Train Smarter: DNA Testing for Health and Fitness

Adapted from the ISSA

Your genes can tell you a lot! Including aspects of your physical health related to fitness and nutrition. If you are a personal trainer, your clients might start asking you about health and fitness DNA tests. Get informed and be ready to answer their top questions.

What is a DNA Test for Health and Fitness?

First things, first. What exactly is DNA fitness testing? You've probably heard of the DNA tests that focus on revealing your ancestry and any genes that could predispose you to disease. These were in the first wave of home genetic tests. Now, you can find more niche testing.

One type is a DNA test focused on information related to health, wellness, nutrition, weight, and fitness. You get a kit in the mail, send in a saliva sample, and get results to help you uplevel your training.

The idea is that the personalized information will help you understand how to get fit, build muscle, and lose weight more effectively. In other words, you should be able to tailor your choices in a way that matches your personal genetics.

What Will This Type of DNA Testing Tell Me?

The exact information you get depends on the DNA fitness test you choose. However, most wellness and fitness-focused DNA tests provide similar types of data:

Genetic Traits for Weight Loss Ability and Body Composition

Many people turn to these tests because they want answers about weight loss. It is well known by now that body type and the ability to gain or lose

weight is highly variable by the individual. If you struggle to lose weight, a DNA test could tell you why and give you better solutions and strategies.

Labs review different genetic variants of several different traits when assessing this category. When analyzed together, those traits indicate the person's weight loss ability based on their genetics.

Something to keep in mind here is that everyone can achieve body recomposition, so this test is not going to tell them they won't lose weight or gain muscle. What it will tell them is what they need to do to achieve that weight loss goal based on their genetic predisposition.

For example, a test can tell you the most effective way to burn calories. For some people, it’s cardio, while for others it is strength training.

Another example is the LEP gene that codes for leptin, the hormone that makes you feel full after eating. You could have a variant that contributes to lower amounts of leptin, which can cause overeating.

Common traits evaluated for weight loss ability may include:

- Fat loss response to cardio
- Body composition response to strength training
- Macronutrient utilization
- Micronutrient tendencies
- Fitness response to cardio
- HDL, glucose, triglyceride, and insulin sensitivity response to cardio
- Impulse control and tasting preference

Genetic Traits for Athletic and Fitness Performance

The process for a genetic test for athletic performance is the same as the weight loss ability test. It indicates areas where you can excel and use their genetics to your advantage. Conversely, it will also show them where you may need to work a little harder to combat a genetic predisposition.

You can get insights into how exercise choices affect your body composition, weight, health, and fitness level. An example is the ACTN3 gene. It codes for proteins in fast-twitch muscles. One genetic variant indicates you are more likely to excel at endurance activities. Another variant means you will be better at shorter, high-intensity workouts.

Typical traits tested for athletic performance are:

- Body composition response to exercise
- Macronutrient utilization

- Caffeine metabolism
- Fitness response to cardio
- Intrinsic motivation to exercise
- Power and endurance potential
- VO2 Max
- Exercise heart rate response and stroke volume
- Recovery and injury risk

A DNA Test for Health and Fitness Includes Specific Nutrient Information

One important aspect of your wellness is how your body uses macronutrients, vitamins, and minerals, if you are susceptible to any deficiencies, how your body metabolizes caffeine, and if you are sensitive to any nutrients, like gluten or lactose.

As with both weight loss and athletic performance testing, nutrient testing looks at a third configuration of genetic variants and genetic traits. This is where your client will learn more about traits such as their ability to process protein. Typical traits tested for nutrients may include:

- Protein, carbohydrate, and fat utilization
- Vitamin and mineral tendencies
- Addictive behavior and stimulus control
- Impulse control and tasting preference
- Injury risk
- Systemic inflammation
- Sleep duration

How Can a Genetic Fitness Test Improve Health?

This is entirely up to you and how you use the information. You might find out that you have a mild intolerance to gluten. Giving it up or cutting it back could help you feel better. If you learn that your body composition changes more in response to strength training than cardio, you can change up your workout routine to shed more body fat.

Does a Health and Fitness Test Include Disease Information?

Many health and fitness DNA tests focus less on disease markers and more on genetic markers related directly to weight, body type, metabolism, and nutrient utilization. Some might include information on diseases to which you are predisposed.

Can Anyone Take a DNA Test?

The best part of these tests is how available they are to the consumer. Anyone can buy one, send it in, and receive a report of the findings. You can complete it at home, on your schedule.

Do Your Research

The first step is deciding which test to take. There are many companies out there offering genetic testing options. Ensuring it is a trustworthy company needs to be at the top of the priority list.

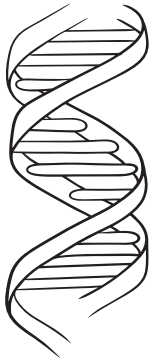
Research the companies by visiting their websites and looking at sample reports. Also, ensuring their lab is accredited is important. If you have questions beyond that contact the company to get those answered before purchasing a kit.

When choosing a testing company, look for those with good customer reviews. Avoid companies that make wild claims or guarantees. Genetic testing is not a miracle fix for weight loss or achieving fitness.

Getting the Results from a Health and Fitness DNA Test

Once you select a company, then it's easy! Follow the directions in the DNA test kit provided to you. Often the directions are standard: you register the DNA testing kit online, take a swab of DNA from your cheek, seal it up, and send it off to the lab.

Labs typically take about two weeks to analyze the data. From there, either the client or the personal trainer depending on the testing company will receive a detailed report of the results through a secure portal.



Do DNA Tests for Health and Fitness Actually Work?

It depends on what your goal is. If you want greater insights into your genetics and how it impacts your health and fitness, they work very well.

You can also expect these tests to be accurate in terms of the actual data. DNA testing is no longer new science. Reputable labs will provide good results. The interpretation of the results will vary by company, though.

Don't expect any specific or miraculous results, though. Understanding your DNA can help you make healthier lifestyle choices. This, in turn, can lead to more effective or efficient workouts and weight loss or weight maintenance strategies. It cannot make you into something you're not.

It's especially important to realize that DNA test information is a set of guidelines. To get any results, you have to use these guidelines to make lifestyle changes. Knowledge can be empowering and motivating. It could be what you need to jump-start your healthier lifestyle.

Are There Any Risks of Doing a Home DNA Test?

There are no health risks in taking a home DNA test. However, you should consider the other potential impacts. There could be an emotional toll in finding out that your genetics predispose you to be obese, for instance. It might make you feel hopeless or like quitting.

It can also be confusing. Even with a detailed report from the testing company, you might struggle to understand how to put it all together. You might not know what to do next, which is another recipe for giving up on healthy habits and changes.

It's a good idea to work with a professional who understands the results and how to use them. A certified personal trainer with trained DNA-based coaching experience can help.

Another concern with DNA tests is how your information might be used. A testing company could send your information (not attached to your identity) to researchers. However, they must get informed consent first.

When you choose to work with a trained affiliate of Genetic Direction, you are in good standing to have all the information you need to understanding your body, and your unique genetic blueprint to optimize your potential.