

Renal Colic

DNA Health Report

REPORT CATEGORY —



Sample Client

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Table of Contents

03 How this works

- 04 Impact
- 05 Evidence
- 06 Some things to keep in mind

07 Introduction

08 Your genetics

09 Your recommendations

20 Next Steps

- 20 Your Lab Results

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.

Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg



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:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

You have 2 risk alleles

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

Renal colic is a type of pain that typically occurs when a kidney stone blocks the flow of urine in the urinary tract. The stones, which are crystalline mineral materials, cause intense and sharp pain as they move from the kidneys through the ureters – the tubes that connect the kidneys to the bladder. Renal colic pain often comes in waves and can vary in intensity.

Patients may experience sudden onset of pain in the side and back, below the ribs, which may radiate towards the lower abdomen and groin. The pain can change as the stone moves through the urinary tract, and can be accompanied by nausea, vomiting, and a sense of restlessness.

Causes and Management

Renal colic can be a recurrent condition, especially for those who have a history of kidney stones. The composition of these stones, such as calcium oxalate or uric acid, can indicate underlying metabolic issues or dietary factors that influence their formation. Management includes pain relief, often with nonsteroidal anti-inflammatory drugs (NSAIDs) or opioids if necessary.

Hydration is encouraged to facilitate stone passage. In some cases, medical procedures such as lithotripsy or endoscopic stone removal may be necessary to address stones that are too large to pass or that cause persistent pain, infection, or other complications.



MORE LIKELY

More likely to have a renal colic based on **437,591** genetic variants we looked at



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	Avoid Strenuous Activity	2	Watermelon
3	Citrate Salts200 mg	4	Lemon Juice
5	Limit Salt Intake	6	DASH Diet
7	Drink at Least 8 Glasses of Water a Day	8	Apply Heat15 minutes
9	Avoid Sugary Foods & Drinks	10	Limit Meat Intake
11	Reduce Oxalate Intake	12	Chanca Piedra500 mg

1



Avoid Strenuous Activity

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Refrain from participating in high-intensity physical activities such as running, heavy weightlifting, and high-impact sports. Opt instead for low-impact exercises like walking, swimming, or yoga. It's important to listen to your body's signals and rest as needed, avoiding these strenuous activities until advised otherwise by a health professional.

Description

Avoiding strenuous physical activity in certain medical conditions or during illness can help prevent injury and promote better recovery. It allows the body to conserve energy and supports the healing process.

Strenuous activity is physical activity that requires a lot of effort. Exercise done at 70-85% of a person’s heart rate is considered strenuous. Examples include [\[R\]](#):

- Running, cycling, or swimming at high speed
- Running or hiking uphill
- Jumping rope
- Single tennis
- Sports that involve a lot of running (soccer, basketball, hockey, etc.)

On the other hand, strenuous daily activities include [\[R\]](#):

- Lifting and carrying heavy objects
- Gardening with heavy digging
- Shoveling snow
- Fast dancing

How it helps

During episodes of renal colic, avoiding strenuous activity can help minimize the movement of kidney stones, potentially reducing pain. High-impact or vigorous activities might cause stones to move in a way that exacerbates pain or discomfort.

2



Watermelon

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate fresh watermelon into your diet, aiming to consume about 1-2 cups of cubed watermelon daily, either as a snack or part of your meals. It is best consumed fresh to maximize its hydrating effects and nutritional benefits.

Description

Watermelon is a refreshing fruit known for its high water content and being a good source of vitamins A and C. It is used to help stay hydrated and may support skin health due to its antioxidant properties.

How it helps

Watermelon is high in water content and can help hydrate the body, which is beneficial for preventing kidney stones that can cause renal colic. Its diuretic properties may help flush out small stones from the kidneys, reducing pain and discomfort.

3



Citrate Salts

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take citrate salts in supplement form, usually available as potassium citrate or magnesium citrate. Follow the dosage instructions on the product label, typically ranging from 200 mg to 400 mg daily, divided into two or three doses to be taken with meals or a full glass of water to aid in absorption and minimize stomach upset. Continue as per the duration suggested on the product or by a healthcare provider.

TYPICAL STARTING DOSE

200 mg

Description

Citrate salts, such as potassium citrate, are used as supplements to promote kidney stone prevention by increasing urinary citrate levels, which inhibit stone formation. They are also used as alkalizing agents to help manage certain urinary tract conditions.

Citrate salts are salts of citric acid. Citric acid is found in many citrus fruits, like lime and lemons [\[R\]](#), [\[R\]](#).

Citrate salts are often prescribed as medication to help with kidney stones [\[R\]](#).

How it helps

Citrate salts can help prevent the formation of new kidney stones by inhibiting stone formation and growth. They work by binding with calcium in the urine, reducing the amount available to form stones.

4



Lemon Juice

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate freshly squeezed lemon juice into your daily diet by adding about two tablespoons to a glass of water. Drink this once or twice a day, preferably in the morning on an empty stomach, and again in the afternoon before meals.

Description

Lemon juice is rich in vitamin C and antioxidants, which can boost the immune system, aid digestion, and contribute to skin health.

How it helps

Lemon juice is rich in citrate, which can help prevent the formation of certain types of kidney stones by binding to calcium in the urine. This reduces the risk of stone formation that leads to renal colic pain.

5



Limit Salt Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Reduce your daily salt intake to less than 2,300 milligrams (mg), equivalent to about one teaspoon of table salt. This includes all salt consumed, whether added during cooking, at the table, or present in processed and ready-to-eat foods.

Description

Limiting salt intake involves lowering the amount of sodium in the diet, which can help lower blood pressure and reduce the risk of heart disease. It often involves avoiding processed and other high-sodium foods such as cured meats, soups and sauces, and various pickled foods.

Your body needs a certain amount of sodium to function. For example, it helps support your blood pressure. This sodium usually comes from [salt](#). However, eating too much salt is linked to an increased risk of stroke and heart disease [\[R\]](#), [\[R\]](#).

Foods higher in salt include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Prepared soups, broths, gravies, and sauces
- Fermented or pickled foods (such as pickles, soy sauce, olives, and [capers](#))
- Cured meats and sausages (such as bacon, salt pork, and salami)
- Cheese (such as Roquefort and Parmesan)

Try to limit your daily intake to 1 teaspoon of salt (2,400 mg of sodium) [\[R\]](#).

How it helps

Eating less salt (sodium) can be beneficial for people with kidney stones because high sodium intake can increase calcium levels in urine, which can contribute to the formation of kidney stones. Reducing salt in the diet can help prevent the formation of new stones and support overall kidney health.

6



DASH Diet

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Adopt a dietary pattern that emphasizes fruits, vegetables, whole grains, lean proteins, and low-fat dairy, while reducing sodium, red meat, sweets, and sugary beverages. Aim for 4-5 servings of both fruits and vegetables per day, 6-8 servings of grains (with at least half being whole grains), and 2-3 servings of low-fat dairy. This diet should be followed daily to manage blood pressure effectively.

Description

The DASH (Dietary Approaches to Stop Hypertension) diet is a dietary plan designed to reduce high blood pressure. It emphasizes fruits, vegetables, lean proteins, and whole grains while limiting sodium intake.

Health experts developed the DASH diet to reduce blood pressure. This diet also helps support weight control while reducing inflammation and cholesterol [\[R\]](#).

It **limits salt, sweets, and saturated fat**, while promoting the intake of [\[R\]](#):

- Fruits (4-5 servings/day)
- Vegetables (4-5 servings/day)
- Whole grains (6-8 servings/day)
- Low-fat dairy (2-3 servings/day)
- Nuts, seeds, and legumes (4-5 servings/week)
- Fish and poultry (up to 6 ounces/day)

The DASH diet focuses on fresh, minimally processed food rich in nutrients. Magnesium, calcium, and potassium-rich foods are particularly important due to their beneficial effects on the heart and blood vessels [\[R\]](#).

Although similar to the [Mediterranean diet](#), DASH is lower in sodium (<2,300 mg a day) and omega-3 fatty acids. On the other hand, it’s higher in red meat and dairy [\[R\]](#).

How it helps

The DASH Diet is rich in vegetables, fruits, and low-fat dairy, which can help reduce the formation of kidney stones by lowering blood pressure and improving kidney function.

7



Drink at Least 8 Glasses of Water a Day

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Consume a total of at least 64 ounces (or approximately 1.9 liters) of water over the course of the day. This can be divided into 8 glasses, each containing 8 ounces of water. Aim to drink evenly throughout the day to avoid dehydration.

Description

Water is an essential nutrient for nearly every process in your body, helping to mainting brain and gut function, maintain a health weight, as well as energy and performance levels, among others.

Water is essential for life. It supports nearly every process in your body [\[R\]](#).

Water helps maintain [\[R\]](#):

- Energy and performance levels
- Brain function
- Gut function
- Healthy weight

Most experts recommend drinking **around 8 glasses (64 oz. or 2 L) of water daily**. You might need more or less than this, depending on how active you are, where you live, or what your overall health is like [\[R\]](#).

How it helps

Staying well-hydrated is crucial for those with kidney stones, as it helps to flush out the urinary system, potentially moving stones through more quickly and preventing new stones from forming. Adequate water intake increases urine volume, which can facilitate the passage of stones and reduce the concentration of substances that might lead to stone formation.

8



Apply Heat

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Place a warm, not hot, heating pad or a warm wet towel on the affected area for 15-20 minutes at a time. Do this several times a day, ensuring there's at least a 1-hour interval between sessions to avoid skin damage.

TYPICAL STARTING DOSE

15 minutes

Description

Applying heat, such as through heating pads or warm baths, can help relieve muscle tension and soothe pain. It is a common method for managing muscle aches, menstrual cramps, and minor injuries.

People use hot applications to relieve pain, improve blood flow, and more [\[R\]](#), [\[R\]](#).

Types of hot applications include [\[R\]](#), [\[R\]](#):

- Heating pads
- Hot baths
- Saunas
- Hot water bottles

How it helps

Applying heat to the area where you're feeling pain can help relieve renal colic pain. Heat therapy works by relaxing muscles, which can reduce the pain caused by muscle spasms or tension around the kidneys and ureters. It improves blood flow to the area, helping to ease discomfort.

9



Avoid Sugary Foods & Drinks

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

To avoid sugary foods, eliminate or significantly reduce consumption of foods and beverages high in added sugars such as sodas, candies, baked goods, and sugary cereals from your diet. Instead, opt for natural sugar sources like fruits. Aim to do this daily for ongoing health benefits.

Description

High-sugar foods like baked goods, sweets, and sugary drinks, can spike your blood sugar levels. Consuming a lot of these types of foods can contribute to to health issues like diabetes, obesity, insomnia, and heart disease.

High-sugar foods and refined carbs have a high glycemic index (GI). This means they tend to spike your blood sugar levels. They include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Sugary drinks
- Baked goods
- Sweets
- White bread
- White rice
- Pasta

Eating a lot of sugary foods can contribute to:

- Diabetes [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Weight gain and obesity [\[R\]](#), [\[R\]](#)
- Insomnia [\[R\]](#)
- Heart disease [\[R\]](#)

You may also want to avoid processed sugars and sugary drinks. They may have a role in increasing IL-1B [\[R\]](#), [\[R\]](#).

How it helps

Consuming high amounts of sugary foods and drinks can lead to obesity, which is a risk factor for the formation of kidney stones. Furthermore, diets high in sugar can increase the excretion of calcium and decrease levels of urinary citrate, a compound that helps prevent stone formation, thereby potentially increasing the risk of kidney stones.

10



Limit Meat Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Substitute red and processed meats with plant-based proteins, such as beans, lentils, and tofu, for at least two meals per week. Gradually increase the number of meat-free meals by incorporating more fruits, vegetables, and whole grains into your diet daily.

Description

Limiting meat intake involves consuming fewer animal-based products, often as part of a plant-based diet. This dietary choice can provide health benefits such as lower cholesterol levels, reduced risk of certain chronic diseases, and a decreased environmental footprint.

Proteins, fats, and carbs are macronutrients. You need these nutrients in large (‘macro’) amounts. They provide your body with the energy it needs to function properly [\[R\]](#).

You should choose high-quality foods that give you the “best” version of each macronutrient. For example, too much saturated fat and protein from certain animal sources may increase the risk of heart disease and infertility [\[R\]](#), [\[R\]](#), [\[R\]](#).

Consider replacing red meat with other high-protein foods, such as [\[R\]](#), [\[R\]](#):

- Eggs
- Fish
- Soy
- Beans

How it helps

Reducing meat intake can lower the levels of uric acid in your body, which may help prevent the formation of certain types of kidney stones.

11



Reduce Oxalate Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Avoid high-oxalate foods such as spinach, beets, potatoes, and nuts. Instead, choose low-oxalate options like bananas, cabbage, and cucumbers. Aim to keep your daily oxalate intake under 100mg.

Description

Reducing oxalate intake means consuming foods and beverages with lower oxalate content, which can help prevent kidney stone formation and support kidney health. Oxalates are naturally occurring compounds found in various foods like spinach, chocolate, and nuts, and managing their intake is important for those prone to kidney stone formation.

Oxalate (*oxalic acid*) is a natural substance found in many foods, such as [R](#), [R](#), [R](#):

- **Spinach**
- Tea
- Rhubarb
- Chocolate
- Beets
- Nuts

Adults typically get 150-250 mg of oxalate every day. A high intake of oxalate may reduce calcium absorption and increase the risk of kidney stones [R](#), [R](#), [R](#).

How it helps

Reducing oxalate intake helps in managing renal colic, especially in those prone to oxalate kidney stones. Oxalates can combine with calcium in the urine to form stones, which may lead to renal colic. Limiting foods high in oxalates, like spinach and nuts, can reduce the risk of stone formation and associated pain.

12



Chanca Piedra

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 500 mg of Chanca Piedra supplement orally with water, once daily for a period of 1-3 months. Always check the product label for specific instructions regarding dosage and duration, as formulations may vary.

TYPICAL STARTING DOSE
500 mg

Description

Chanca piedra is a plant used in traditional herbal medicine and dietary supplements for its potential to support kidney and liver health. Some studies suggest it may have properties that can promote urinary tract health and help prevent kidney stones.

[Chanca piedra](#) (*Phyllanthus niruri*) is an herb that grows in tropical areas. The plant is used to make teas, liquid extracts, capsules, or tablets. It has a history of traditional use in China and Malaysia [\[R\]](#).

Some people take chanca piedra to help support the digestive system, liver, and kidneys [\[R\]](#).

How it helps

Chanca Piedra has been traditionally used to help break down kidney stones and ease their passage through the urinary tract. Studies suggest it may help reduce the size and number of stones, easing the discomfort associated with renal colic.

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 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.

