortality. However, this study has been debated, and the overall body of evidence from large, well-conducted prospective cohort studies and meta-analyses supports the conclusion that moderate egg consumption is not a significant risk factor for cardiovascular disease in the general population.

# MYTH 1

## EATING EGGS INCREASES YOUR BAD CHOLESTEROL

### Practical Advice Based on This

Based on the current scientific evidence, here is some practical advice regarding egg consumption:

- **Moderation is Key.** For most healthy individuals, consuming up to one egg per day is perfectly safe and does not appear to increase the risk of heart disease. This recommendation is supported by the most comprehensive meta-analyses and cohort studies conducted to date.

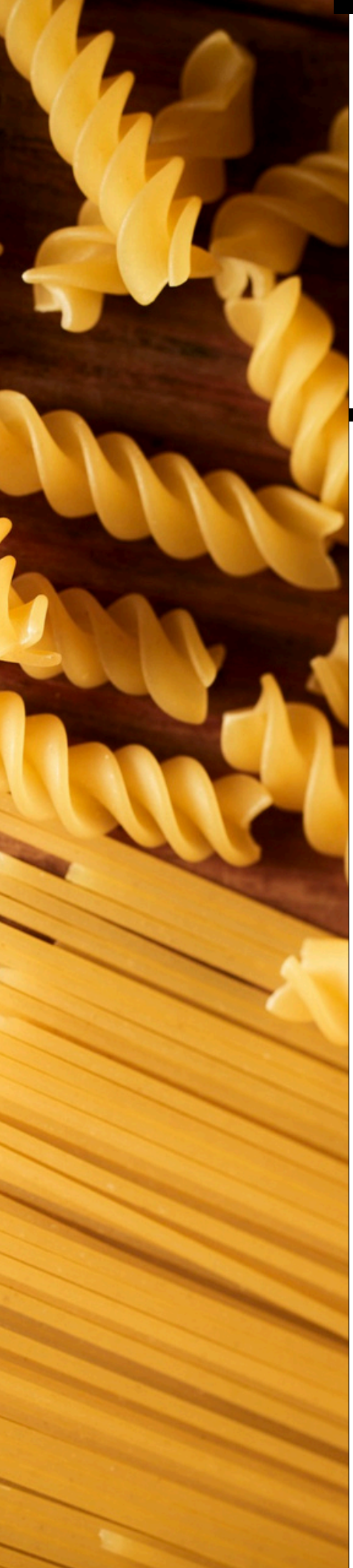
- **Consider the Company Eggs Keep.** The health effects of eggs can be influenced by what you eat with them. An egg served with a side of bacon, sausage, and white toast with butter is a very different meal from an egg paired with avocado, whole-wheat toast, and a side of fruit. The overall dietary pattern matters far more than any single food.

- **Focus on Overall Dietary Patterns.** Rather than fixating on a single food like eggs, it is more important to focus on your overall dietary pattern. A diet rich in fruits, vegetables, whole grains, lean proteins, and healthy fats is far more important for heart health than the number of eggs you eat.

- **Individual Variation.** It is worth noting that there is some individual variation in how people respond to dietary cholesterol. A small percentage of the population, sometimes referred to as "hyper-responders," may experience a more significant increase in blood cholesterol after consuming cholesterol-rich foods. However, for the vast majority of people, this is not a concern.

In conclusion, the fear of eggs and their impact on cholesterol is a relic of a bygone era of nutrition science. The evidence is now clear that for most people, eggs can be a healthy and affordable part of a balanced diet, providing high-quality protein, essential vitamins, and beneficial nutrients like choline and lutein.


MYTH #2



# MYTH #2

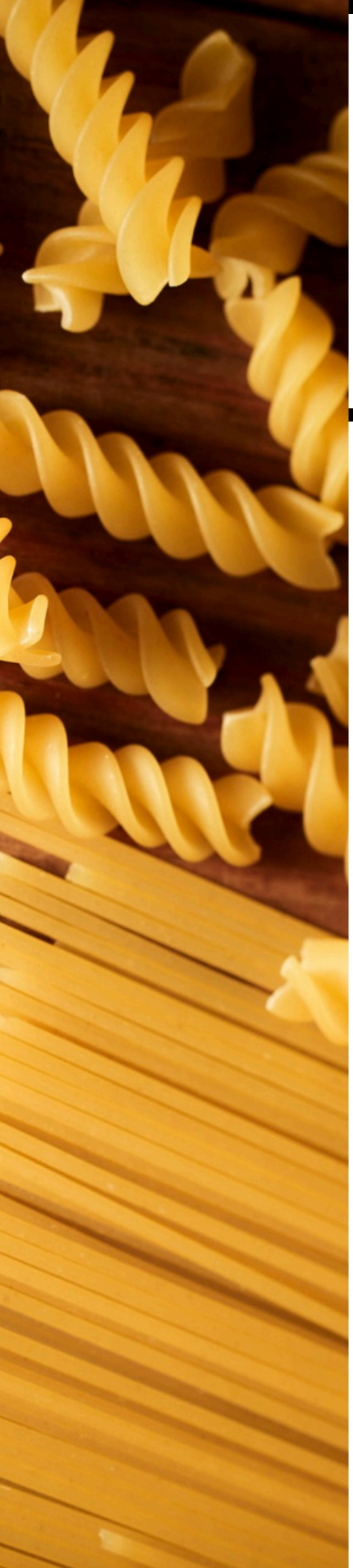
## CARBS ARE THE ENEMY AND MAKE YOU GAIN WEIGHT

***In the world of dieting and weight loss, carbohydrates have often been cast as the primary villain. The rise of low-carb and ketogenic diets has fueled the belief that all carbohydrates are inherently fattening and should be avoided at all costs. This has led to a great deal of confusion and fear around a food group that is a primary source of energy for the human body. However, modern nutrition science paints a much more nuanced picture, revealing that the quality and type of carbohydrate are far more important than the quantity alone.***

### Where the Initial Position Came From

The demonization of carbohydrates can be traced back to several factors. The popularization of low-carb diets, most notably the Atkins diet in the 1970s and its resurgence in the 1990s and 2000s, played a significant role. These diets promised rapid weight loss by restricting carbohydrate intake, leading many to believe that carbs were the main driver of weight gain.

This idea was further bolstered by a simplified understanding of insulin's role in the body. Carbohydrates are broken down into glucose, which raises blood sugar levels and triggers the release of insulin. Insulin, in turn, helps shuttle glucose into cells for energy but also promotes fat storage. This led to the "carbohydrate-insulin hypothesis," which posited that a high-carbohydrate diet would lead to chronically elevated insulin levels, promoting fat accumulation and hindering weight loss. While this hypothesis has some mechanistic plausibility, it has not been consistently supported by controlled experimental research.

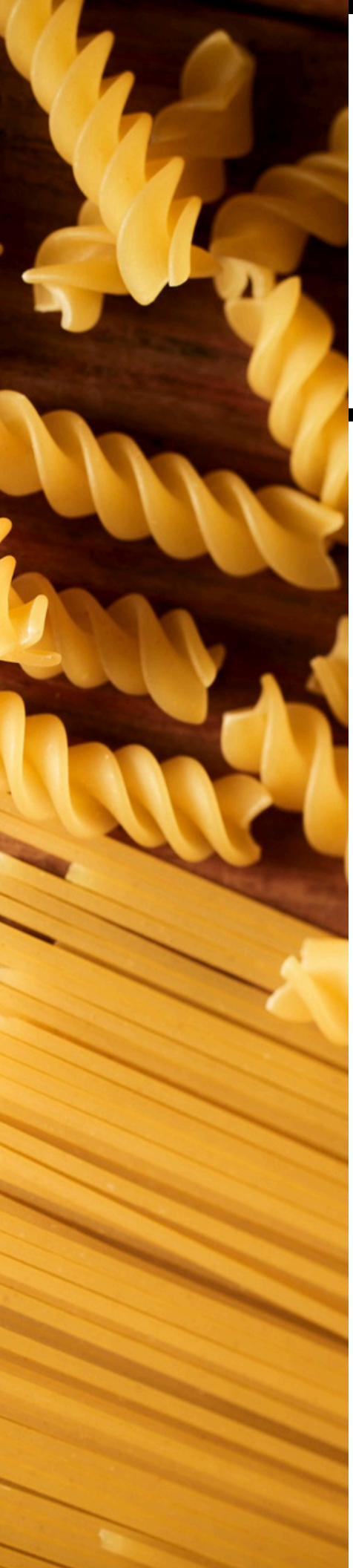


# MYTH #2

## CARBS ARE THE ENEMY AND MAKE YOU GAIN WEIGHT

### The New Belief

The new scientific understanding is that not all carbohydrates are created equal. A crucial distinction is now made between refined carbohydrates and complex carbohydrates. Refined carbohydrates, such as white bread, sugary drinks, and processed snacks, are quickly digested and can lead to rapid spikes in blood sugar and insulin. On the other hand, complex carbohydrates, found in whole grains, fruits, vegetables, and legumes, are digested more slowly due to their fiber content, leading to a more gradual rise in blood sugar and insulin. The new belief is that the quality of carbohydrates is a key determinant of their health effects. Furthermore, total calorie intake remains the primary driver of weight change, regardless of macronutrient composition. Low-carbohydrate diets may facilitate weight loss for some individuals, but this is largely due to a reduction in overall calorie intake rather than a unique metabolic advantage of carbohydrate restriction.



# MYTH #2

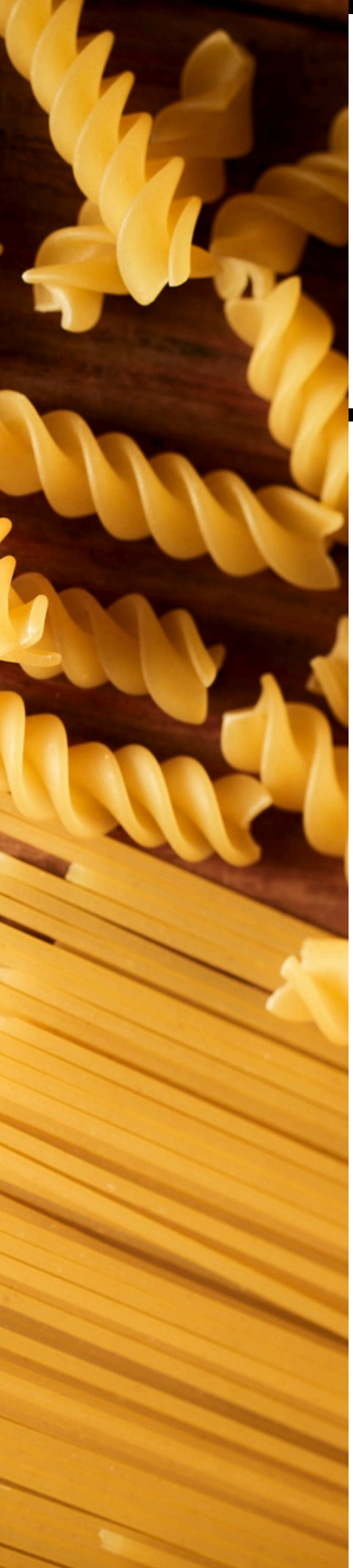
## CARBS ARE THE ENEMY AND MAKE YOU GAIN WEIGHT

### The New Research

A wealth of modern research has clarified the role of carbohydrates in weight management. A 2023 study in the BMJ by Wan et al. found that the type of carbohydrate consumed has a significant impact on long-term weight change.(5) The study, which analyzed data from three large US cohorts, reported that a 100g/day increase in starch or added sugar was associated with 1.5kg and 0.9kg of weight gain, respectively, over a four-year period. Conversely, an increase in fiber intake was associated with 0.8kg less weight gain, and increased carbohydrate intake from whole grains was associated with 0.4kg less weight gain.

Furthermore, a 2018 systematic review and meta-analysis by Sartorius et al. investigated the relationship between carbohydrate intake and obesity, finding that high intake of certain types of carbohydrates, particularly sugar-sweetened beverages and refined carbohydrates, was positively associated with weight gain.(6) However, the study also noted that the relationship is complex and influenced by multiple factors, including overall dietary quality and energy balance.

Other studies have shown that low-carbohydrate diets are not necessarily superior to other diets for weight loss when total calorie intake is controlled. A 2003 systematic review in JAMA by Bravata et al. found that low-carbohydrate diets were not associated with significantly more weight loss than low-fat diets when energy intake was the same.(7) The review also found that low-carbohydrate diets had no significant adverse effect on serum lipid levels, fasting serum glucose, or blood pressure, suggesting that they can be a safe and effective option for some individuals.



# MYTH #2

## CARBS ARE THE ENEMY AND MAKE YOU GAIN WEIGHT

### PRACTICAL ADVICE FROM THIS

Based on the current scientific evidence, here is some practical advice regarding carbohydrate consumption:

- **Prioritize Quality Over Quantity.** Focus on consuming complex carbohydrates from whole, unprocessed sources like fruits, vegetables, whole grains, and legumes. These foods are rich in fiber, vitamins, and minerals and have a gentler effect on blood sugar levels. They also promote satiety, which can help with appetite control and weight management.

- **Limit Refined Carbohydrates.** Minimize your intake of refined carbohydrates, such as white bread, white rice, sugary cereals, and processed snacks. These foods provide little nutritional value and can contribute to weight gain, insulin resistance, and other metabolic problems.

- **Do not Fear Fruit.** While fruit contains natural sugars, it is also packed with fiber, vitamins, antioxidants, and phytonutrients. Whole fruits are a healthy part of any diet and are not associated with weight gain when consumed in moderation. The fiber in fruit slows down the absorption of sugar, preventing rapid blood sugar spikes.

- **Consider the Context.** The health effects of carbohydrates can be influenced by the other foods you eat with them. Combining carbohydrates with protein and healthy fats can help slow down their digestion and absorption, leading to better blood sugar control and increased satiety.

- **Personalize Your Approach.** There is no one-size-fits-all approach to carbohydrate intake. The optimal amount of carbohydrates for you will depend on your individual factors, such as your activity level, metabolic health, body composition goals, and personal preferences.


MYTH #3

# MYTH #3

## YOU NEED TO EAT SMALL, FREQUENT MEALS TO "BOOST YOUR METABOLISM"

***The advice to eat small, frequent meals throughout the day has been a cornerstone of diet and fitness wisdom for many years. The underlying theory is that this eating pattern keeps your metabolism stoked, turning your body into a more efficient fat-burning machine. This has led many people to meticulously plan and consume 5-6 small meals or snacks a day, believing it to be the optimal strategy for weight loss and management. However, a closer look at the scientific evidence reveals that this popular belief may be more myth than metabolic reality.***

### Where the Initial Position Came From

The idea that eating more frequently boosts metabolism is based on the Thermic Effect of Food (TEF). TEF is the energy your body expends to digest, absorb, and process the nutrients in the food you eat. It accounts for approximately 10% of your total daily energy expenditure. The logic was that by eating more often, you would be stimulating TEF more frequently, leading to a greater overall calorie burn throughout the day.

This theory was appealingly simple and seemed to offer a proactive way to manage one's metabolism. Observational studies also provided some initial support, with some research noting an inverse relationship between how often people ate and their body weight, suggesting that more frequent eaters tended to be leaner. However, as is often the case with observational research, correlation does not equal causation.

# MYTH #3

## YOU NEED TO EAT SMALL, FREQUENT MEALS TO "BOOST YOUR METABOLISM"

### The New Belief

The current scientific consensus is that while TEF is a real phenomenon, its effect on overall metabolism is not influenced by meal frequency. The total TEF is determined by the total amount of calories and macronutrients consumed over a 24-hour period, not by how many meals you divide those calories into. For example, the thermic effect of consuming three 800-calorie meals is the same as consuming six 400-calorie meals. The metabolic "boost" from each meal is smaller, but the total energy expenditure remains the same.

The new belief is that meal frequency is a matter of personal preference and has little to no direct impact on metabolic rate or fat loss. What matters most for weight management is total calorie intake, macronutrient composition, and adherence to a sustainable eating pattern.

# MYTH #3

## YOU NEED TO EAT SMALL, FREQUENT MEALS TO "BOOST YOUR METABOLISM"

### The New Research

Modern research, particularly controlled experimental studies, has largely debunked the idea that eating more frequently boosts metabolism. A 2015 meta-analysis by Schoenfeld, Aragon, and Krieger published in Nutrition Reviews initially found a positive association between feeding frequency and reductions in fat mass.(8) However, a crucial sensitivity analysis revealed that this finding was the product of a single outlier study. When this study was removed from the analysis, the positive association disappeared. The authors concluded that "although the initial results of this meta-analysis suggest a potential benefit of increased feeding frequencies for enhancing body composition, these findings need to be interpreted with circumspection."

A 2013 study by Ohkawara et al. directly compared the effects of eating three meals versus six meals per day in a controlled setting.(9) The researchers found that increasing meal frequency from three to six had no significant effect on 24-hour fat oxidation or energy expenditure. Interestingly, they also noted that the six-meal-a-day pattern was associated with increased hunger and desire to eat, which could potentially undermine weight loss efforts.

Furthermore, a 2024 systematic review and meta-analysis in JAMA Network Open by Liu et al. found that a lower meal frequency, not higher, may be beneficial for weight reduction. (10) The study also found that time-restricted eating (limiting food intake to a specific window of time each day) and earlier caloric distribution in the day were associated with better anthropometric and metabolic outcomes.

# MYTH #3

## YOU NEED TO EAT SMALL, FREQUENT MEALS TO "BOOST YOUR METABOLISM"

### Practical Advice Based on This

Based on the current scientific evidence, here is some practical advice regarding meal frequency:

- **Find What Works for You.** The most important factor is to find an eating pattern that you can stick to consistently. If you prefer eating smaller, more frequent meals to manage hunger and maintain energy levels, that is a perfectly valid approach. If you prefer eating fewer, larger meals, that is also fine. There is no metabolic advantage to one over the other.

- **Total Calories Matter Most.** For weight management, the total number of calories you consume in a day is far more important than the number of meals you eat. Focus on creating a sustainable calorie deficit for weight loss, regardless of your meal frequency.

- **Listen to Your Body's Hunger Cues.** Pay attention to your body's natural hunger and fullness signals. Eat when you are hungry and stop when you are full. Do not force yourself to eat on a rigid schedule if you are not hungry. Mindful eating practices can help you develop a better connection with your body's internal cues.

- **Consider Protein Distribution.** While meal frequency may not impact overall metabolism, some research suggests that distributing your protein intake evenly throughout the day (e.g., 20-30g per meal) may be beneficial for muscle protein synthesis, particularly for individuals engaged in resistance training. This is a separate consideration from the idea of boosting metabolism.

# MYTH #4

# MYTH #4

## "ALL RED MEAT IS BAD FOR YOUR HEALTH"

***Red meat has long been a subject of intense debate in the nutrition world. It has been linked to a variety of health problems, including heart disease and cancer, leading many to believe that all red meat is inherently unhealthy and should be avoided. This has resulted in a great deal of confusion and concern for those who enjoy red meat as part of their diet. However, a closer examination of the scientific literature reveals a critical distinction that changes the conversation entirely: the difference between processed and unprocessed red meat.***

### Where the Initial Position Came From

The belief that all red meat is bad for your health stems from numerous observational studies that have linked high red meat consumption to an increased risk of various chronic diseases. These studies, often widely reported in the media, have created a public perception that red meat, in any form, is a dietary evil.

The International Agency for Research on Cancer (IARC), a branch of the World Health Organization, further solidified this belief in 2015 by classifying processed meat as a Group 1 carcinogen (carcinogenic to humans) and red meat as a Group 2A carcinogen (probably carcinogenic to humans). This classification, while important, has often been misinterpreted as a blanket condemnation of all red meat. It is crucial to understand that the IARC classification reflects the strength of the evidence for a causal relationship, not the magnitude of the risk. The risk associated with red meat consumption is much smaller than the risk associated with, for example, smoking.

# MYTH #4

## "ALL RED MEAT IS BAD FOR YOUR HEALTH"

### The New Belief

The new scientific understanding emphasizes the critical importance of distinguishing between processed and unprocessed red meat. Processed meat refers to meat that has been transformed through salting, curing, fermentation, smoking, or other processes to enhance flavor or improve preservation. This includes items like bacon, sausage, hot dogs, salami, and deli meats. Unprocessed red meat, on the other hand, is simply fresh meat that has not been altered in this way, such as beef, pork, and lamb.

The new belief is that the health risks associated with red meat are primarily linked to the consumption of processed varieties, while the evidence against moderate consumption of unprocessed red meat is much weaker and more inconsistent. The processing methods used to create processed meats can introduce harmful compounds, such as nitrates, nitrites, and polycyclic aromatic hydrocarbons (PAHs), which may contribute to their adverse health effects.

# MYTH #4

## “ALL RED MEAT IS BAD FOR YOUR HEALTH”

### The New Research

Modern research has increasingly focused on disentangling the health effects of processed versus unprocessed red meat. A large 2023 systematic review and meta-analysis published in the European Heart Journal by Shi et al., which included over 4.4 million participants from 43 observational studies, found a significant difference in risk between the two types of meat.(11) The study reported that for every 50g/day increase in processed red meat consumption, there was a 26% higher risk of cardiovascular disease (hazard ratio 1.26, 95% CI 1.18-1.35). In contrast, a 100g/day increase in unprocessed red meat consumption was associated with a more modest 11% higher risk (HR 1.11, 95% CI 1.05-1.16).

Further complicating the picture, a 2022 study by Lescinsky et al. found only "weak evidence" of an association between unprocessed red meat consumption and major health outcomes like colorectal cancer, breast cancer, type 2 diabetes, and ischemic heart disease.(12) The study used a rigorous "Burden of Proof" methodology to assess the strength of the evidence and concluded that the evidence linking unprocessed red meat to these diseases is not as strong as previously thought.

Moreover, a 2019 meta-analysis of randomized controlled trials (the gold standard of scientific evidence) by Guasch-Ferré et al. concluded that the findings on the effect of red meat on cardiovascular risk factors are inconsistent.(13) This suggests that while observational studies often show a correlation, experimental evidence is less clear. The inconsistencies may be due to confounding factors in observational studies, such as overall dietary patterns, lifestyle factors, and socioeconomic status.

# MYTH #4

## "ALL RED MEAT IS BAD FOR YOUR HEALTH"

### Practical Advice Based on This

Based on the current scientific evidence, here is some practical advice regarding red meat consumption:

- **Minimize Processed Meats.** The evidence is quite strong that processed meats are detrimental to health. It is wise to limit your intake of bacon, sausage, hot dogs, deli meats, and other cured or smoked meat products.

- **Choose Unprocessed Red Meat in Moderation.** If you enjoy red meat, opt for unprocessed cuts like steak, roasts, and ground meat. Consuming these in moderation, as part of a balanced diet, is not associated with the same level of risk as processed meats. A reasonable guideline is to limit unprocessed red meat to a few servings per week.

- **Pay Attention to Cooking Methods.** High-temperature cooking methods, such as grilling and frying, can create carcinogenic compounds called heterocyclic amines (HCAs) and polycyclic aromatic hydrocarbons (PAHs). Consider using lower-temperature cooking methods like baking, roasting, braising, or stewing more often. Marinating meat before cooking can also help reduce the formation of these compounds.

- **Focus on the Whole Plate.** As with other dietary components, the context of your overall diet matters. A small portion of lean, unprocessed red meat served with a large portion of vegetables and a whole grain is a very different meal from a large, fatty steak served with a side of french fries. Prioritize a diet rich in fruits, vegetables, whole grains, and legumes.

- **Consider Plant-Based Alternatives.** Incorporating more plant-based protein sources, such as beans, lentils, tofu, tempeh, and nuts, into your diet is a great way to reduce your reliance on red meat and improve your overall health. These foods are rich in fiber, vitamins, minerals, and phytonutrients.


MYTH #5

# MYTH #5

## GLUTEN-FREE FOODS ARE INHERENTLY HEALTHIER FOR EVERYONE

***The gluten-free movement has exploded in popularity over the past decade, with gluten-free products now occupying a significant space in grocery stores and on restaurant menus. This has led to a widespread belief that a gluten-free diet is a healthier choice for everyone, regardless of whether they have a medical reason to avoid gluten. Many people adopt a gluten-free lifestyle in the hopes of losing weight, improving their energy levels, or simply eating a "cleaner" diet. However, the scientific evidence does not support the idea that a gluten-free diet is inherently healthier for the general population.***

### Where the Initial Position Came From

The gluten-free trend emerged from the legitimate and necessary dietary treatment for celiac disease, a serious autoimmune disorder where the ingestion of gluten leads to damage in the small intestine. As awareness of celiac disease grew, so did the interest in gluten-free diets. The concept of non-celiac gluten sensitivity (NCGS) also gained traction, with many people self-diagnosing themselves with this condition after experiencing symptoms like bloating, fatigue, and headaches after eating gluten-containing foods.

The marketing of gluten-free products as a healthy lifestyle choice, coupled with celebrity endorsements and popular diet books, further fueled the public perception that avoiding gluten is a universally beneficial health practice. The term "gluten-free" became synonymous with "healthy" in the minds of many consumers, despite a lack of scientific evidence to support this association for the general population.

# MYTH #5

## GLUTEN-FREE FOODS ARE INHERENTLY HEALTHIER FOR EVERYONE

### The New Belief

The new scientific understanding is that a gluten-free diet is only medically necessary for individuals with celiac disease, wheat allergy, or diagnosed non-celiac gluten sensitivity. For the vast majority of the population, there is no health benefit to avoiding gluten. In fact, unnecessarily following a gluten-free diet can have nutritional downsides.

The new belief is that the focus should be on the overall quality of the diet, rather than the presence or absence of a single protein. Whole grains that contain gluten, such as wheat, barley, and rye, are important sources of fiber, B vitamins, iron, and other essential nutrients. Eliminating these foods without a medical reason can lead to nutritional deficiencies if not carefully planned.

# MYTH #5

## GLUTEN-FREE FOODS ARE INHERENTLY HEALTHIER FOR EVERYONE

### The New Research

Research has shown that non-celiac gluten sensitivity is a real condition, but it is far less common than is popularly believed. A 2018 review by Niland and Cash found that a gluten response was only present in about 20% of patients who believed they were sensitive to gluten.(14) This suggests that for many people, the perceived benefits of a gluten-free diet may be due to a placebo effect, the elimination of other FODMAPs (fermentable oligosaccharides, disaccharides, monosaccharides, and polyols) that are often found in gluten-containing foods, or other dietary changes made at the same time.

Furthermore, studies have revealed that many gluten-free products are not as healthy as they are perceived to be. A 2021 study by Myhrstad et al. compared the nutritional quality of gluten-free products to their gluten-containing counterparts and found that the gluten-free versions often contained less protein and fiber, and more carbohydrates, saturated fat, and salt.(15) The study concluded that gluten-free products are often more expensive and nutritionally inferior to their gluten-containing equivalents.

A 2010 review by Saturni et al. also highlighted the potential for nutritional deficiencies in a poorly planned gluten-free diet.(16) The review emphasized the importance of including naturally gluten-free whole grains, such as quinoa, brown rice, and amaranth, as well as a variety of fruits, vegetables, and legumes, to ensure adequate nutrient intake. Finally, a 2019 review by Kutlu stated unequivocally that a gluten-free diet should not be used for weight loss or to become healthier unless there is a diagnosed gluten-associated disease.(17)

# MYTH #5

## GLUTEN-FREE FOODS ARE INHERENTLY HEALTHIER FOR EVERYONE

### Practical Advice Based on This

**Based on the current scientific evidence, here is some practical advice regarding gluten-free diets:**

- **Get a Proper Diagnosis.** If you suspect you have a problem with gluten, it is crucial to get a proper medical diagnosis before starting a gluten-free diet. Self-diagnosing and unnecessarily eliminating gluten can make it more difficult to get an accurate diagnosis later on, as the diagnostic tests for celiac disease require the presence of gluten in the diet. Consult with a gastroenterologist or a registered dietitian who specializes in celiac disease.

- **Do not Assume Gluten-Free Means Healthy.** Be a savvy consumer and read the nutrition labels on gluten-free products. Many are highly processed and can be high in sugar, fat, and salt. A gluten-free cookie is still a cookie. Focus on whole, unprocessed foods rather than relying heavily on packaged gluten-free products.

- **Focus on Naturally Gluten-Free Foods.** If you do need to follow a gluten-free diet, focus on naturally gluten-free whole foods like fruits, vegetables, lean proteins, legumes, nuts, seeds, and naturally gluten-free grains like quinoa, brown rice, oats (certified gluten-free), and amaranth. These foods are nutrient-dense and will help you maintain a balanced diet.

- **Prioritize Whole Grains.** For those who do not have a medical reason to avoid gluten, whole grains are an important part of a healthy diet. They are a good source of fiber, B vitamins, iron, magnesium, and other important nutrients. Whole grains have been consistently associated with a reduced risk of heart disease, type 2 diabetes, and certain types of cancer.


MYTH #6

# MYTH #6

## FRESH FRUITS AND VEGETABLES ARE ALWAYS MORE NUTRITIOUS THAN FROZEN

***In the quest for optimal health, the mantra "fresh is best" has long been a guiding principle for food choices. The produce section of the grocery store, with its vibrant colors and crisp textures, is often seen as the pinnacle of nutrition. Frozen fruits and vegetables, on the other hand, are frequently viewed as a less nutritious, processed alternative. This has led many to believe that fresh produce is always the superior choice. However, scientific research reveals a more complex reality, suggesting that frozen fruits and vegetables can be just as, and in some cases even more, nutritious than their fresh counterparts.***

### Where the Initial Position Came From

The belief that fresh produce is always more nutritious is rooted in a logical, albeit incomplete, assumption: that food is at its nutritional peak the moment it is harvested. The idea is that any processing, including freezing, will inevitably lead to a loss of nutrients. This perception is reinforced by the sensory experience of fresh produce - the crispness of a fresh apple, the vibrant green of fresh spinach.- which we associate with vitality and health.

The term "fresh" itself carries powerful connotations of purity and wholesomeness, while "frozen" can evoke images of processed, less natural foods. This perception is further reinforced by marketing and cultural norms that prioritize fresh produce as the gold standard of healthy eating.

# MYTH #6

## FRESH FRUITS AND VEGETABLES ARE ALWAYS MORE NUTRITIOUS THAN FROZEN

### The New Belief

The new scientific understanding is that the nutritional quality of produce is not just about whether it is fresh or frozen, but about the entire journey from farm to fork. "Fresh" produce can lose a significant amount of nutrients during the time it takes to be transported, stored in warehouses, displayed in grocery stores, and finally consumed at home. This process can take days or even weeks, during which time vitamins, particularly water-soluble vitamins like vitamin C and some B vitamins, can degrade.

In contrast, frozen produce is typically picked at its peak ripeness and then quickly blanched (briefly exposed to hot water or steam) and flash-frozen. This process locks in many of its vitamins and minerals at their peak levels. The new belief is that frozen fruits and vegetables are a highly nutritious and viable alternative to fresh, and in some scenarios, may even be nutritionally superior, particularly when comparing frozen produce to "fresh" produce that has been stored for an extended period.

# MYTH #6

## FRESH FRUITS AND VEGETABLES ARE ALWAYS MORE NUTRITIOUS THAN FROZEN

### The New Research

Modern research has directly compared the nutritional content of fresh and frozen produce, with surprising results. A 2017 study by Li et al. conducted a two-year analysis comparing the nutrient content of fresh, "fresh-stored" (simulating typical storage after purchase), and frozen produce.(18) The study found that frozen produce was often nutritionally equivalent to, and sometimes even superior to, its fresh-stored counterparts. The researchers analyzed various vitamins and minerals in fruits and vegetables such as blueberries, strawberries, broccoli, and spinach.

A 2015 study by Bouzari et al. also found that the vitamin content was sometimes higher in frozen foods.(19) The research showed that fresh produce loses a significant amount of its nutritional value the longer it is stored, and that after just five days of refrigerated storage, the frozen produce was often more nutritious than the fresh. The study specifically examined vitamin C, riboflavin (vitamin B2), and alpha-tocopherol (vitamin E) in eight different fruits and vegetables.

A 2023 review by Grover et al. went so far as to call freezing a "superior method of preservation" compared to other techniques in terms of nutrient retention and maintenance of sensory qualities.(20) The review highlighted that modern freezing technologies, such as individual quick freezing (IQF), minimize ice crystal formation and preserve the texture and nutritional integrity of the produce.

# MYTH #6

# FRESH FRUITS AND VEGETABLES ARE ALWAYS MORE NUTRITIOUS THAN FROZEN

## Practical Advice Based on This

**Based on the current scientific evidence, here is some practical advice regarding fresh and frozen produce:**

- **Embrace the Freezer Aisle.** Do not shy away from frozen fruits and vegetables. They are a nutritious, convenient, and often more affordable option that can help you meet your daily produce intake goals. Frozen produce is particularly useful for items that are not in season or that you do not consume frequently enough to justify buying fresh.

- **Reduce Food Waste**. Frozen produce has a much longer shelf life than fresh, which can help you reduce food waste and save money. This is a significant advantage, as food waste is a major environmental and economic problem.

- **Read the Label.** When buying frozen produce, opt for plain fruits and vegetables without added sugars, sauces, or salt. The ingredient list should simply be the fruit or vegetable itself. Avoid products with added ingredients that can increase calorie, sugar, or sodium content.

- **The Best of Both Worlds.** The ideal approach is to consume a variety of both fresh and frozen produce. Enjoy fresh, in-season produce when it is at its peak, and rely on frozen options for convenience and to fill in the gaps, especially during the off-season. This allows you to maximize both nutritional quality and variety.

In conclusion, the idea that fresh is always best is a nutritional myth. Frozen fruits and vegetables are a fantastic, nutrient-rich option that can help you eat a healthy diet without breaking the bank. The most important thing is to consume a variety of fruits and vegetables, regardless of whether they are fresh, frozen, or canned.


MYTH #7

# MYTH #7

## BREAKFAST IS ABSOLUTELY ESSENTIAL

***The saying "breakfast is the most important meal of the day" has been ingrained in our culture for generations. We have been told that a good breakfast kick-starts our metabolism, helps us maintain a healthy weight, and sets us up for a productive day. This has led to a widely held belief that skipping breakfast is a dietary sin, a surefire way to derail our health and fitness goals. However, a wave of modern scientific research has begun to question this long-standing dogma, revealing a more complex and nuanced relationship between breakfast, metabolism, and weight management.***

### Where the Initial Position Came From

The belief in the essential nature of breakfast is rooted in a combination of observational research and cultural tradition. Numerous large-scale observational studies have found a correlation between skipping breakfast and a higher body weight. For example, a 2020 meta-analysis by Ma et al. confirmed that skipping breakfast is associated with an increased risk of being overweight or obese.(21) These findings, coupled with the intuitive appeal of starting the day with a nourishing meal, have solidified the idea that breakfast is a non-negotiable part of a healthy lifestyle.

Additionally, the phrase "breakfast is the most important meal of the day" was popularized by marketing campaigns, most notably by cereal companies in the early 20th century. This marketing has had a lasting impact on public perception, even though it was not originally based on rigorous scientific evidence.

# MYTH #7

## BREAKFAST IS ABSOLUTELY ESSENTIAL

### The New Belief

The new scientific understanding is that while breakfast can be a healthy habit, it is not a metabolic necessity for everyone. The key insight is the distinction between correlation and causation. While observational studies show that breakfast skippers tend to be heavier, this does not mean that skipping breakfast causes weight gain. It is more likely that breakfast skipping is a marker for other unhealthy lifestyle habits, such as a less-structured eating pattern, a greater reliance on convenience foods, lower levels of physical activity, or poorer sleep quality.

The new belief is that the timing of your first meal is less important than your overall dietary pattern and calorie intake throughout the day. For some individuals, eating breakfast may help with appetite control and prevent overeating later in the day. For others, skipping breakfast may be a simple and effective way to reduce overall calorie intake without experiencing significant hunger or negative effects on energy levels.

# MYTH #7

## BREAKFAST IS ABSOLUTELY ESSENTIAL

### The New Research

When we look at experimental research, specifically randomized controlled trials (RCTs), the picture changes dramatically. A 2020 systematic review and meta-analysis of RCTs by Bonnet et al. found that, contrary to popular belief, breakfast skipping actually resulted in modest weight loss.(22) The meta-analysis included seven RCTs and found that participants who skipped breakfast lost, on average, a small but statistically significant amount of weight compared to those who ate breakfast.

Similarly, a 2019 meta-analysis in the BMJ by Sievert et al. found a small but significant difference in weight favoring participants who skipped breakfast, with breakfast skippers being, on average, about 0.44 kg (approximately one pound) lighter.(23) The study also found that eating breakfast was associated with a higher total daily energy intake, suggesting that breakfast eaters consumed more calories overall.

These findings from experimental studies directly challenge the conclusions of observational research. The reason for this discrepancy lies in the nature of the studies themselves. Observational studies can only identify correlations, while RCTs, where participants are randomly assigned to either eat or skip breakfast, can provide stronger evidence of cause and effect.

It is important to note that the research on breakfast may not apply equally to all populations. A 2023 meta-analysis by Wang et al. found that skipping breakfast is associated with an increased risk of overweight and obesity in children and adolescents.(24) This suggests that the recommendations for breakfast may need to be tailored to different age groups and life stages.

# MYTH #7

## BREAKFAST IS ABSOLUTELY ESSENTIAL

### Practical Advice Based on This

**Based on the current scientific evidence, here is some practical advice regarding breakfast:**

- **Listen to Your Body.** There is no one-size-fits-all answer to the breakfast question. If you wake up hungry and enjoy eating breakfast, then by all means, continue to do so. If you are not hungry in the morning and prefer to wait until later in the day to eat, that is also a valid choice. The key is to tune into your body's natural hunger and fullness signals.

- **Focus on Quality.** If you do eat breakfast, focus on a balanced meal that includes protein, fiber, and healthy fats. This will help you stay full and energized throughout the morning. Examples include scrambled eggs with avocado and whole-wheat toast, Greek yogurt with berries and nuts, or oatmeal with protein powder and chia seeds. A bowl of sugary cereal is not the same as a nutrient-dense breakfast.

- **Consider Your Goals.** For some individuals, such as athletes or those with physically demanding jobs, a morning meal may be crucial for performance and energy levels. For others, particularly those with weight loss goals, skipping breakfast may be a simple and effective way to reduce overall calorie intake. Consider your individual needs and goals when making decisions about breakfast.

- **Experiment and Find What Works.** The best approach is to experiment with different eating patterns and see what works best for your body, your lifestyle, and your goals. Pay attention to how you feel throughout the day, your energy levels, your hunger cues, and your overall well-being. There is no single "right" answer when it comes to breakfast.

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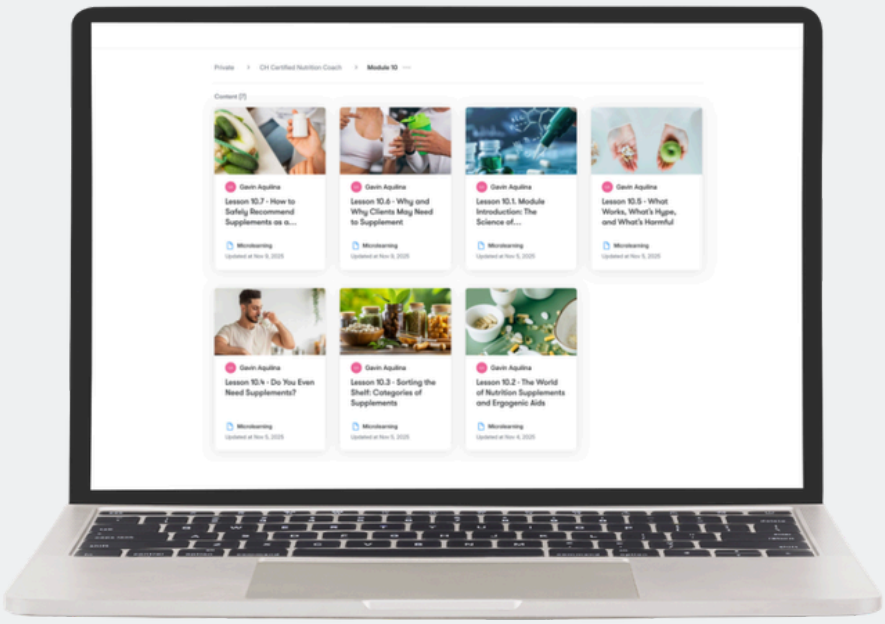


**COMING SOON**

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