CarbChoice© Blueprint

Your Genetic Roadmap to Optimal Health

Created for: {Insert Client Name Here}
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Carb Choice Kit Id:

Your CarbChoice® Blueprint: AMY1 Gene

What Was Tested

- The AMY1 gene controls amylase, an enzyme in your saliva, that breaks down carbs. You can have between 1 to 20 copies of this gene.
- Amylase acts like scissors in your saliva, snipping big starches (bread, rice, potatoes) into smaller sugar pieces your body can use for energy.
- Not everyone has the same number of AMY1 genes. Some people have fewer, and some have more. The more copies of the AMY gene you have, the more amylase you have to break down starch.

Why Does It Matter

- When you eat starchy foods like bread or pasta, your body needs amylase to break them down for energy. Low amylase can leave starch partially undigested, which may increase inflammation and cause your body to store more fat.
- Over time, this may increase your body mass index (BMI) and risk for obesity. Your CarbChoice® score shows how much amylase you likely make, helping you manage weight and inflammation.

How Does This Apply?

Analogy 1: "Carb Scissors" vs.

Hint: Think of your gene number as the number of scissors your body has to cut up carbs. The more scissors you have, the more carbs get broken down. Your CarbChoice number can range from 1 to 20, meaning you can have from 1 to 20 'scissors' to cut up carbs.

Fort = Your gut

# of cannons = your CarbChoice #

Analogy #2: Cannons lining a fort.
Imagine your gut is a fort and your CarbChoice # is the number of cannons shooting down approaching carbs.

The more cannons you have, the easier it is to shoot down those carbs.

Someone with a CarbChoice #2 (just 2 cannons) can't 'shoot down' as many carbs as with a CarbChoice #10 (they have 10 cannons).

Your CarbChoice number can have between 1 to 20 copies, or 'cannons'.

Your Game Plan

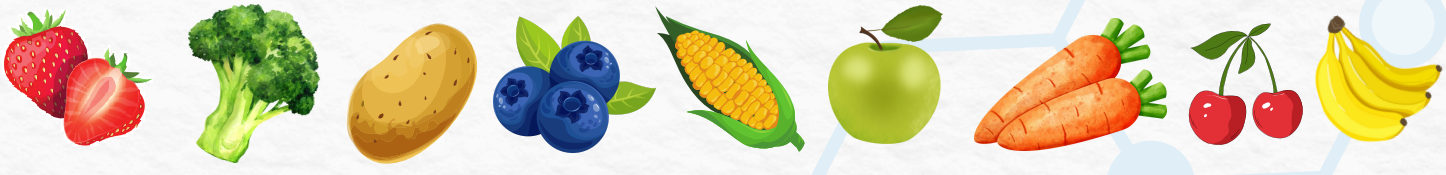
Change Starts Here:

1. **Know Your Number –** Start with your CarbChoice® score
2. **Use the Finger Rule –** Match your score to portion size
3. **Choose Smart Carbs –** Pick high-fiber, nutrient-rich options
4. **Boost Amylase –** Support your body's starch breakdown
5. **Live the Lifestyle –** Exercise, stress control, & healthy habits
6. **Supportive Supplements –** For digestion, blood sugar control

Quick Fixes: To temporarily increase your ability to digest carbs

Carb tolerance is mostly fixed, yet flexible. Simple habits, like chewing, meal timing, or lifestyle, can raise or lower how well you handle carbs.

- **Option 1: Chew More.** Take 3 full breaths while eating to naturally reach about 30 chews without needing to count to 30.
- **Option 2: Eat Greens First.** Start your meal with salad, bitter greens, or veggies before carbs (e.g., eat your salad before strawberries).
- **Option 3: Time Your Exercise.** Work out within 2 hours before your highest-carb meal to boost amylase (up to 500%). Some athletes may need extra carbs —use common sense and consult your practitioner.
- **Option 4: Balance Amylase Foods.** Eat amylase-suppressing foods (like berries) separately from meals, and pair amylase-producing foods (like citrus) with carbs to aid digestion.
- **Option 5: Savor your food.** Enjoying the taste and smell of your food engages the brain to release more digestive enzymes, including amylase.



1. Your CarbChoice Number

Low Carb Capacity (#1 is Keto, #2-4 is Paleo)

Low processors should limit starches and choose higher-fiber carbs, since excess starch raises risk of obesity, insulin resistance, and diabetes

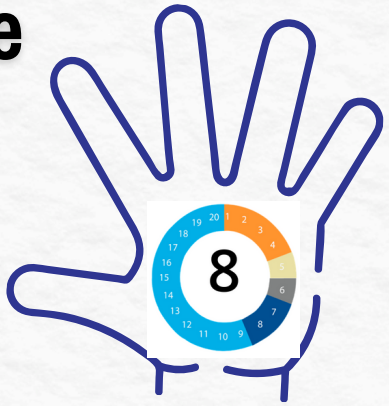
Moderate Carb Capacity (Mediterranean style)

Moderate processors can handle more starches (like grains), though excess starch still raises risk of weight issues.

High Carb Capacity (Higher Carb)

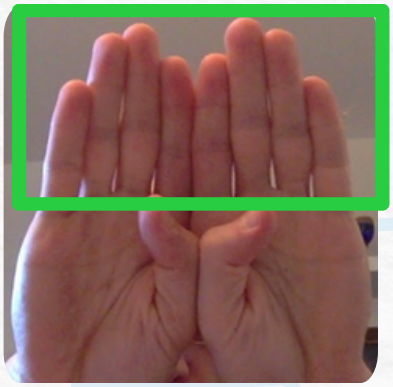
High processors can tolerate more starches (like grains) with less impact on weight or insulin, and face lower obesity risk.

2. Portion Control: Finger Rule



Your CarbChoice® number indicates the maximum portion of starchy carbs (like bread, rice, or pasta) you could eat at one meal. You are not obligated to eat this many carbs per meal.

The 'finger rule' is an approximate guide to help you find your optimal carb consumption: Your CarbChoice number equals how many finger-sized portions of high-carb foods you can have, as a maximum or upper limit per meal.



The 'finger rule' is a guide because finger size is usually proportional to body size. The 'finger rule adjusts carb portions to better fit you, whether you're tall, short, big, or small. For example, if your score is 8, you can have about 8 finger-sized portions of starchy carbs. Someone who is 6'5" will have different-sized fingers than someone who is 5'0", yet both can have a score of 8.

For lower-carb foods, you can have about twice your CarbChoice number, up to a max of 10 fingers or one fist-sized portion. This guideline helps you match your carb intake to your body, making weight management and energy control much simpler.

Note: Your Carb needs and portion requirements are also influenced by activity, age, health, glycemic index/load, fiber, meal timing, and body composition. Work with your practitioner to optimize carb intake.

3. Styles of Diet Choice:

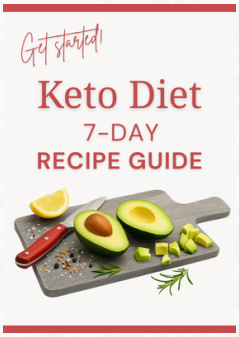
Note: These are guidelines, not absolutes. Work with your practitioner.

Your CarbChoice Number: 

Keto Style

Best suited for CarbChoice 1

A keto-style diet is a way of eating where you keep carbs very low so your body switches to burning fat for energy instead of sugar. When carbs are low, your body makes “ketones”, which act like a clean, steady fuel source. Many people use this approach to help with energy, focus, and managing weight.



Click Image to See a Sample Recipe Guide

Paleo Style

Best suited for CarbChoices 2-4

A paleo-style diet focuses on eating foods our bodies were designed for long ago — vegetables, fruits, nuts, seeds, and animal proteins. It avoids processed foods, grains, and dairy, aiming for more natural, whole ingredients. Many people choose paleo because it can support steady energy, clearer digestion, and overall health.

Click Image to See a Sample Recipe Guide

Mediterranean Style

Best suited for CarbChoice 5-8

A Mediterranean-style diet is based on the traditional foods eaten in countries near the Mediterranean Sea, like Greece and Italy. It centers on vegetables, fruits, whole grains, beans, olive oil, and lean proteins like fish. Many people choose it because it has variety, balance, convenient, and easier for social events.

Click Image to See a Sample Recipe Guide

Higher-Carb Style

Best suited for CarbChoice 9+

A higher-carb-style diet focuses on getting most of your energy from carbohydrates like fruits, whole grains, beans, and starchy vegetables. Protein and fats are still included, just in smaller amounts. Many people choose this style because it can support active lifestyles, steady energy, and quicker recovery for those who exercise a lot.

Click Image to See a Sample Recipe Guide

Special note: The maximum amount of carbs per meal is around 10 fingers' worth or about the size of your fist. Your fist is approximately the size of your stomach. Even if your CarbChoice number is over 10, it’s best to stay around 10 fingers’ worth, or 1 fist, as the maximum per meal. However, special considerations should be taken for athletes in heavy training, who may require more. There may be other circumstances that would require more. Work with your practitioner.

4. Choose Your Carbs Wisely

Your CarbChoice Number: 8

Higher Carb/Higher starch

Be mindful, Use Finger Rule

Whole Grains
- Oats
- Quinoa
- Brown rice
- Wild rice
- Barley

Vegetables
- Sweet potatoes
- White potatoes
- Plantains
- Winter squash
- Corn

Fruits & Roots
- Pineapple
- Beets
- Carrots
- Oranges
- Peas

Fruits (Higher Carb)
- Ripe Bananas
- Apple (e.g. Gala apple)
- Grapes
- Pears
- Prunes

Lower Carb/Lower starch

Finger Rule ×2

Fruits
- Green apples
- Blueberry
- Coconut flesh
- Dried fruit
- Mango
- Nashi pear

Vegetables
- Butter beans
- Endive
- Green peas
- Squash
- Swede/Rutabaga

Nuts & Seeds
- Almond meal
- Brazil nuts
- Mixed nuts
- Pumpkin seeds
- Pecan nuts
- Walnuts

Roots & Extras
- Fresh ginger
- Jackfruit
- Galangal

Little to no starch

Think Fiber, Fights Constipation

Leafy Greens
- Spinach
- Kale
- Romaine lettuce
- Arugula
- Swiss chard

Crunchy Veggies
- Cucumbers
- Celery
- Radishes
- Green peppers

Cruciferous
- Broccoli/Broccolini
- Cauliflower
- Brussels sprouts

Other
- Zucchini
- Asparagus
- Mushrooms

Resistant

Not Digestable, Nutrients for Gut Health

- Green banana
- Chickpeas
- Rye bread
- Barley

*Post this to Your Refrigerator

5. Boost Amylase Production

Your CarbChoice Number: 8

Increases Amylase — Enhances Abiliy to Breakdown Carbs

Foods containing citric acid have been shown to increase your production of amylase, which helps break down starch carbohydrates.

- Sundried tomatoes
- Lemon
- Limes
- Passionfruit pulp
- Raspberries
- Tamarillo
- Pomegranate seeds
- Tomato paste
- Apricots
- Guava
- Tangelo
- Mandarin
- Grapefruit
- Raspberries (canned)
- Oranges
- Pineapple

Note: Citric acid foods can boost carb digestion, but not all foods containing citric acid are right for everyone. For example, tomato paste (a nightshade) may worsen joint pain, and grapefruit may interact with certain medications.

Work with your practitioner to find the best choices for you.

Decreases Amylase — Inhibits Abiliy to Breakdown Carbs

Whilst salivary amylase can be increased, several plants contain polyphenols that may inhibit or decrease salivary amylase and affect carbohydrate metabolism

Berries
- Strawberries
- Blueberries
- Blackcurrants

Vegetables
- Pumpkin
- Beans
- Corn

Vegetables
- Eggplant
- Red cabbage

Drinks
- Black tea
- Red wine

Note: This doesn't mean these foods must be avoided, just that they can inhibit carb digestion. If you do choose to consume them, ideally do so after eating other carbs or completely separately, or do more things to boost your amylase, like the quick fixes mentioned earlier, such as chewing more, eating bitters first, timing your exercise prior to the most carb-heavy meal, and savoring your food.

Also note that smoking reduces amylase.

6. Live the Lifestyle

Your CarbChoice Number: 8

Habits

- Manage stress, lower cortisol levels
- Chew thoroughly to boost amylase
- Avoid smoking

Sleep

- Get 7–9 hours quality sleep
- Prioritize consistent nightly rest
- Aim for restorative deep sleep

Exercise

- Exercise can increase amylase levels by up to 500%.
- Ideally plan your highest carb meal within 2 hours after you exercise.
- Some athletes may require extra carbs

Hydration

- Stay hydrated
- Aim for half body weight in ounces, more if you do a lot of activity, in high heat, humidity, or altitude.

7. Potentially Supportive Supplements

Work with your practitioner to find what works best for you

Digestive Support

- Bitters
- Pancreatic enzymes

Supporting Carb Metabolism and Sugar Cravings

- Gymnema
- Kudzu
- Fenugreek
- Berberine
- Cinnamon
- Banaba extract
- Zinc
- Vanadium
- Chromium
- Manganese
- Magnesium
- American Ginseng

Resistant Starch

- Green banana powder
- Arabinogalactan powder

🔑 Key Terms

Genes & Enzymes

- **AMY1 Gene** – A gene that produces amylase.
- **Copy Number** – The number of duplicates of a gene
- **Amylase** – An enzyme in your saliva that works like scissors, cutting starch into smaller sugars your body can use for energy.

Carbohydrates & Starch

- **Carbohydrates (Carbs)** – Foods made of sugar units. Carbs are not bad — they give your body important energy. But different types of carbs (starch, sugar, fiber) act differently in your body.
- **Starch** – A type of carbohydrate made of long chains of simple sugars. There are different types of starches:
  - **Little to no Starch Foods** – Foods with little or no starch (like leafy greens, cucumbers, peppers).
  - **Low-Starch Foods** – Foods with smaller amounts of starch that digest slowly (like beans, berries, sour fruits, and non-starchy veggies).
  - **High-Starch Foods/Low-resistant carbohydrates** – Foods with a lot of starch that digest quickly (like white bread, rice, pasta, potatoes).
  - **Resistant Starch/High-resistant carbohydrates** – A special type of starch that resists digestion, acts like fiber, and supports gut health (e.g., green bananas, cooled potatoes, oats).

Digestion & Tolerance

- **Carb Breakdown** – How well your body digests starch into sugar using amylase.
- **Carb Tolerance** – How much starchy food your body can handle without storing too much as fat.
- **Carb-Suppressing Foods** – Foods (like berries, vinegar, or greens) that can slow down carb digestion.
- **CarbChoice® Score** – Your personal number (1–20) showing how well your body breaks down starch.
- **Finger Rule** – A simple guide for portion size: your CarbChoice® score equals how many "fingers" of starchy foods you can have at a meal, based on your own finger size.

Health & Weight

- **BMI (Body Mass Index**) – A measure of body fat based on your height and weight.
- **Obesity** – A condition where excess body fat may increase the risk of disease.
- **Inflammation** – Swelling or irritation in the body that can happen when starch isn't broken down well or with unhealthy weight gain.
- **Portion Size** – The amount of food you eat at one time.

Other Science notes

Scientific studies have shown that variations in the human salivary amylase gene (AMY1) differ based on populations that have traditionally eaten high starch diets, compared to those who have traditionally eaten low starch diets (Perry et al. 2007). Copy number variations within the AMY1 gene impact salivary amylase activity (Yang et al. 2015; Santos et al. 2012), which influences how well the body breaks down and processes starch. Copy number variations and amylase activity can also impact the oral perception of starch leading to nutritional differences (Mandel et al. 2010).

Simply, some people can process starchy carbohydrates better than others, and this can impact their nutrition, dietary choices, and health.

Amylase activity, and the ability to process starch, has been demonstrated to have an impact on Body Mass Index (BMI) (Bonnefond et al. 2017) and hence AMY1 copy number can have an impact on the related issues of BMI, obesity, and weight management (Falchi et al. 2014; Mejía-Benítez et al. 2015; Viljakainen et al., 2015; Marcovecchio et al. 2016). Low amylase individuals may even be at greater risk of insulin resistance and diabetes if they maintain a high starch diet (Mandel and Breslin 2012).

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The information in this report reflects research to date on the relevance of Copy Number Variation (CNV) in the AMY1 gene. Genetic research is rapidly increasing and our understanding of AMY1 CNV will increase over time, and so the content of future reports may vary from this one.

Research has indicated a correlation between AMY1 copy number variation (represented here as your “CarbChoice number”) and the production of salivary amylase and, hence, the ability to break down starchy carbohydrates. This report therefore outlines the potential impact of CarbChoice number on general health and fitness and provides intervention suggestions that may be of assistance. However, there are many influences on your weight management success and sports performance including lifestyle, environmental and additional genetic effects which are not included in this report.

People with special dietary considerations or health conditions, such as allergies or intolerances, should seek advice from a qualified health practitioner before undertaking this test. Additionally, caloric and macronutrient ratios needs may vary and change depending on multiple factors, including levels of exercise, metabolic conditions, age, medical necessity, food availability, seasons, and other factors. The information provided here on CarbChoice is just one variable to consider as it relates to your caloric intake and/or macronutrient profile. Please work with your practitioner and/or health care professional to account for all other factors as well.

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