

Urinary Tract Infections

DNA Health Report

REPORT CATEGORIES —



URINARY TRACT
HEALTH



IMMUNITY &
INFECTIONS

Sample Client

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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

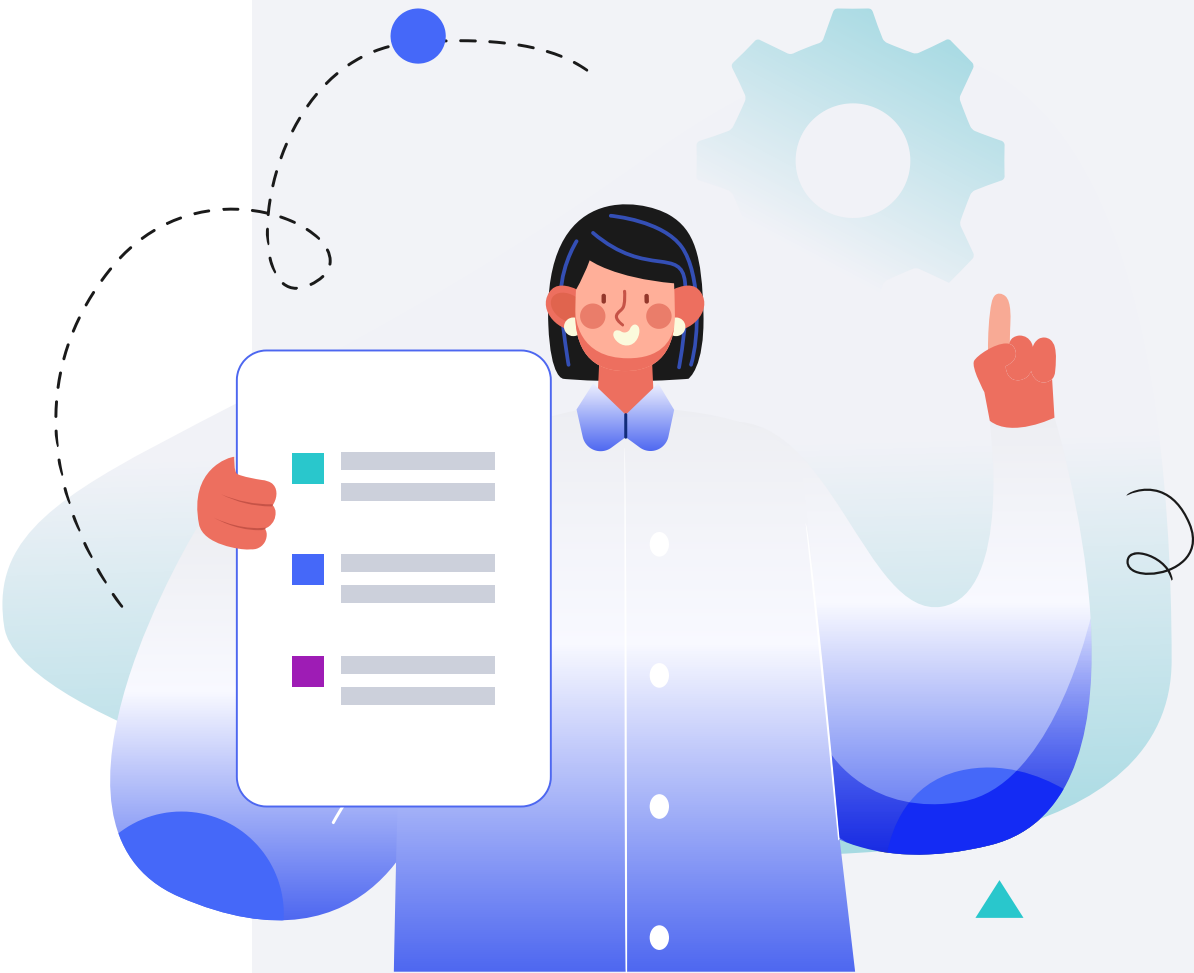
Male

HEIGHT

5ft 5" 165cm

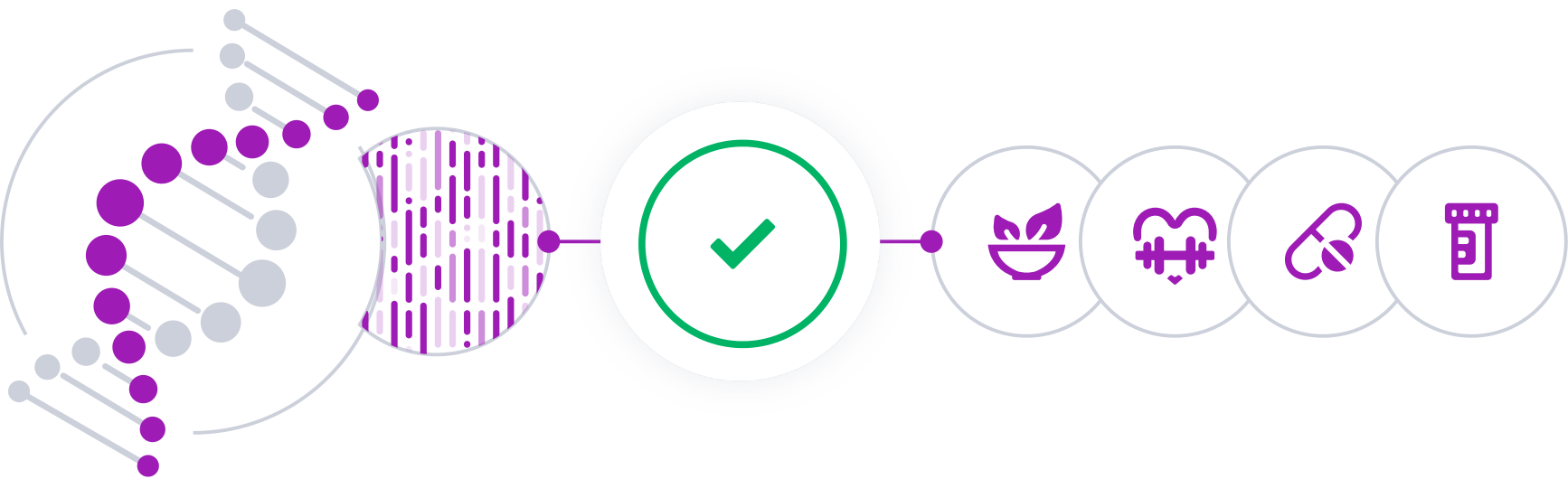
WEIGHT

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.

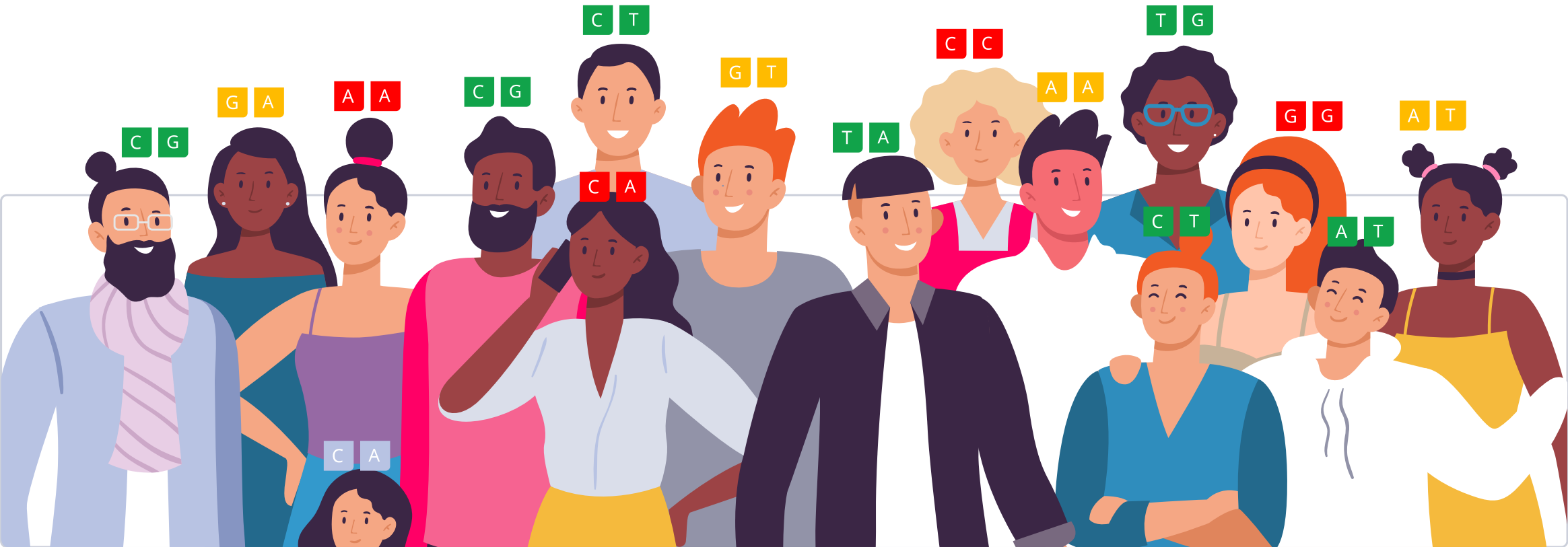


Similarly, our Trait Reports look at how your DNA influences your traits.



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

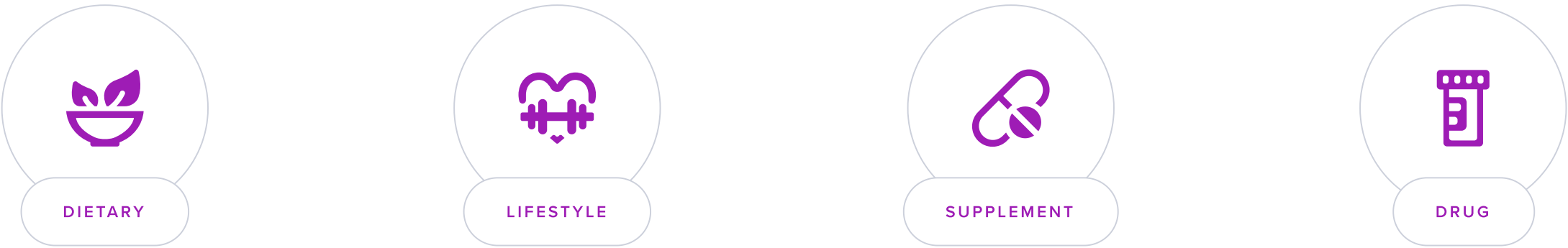
You have 2 risk alleles

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

Got that burning feeling when you pee? Chances are it could be a urinary tract infection (UTI). Both males and females are susceptible to UTIs, but they’re more common in women [\[R\]](#), [\[R\]](#).

For most, getting the occasional UTI is just a normal part of life. As a result, UTIs are often considered benign. But this isn’t always accurate.

While most UTIs will resolve naturally or with the help of antibiotics, in some cases they can be dangerous or even life-threatening if the infection spreads.

That said, the majority of UTIs will simply be nothing more than a dull burning. But as with any discomfort, nobody wants it if they can help it, right?

Generally, the best thing you can do to avoid these infections is follow standard medical advice, such as drinking plenty of water. But there is also a genetic element to UTIs [\[R\]](#), [\[R\]](#).

Variants belonging to genes like [BAG6](#) could influence how your immune system responds to an infection. Other genes, such as [AHR](#), could determine how susceptible you are to certain UTI risk factors like not drinking enough water [\[R\]](#), [\[R\]](#).

By identifying whether you carry these specific variants, you can take action such as staying hydrated or supplementing with D-mannose. These will potentially help your body clear harmful bacteria out of your urinary tract [\[R\]](#).

These are just some ways in which your genetics may help extinguish that burning feeling. Read on to find out more about:

- **How your genetics play a role in UTIs**
- **Your genetic risk score based on over 39,000 genetic variants**
- **Personalized recommendations based on your genetics**

About UTIs

Key Takeaways:

- About **150 million** people get at least one UTI per year.
They're much more common in **women**.
- Women at a high genetic risk may want to take precautions, such as staying hydrated and maintaining personal hygiene.
- UTIs can cause frequent urination, discolored or strong-smelling urine, burning pain while urinating, and pelvic pain.
- Click the **Recommendations** tab for potential dietary and lifestyle changes and **next steps** for relevant labs.

A **urinary tract infection (UTI)** is an infection in the system that carries urine out of the body. This includes parts of the kidneys, ureter, bladder, and urethra. UTIs are most common in the **bladder and urethra** [R].

An estimated 150 million people around the world get at least one UTI per year [R].

UTIs are more common in women. In fact, up to 60% of women will get at least one UTI in their lives. This may be because the female urinary tract is shorter and closer to the anus [R, R].

UTI signs and symptoms include [R, R]:

- Frequent urination
- Burning pain while urinating
- Cloudy, red, pink, or very dark urine
- Urine with a strong smell
- [Pain](#) in the pelvic region

Most UTIs are minor and can be treated with antibiotics. However, untreated UTIs can have serious complications. These include kidney damage and sepsis, a dangerous whole-body response to infection [R, R].

To prevent UTIs, doctors often recommend [R]:

- Drinking plenty of water
- Drinking cranberry juice



MORE LIKELY

More likely to have UTIs based on 37,658 genetic variants we looked at



PERCENTILE



Your risk is greater than 97% of the population and lower than 3% of the population.

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SLC26A5	rs148099564	CC
ADAL	rs189027627	GG
ADAL	rs140427966	AA
ADAL	rs146906133	TT
TRIM69	rs181576645	AA
CTDSPL2	rs182345433	AA
FMO4	rs144708187	GG
CATSPER2	rs181750397	CC
SCIN	rs13243276	CC
FRA10AC1	rs7091068	TT
PSCA	rs2976388	AA
HLA-DQA2	rs622871	GG
USP47	rs200063994	AA
HLA-DQA2	rs1548306	TA
TCF12	rs4774899	CT
/	rs117879743	AA
CCDC89	rs113384182	TT
LRRC7	rs147869396	CC
NPSR1	rs186476798	GG
NKAIN2	rs189203629	TT
LINS1	rs144174173	CC
/	rs139260327	TT
ERBB4	rs16847741	GG
B3GAT1	rs11224069	CC

Women in particular may be advised to [\[R\]](#):

- Wipe from front to back after using the toilet
- Pee after sex to flush bacteria from the urethra
- Avoid deodorant sprays or douches to prevent irritation
- Avoid diaphragms and spermicidal condoms, which can promote bacterial growth

Some people are prone to frequent UTIs no matter how careful they are. Their doctors may prescribe other interventions [\[R\]](#).

Genetics plays a significant role in UTI development.

Genes involved in UTI development tend to influence the immune response. They include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- [TLR4](#)
- [CXCR1](#)
- [IRF3](#)
- [MYD88](#)
- [TGFB1](#)

GENE	SNP	GENOTYPE
TSHZ3	rs77029180	TT
H4C13	rs13191227	GG
BTN3A2	rs6920256	GG
H3C12	rs34662244	GG
ZSCAN31	rs13191038	TT
HLA-G	rs3130844	GG
HLA-A	rs3094078	TT
MICB	rs1144710	TT
METTL7A	rs67133203	AA
ZSCAN31	rs200972	TT

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	D-Mannose	2 g	2	Drink at Least 8 Glasses of Water a Day	
3	Cranberry		4	Maintain Optimal Vitamin D Levels	1000 iu
5	Avoid Bladder Irritants		6	Probiotics	10 billion
7	Good Feminine Hygiene		8	Hibiscus	250 mg
9	Acupuncture	1 hour	10	Lactobacillus Rhamnosus	10 billion CFU
11	Lactobacillus Reuteri	10 billion CFU	12	Apply Heat	15 minutes
13	Black Chokeberry		14	Green Tea Extract	250 mg
15	Apple Cider Vinegar		16	Horseradish and Nasturtium	
17	Thymus Glandular		18	Reishi	
19	Lactobacillus Crispatus	10 billion CFU	20	Avoid Sugary Foods & Drinks	
21	Avoid Douching		22	Rose Hip	500 mg
23	Green Tea	400 mg	24	Saw Palmetto	320 mg
25	Nasturtium	200 mg	26	Horseradish	

1



D-Mannose

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

Take 2 grams of D-mannose powder dissolved in water, once daily for recurrent urinary tract infections. For active infections, take 1.5 grams twice daily for 3 days, then once daily for the next 10 days.

TYPICAL STARTING DOSE

2 g

Description

D-mannose is a natural sugar often used as a supplement to support urinary tract health. It may help prevent and alleviate urinary tract infections.

[D-mannose](#) is a natural sugar similar to [glucose](#). People take D-mannose as a supplement to help prevent or manage UTIs [\[R, R\]](#).

How it helps

D-mannose (1.5-3 g daily) may help with UTIs [\[R, R, R, R, R, R\]](#).

It may also help when combined with other ingredients, such as [\[R, R\]](#):

- Cranberry
- Hibiscus
- Probiotics

D-mannose may help the urinary tract clear bacteria more easily [\[R, R\]](#).

 PERSONALIZED TO YOUR GENES

Your [BAG6](#) gene variant correlates with UTIs. It likely weakens the immune response against bacteria. D-mannose may help the body clear bacteria from the urinary tract [\[R, R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
BAG6	rs2077491	CT	

2



Drink at Least 8 Glasses of Water a Day

IMPACT

4 / 5

EVIDENCE

3 / 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

Not drinking enough water or holding in urine for too long may increase the risk of UTIs. However, the evidence is mixed [R, R, R, R, R, R].

Drinking more water (at least 64 oz. or 2 L per day) may help prevent UTIs [R, R, R, R, R, R].

Staying hydrated dilutes the urine and makes you urinate more often. This likely helps flush out bacteria [R, R, R, R].

 PERSONALIZED TO YOUR GENES

People with your **AHR** gene variant tend to drink less water [R, R]. Make sure to stay hydrated to prevent UTIs.

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
AHR	rs4410790	TC	

3



Cranberry

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Consume one to two 8-ounce servings of unsweetened cranberry juice daily, or take 500 mg of cranberry supplements twice daily. Continue this practice consistently for at least several weeks to potentially observe benefits.

Description

Cranberries are known for their high antioxidant content and potential to promote urinary tract health by preventing bacterial adhesion. Consuming cranberries or cranberry products may help reduce the risk of urinary tract infections and provide antioxidant benefits.

Cranberries are fruits rich in vitamins, minerals, and antioxidants. They are available in different forms, including [\[R\]](#):

- Dried fruits
- Juice
- Powder
- Pills

How it helps

Many people consume cranberries to potentially help with UTIs. However, the evidence to support their use is mixed [\[R, R, R, R, R, R, R, R, R\]](#).

Cranberries may help the body clear bacteria more easily with urine [\[R, R, R, R, R\]](#).

Please note: *Cranberry may interact with blood thinners such as warfarin (Coumadin). If you are taking blood thinners, consult your doctor before consuming cranberry* [\[R\]](#).

4



Maintain Optimal Vitamin D Levels

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE

1000 iu

Description

Vitamin D, often referred to as the "sunshine vitamin," can be synthesized by the skin when exposed to sunlight, as well as being found in fish, eggs, and fortified milk. It helps regulate calcium absorption, promoting strong bones and a healthy immune system. Vitamin D deficiency can lead to conditions like rickets in children and osteoporosis in adults.

Your body needs [vitamin D](#) for strong bones. Vitamin D also plays a role in [\[R\]](#):

- Mood
- Immunity
- Heart health
- Blood sugar control

[Sunlight](#) is our main source of vitamin D. Experts recommend getting at least **5-15 minutes of midday sun, 2-3 times per week**. People with darker skin and those living at high latitudes may need longer periods of sun exposure [\[R\]](#), [\[R\]](#).

Foods like fish, eggs, and fortified milk provide small amounts of vitamin D. **People lacking vitamin D should consider taking a supplement** [\[R\]](#).

How it helps

Low levels of vitamin D are linked to more frequent UTIs [\[R\]](#), [\[R\]](#), [\[R\]](#).

Supplementing with vitamin D may help prevent UTIs and improve symptoms [\[R\]](#), [\[R\]](#).

Vitamin D may protect against UTIs by [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Supporting the immune system
- Reducing inflammation
- Strengthening the bladder barrier

Please note: *Experts recommend getting 600-800 IU of vitamin D per day. Medical bodies recommend against taking more than 4,000 IU per day* [\[R\]](#).

5

Avoid Bladder Irritants

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Eliminate or significantly reduce consumption of caffeine, alcohol, spicy foods, acidic fruits, artificial sweeteners, and carbonated drinks from your diet. Monitor your symptoms for improvement over a period of 4-6 weeks to identify specific irritants.

Description

Avoiding bladder irritants such as caffeine, alcohol, and spicy/acidic foods can help reduce the risk of urinary discomfort and promote bladder health, especially for individuals prone to urinary issues.

Some foods and drinks may irritate the bladder. These include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Carbonated drinks
- Tomato products
- Acidic fruits (oranges, grapefruits, lemons, limes)
- Alcohol
- Chocolate
- Caffeinated drinks

How it helps

Some beverages may contribute to or worsen UTIs by irritating the bladder. These include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- **Caffeinated drinks** (such as coffee and tea)
- Alcohol
- Soft drinks

An elimination diet can help you figure out which drinks are causing symptoms. First, you remove potential irritants from your diet. Then, you add them back one at a time to see which ones are triggers [\[R\]](#), [\[R\]](#).

You may not have to avoid trigger drinks entirely. Just cutting back may help. Slowly add drinks back to your diet to determine how much you can tolerate [\[R\]](#).

6



Probiotics

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Take a probiotic supplement containing 10 billion or more live cultures once daily, preferably with a meal or as directed by the packaging or a healthcare provider.

TYPICAL STARTING DOSE
10 billion

Description

Probiotics are live beneficial bacteria and yeasts that can support gut health and digestive function when consumed as supplements or found in fermented foods like yogurt and sauerkraut. They may be beneficial to gut health, immune function, blood sugar, and mood.

Probiotic bacteria are “good” bacteria found mainly in the large intestine. They support your body and mind by [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Maintaining gut health
- Supporting a healthy immune system
- Improving your mood
- Helping to maintain healthy blood sugar

Prebiotics are certain types of fiber and other complex carbs that serve as food for gut bacteria. **They support gut health by helping boost the activity and growth of “good” bacteria** [\[R\]](#), [\[R\]](#).

Prebiotics are also added to foods and supplements. Common prebiotic ingredients are [\[R\]](#), [\[R\]](#):

- Oligo-fructose
- Oligo-galactose
- [Inulin](#)

Mixtures of probiotics and prebiotics are known as **synbiotics** [\[R\]](#).

How it helps

Some probiotics may help with frequent UTIs. These include [\[R\]](#), [\[R\]](#):

- [L. acidophilus](#)
- [L. rhamnosus](#)
- [L. plantarum](#)
- [L. reuteri](#)

However, some studies found that probiotics had no benefits [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Probiotics may help by supporting the immune response against bad bacteria [\[R\]](#), [\[R\]](#).

7



Good Feminine Hygiene

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Wash your genital area once a day with warm water and mild, unscented soap. Wear cotton underwear and change it daily or more often if it gets damp. Avoid using scented products like douches, sprays, or powders in the genital area.

Description

Good feminine hygiene practices, including regular cleansing and maintaining a balanced vaginal pH, can help prevent infections and discomfort while promoting overall intimate health for women.

How it helps

Experts advise on personal hygiene habits to prevent urinary tract infections (UTIs), including

- Wiping from front to back after using the bathroom [\[R, R, R, R, R, R, R\]](#):
- Urinating before and after sexual intercourse
- Staying hydrated

Some studies involving thousands of women suggest these measures may reduce UTI occurrences. However, others find little to no association. Despite mixed evidence, such hygiene practices are encouraged due to their harmlessness [\[R, R, R, R, R\]](#).

Experts also recommend avoiding the following products that may irritate the urethra or boost humidity. They may upset the vaginal pH balance, which might increase the risk of UTIs [\[R, R\]](#):

- Deodorant sprays
- Douches
- Soaps
- Occlusive underwear

Douching with substances other than water may be linked to a 48% higher UTI risk [\[R\]](#).

8



Hibiscus

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 250 mg of hibiscus supplement daily, either in the form of a capsule or powder. It can be taken at any time of day, with or without food.

TYPICAL STARTING DOSE
250 mg

Description

Hibiscus is a flower known for its potential to lower blood pressure, boost antioxidant levels, and support heart health. Consuming hibiscus tea or incorporating hibiscus into your diet may provide these health benefits.

[Hibiscus](#) (*Hibiscus sabdariffa*), also known as roselle or sorrel, is a flowering plant. It is traditionally brewed as a tea of a distinctive, bright pink color [\[R\]](#), [\[R\]](#).

For hundreds of years, people from all over the world have taken hibiscus for its potential health benefits [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: *Hibiscus can interact with "water pills" (diuretics) like hydrochlorothiazide. If you are using "water pills", consult your doctor before taking hibiscus.*

How it helps

Hibiscus extract (100-200 mg/day) may help with UTIs. It may reduce symptoms and improve the quality of life. However, studied products contained other ingredients, such as [propolis](#). It is therefore difficult to say if beneficial effects are due to hibiscus or other ingredients [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Hibiscus may stimulate urination. This could help flush out UTI-causing bacteria [\[R\]](#).

Please note: *Hibiscus can interact with "water pills" (diuretics). If you are using "water pills," consult your doctor before taking hibiscus.*

9



Acupuncture

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Visit a licensed acupuncturist for a session, typically lasting between 30 to 60 minutes, once or twice a week. Depending on your specific condition, a course of treatment might range from a few weeks to several months.

TYPICAL STARTING DOSE

1 hour

Description

Acupuncture is a part of traditional Chinese medicine. It involves inserting thin needles at specific points on the body. People use it to relieve pain and allergies, as well as reduce nausea and improve sleep.

[Acupuncture](#) is a part of traditional Chinese medicine. It involves **inserting thin needles at specific points on the body**. People use it to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Relieve pain
- Improve sleep quality
- Relieve allergies
- Reduce nausea

How it helps

Acupuncture may help prevent UTIs and support their treatment. However, the quality of available studies is low [\[R\]](#), [\[R\]](#), [\[R\]](#).

Acupuncture may help by balancing the immune response [\[R\]](#).

Please note: *Acupuncture is safe for most people. However, it may come with extra risks for pregnant women, people with pacemakers, and people with bleeding disorders. Consult your doctor or a licensed acupuncturist for more information* [\[R\]](#).

10



Lactobacillus Rhamnosus

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take a probiotic supplement containing Lactobacillus rhamnosus. Typically, the suggested dose is 10 billion CFUs (colony-forming units) per day. This can be taken as a single daily dose or divided into two doses, morning and evening, with or without food. Continue this regimen for at least 4 weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

[Lactobacillus rhamnosus](#) is a [probiotic](#) bacterium, part of the normal gut microflora. Various foods may have added *L. rhamnosus*, including yogurt, cheese, and fermented legumes [\[R\]](#), [\[R\]](#).

People take *L. rhamnosus* supplements to balance their immune system and help with infections, allergies, and dermatitis [\[R\]](#).

How it helps

Lactobacillus products may help prevent recurrent urinary tract infections in premenopausal adult women [\[R\]](#).

A review of 9 clinical trials involving 726 women indicated that *Lactobacillus rhamnosus* GR1 (for 1-12 months) given orally or as vaginal suppositories, may reduce the risk of recurrent urinary tract infections. However, the studies' varied approaches and short follow-up periods demand further, more uniform research to confirm this benefit [\[R\]](#).

Lactobacillus strains may help by [\[R\]](#):

- Releasing antimicrobial substances such as lactic acid
- Competing with the bacteria causing the infections
- Improving immunity

11



Lactobacillus Reuteri

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement containing *Lactobacillus reuteri* daily, ideally choosing a product that specifies CFU (colony-forming units) to ensure you receive an effective dose. Dosage can vary depending on the specific product, but it's typically around 10 billion CFUs. Continue taking the supplement for at least 4 to 8 weeks to evaluate its benefits for your gut health.

TYPICAL STARTING DOSE
10 billion CFU

Description

Lactobacillus reuteri is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

Lactobacillus reuteri is a [probiotic](#) bacterium that is part of the normal [microbiome](#) of the gut, skin, urinary tract, and, occasionally, the stomach [\[R\]](#).

L. reuteri is also used as a probiotic. People take it to help with [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- High cholesterol
- Gut diseases
- Constipation
- Helicobacter pylori infections

In the 1960s, **30-40 percent** of people had *Lactobacillus reuteri* as a part of their microbiome. Today, estimates suggest it is found in only **10-20 percent** [\[R\]](#), [\[R\]](#).

How it helps

Lactobacillus products may help prevent recurrent urinary tract infections in premenopausal adult women [\[R\]](#).

Lactobacillus reuteri RC14 (for 1-12 months) given orally or as vaginal suppositories, may reduce the risk of recurrent urinary tract infections. However, further, more uniform research is needed to confirm this benefit due to the quality of the studies and their short follow-up periods [\[R\]](#).

Lactobacillus strains may help by [\[R\]](#):

- Releasing antimicrobial substances such as lactic acid
- Competing with the bacteria causing the infections
- Improving immunity

12



Apply Heat

IMPACT

1 / 5

EVIDENCE

1 / 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

Experts recommend applying a warm heating pad on the abdomen to minimize bladder pressure or discomfort from urinary tract infections [\[R\]](#).

13



Black Chokeberry

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate black chokeberry (Aronia melanocarpa) in your diet by consuming 100-200 grams of fresh berries daily. If using a concentrated form like juice or extracts, follow the manufacturer's instructions, usually around 100 ml of juice or 500 mg of extract per day, for at least 8-10 weeks to observe potential health benefits.

Description

Black chokeberry is a fruit known for its high content of antioxidants and potential health benefits. It may support cardiovascular health and provide immune system support when incorporated into a balanced diet.

How it helps

Black Chokeberry, high in antioxidants and Vitamin C, can aid in preventing urinary tract infections by boosting immune system responses and inhibiting the growth of harmful bacteria in the urinary tract. Its diuretic properties also promote frequent urination, which can help flush out bacteria to prevent or treat UTIs.

In a placebo-controlled trial of 236 residents of nursing homes, consuming black chokeberry juice (156 mL/day) for 6 months **reduced the incidence of UTIs by 38-55%** [\[R\]](#).

14



Green Tea Extract

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a green tea extract supplement containing 250-500 mg of EGCG (the active compound in green tea) daily, preferably with a meal to enhance absorption. This dosage is typically split into two separate doses, taken in the morning and later in the day. Continue this regimen for at least three months to observe potential health benefits.

TYPICAL STARTING DOSE

250 mg

Description

Green tea extract is a concentrated form of the beneficial compounds found in green tea, such as catechins. It is used in dietary supplements for its potential to enhance metabolism, aid in weight management, and provide antioxidant protection.

[Green tea](#) is made from the same plant as black tea (*Camellia sinensis*). However, the leaves and buds are processed differently [\[R\]](#).

Green tea contains **catechins**. These are antioxidants that help prevent [oxidative stress](#) [\[R\]](#).

EGCG is the main catechin found in green tea. It may help reduce inflammation and support weight loss [\[R\]](#).

How it helps

A study with 70 women suffering from cystitis showed that taking green tea extract (500mg, 4x/day for 3 days), alongside standard therapy, reduced symptoms and improved urine test results [\[R\]](#).

The active compound epigallocatechin gallate (EGCG) in green tea may help by blocking bacterial growth [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea [\[R\]](#).

15



Apple Cider Vinegar

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate 1-2 tablespoons of apple cider vinegar into your diet daily by diluting it in a large glass of water. Consume this mixture before meals to potentially benefit from its effects.

Description

Apple cider vinegar is a fermented liquid made from crushed apples and is known for its potential health benefits. It is rich in acetic acid and may aid in weight management, improve digestion, and help regulate blood sugar levels, often used as a natural remedy for various conditions like acid reflux and insulin resistance.

[Vinegar](#) is often used in cooking to add sour flavor and to preserve foods through pickling. Some people also use vinegar for cleaning [\[R\]](#).

Apple cider vinegar is one of the most common vinegars produced from apples. As a health food, apple cider vinegar may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reduce blood sugar
- Lower cholesterol
- Fight infections

How it helps

Apple cider vinegar is believed to help treat urinary tract infections by making the urine more acidic, which can deter bacterial growth. Moreover, it contains antimicrobial properties that could potentially kill off the bacteria causing the UTI.

In a non-placebo-controlled trial of 60 long-term catheterized patients, nasogastric feeding with diluted rice vinegar (100 mL/day) for 4 weeks decreased bacteriuria, possibly helping prevent UTIs [\[R\]](#).

16



Horseradish and Nasturtium

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement that combines horseradish and nasturtium in a capsule form, following the manufacturer’s dosage instructions. Typically, this might involve taking one to two capsules daily with meals for a period of at least 2-4 weeks to support respiratory health.

Description

Horseradish contains compounds that may provide relief from congestion and support respiratory health. It is often used as a condiment and may offer mild anti-inflammatory and antibacterial effects. Nasturtium is a plant with edible flowers and leaves. It is used in traditional medicine for its potential antimicrobial properties and as a source of vitamin C.

How it helps

In a placebo-controlled trial of 174 participants, supplementation with horseradish and nasturtium (2x/day) for 90 days reduced the incidence of UTIs [\[R\]](#).

Horseradish and nasturtium contain natural antibacterial compounds that may help reduce the harmful bacteria causing urinary tract infections.

17



Thymus Glandular

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a thymus glandular supplement, usually found in capsule form, once daily with a meal. It is commonly recommended to follow the dosage instructions on the product label or as directed by a healthcare professional. Continue as long as recommended in the guidance you receive.

Description

Thymus extract is derived from the thymus gland of animals and may contain bioactive compounds believed to support the immune system. It's used in some dietary supplements for potential immune-modulating effects.

How it helps

In a study of 30 elderly people struggling with chronic urinary tract infections (UTIs), combining a thymus extract with antibiotics (specific to each patient’s infection) offered greater benefits than antibiotics alone. The addition of thymus extract improved the overall experience of the illness, easing symptoms like burning during urination, frequent urination, and urgency to urinate [\[R\]](#).

18



Reishi

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a reishi mushroom supplement, ranging from 500mg to 1500mg once daily. It is best consumed with water and can be taken with or without food. Continue consistently for at least 2 to 3 months to observe potential benefits.

Description

Reishi (*Ganoderma lucidum*) is a type of medicinal mushroom consumed in various forms, including teas, extracts, and capsules. Native to Asia, reishi has been used for centuries in traditional Chinese medicine for its potential to boost the immune system, promote relaxation, and support overall well-being. Reishi contains various compounds, including triterpenes and polysaccharides.

How it helps

Reishi, a type of mushroom, can boost your immune system, which is crucial in combating urinary tract infections (UTIs). It also has anti-inflammatory properties that can potentially alleviate the uncomfortable symptoms associated with UTIs.

In 2 placebo-controlled trials of 138 men with lower urinary tract symptoms, supplementation with reishi mushroom (0.6, 6, or 60 mg/day) for 8-12 weeks **improved the International Prostate Symptom Score** [\[R, R\]](#).

19



Lactobacillus Crispatus

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a Lactobacillus crispatus probiotic supplement daily, containing around 10 billion colony-forming units (CFUs). The exact dosage depends on the specific product's instructions. Continue for at least 4 weeks to assess benefits for urinary and vaginal health.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus Crispatus is a type of good bacteria that lives in our bodies, particularly in the urinary and genital systems. These good bacteria help fight off harmful bacteria and infections, leading to improved overall health. It's crucial to maintain a good balance of such bacteria in our body to ensure optimal function of our immune system.

How it helps

Lactobacillus crispatus vaginal suppositories (1x/day for 5 days, then 1x/week for 10 weeks) in combination with standard therapy may reduce infection recurrence, according to a study of 100 premenopausal women with recurrent urinary infections [\[R, R\]](#).

20



Avoid Sugary Foods & Drinks

IMPACT

1 / 5

EVIDENCE

1 / 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 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

A study found that older postmenopausal women with recurrent urinary tract infections had lower urine pH, which was associated with higher sugar intake [R](#).

21



Avoid Douching

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Stop using any douching products, whether vaginal or rectal, immediately and do not start this practice. Instead, maintain natural balance and cleanliness through regular bathing with water and mild soap if necessary, avoiding inserting any substances or products into the body.

Description

Douching is washing or cleaning out body cavities with water or other mixtures of fluids. It usually refers to vaginal douching. Experts however, recommend against douching because it can lead to health problems, such as vaginal infections, STD's, and difficulties getting pregnant.

Douching is washing or cleaning out body cavities with water or other mixtures of fluids. It usually refers to vaginal douching.

This practice is common in women. However, **experts recommend against douching** because it can lead to health problems, including [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Difficulty getting pregnant
- Vaginal infections
- Sexually transmitted diseases (STDs).

How it helps

Douches may change the vaginal pH and increase the risk of urinary tract infections. A study of over 3,000 women found that those douching with substances other than water had a 48% increased risk of UTIs [\[R\]](#).

However, not all studies found this association [\[R\]](#).

22



Rose Hip

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 500 mg rose hip supplement daily, preferably with a meal to aid absorption.

TYPICAL STARTING DOSE

500 mg

Description

Rose hip is the fruit of the wild rose plant and is commonly used in various forms, such as oil or extract. It's rich in nutrients like vitamin C, antioxidants, and essential fatty acids, making it valuable for skincare and immune health.

Rose hips are round fruits found on rose plants [\[R\]](#).

They're a **good source of vitamin C and other antioxidants**. Some compounds in rose hips are also **anti-inflammatory** [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

In a study of 400 women who underwent cesarean section, taking rose hip extract (500 mg, 2x/day) reduced the risk of urinary tract infections 4.5 times. However, it did not prevent cystitis [\[R\]](#).

23



Green Tea

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Consume 400 mg of green tea extract daily. This can be taken in the form of capsules or tablets available that specify the amount of green tea extract. Ensure the supplement is taken according to the product's specific instructions, usually once a day with water.

TYPICAL STARTING DOSE

400 mg

Description

Tea is a beverage made by steeping the leaves of the *Camellia sinensis* plant in hot water. It comes in various types, including black, green, white, and herbal teas, and is known for its diverse flavors and potential health benefits due to antioxidants and other bioactive compounds.

[Green](#) and black tea are made from the same plant (*Camellia sinensis*). This plant is processed in different ways to make each type of tea [\[R\]](#), [\[R\]](#).

Tea contains antioxidants called **flavonoids**, which may help prevent [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart disease
- Cancer
- Diabetes

How it helps

A study involving nearly 400 Chinese women revealed that those who drank more than three cups of green tea monthly had a 95% lower chance of experiencing recurrent urinary tract infections [\[R\]](#).

The active compound epigallocatechin gallate (EGCG) in green tea may help by blocking bacterial growth [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea [\[R\]](#).

24



Saw Palmetto

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a saw palmetto supplement of 160 mg twice daily or 320 mg once a day. This dosage is typically taken in capsule form. Continue this regimen for at least two to six months to assess its effectiveness for conditions like benign prostatic hyperplasia.

TYPICAL STARTING DOSE
320 mg

Description

Saw palmetto is a plant extract derived from the berries of the saw palmetto palm (*Serenoa repens*). It has traditionally been used by Native Americans for various medicinal purposes. Today, it is primarily used as a dietary supplement for prostate health.

[Saw palmetto](#) (*Serenoa repens*) is a small palm plant native to the US [\[R\]](#), [\[R\]](#).

People use it to help with [\[R\]](#):

- Urinary problems
- Pain
- Hair loss

How it helps

In a placebo-controlled trial of 85 men with UTI symptoms, supplementation with saw palmetto for 6 months decreased symptom scores while improving quality of life [\[R\]](#).

Saw palmetto has anti-inflammatory properties that can help soothe the urinary tract, reducing infection symptoms.

25



Nasturtium

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a nasturtium supplement in the form of capsules or tablets, typically ranging from 200 to 400 mg, once daily with water. It is advisable to follow the dosage recommendations on the product label or consult a healthcare provider for personalized advice.

TYPICAL STARTING DOSE

200 mg

Description

Nasturtium is a flowering plant known for its potential antimicrobial and anti-inflammatory properties, often used in herbal remedies to support immune function and alleviate symptoms of respiratory infections.

How it helps

In a placebo-controlled trial of 174 participants, supplementation with horseradish and nasturtium (2x/day) for 90 days reduced the incidence of UTIs [\[R\]](#).

26



Horseradish

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 500mg of horseradish supplement once daily with a glass of water, preferably with a meal, to help with sinus congestion. Do not exceed this amount without consulting a healthcare provider.

Description

Horseradish contains compounds that may provide relief from congestion and support respiratory health. It is often used as a pungent condiment and may offer mild anti-inflammatory and antibacterial effects when consumed.

How it helps

In a placebo-controlled trial of 174 participants, supplementation with horseradish and nasturtium (2x/day) for 90 days reduced the incidence of UTIs [\[R\]](#).

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.

	Leukocyte Esterase		Negative Positive	9 Nov 2025
	Specific Gravity, Urine	1.015 x100%	1 1.04	9 Nov 2025
	WBC	6.92 x10^3/mm3	2 4 6.5 11 40	9 Nov 2025
	Zinc	17.12 umol/L	7.65 9.18 12.24 19.89	9 Nov 2025
	Vitamin D, 25-Hydroxy, Total	58.59 ng/mL	10 20 30 75 150	9 Nov 2025
	Albumin	4.3 g/dL	3.4 4.4 5.5	9 Nov 2025

Your Lifestyle Assessments

Ever heard of the term Nature vs. Nurture?

The thing is, both DNA and environment play a role in determining your health risks. The following assessments shows how much of an impact your lifestyle, environment and medical history are having on your health risks.

✓

LIFESTYLE

You have a **reduced risk** of urinary tract infection (uti) based on the answers you provided.

Your Lifestyle Risk

LowDecreasedAverageIncreasedHigh

Factors impacting your risk:

What is your blood type?	Increasing Risk	!
AB		
Have you ever been diagnosed with diabetes?	Decreasing Risk	✓
No		
What is your age?	Decreasing Risk	✓
41		
What is your sex?	No impact	—
Male		