

Frailty

DNA Health Report

REPORT CATEGORIES —



ENERGY & FATIGUE



LONGEVITY

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:

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

Frailty is a syndrome characterized by decreased strength, endurance, and physiological function that increases an individual's vulnerability for developing increased dependency and/or death. This condition commonly affects older adults, leading to a higher risk of falls, hospitalizations, disability, and mortality.

Frailty is complex, often resulting from a combination of physical deconditioning and underlying medical comorbidities. It can be triggered by acute events such as infections or chronic illnesses that worsen over time, ultimately impacting a person's quality of life by limiting their ability to perform daily activities and live independently.

Symptoms and Management

The clinical presentation of frailty includes symptoms such as fatigue, muscle weakness, slowed performance, and diminished energy reserves. Due to its multidimensional nature, the diagnosis of frailty involves a comprehensive assessment of physical capability, nutritional status, and social and psychological functions.

Management strategies for frailty are typically multidisciplinary and can include tailored exercise programs to improve physical function, nutritional interventions to address potential deficiencies or undernutrition, and supportive measures to enhance social support and cognitive stimulation. The goal of these interventions is not only to improve or maintain functional status but also to enhance overall quality of life.



MORE LIKELY

More likely to experience frailty based on 16,767 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SYT14	rs12739243	TT
LRPPRC	rs4952693	CC
/	rs9275160	AG
RBM6	rs2071207	TT
TMOD2	rs17612102	CC
PIK3C3	rs8089807	CT
MDFIC	rs2396766	AG
NLGN1	rs583514	CT
CCDC6	rs4146140	TC
/	rs1363103	TC
CHP1	rs3959554	AG
NCAM1	rs10891490	CT
FAM160B2	rs56299474	CC
RGS12	rs82334	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	Mediterranean Diet	2	Aerobic Exercise (Cardio)1 hour
3	Maintain Optimal Vitamin D Levels1000 iu	4	Tai Chi1 hour
5	Oats	6	Nutrition Education
7	Pumpkin Seeds	8	Balance And Mobility Training30 minutes
9	Exercise Therapy1 hour	10	Probiotic Yogurt
11	Whole Grains	12	Strength Training1 hour
13	Walking30 minutes	14	Quinoa
15	Dietary Omega-3 Fatty Acids	16	Stability Training30 minutes
17	Aquatic Exercise1 hour	18	Nordic Walking30 minutes
19	Chair Yoga30 minutes	20	Spinach
21	Sardines		

1



Mediterranean Diet

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Description

The [Mediterranean diet](#) is based on the traditional cuisine from the Mediterranean regions. It moderates the intake of red meat and dairy, while being rich in fruits and vegetables, whole grains, and healthy fats ([olive oil](#)).

The [Mediterranean diet](#) focuses on traditional cuisine from the Mediterranean regions. It’s rich in [\[R\]](#):

- [Olive oil](#)
- Fruits and vegetables
- Whole grains
- Nuts and seeds
- Fish

This type of diet may **reduce inflammation and protect the brain and heart** [\[R, R, R, R\]](#).

Limited intake of animal products, saturated fat, and refined sugar likely contribute to the health benefits of the Mediterranean diet [\[R\]](#).

How it helps

Adherence to a Mediterranean diet may reduce the risk of frailty and pre-frailty in older people [\[R, R, R, R\]](#).

In a non-placebo-controlled trial of 612 older participants, adopting a Mediterranean diet for 12 months increased several markers of low frailty [\[R\]](#).

Specific components of this diet such as fruits, vegetables, and olive oil have also been associated with a decreased risk of frailty [\[R\]](#).

2



Aerobic Exercise (Cardio)

IMPACT2 / 5

EVIDENCE1 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Aerobic exercise may reduce frailty in elderly people, both cognitively healthy and with dementia [\[R, R, R\]](#).

Aerobic exercise may help by improving physical function.

3



Maintain Optimal Vitamin D Levels

IMPACT1 / 5

EVIDENCE2 / 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

Older people with low vitamin D levels may have a 17-25% higher risk of frailty. Those with this condition may have increased severity if their vitamin D levels are low [\[R\]](#), [\[R\]](#), [\[R\]](#).

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 health benefits, including improving balance, flexibility, and psychological well-being. For those experiencing frailty, Tai Chi can offer a low-impact exercise option that enhances physical stability and reduces the risk of falls.

5



Oats

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate oats into your diet daily by having them for breakfast as oatmeal, or adding them to smoothies, baking recipes, or overnight oats. Aim for at least a half-cup (40 grams) of dry oats to reap the health benefits.

Description

Oats are a whole grain known for their high fiber content and nutritional value, like zinc, iron, and manganese. Including oats in one's diet can promote heart health, stabilize blood sugar levels, and provide sustained energy.

Oats are a good source for manganese, zinc, iron, magnesium, and vitamins B1 and B5. A ½ cup serving provides 0.7 mg of manganese or 30%DV.

How it helps

Oats are a great source of dietary fiber and essential nutrients, aiding in digestive health and providing sustained energy, which can be beneficial for individuals experiencing frailty.

6



Nutrition Education

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Sign up for a comprehensive nutrition education course or workshop, which typically involves attending a series of classes or seminars. These can vary in length but often run weekly for 4 to 8 weeks, covering topics such as healthy eating principles, understanding food labels, and planning balanced meals. Aim to apply learned principles to your daily eating habits consistently.

Description

Nutrition education involves teaching individuals about healthy eating habits, proper nutrition, and making informed food choices. It empowers people to improve their diets, make healthier food selections, and ultimately support their overall health and well-being.

Nutrition education helps people with eating disorders better understand their condition and foster healthy eating behaviors [\[R\]](#).

It can involve [\[R\]](#):

- Understanding the effects of nutrition on the body
- Setting up a healthy meal plan
- Aiming for a healthy weight

How it helps

Educating frail individuals on proper nutrition can significantly impact their overall health. Nutritional education can guide them towards a balanced diet rich in vitamins, minerals, and proteins needed to maintain muscle mass, support immune function, and promote energy levels.

7



Pumpkin Seeds

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate a handful of pumpkin seeds (about 28 grams) into your diet daily. You can add them to your breakfast cereal, sprinkle them over a salad, blend them into smoothie bowls, or simply eat them as a snack. This practice can be continued indefinitely as part of a healthy dietary pattern.

Description

Pumpkin seeds, also known as pepitas, are the edible seeds of the pumpkin.They are rich in protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. The compounds in pumpkin seeds may benefit heart health and immune function.

Pumpkin seeds are rich in arginine, protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. Pumpkin seeds contain 54.18 mg of arginine per gram.

How it helps

Pumpkin seeds are high in protein and magnesium, which support muscle and bone health, potentially helping to counteract the weakness and bone loss seen in frailty.

8



Balance And Mobility Training

IMPACT

0 / 5

EVIDENCE

0 / 5

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 involves exercises that improve stability and reduce the risk of falls. This is especially important for frail individuals, as improved balance can lead to better mobility, fewer falls, and a higher quality of life.

9



Exercise Therapy

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Begin by consulting with a physical therapist to assess your condition and create a personalized exercise plan. Follow the prescribed exercises consistently, focusing on areas needing improvement, such as strength, flexibility, or mobility. Start with gentle exercises, gradually increasing the intensity as you build strength. Ensure you perform the exercises correctly to avoid injury. Regularly check in with your therapist to adjust the plan based on your progress and feedback. Stay committed to the routine for the best results.

TYPICAL STARTING DOSE

1 hour

Description

Exercise therapy is a tailored approach to physical activity designed to improve mobility, strength, and overall health. It is often used to rehabilitate injuries, manage chronic conditions, and promote cardiovascular fitness.

How it helps

Exercise therapy helps to improve muscle strength, cardiovascular health, and mobility in individuals with frailty, thereby enhancing their physical function and reducing the risk of falls.

10



Probiotic Yogurt

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Consume one to two servings of probiotic yogurt each day. Each serving is typically 6 to 8 ounces. Continue this practice daily for at least 1 to 2 weeks to begin noticing benefits to digestive health.

Description

Probiotic yogurt is a dairy product containing live probiotic cultures like Lactobacillus and Bifidobacterium, which can aid digestion and improve gut health when consumed regularly. It is a good source of calcium, protein, and probiotics, contributing to bone health and digestive well-being.

How it helps

Probiotic yogurt introduces beneficial bacteria into the gut, which may improve gut health, nutrient absorption, and immune function, factors important in managing frailty.

11



Whole Grains

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate at least three servings of whole grains into your daily diet. This can include consuming foods such as whole grain bread, brown rice, whole grain pasta, and oats. Aim to replace refined grains with whole grains at each meal for optimal benefits.

Description

Whole grains encompass a variety of grains like wheat, oats, and quinoa, where the entire grain kernel is intact. They are rich in fiber, vitamins, minerals, and antioxidants, supporting heart health and reducing the risk of chronic diseases.

Unlike refined grains, whole grains contain nutritious parts of the grain like bran and germ.

Whole grains provide many crucial nutrients, including:

- Fiber
- B-vitamins
- Iron
- Magnesium
- Phosphorus

Due to their high fiber content, whole grains don't tend to spike blood sugar like refined grains do.

How it helps

Whole grains provide essential nutrients and dietary fiber, which can improve energy levels and overall nutritional status, helping mitigate some aspects of frailty.

12



Strength Training

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Engage in strength training exercises, such as weight lifting or bodyweight exercises, for 60 minutes per session, 2 to 3 times per week. Ensure you work all major muscle groups and rest each muscle group for at least 48 hours before exercising it again.

TYPICAL STARTING DOSE

1 hour

Description

Strength training, also called resistance or *anaerobic* training, contracts the muscles against an external resistance for short periods of time. This helps gain muscle strength, tone, and mass. This can include activities like weight lifting, pushups, and crunches.

Strength training, also known as resistance training, is a type of physical exercise that uses resistance to build strength, anaerobic endurance, and size [R]. Some of the most common strength training methods include [R]:

- Weight lifting
- Bodyweight exercises like push-ups, pull-ups, squats, and lunges.
- Resistance bands
- Plyometrics or explosive force exercises

The benefits of strength training are numerous, and include [R]:

- Increased muscle strength
- Improved bone health
- Reduced risk of injury
- Improved balance and coordination
- Enhanced mood
- Boost metabolism

Consult with a doctor before starting any new exercise program, especially if you have any health conditions.

How it helps

Strength training is vital for combating frailty as it builds muscle mass, strength, and improves bone density. This type of exercise can help individuals perform daily activities with less effort and reduce the risk of falls, making it crucial for maintaining independence in frail populations.

13



Walking

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate at least 30 minutes of brisk walking into your daily routine, aiming for a minimum of five days a week. This can be done in one continuous session or broken into shorter periods, such as three 10-minute walks throughout the day.

TYPICAL STARTING DOSE

30 minutes

Description

Walking is a low-impact form of exercise that can contribute to cardiovascular fitness, weight management, and improved overall health. It is used to support physical activity goals, enhance mood, and promote better cardiovascular health.

How it helps

Regular walking enhances cardiovascular health, muscle strength, and overall endurance, which are beneficial for managing frailty.

14



Quinoa

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate quinoa into your diet by replacing rice or pasta with it in meals. Aim for 1-2 servings, which is about 1/2 to 1 cup cooked, 2-3 times a week to benefit from its high protein, fiber, and mineral content.

Description

Quinoa is a nutrient-rich, gluten-free grain-like seed originating from South America. It is packed with protein, fiber, B-vitamins, vitamins A, C, and E, as well as minerals like calcium phosphorus, iron, and zinc, making it a valuable addition to diets for promoting muscle health, aiding digestion, and providing essential nutrients.

[Quinoa](#) (*Chenopodium quinoa Willd*) is a flowering plant native to The Andes in South America. There, it is a **food staple for indigenous cultures** [\[R\]](#), [\[R\]](#), [\[R\]](#).

Quinoa is famous for its seeds, which are **gluten-free and high in protein**. In comparison with many grains, quinoa seeds have a greater amount of many nutrients, including [\[R\]](#), [\[R\]](#):

- Fiber
- [Fatty acids](#) (e.g., linoleic and α-linolenic acid)
- Vitamins (e.g., B1, B2, B6, C, and E)
- Minerals (e.g., calcium, phosphorus, iron, and zinc)

Quinoa seeds can be used whole or ground to a fine powder and shaped into flakes before use [\[R\]](#).

How it helps

Quinoa is a complete protein and a good source of iron and fiber, supporting overall nutritional status and energy levels in frail individuals.

15



Dietary Omega-3 Fatty Acids

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods high in omega-3 fatty acids into your diet daily. This includes eating fish such as salmon, mackerel, and sardines at least twice a week. Alternatively, include a tablespoon of flaxseed oil or chia seeds in your daily diet.

Description

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA. **EPA and DHA are vital for mental and heart health** [\[R\]](#), [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal health, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

Omega-3 fatty acids found in fish oils have been shown to have numerous health benefits. For individuals experiencing frailty, omega-3s may help by reducing inflammation and improving muscle health, leading to better physical function and potentially slowing the progression of frailty.

16



Stability Training

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Integrate stability exercises into your workout routine 2-3 times per week. These exercises include activities such as using a stability ball, performing balance exercises on a balance board, or doing body-weight exercises that focus on balance and core strength, such as planks and single-leg stands. Spend approximately 20-30 minutes per session focusing on these exercises.

TYPICAL STARTING DOSE
30 minutes

Description

Stability training is a form of exercise that focuses on enhancing core strength and balance through targeted movements and exercises, often incorporating equipment like stability balls, balance boards, or resistance bands. It helps improve overall stability and posture while reducing the risk of falls and injury.

How it helps

Stability training helps improve balance and coordination, reducing the risk of falls and enhancing mobility for frail individuals.

17



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

Aquatic exercise is beneficial for frailty because it provides resistance training with low impact on the joints, helping to improve muscle strength, balance, and overall physical function.

18



Nordic Walking

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

To implement Nordic walking as a lifestyle change, use specially designed walking poles and engage in this activity for at least 30 minutes a day, most days of the week. Ensure proper technique by maintaining an upright posture and alternating the poles with your steps for balance and effectiveness.

TYPICAL STARTING DOSE

30 minutes

Description

Nordic walking is a form of exercise that involves walking with specially designed poles. It provides a full-body workout, helps improve cardiovascular fitness, and can enhance muscular strength and endurance.

How it helps

Nordic walking engages more muscle groups than regular walking, which can help improve upper and lower body strength, balance, and overall mobility in frail individuals.

19



Chair Yoga

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Practice chair yoga for at least 20 minutes, three times a week. Find a comfortable chair without arms, wear loose clothing, and follow a guided chair yoga session focusing on gentle stretches and breathing exercises.

TYPICAL STARTING DOSE

30 minutes

Description

Chair yoga is a modified form of yoga designed for individuals with limited mobility or physical challenges. It offers a range of physical and mental health benefits, including improved flexibility, reduced stress, and enhanced relaxation, making it accessible to a wide range of individuals.

How it helps

Chair yoga is effective for frailty as it offers low-impact stretching and strengthening exercises that can improve flexibility, balance, and overall well-being.

20



Spinach

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate one cup of fresh spinach or half a cup of cooked spinach into your daily diet. You can add spinach to salads, smoothies, omelets, or pastas to easily increase your intake.

Description

Spinach is a leafy green vegetable packed with essential nutrients, including vitamins A and K, iron, and folate. Incorporating spinach into the diet supports eye health, bone health, and overall nutrition.

Spinach is a good source of molybdenum, folate, calcium, and iron, as well as vitamins A, C, and K1. A ½ cup serving provides 8 mcg of molybdenum or 18%DV.

How it helps

Spinach is loaded with vitamins and minerals, such as iron and vitamin K, which are essential for energy production and bone health, addressing key aspects of frailty.

21



Sardines

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate two to three servings of sardines into your diet each week. You can eat them grilled, steamed, or straight from the can as part of salads, sandwiches, or as a snack. Each serving should be about 3.5 ounces (100 grams), which is roughly one can of sardines.

Description

Sardines are small, oily fish known for their rich content of omega-3 fatty acids, calcium, B12, and vitamin D. Consuming sardines can support heart health, bone strength, and provide essential nutrients, and they are typically found in coastal waters.

Sardines are a good source of iron, omega-3 fatty acids, and a host of vitamins and minerals including calcium, iron, and vitamin D. A 2-sardine serving provides 2 mg of iron or 11%DV.

How it helps

Sardines are rich in omega-3 fatty acids, protein, and calcium, all of which are crucial for maintaining muscle mass and bone density, thus potentially reducing frailty.

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.

	Urea	30.5 mg/dL		9 Nov 2025
	Vitamin D, 25-Hydroxy, Total	58.59 ng/mL		9 Nov 2025
	Albumin	4.3 g/dL		9 Nov 2025
	hs-CRP	1.6 mg/L		9 Nov 2025