

# Impaired Coordination

## DNA Health Report

REPORT CATEGORIES —



Sample Client

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## Personal information

NAME

**Sample Client**

SEX AT BIRTH

**Male**

HEIGHT

**5ft 5" 165cm**

WEIGHT

**137lb 62kg**

### DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.



# How this works

Our Wellness Reports analyze how your DNA influences your health.

We then use this analysis to give you personalized risk estimates and recommendations.



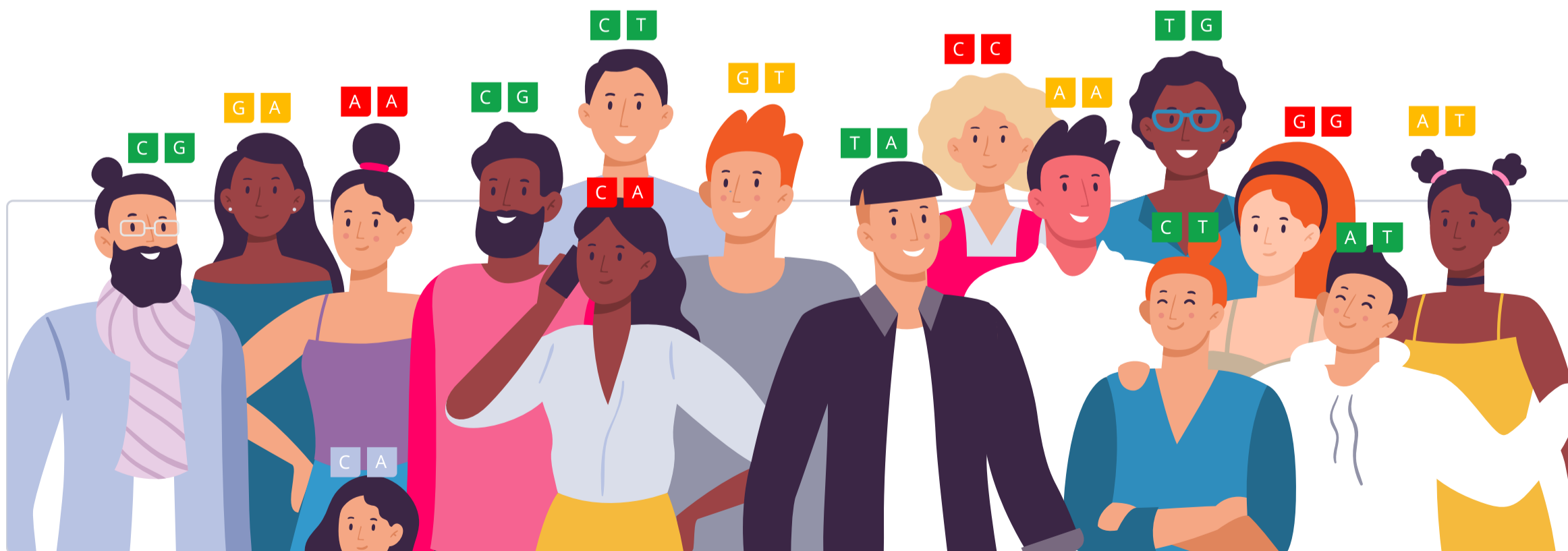
Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.

You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information. We then summarize your results as a risk score or display it on a gauge.

**In total, we analyze up to 83 million genetic variants.**

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



**Genotype color info:**

<b>AA</b> You don't have any risk alleles	<b>AA</b> You have 1 risk allele	<b>AA</b> You have 2 risk alleles
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Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

**When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.**

Our recommendations come in four categories: lifestyle, diet, supplements and drugs. The following icons tell you which category a recommendation falls into:



**Our team of scientists also ranks each recommendation. We rank based on impact and the strength of evidence in the medical literature.**

Impact shows how strongly a recommendation will affect your health in a certain area. Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



# Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

## Recommendation Evidence

●●●●● 5 / 5

Recommendations that are considered effective and generally recommended by experts and medical bodies.

●●●●○ 4 / 5

Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.

●●●○○ 3 / 5

Recommendations that are considered possibly effective and have many studies supporting them

●●○○○ 2 / 5

Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.

●○○○○ 1 / 5

Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.

○○○○○ 0 / 5

No evidence in humans.

## Genotype-specific Evidence

●●●●● High-quality

Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).

●●●●○ Medium-quality

Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).

●●●○○ Low-quality

Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).

●●○○○ Indirect

A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).

●○○○○ In theory

A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

## Some things to keep in mind:

- Genetics doesn't play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

# Introduction

Impaired coordination, or ataxia, refers to a lack of muscle control or coordination of voluntary movements, such as walking or picking up objects. This condition can be a symptom of various medical disruptions, including neurological disorders, which affect parts of the brain responsible for muscle control.

Common manifestations of impaired coordination include unsteady walk, difficulty with fine motor tasks, and issues with speech or eye movement. The impairment may be a result of damage to the cerebellum, the part of the brain that controls motor movement, or it could be due to dysfunction in other parts of the central nervous system.

# Diagnosis and Treatment

The severity of impaired coordination can range from mild clumsiness to severe ataxia, significantly impacting an individual's independence and quality of life. Patients may experience challenges in their daily activities, making it hard to perform tasks that require precision or balance.

Diagnosis usually involves neurological exams, and possibly brain imaging or genetic testing, depending on associated symptoms and suspected causes. The treatment of impaired coordination focuses on addressing the underlying condition and may include physical therapy, occupational therapy, or the use of assistive devices to aid in movement and daily functioning.



LESS LIKELY

**Less likely to have impaired coordination based on 57 genetic variants we looked at**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADAM21	rs77354632	AA
IQSEC1	rs79122486	CC
IQSEC1	rs74782020	CC
TSHZ2	rs2904292	CC
IQSEC1	rs74653607	CC
IQSEC1	rs11128630	GG
IQSEC1	rs11929559	TT
IQSEC1	rs9841637	GG
GLRB	rs17034349	AA
CAMK4	rs75575712	CC
ADAM21	rs8008210	GG
ADAM21	rs3751523	AA
MED6	rs75971975	GG
MED6	rs73291944	GG
MED6	rs7161249	GG
ADAM21	rs12586722	AA
MED6	rs12436808	CC
MED6	rs78093131	CC
MED6	rs4550388	TT
MED6	rs12586481	TT
MED6	rs7159587	TT
MED6	rs77867352	AA
MED6	rs4340265	AA
MED6	rs12436464	AA
MED6	rs73291972	AA
MED6	rs3764182	AA
MED6	rs8012142	GG
MED6	rs17108107	TT
MED6	rs8015163	GG
MED6	rs12436902	CC
MED6	rs17107997	CC
MED6	rs80045026	TT

GENE	SNP	GENOTYPE
MED6	rs73293909	CC
MED6	rs7154884	TT
MED6	rs2332382	GG
MED6	rs2293877	GG
MED6	rs8020009	AA
ADAM21	rs4902817	GG
ADAM21	rs7150428	AA
MED6	rs8014252	CC


The number of "risk" variants in this table doesn't necessarily reflect your overall result.


# Your Recommendations

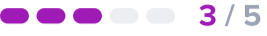
Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

	DOSAGE		DOSAGE		
1	Yoga	30 minutes	2	Acetyl-L-Carnitine	500 mg
3	Aquatic Exercise	1 hour	4	Tai Chi	1 hour
5	Pilates	30 minutes	6	Dance	30 minutes
7	Balance And Mobility Training	30 minutes			

1  **Yoga**

**IMPACT**  
 3 / 5

**EVIDENCE**  
 3 / 5

## How to implement

Practice yoga for at least 20 to 30 minutes a day, most days of the week. Choose a style that matches your fitness level and goals, and consider attending a class or using online resources to guide your practice.

**TYPICAL STARTING DOSE**

**30 minutes**

## Description

Yoga is a mind-body practice that combines physical postures, breathing exercises, and meditation. It enhances flexibility, strength, and mental well-being and is used for stress reduction, relaxation, and overall health improvement.

[Yoga](#) combines breathing, stretching, and relaxation techniques. Practicing yoga may help [\[R, R, R\]](#):

- Reduce [stress](#)
- Improve fitness
- Lower blood pressure and heart rate
- Manage pain

## How it helps

Yoga may improve coordination, particularly in children and individuals with intellectual disabilities. It enhances balance, visual-motor precision, and psychomotor abilities, as evidenced by improved scores in static balance and eye-hand coordination. Yoga practices, including postures and movements, contribute positively to neurodevelopment and motor learning. This makes it a valuable tool for those with coordination impairments [\[R, R, R, R\]](#).

2



## Acetyl-L-Carnitine

IMPACT

0 / 5

EVIDENCE

0 / 5

### How to implement

Take 500-1,000 mg of Acetyl-L-Carnitine per day, split into 2 or 3 doses, with or without food. Joe prefers taking 500 mg in the morning. It can be taken indefinitely for chronic conditions or for a period of several months for acute concerns.

TYPICAL STARTING DOSE

500 mg

### Description

[Carnitine](#) is a protein building block (amino acid). It comes in many forms, such as acetyl-L-carnitine. Acetyl-L-carnitine may help with nerve damage and mood problems.

[Carnitine](#) is a protein building block (amino acid). It comes in many forms, such as acetyl-L-carnitine [\[R, R, R\]](#).

[Acetyl-L-carnitine](#) may help with [\[R, R, R\]](#):

- Nerve damage
- Mood problems
- Cognitive decline

Doctors are also studying its potential effect on drug addiction [\[R\]](#).

### How it helps

Acetyl-L-carnitine is a substance naturally produced by the body that helps produce energy and supports muscle movement. It has been studied in individuals with conditions affecting the nervous system and has shown potential in improving cognitive function, reducing physical fatigue, and enhancing overall muscle coordination by supporting the health of nerve cells and providing the energy muscles need to function properly.

3



## Aquatic Exercise

IMPACT

0 / 5

EVIDENCE

0 / 5

### How to implement

Participate in aquatic exercise sessions, such as swimming or water aerobics, for 60 minutes, 3 to 5 times per week. Ensure the exercise intensity is moderate, allowing you to talk but not sing during the activity. Consistency over time is key, so aim to incorporate this into your weekly routine for at least 3 to 6 months to observe benefits.

TYPICAL STARTING DOSE

1 hour

### Description

Aquatic exercise involves physical activity performed in water, such as swimming, water aerobics, or aquatic therapy. It is gentle on the joints, making it suitable for individuals with mobility issues, and can help improve cardiovascular fitness and muscle strength.

**Aquatic exercise is any type of low-impact physical activity performed in a pool.** In this type of cardio exercise, water helps the body float, which reduces gravity and makes the practice more comfortable and tolerable [\[R, R\]](#).

Compared to land-based exercise, aquatic exercise may be better by [\[R\]](#):

- Reducing the stress and impact on joints
- Lowering fracture risk

Hence, it is usually **recommended for the elderly**. Aquatic exercise is also suitable for people who don't know how to swim [\[R\]](#).

### How it helps

Exercising in water provides natural resistance and support, making aquatic exercise an effective way to improve coordination and balance. The water's buoyancy reduces the risk of falls, allowing for safe practice of coordination skills.

4  **Tai Chi**

**IMPACT**  
0 / 5

**EVIDENCE**  
0 / 5

## How to implement

Practice Tai Chi for 30 to 60 minutes at least twice a week. Choose a quiet, spacious area and follow along with a qualified instructor, either in person at a class or through an online video tutorial, to ensure proper technique and maximum benefit.

### TYPICAL STARTING DOSE

**1 hour**

## Description


Tai Chi is a traditional Chinese mind-body practice involving slow, flowing movements and deep breathing. It is known for its potential to reduce stress, improve balance, and enhance overall physical and mental well-being.

**Tai chi involves gentle movements and breathing to strengthen and relax the mind and body.** Practicing tai chi may help [\[R, R, R\]](#):

- Manage pain
- Improve fitness
- Increase well-being
- Improve sleep and mood

## How it helps

Tai Chi is a form of martial arts known for its slow, deliberate movements and emphasis on balance and coordination. Regular practice of Tai Chi has been shown to improve coordination and balance in individuals, likely by strengthening neural connections related to these functions.

5  **Pilates**

**IMPACT**  
0 / 5

**EVIDENCE**  
0 / 5

## How to implement

Engage in Pilates exercises for at least 20-30 minutes, 3 times a week. Focus on core strength, flexibility, and mindful breathing. It is suitable for both beginners and advanced individuals, adjusting the difficulty of exercises as necessary.

**TYPICAL STARTING DOSE**

**30 minutes**

## Description

Pilates is a form of exercise that focuses on strengthening the core, improving flexibility, and enhancing overall body awareness through controlled movements and breathing techniques. Its health benefits include increased core strength, improved posture, enhanced flexibility, and better balance, making it a popular choice for those seeking a holistic approach to fitness.


**Pilates is a type of exercise that emphasizes proper alignment, breathing techniques, and precise movements.**

It involves a series of controlled movements performed on a mat or with specialized equipment, such as a reformer or Cadillac. Pilates helps strengthen the core muscles, improve flexibility, and promote mind-body awareness.

## How it helps

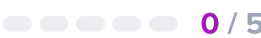
Pilates focuses on core strength, flexibility, and mindful movement, which are essential for good coordination. It improves coordination by enhancing proprioception (the sense of body position) and muscular control.


6



Dance

IMPACT
EVIDENCE





## How to implement

Engage in dance activities for at least 30 minutes, three times per week. You can choose any form of dance you enjoy, such as ballroom, hip hop, or salsa, and you can dance at home, in a studio, or in a group class setting.

TYPICAL STARTING DOSE  
30 minutes

## Description

**Dancing involves moving your body to music.** Many people take dance classes to learn various styles of dance and improve their skills. Examples include:


- Ballet
- Zumba
- Belly dancing
- Hip hop
- Salsa

**Dancing is a fun, creative, and relaxing activity.** It can also provide a range of health benefits, improving your heart health, brain health, fitness, and more.

## How it helps

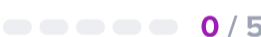
Dancing involves complex movements that require timing and precision, effectively improving coordination. Regular dancing practice can enhance the ability to control and coordinate body movements smoothly and efficiently.


7



Balance And Mobility Training

IMPACT
EVIDENCE





## How to implement

Incorporate balance and mobility exercises into your routine three to four times per week. Each session should last approximately 30 minutes and include activities such as standing on one foot, walking heel to toe, and tai chi or yoga. Start with simple exercises and gradually increase difficulty as your balance improves.

TYPICAL STARTING DOSE  
30 minutes

## Description

Balance and mobility training exercises, such as yoga or tai chi, can improve stability and reduce the risk of falls, particularly among older adults. These exercises enhance overall physical function.

## How it helps

Balance and mobility training specifically targets the muscles and systems responsible for coordination. Exercises designed to improve balance can help the brain learn how to quickly respond to changes in body position, thus reducing coordination impairments.

# Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

## Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

