



# SKIN & HAIR REPORT



**LIVE HEALTHY.  
STAY YOUNG.**



## PATIENT NAME



Participant Age

40 Years



Case ID

YT24A100



Date of Birth

18 Jan 1985



Participation Date

26 Jun 2025



Participant Sample

Saliva



Received Date

07 Jul 2025



National ID

1000100010



Reported Date

05 Aug 2025



# WELCOME *to* YOUTH

**At Youth**, we're transforming the way you approach wellness by providing science-based, personalized insights grounded in your unique genetic makeup. Our mission is to empower individuals to make informed lifestyle choices that enhance health, vitality, and overall well-being. We believe that true wellness comes from understanding and embracing the one-of-a-kind blueprint that is your DNA.

Within this report, you'll uncover how specific genetic markers influence various aspects of your health—from fitness and nutrition to sleep, mental resilience, skin, and hair. By gaining insight into these areas, you can begin to tailor your lifestyle choices for optimal outcomes. We analyze carefully selected genes based on robust scientific research, providing you with reliable information to enhance your approach to health and wellness.

Genetics is just one part of the wellness equation, interacting with your environment, habits, and lifestyle. This report offers a glimpse into your genetic foundation, serving as a guide to better personalize your daily choices and long-term health strategies.

***We're excited to be part of your journey toward a healthier, more empowered you! Let's get started and unlock your full wellness potential.***

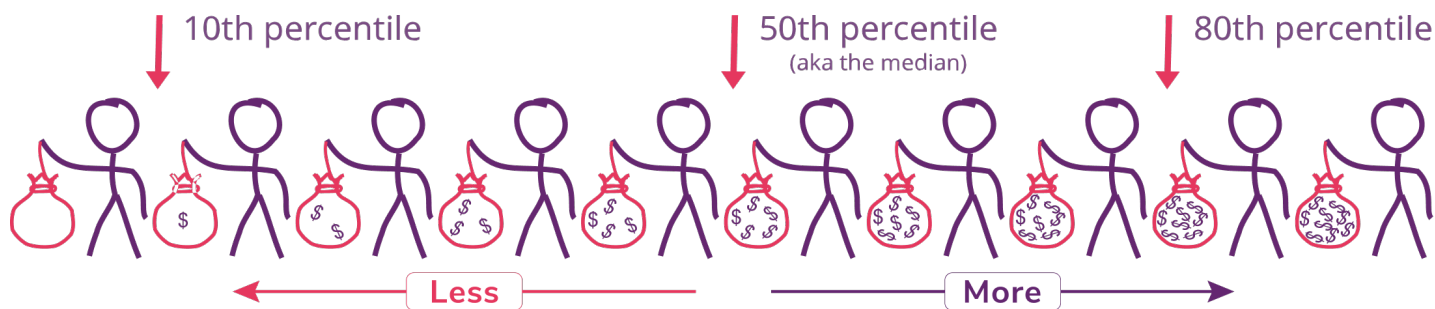


## HOW TO READ

### YOUR YOUTH WELLNESS REPORT

Your Youth report is designed to give you clear, actionable insights based on your unique genetic profile. To help you understand these insights, we use **polygenic risk scores (PRS)**, which combine the effects of multiple genetic markers associated with a specific trait. This score is then converted into a **percentile**, giving you a sense of where you stand relative to the general population.

- **What is a Percentile?** The percentile ranking shows how your genetic profile compares to others. For example, if your percentile score for a particular trait (like endurance potential) is 85%, it means that based on your genetics, your potential is higher than that of 85% of the population.



- **Report Sections:** Each section of your report covers different wellness areas. Here's how to interpret each:
  - 1. Trait Overview:** Each wellness area begins with a description of the trait (e.g., endurance, recovery, skin elasticity), outlining why it's relevant to your health.
  - 2. Your Percentile Score:** Below each trait, you'll find your percentile score. This score is based on your PRS and tells you where you fall in the distribution of genetic predispositions for that trait. Higher percentiles typically indicate a stronger genetic predisposition toward the trait, while lower percentiles may indicate a lesser predisposition.
  - 3. How to Interpret Your Score:**
    - 1. High Percentile (75-100%):** You have a strong genetic predisposition toward this trait. Consider using this information to make lifestyle adjustments that capitalize on this advantage.
    - 2. Average Percentile (26-74%):** Your genetic predisposition is average, meaning you may benefit from targeted lifestyle choices to optimize this area.
    - 3. Low Percentile (0-25%):** A lower percentile indicates a lesser predisposition. However, remember that genetics is only one piece of the puzzle; lifestyle factors can still significantly influence your outcomes.
  - 4. Recommendations:** Each section provides recommendations based on your percentile score. These include lifestyle, dietary, and fitness suggestions to help you optimize each wellness trait based on your unique genetic profile.



ID: YT24A100

Name: Patient Name

D.O.B.: 18-Jan-1985

Ver: 1

● **A Few Important Notes:**

◦ **Genetics Is Only One Piece of the Puzzle:**

While this report offers valuable insights into your genetic makeup, your overall health and wellness are also shaped by lifestyle, environment, and daily habits. These non-genetic factors can influence, reinforce, or offset your genetic tendencies—empowering you to take control of your well-being.

◦ **Your Scores Reflect Tendencies, Not Guarantees:**

Your polygenic risk scores (PRS) highlight genetic tendencies, not certainties. These scores indicate how your genetics may influence certain traits or health risks compared to others, but they do not predict specific outcomes. Use these insights as a tool to make informed, proactive lifestyle and health decision.

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**WE HOPE** This guide helps you make the most of your Youth wellness report & supports you on your journey to **A HEALTHIER LIFESTYLE!**

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**LIVE HEALTHY.  
STAY YOUNG.**



## Genetics & Skin and Hair Health

Our genes play a significant role in shaping the health and characteristics of our skin and hair. Think of it as a blueprint that influences how our skin and hair respond to various factors in our environment. Certain genetic markers can determine how well your skin retains moisture, your likelihood of developing acne, or your skin's susceptibility to sun damage. Similarly, genetic factors influence hair traits like thickness, color, curl pattern, and how your hair responds to environmental stressors.

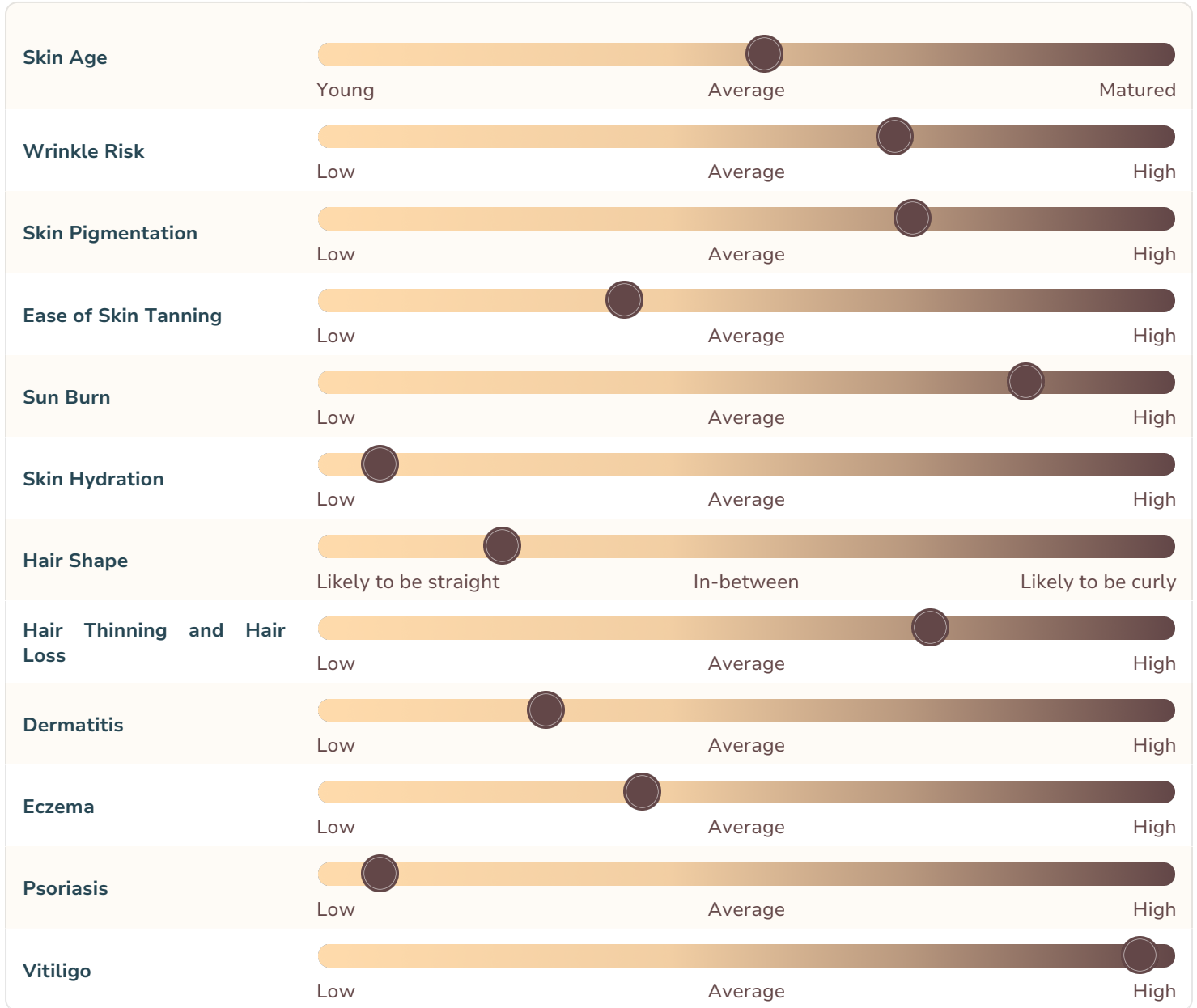
However, **while genes can set a foundation, they don't guarantee specific outcomes. Just because you have genetic markers linked to certain skin or hair tendencies doesn't mean these issues will necessarily appear.** Lifestyle and environmental factors, such as diet, sun exposure, skincare routine, and stress levels, play an equally important role in shaping your skin and hair health.

Understanding your genetic tendencies can empower you to make more informed choices to support your skin and hair health. Whether it's using targeted skincare products, maintaining a balanced diet, or practicing sun protection, there are many ways to manage and enhance your skin and hair wellness effectively.

*Let us see what your DNA data reveals about your individual hair and skin traits*



## Summary of Your Skin and Hair Traits



# PART 1 SKIN AGING AND APPEARANCE





Our skin's aging process is shaped by a complex interplay of genetics, lifestyle, and environmental influences. Genetics, in particular, provide the foundation for how our skin naturally changes over time. While everyone's skin undergoes aging, certain genetic factors can predispose individuals to experience visible signs like fine lines, wrinkles, and reduced elasticity sooner or more prominently.

genes, for instance, are closely linked to collagen production and breakdown, which directly impacts skin firmness and resilience. Additionally, genetic variations can affect the skin's ability to retain moisture, resist environmental damage, and repair itself after exposure to elements such as UV radiation and pollution. Understanding these genetic tendencies enables a more personalized approach to skincare and lifestyle choices, empowering individuals to better support their skin's long-term health and youthful appearance.

In this part, we'll examine two primary genetic indicators of skin aging: **Skin Age** and **Wrinkle Risk**. We'll explore the ways these factors influence the skin aging process and offer targeted strategies to help maintain skin vitality based on these genetic insights.

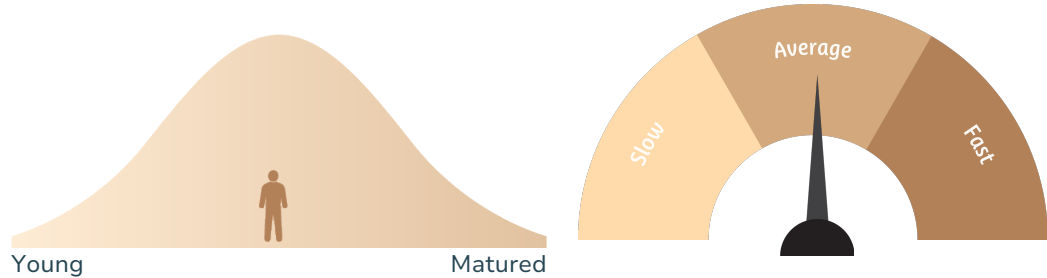


## Skin Age

**Skin Age** reflects the biological age of your skin, influenced by genetic factors that regulate collagen production, skin elasticity, and repair mechanisms. These genetic traits play a crucial role in determining how well your skin retains firmness, resists wrinkles, and recovers from environmental damage over time. Collagen and elastin, the key proteins in maintaining youthful skin, are regulated by specific genes that influence their production and breakdown.

A **high genetic score** for Skin Age indicates a tendency to reduced collagen production and slower repair mechanisms, which may make the skin more prone to sagging, wrinkles, and other signs of accelerated aging. A **low genetic score** suggests robust collagen maintenance and efficient repair processes, which may slow down visible signs of aging such as fine lines and wrinkles. However, even with favorable genetics, environmental factors like UV exposure, pollution, and lifestyle choices can accelerate aging. Understanding your Skin Age profile can help tailor anti-aging skincare strategies, emphasizing collagen-boosting ingredients, sun protection, and healthy habits to preserve skin's youthful appearance over time.

Your Result: **AVERAGE**



Genetic Markers Used to Calculate the Score: 7,676 Genetic Markers  
Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 56<sup>th</sup> Percentile**

Your genetic profile shows that the rate of your skin aging is **average**. Out of every 100 people with a similar background, you show signs of aging **more slowly than 44** of them. This suggests that your skin may naturally age **similar** to most people's.

### Interpretation

Your genetic results indicate an **average genetic tendency to skin aging**, suggesting your skin's aging process is likely on par with most people. While genetics provide a baseline, **external factors**, including UV radiation, stress, and skincare practices, can still significantly impact your skin's appearance over time. Maintaining healthy habits and using protective skincare can preserve your skin's youthful look.



## Recommendations for Managing Skin Aging

Skin aging is influenced by a combination of genetic, environmental, and lifestyle factors. While genetics play a role, proactive management through targeted skincare, healthy habits, and environmental protection can slow visible signs of aging such as wrinkles, fine lines, loss of elasticity, and uneven skin tone. Below is a comprehensive guide to managing skin aging effectively:

### 1. Sun Protection: The Foundation of Anti-Aging

- **Use Broad-Spectrum Sunscreen** Apply a sunscreen with at least SPF 30 daily, even on cloudy days. Look for products that protect against both UVA (aging rays) and UVB (burning rays).
- **Reapply Regularly** Reapply sunscreen every two hours if you're outdoors or immediately after swimming or sweating.
- **Wear Protective Clothing** Use hats, sunglasses, and long-sleeved shirts to shield your skin from direct sun exposure.
- **Avoid Peak Sun Hours** Limit outdoor activities during peak UV radiation times (10 a.m. to 4 p.m.).

### 2. Build a Targeted Skincare Routine

- **Gentle Cleansing** Use a mild, pH-balanced cleanser to remove dirt, makeup, and pollutants without stripping the skin's natural oils.
- **Moisturize Regularly** Choose moisturizers containing hyaluronic acid, glycerin, or ceramides to keep the skin hydrated and plump.
- **Incorporate Anti-Aging Ingredients**
  - **Retinoids (Vitamin A Derivatives)** Promote cell turnover, improve skin texture, and reduce the appearance of wrinkles.
  - **Vitamin C** A powerful antioxidant that brightens skin, evens tone, and combats free radical damage.
  - **Peptides** Support collagen production and improve skin elasticity.
  - **Niacinamide** Enhances skin barrier function, reduces redness, and minimizes fine lines.
  - **AHAs/BHAs (Alpha and Beta Hydroxy Acids)** Exfoliate dead skin cells, revealing smoother, younger-looking skin.
- **Night Care** Use richer creams or serums at night, as the skin repairs itself during sleep.

### 3. Stay Hydrated

- **Internal Hydration** Drink at least 8-10 glasses of water daily to maintain skin elasticity and prevent dryness.
- **Hydrating Products** Use serums and moisturizers with humectants like hyaluronic acid to lock in moisture.

### 4. Eat a Skin-Healthy Diet

- **Antioxidant-Rich Foods** Consume colorful fruits and vegetables (e.g., berries, spinach, kale) to fight free radicals that accelerate aging.
- **Omega-3 Fatty Acids** Include fatty fish (salmon, mackerel), walnuts, and flaxseeds to maintain skin elasticity and reduce inflammation.
- **Vitamin C and E** Support collagen production and skin repair. Found in oranges, kiwis, almonds, and sunflower seeds.
- **Collagen Supplements** Consider collagen peptides to enhance skin elasticity and hydration.
- **Limit Sugar and Processed Foods** High sugar intake can lead to glycation, a process that damages collagen and accelerates aging.



### 5. Maintain a Healthy Lifestyle

- **Avoid Smoking** Smoking accelerates skin aging by reducing blood flow and depleting oxygen and nutrients essential for skin health.
- **Limit Alcohol Consumption** Alcohol dehydrates the skin, making it more prone to fine lines and dullness.
- **Manage Stress** Chronic stress can increase cortisol levels, which may damage collagen. Practice stress-reducing activities such as yoga, meditation, or deep breathing.
- **Get Enough Sleep** Aim for 7-9 hours of quality sleep per night to support the skin's natural repair processes.

### 6. Consider Professional Treatments

- **Chemical Peels** Remove the top layer of skin, revealing a fresher, more even complexion.
- **Microdermabrasion or Dermaplaning** Exfoliate and smooth the skin surface.
- **Laser Treatments** Target wrinkles, sunspots, and uneven skin tone for a rejuvenated appearance.
- **Microneedling** Stimulate collagen production and improve skin texture.
- **Injectables** Botox or fillers can smooth wrinkles and restore volume loss.

### 7. Regular Skin Monitoring

- **Check for Changes** Monitor your skin for new spots, moles, or changes in texture and color. Early detection is key for addressing potential skin concerns.
- **Dermatologist Visits** Schedule annual check-ups with a dermatologist to receive personalized advice and treatments.

## Taking it all Together

Managing skin aging is about adopting consistent habits that nourish and protect your skin. By combining sun protection, a tailored skincare routine, a nutritious diet, and a healthy lifestyle, you can significantly slow the aging process and maintain a radiant, youthful appearance. Consistency and prevention are the keys to long-term results!

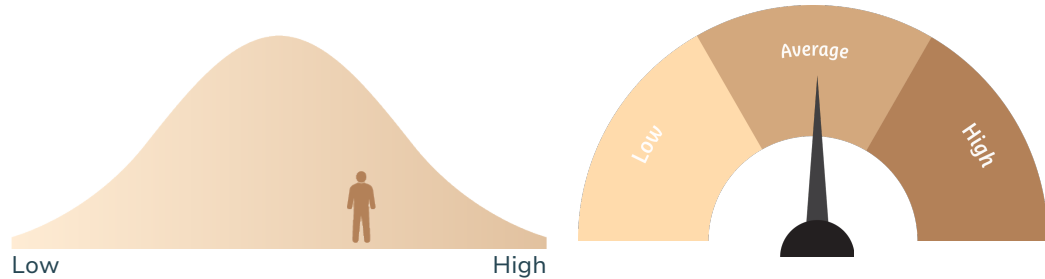


## Skin Wrinkle Risk

**Wrinkle Risk** is driven by genetic factors that influence the breakdown and production of collagen and elastin, proteins essential for skin structure and elasticity. Genes involved in these processes can affect how quickly the skin shows fine lines, creases, and other signs of aging.

A **high genetic score** for Wrinkle Risk indicates a tendency for more rapid wrinkle formation, suggesting a need for proactive skincare, including collagen-supporting products and sun protection, to preserve skin smoothness. A **low genetic score** suggests a slower rate of wrinkle formation, with supportive genes for skin structure maintenance. Understanding this trait can help guide anti-aging strategies and skincare routines to sustain skin firmness and reduce wrinkle visibility over time.

Your Result: **AVERAGE**



Genetic Markers Used to Calculate the Score: 25 Genetic Markers

Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 71<sup>st</sup> Percentile**

Your genetic profile shows that the rate of your skin wrinkling is **average**. Out of every 100 people with a similar background, you show signs of wrinkling **more slowly than 29** of them. This suggests that your skin may naturally wrinkle **similar** to most people's.

### Interpretation

Your genetic results indicate an **average genetic tendency to develop wrinkles**, suggesting your likelihood of experiencing fine lines is similar to most people. However, **environmental factors**, such as UV radiation, pollution, and stress, can still accelerate wrinkle formation. Using protective skincare, such as daily sunscreen and hydrating products, can help mitigate these risks.



## Recommendations for Managing Wrinkle Risk

Wrinkles are a natural part of aging, caused by a combination of intrinsic factors like genetics and extrinsic factors such as sun exposure, smoking, and lifestyle choices. While you cannot change your genetic tendency, there are several effective strategies to minimize wrinkle formation, protect your skin, and maintain a youthful appearance for longer.

### 1. Protect Your Skin from UV Damage

- **Use Broad-Spectrum Sunscreen** Apply sunscreen with at least SPF 30 daily, even on cloudy days, to shield your skin from harmful UV rays, which accelerate wrinkle formation.
- **Wear Protective Clothing** Use wide-brimmed hats, sunglasses, and lightweight, long-sleeved clothing to minimize sun exposure.
- **Seek Shade** Avoid direct sunlight during peak hours (10 a.m. to 4 p.m.) to reduce UV-related skin damage.

### 2. Maintain Healthy Skin Hydration

- **Moisturize Daily** Use a hydrating moisturizer with ingredients like hyaluronic acid, glycerin, or ceramides to keep your skin plump and reduce the appearance of fine lines.
- **Drink Plenty of Water** Staying well-hydrated supports skin elasticity and reduces dryness that can exacerbate wrinkles.
- **Use a Humidifier** In dry environments, a humidifier can help maintain optimal skin moisture levels.

### 3. Support Collagen Production

- **Incorporate Antioxidants** Use skincare products with antioxidants like vitamin C, vitamin E, or green tea extract to combat free radical damage and boost collagen production.
- **Add Retinoids or Retinol** These vitamin A derivatives stimulate collagen synthesis, improving skin texture and reducing wrinkles over time.
- **Eat Collagen-Boosting Foods** Consume foods rich in vitamin C, zinc, and amino acids found in berries, citrus fruits, nuts, and lean protein to support collagen production.

### 4. Adopt Healthy Lifestyle Habits

- **Quit Smoking** Smoking accelerates skin aging by breaking down collagen and elastin while reducing oxygen supply to the skin.
- **Reduce Alcohol Consumption** Excessive alcohol dehydrates the skin, making wrinkles more prominent.
- **Manage Stress** Chronic stress can lead to the release of cortisol, which may degrade skin collagen. Practice relaxation techniques like yoga, meditation, or deep breathing.

### 5. Prioritize Restorative Sleep

- **Sleep on Your Back** Sleeping on your side or stomach can cause 'sleep lines' that may deepen over time.
- **Use a Silk Pillowcase** A smooth pillowcase reduces friction on the skin and minimizes wrinkle formation.
- **Get Enough Sleep** Aim for 7-9 hours of quality sleep each night to allow your skin to repair and regenerate.



## 6. Consider Advanced Skincare and Treatments

- **Exfoliate Regularly** Gentle exfoliation removes dead skin cells, encouraging skin renewal and reducing the appearance of wrinkles.
- **Professional Treatments** Consult a dermatologist for treatments like chemical peels, microneedling, or laser therapy to target deeper wrinkles.
- **Consider Injectables** For significant wrinkles, procedures like Botox or dermal fillers may provide targeted improvement.

## Taking it all Together

Wrinkle management is a multi-faceted approach that combines sun protection, skin hydration, collagen support, and healthy lifestyle choices. By adopting these proactive measures, you can slow down the appearance of wrinkles, maintain smooth and radiant skin, and age gracefully. Consistent care and, if needed, professional advice will help you achieve and sustain youthful skin over time.

# PART 2

SKIN PIGMENTATION  
& SUN SENSITIVITY

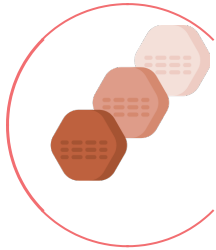




Skin pigmentation and sensitivity to the sun are largely influenced by our genetic makeup. These factors not only determine our natural skin tone but also shape how our skin responds to sun exposure, including the likelihood of tanning or burning. Genetics play a key role in influencing the amount of melanin in our skin—a pigment that offers some protection against UV radiation but also affects how our skin reacts to sunlight.

For example, specific genes regulate melanin production levels and distribution, which contribute to our baseline skin pigmentation. These same genetic factors can impact whether our skin is more prone to darken (tan) or redden (burn) when exposed to UV light. Understanding these genetic traits can be instrumental in making informed decisions about sun care and protective measures. Individuals with certain genetic profiles may benefit from tailored sun protection strategies to help prevent skin damage, premature aging, and other sun-related skin concerns.

In this part, we'll look closely at three key genetic indicators: **Skin Pigmentation**, **Ease of Skin Tanning**, and **Sun Burn Risk**. We'll explore how these factors contribute to your skin's unique characteristics and provide guidance on effective ways to protect and care for your skin based on these genetic insights.

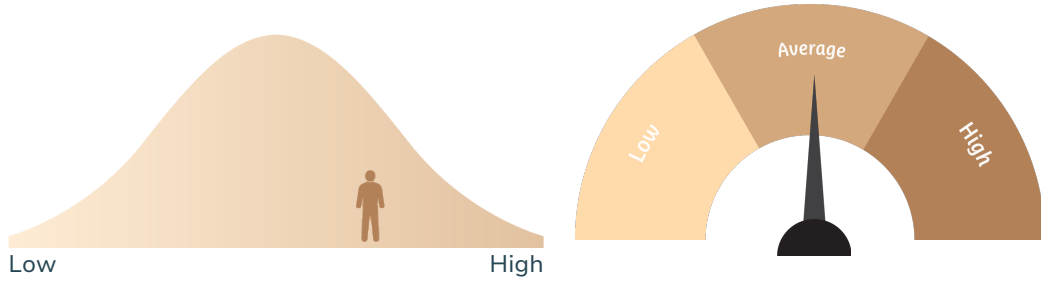


## Skin Pigmentation

**Skin Pigmentation** is determined by genetic factors that regulate melanin production, which directly influences natural skin tone and the skin's ability to protect itself from UV exposure. Melanin acts as a natural barrier, providing pigmentation and helping to shield skin from environmental stressors such as sunlight. Specific genes impact both the quantity and type of melanin, influencing not only skin color but also sensitivity to sun damage and propensity for pigmentation changes over time.

**high genetic score** for Skin Pigmentation suggests a greater level of natural melanin, which may provide enhanced protection against UV rays but could also lead to a tendency for pigmentation changes like dark spots or uneven skin tone. A **low genetic score** indicates less melanin production, often correlating with lighter skin tones and a higher risk for sun sensitivity and damage. Understanding your skin pigmentation profile can guide sun protection and skincare approaches to better support skin health and even tone.

Your Result: **AVERAGE**



Genetic Markers Used to Calculate the Score: 15,817 Genetic Markers

Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 73<sup>rd</sup> Percentile**

Your genetic profile shows that your tendency for skin pigmentation is **average**. Out of every 100 people with a similar background, your pigmentation tendency is **lower than 27** of them. This suggests that your skin may naturally develop pigmentation **similar** to most people's.

### Interpretation

Your genetic results indicate an **average genetic tendency to skin pigmentation**, suggesting a balance between lighter and darker skin tones. While genetics provide a foundation, **external factors**, such as UV exposure and skincare habits, can affect skin tone and health. Using sunscreen and nourishing skincare can help maintain even pigmentation.



## Recommendations for Managing Skin Pigmentation

Skin pigmentation refers to the natural color of the skin determined by melanin production. Variations in pigmentation can result in concerns such as hyperpigmentation (dark spots), hypopigmentation (light patches), or uneven skin tone. While genetics play a significant role in pigmentation, lifestyle factors, skincare, and environmental exposure also influence its appearance. Below are practical recommendations to manage skin pigmentation effectively:

### 1. Sun Protection

- **Daily Sunscreen Use** Apply a broad-spectrum sunscreen with SPF 30 or higher every day to prevent UV-induced pigmentation changes, including dark spots and uneven tone.
- **Reapply as Needed** Reapply sunscreen every two hours when outdoors, especially after sweating or swimming.
- **Wear Protective Gear** Hats, sunglasses, and long-sleeved clothing provide additional protection from harmful UV rays.
- **Avoid Tanning Beds** Artificial UV exposure can exacerbate pigmentation issues and accelerate skin aging.

### 2. Build a Consistent Skincare Routine

- **Gentle Cleansing** Use a mild cleanser to avoid irritating the skin and exacerbating pigmentation.
- **Moisturize Regularly** Maintain skin hydration to support a healthy barrier and improve the appearance of uneven pigmentation.
- **Brightening Ingredients**
  - **Vitamin C** Reduces dark spots and brightens overall skin tone.
  - **Niacinamide** Improves uneven tone and strengthens the skin barrier.
  - **Azelaic Acid** Helps fade hyperpigmentation and is suitable for sensitive skin.
  - **Alpha-Arbutin** Targets dark spots and reduces melanin overproduction.
  - **Retinoids** Promotes cell turnover and reduces pigmentation over time.
- **Exfoliation** Use gentle exfoliants containing AHAs (e.g., glycolic acid) or BHAs (e.g., salicylic acid) to remove dead skin cells and enhance radiance. Limit exfoliation to 2-3 times per week to prevent irritation.

### 3. Eat a Pigmentation-Friendly Diet

- **Antioxidant-Rich Foods** Incorporate foods like berries, green tea, and spinach to combat oxidative stress, a major contributor to pigmentation issues.
- **Vitamin C and E** Found in citrus fruits, nuts, and seeds, these vitamins support collagen production and skin repair.
- **Zinc and Selenium** Essential minerals in foods like seafood and eggs help maintain an even skin tone.
- **Stay Hydrated** Drinking sufficient water keeps the skin supple and supports an even complexion.

### 4. Address Pigmentation Triggers

- **Avoid Picking or Scratching** Picking at acne or other skin lesions can lead to post-inflammatory hyperpigmentation (PIH).
- **Monitor Hormonal Changes** Hormonal fluctuations (e.g., during pregnancy or due to birth control) can cause melasma or other pigmentation issues. Consult a healthcare provider for management options.



### 5. Consider Professional Treatments

- **Chemical Peels** Help reduce hyperpigmentation by removing the top layer of skin.
- **Laser Therapy** Targets specific pigmentation concerns, such as dark spots or melasma, with precision.
- **Microneedling** Stimulates collagen and can help reduce pigmentation over time.
- **Topical Prescriptions** Dermatologists may prescribe hydroquinone, tretinoin, or other medicated creams for stubborn pigmentation.

### 6. Regular Skin Monitoring

- **Track Changes** Monitor any new pigmentation, including dark spots, freckles, or patches, and consult a dermatologist for unusual changes.
- **Dermatologist Visits** Schedule regular check-ups for personalized advice and professional treatments.

## Taking it all Together

Managing skin pigmentation requires a comprehensive approach, including sun protection, a consistent skincare routine, and lifestyle adjustments. Combining these strategies with professional guidance, when necessary, can help minimize pigmentation concerns and promote an even, radiant complexion. With dedication and care, you can achieve healthier, more balanced skin.

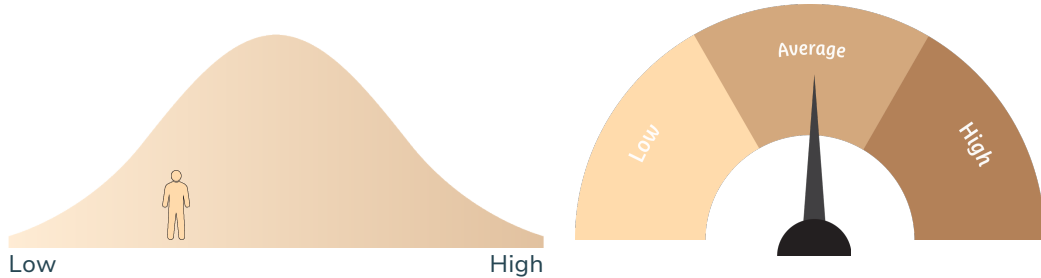


## Ease of Skin Tanning

**Ease of Skin Tanning** is influenced by genetic factors that regulate your skin's response to UV exposure, particularly melanin production and distribution. These factors determine how effectively your skin darkens (tans) or reacts (burns) under sunlight. Genes involved in these processes play a key role in adapting your skin to sun exposure.

A **high genetic score** for Ease of Skin Tanning indicates a natural tendency to tan more easily, suggesting enhanced resilience to sun exposure. However, even with this tendency, sun protection is essential to avoid long-term skin damage. A **low genetic score**, on the other hand, suggests a reduced likelihood of tanning and a higher tendency toward burning, signaling the importance of consistent sun protection measures to prevent damage. Understanding your tanning profile can help you adopt safer practices when exposed to sunlight.

**Your Result: AVERAGE**



Genetic Markers Used to Calculate the Score: 240,701 Genetic Markers  
Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 40<sup>th</sup> Percentile**

Your genetic profile shows that your tendency for skin tanning is **average**. Out of every 100 people with a similar background, your tanning tendency is **lower than 60** of them. This suggests that your skin may naturally tan **at a level similar** to most people's.

### Interpretation

An **average genetic score** suggests a moderate tanning ability, meaning your skin may tan with UV exposure but could also be prone to occasional redness or sunburn. Practicing balanced sun protection, including sunscreen and limiting sun exposure during peak UV hours, can support healthy skin while allowing for a controlled tan.



## Recommendations for Managing Sun Tan Risk

Sun tanning occurs when the skin produces melanin in response to ultraviolet (UV) radiation exposure, resulting in darker pigmentation. While a tan may appear desirable, excessive sun exposure can lead to skin damage, premature aging, and an increased risk of skin cancer. Managing sun tan risk requires effective prevention strategies and skin care to protect and maintain your skin's health. Below are practical recommendations to minimize and manage sun tan risk:

### 1. Practice Effective Sun Protection

- **Use Sunscreen Daily** Choose a broad-spectrum sunscreen with SPF 30 or higher to protect against UVA and UVB rays. Reapply every 2 hours or after swimming, sweating, or towel-drying.
- **Cover Up** Wear wide-brimmed hats, sunglasses with UV protection, and lightweight, long-sleeved clothing to reduce direct sun exposure.
- **Seek Shade** Avoid direct sunlight during peak hours (10 a.m. to 4 p.m.) when UV radiation is strongest.

### 2. Limit Sun Exposure

- **Avoid Intentional Tanning** Skip tanning beds and prolonged sunbathing, as they can increase your risk of UV damage.
- **Gradual Acclimation** If you're outdoors often, let your skin acclimate to sunlight gradually to avoid sudden overexposure.

### 3. Build a Protective Skincare Routine

- **Antioxidant-Rich Products** Use serums or moisturizers containing vitamin C, vitamin E, or niacinamide to neutralize free radicals caused by UV rays and reduce pigmentation.
- **Hydrating After-Sun Care** After sun exposure, apply soothing products like aloe vera or chamomile to calm the skin and prevent dryness.
- **Exfoliation** Gently exfoliate your skin 1-2 times per week to remove dead skin cells and improve skin texture, but avoid over-exfoliating, which can make the skin more sensitive.

### 4. Incorporate Diet and Supplements

- **Antioxidant-Rich Foods** Include foods like berries, green tea, tomatoes, and carrots to boost skin's natural defenses against UV damage.
- **Vitamin D Balance** While sunlight helps produce vitamin D, consider dietary sources or supplements if you're limiting sun exposure.

### 5. Adjust Your Environment and Habits

- **UV-Blocking Accessories** Use UV-blocking window films or umbrellas to reduce exposure during outdoor activities or while driving.
- **Plan Activities Wisely** Schedule outdoor activities during early mornings or late afternoons when UV levels are lower.

### 6. Treat Existing Sun Tans

- **Brightening Skincare** Use products containing natural brightening agents like licorice root, kojic acid, or alpha arbutin to reduce pigmentation over time.
- **Dermatological Treatments** If sun tanning leads to uneven pigmentation, consider professional treatments such as chemical peels, laser therapy, or microdermabrasion.



## Taking it all Together

Managing sun tan risk is about balancing sun exposure with effective protection and after-care strategies. By prioritizing sun protection, maintaining a robust skincare routine, and making mindful lifestyle choices, you can minimize tanning, protect against UV damage, and maintain healthy, even-toned skin. Prevention is key, but if tanning occurs, gentle and consistent care can help restore your skin's natural appearance.

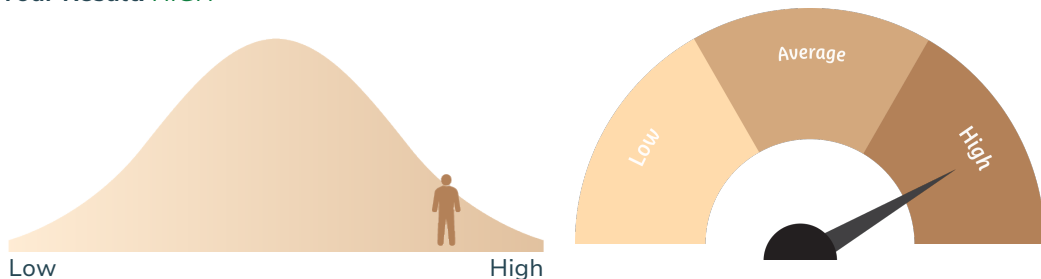


## Skin Sunburn Risk

**Sunburn Risk** risk is heavily influenced by genetics, particularly genes that impact the skin's ability to withstand UV radiation without incurring damage. Individuals with a genetic tendency for burning may experience redness, inflammation, and a higher likelihood of DNA damage from sun exposure.

A **high genetic score** for Sun Burn Risk indicates a greater sensitivity to UV rays, suggesting a need for vigilant sun protection, including broad-spectrum SPF, physical barriers like hats, and sun-avoidance practices to minimize potential skin damage. A **low genetic score** implies a reduced likelihood of burning and potentially more resilience to UV exposure, although regular sun protection is still essential for overall skin health. This trait insight supports personalized sun protection strategies to reduce long-term skin damage risks.

**Your Result: HIGH**



Genetic Markers Used to Calculate the Score: 519 Genetic Markers

Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 86<sup>th</sup> Percentile**

Your genetic profile shows that your tendency for skin sunburn is **high**. Out of every 100 people with a similar background, your sunburn tendency is **higher than 86** of them. This suggests that your skin may be **more likely to burn** compared to most people's.

### Interpretation

Your genetic results indicate a **high genetic tendency to sunburn**, meaning your skin is more sensitive to UV exposure and more likely to burn quickly. Sunburns significantly increase the risk of premature aging and skin cancer. Consistently using a high SPF sunscreen, wearing sun-protective clothing, and avoiding prolonged sun exposure are vital to safeguarding your skin.



## Recommendations for Managing Sunburn Risk

Sunburn occurs when the skin is overexposed to ultraviolet (UV) radiation, causing inflammation and redness. Frequent sunburns can damage the skin, accelerate aging, and increase the risk of skin cancer. Managing sunburn risk involves adopting protective measures and practicing effective aftercare if sunburn does occur. Below are practical recommendations to minimize and manage sunburn risk:

### 1. Practice Effective Sun Protection

#### ◦ Apply Sunscreen Regularly

- Use a broad-spectrum sunscreen with SPF 30 or higher to protect against UVA and UVB rays.
- Apply generously to all exposed skin, including less obvious areas like ears, neck, and tops of feet.
- Reapply every 2 hours or immediately after swimming, sweating, or toweling off.

◦ **Wear Protective Clothing** Cover up with wide-brimmed hats, UV-blocking sunglasses, and lightweight, long-sleeved clothing made of tightly woven fabric.

◦ **Seek Shade** Minimize direct sun exposure, especially during peak UV hours (10 a.m. to 4 p.m.).

### 2. Avoid UV Overexposure

◦ **Limit Time Outdoors** Gradually acclimate to sun exposure if you need to spend extended time outdoors.

◦ **Avoid Tanning Beds** Artificial tanning devices emit UV radiation that can cause burns and damage skin cells.

### 3. Build a Protective Skincare Routine

◦ **Daily Moisturization** Use a moisturizer with SPF to maintain skin hydration and protect from incidental UV exposure.

◦ **Antioxidant Support** Incorporate skincare products with ingredients like vitamin C, green tea extract, or niacinamide to bolster your skin's defenses against UV damage.

◦ **Exfoliate Gently** Avoid exfoliating immediately after sun exposure, as this can irritate the skin, but regular exfoliation can help maintain skin health.

### 4. Prepare for Outdoor Activities

◦ **Plan Ahead** Check the UV index and plan activities for early morning or late afternoon when the sun's rays are less intense.

◦ **Use Accessories** Carry a portable umbrella or UV-blocking cover for protection during outdoor activities.

### 5. Manage Sunburns Promptly

◦ **Cool the Skin** Apply a cool compress or take a cool bath to reduce heat and inflammation. Avoid hot showers, which can irritate the skin further.

◦ **Apply Soothing Products** Use aloe vera gel, hydrocortisone cream, or over-the-counter anti-inflammatory creams to calm redness and swelling.

◦ **Stay Hydrated** Drink plenty of water to replenish fluids lost through sun exposure and to help the skin heal.

◦ **Avoid Further Exposure** Keep sunburned skin covered until it has healed to prevent additional damage.



**6. Treat and Prevent Long-Term Effects**

- **Repair Damage** Use products with retinoids or peptides to promote skin repair and improve resilience over time.
- **Consider Professional Help** For severe burns or chronic sun damage, consult a dermatologist for treatments like chemical peels, laser therapy, or prescription skincare.

## Taking it all Together

Managing sunburn risk is crucial for maintaining healthy skin and preventing long-term damage. By prioritizing sun protection, practicing mindful sun exposure habits, and responding quickly to any signs of sunburn, you can safeguard your skin and enhance its resilience. Consistency in these practices will not only help reduce your sunburn risk but also promote overall skin health and longevity.

**PART** **3** SKIN HYDRATION  
& RESILIENCE





The skin's ability to retain moisture is essential for maintaining a healthy, radiant appearance. Genetics play a significant role in determining how effectively the skin retains moisture and preserves its protective barrier. These genetic factors are crucial in influencing hydration levels, resilience against dryness, and the development of early aging signs. A well-functioning skin barrier not only helps to lock in essential moisture but also acts as a defense against external irritants and harmful environmental factors.

Specific genes play a direct role in regulating the skin barrier's function and in the production of collagen and other vital structural proteins. These proteins are fundamental to the skin's strength and ability to withstand both physical and environmental stress. By understanding your genetic tendencies, you can gain valuable insights into how to maintain optimal hydration, improve skin resilience, and prevent potential dryness or irritation. Implementing targeted skincare routines and making mindful lifestyle choices can help bolster your skin's hydration, promoting a healthier, more supple, and youthful appearance that lasts.

This section will focus on the genetic indicator: **Skin Hydration**. We'll take a deeper look at how this genetic factor contributes to your skin's health and provide practical strategies to support long-term hydration based on your unique genetic profile.

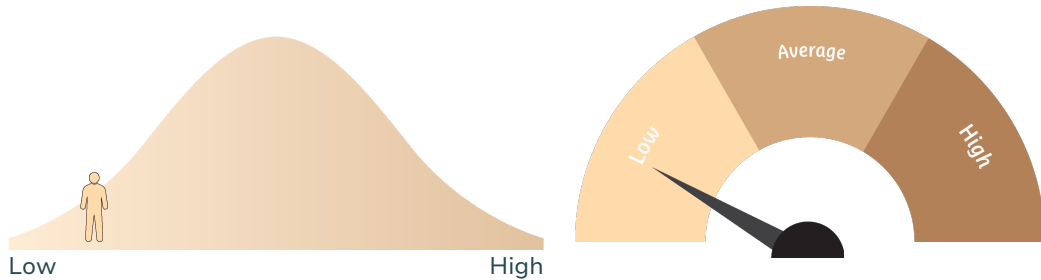


## Skin Hydration

**Skin Hydration** levels are influenced by genetic factors that affect the skin's ability to retain moisture and maintain a strong barrier function. Genes involved in skin hydration play a role in the production of natural moisturizing factors and lipid barriers, which help the skin stay supple and protect against dryness. Adequate hydration is essential for skin health, elasticity, and resilience to environmental stress.

A **high genetic score** for Skin Hydration suggests a natural ability for moisture retention, indicating a likely resilience to dryness and potentially lower need for intensive moisturization routines. Conversely, a **low genetic score** suggests a tendency to reduced moisture retention, indicating a tendency toward drier skin that may benefit from a focused hydration regimen and products designed to strengthen the skin barrier. This insight can help in selecting moisturizers and other skincare products to support long-term hydration and skin comfort.

Your Result: **LOW**



Genetic Markers Used to Calculate the Score: 15 Genetic Markers

Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 6<sup>th</sup> Percentile**

Your genetic profile shows that your skin hydration ability is **low**. Out of every 100 people with a similar background, your hydration ability is **lower than 94** of them. This suggests that your skin may naturally be **less hydrated** than most people's.

### Interpretation

Your genetic results suggest a **low genetic tendency for skin hydration**, meaning your skin may be more prone to dryness and dehydration. This makes it essential to prioritize hydration through a balanced diet, drinking plenty of water, and using rich, moisturizing skincare products. Avoiding harsh soaps and over-exfoliation can also help support your skin's natural barrier.



## Recommendations for Managing Skin Hydration

Skin hydration is essential for maintaining a healthy, radiant complexion and preventing dryness, flakiness, and premature aging. Proper hydration supports the skin barrier, improves elasticity, and enhances overall skin health. While genetics influence hydration levels, external factors like climate, skincare, and lifestyle choices play a significant role. Below are practical recommendations to optimize skin hydration:

### 1. Build a Hydration-Focused Skincare Routine

- **Gentle Cleansing** Use a mild, sulfate-free cleanser to remove impurities without stripping natural oils.
- **Hydrating Toners** Incorporate toners containing humectants like hyaluronic acid or glycerin to replenish moisture immediately after cleansing.
- **Moisturize Regularly**
  - **Dry Skin** Opt for rich creams with ceramides, shea butter, or squalane.
  - **Oily/Combination Skin** Choose lightweight, gel-based moisturizers.
  - **Sensitive Skin** Use fragrance-free products with soothing ingredients like aloe vera or colloidal oatmeal.
- **Seal in Hydration** Layer occlusive products, such as facial oils or petroleum jelly, over moisturizers at night to lock in moisture.

### 2. Hydrate from Within

- **Drink Adequate Water** Aim for at least 8-10 glasses of water daily to maintain hydration levels in the skin and body.
- **Eat Water-Rich Foods** Include fruits and vegetables like watermelon, cucumber, and oranges in your diet.
- **Omega-3 Fatty Acids** Foods like salmon, walnuts, and flaxseeds support the skin barrier and help retain moisture.

### 3. Protect Against Environmental Stressors

- **Use Sunscreen** Apply a broad-spectrum sunscreen with SPF 30 or higher daily to prevent UV damage, which can dehydrate the skin.
- **Avoid Harsh Climates** In dry or cold environments, use a humidifier to add moisture to the air and prevent dehydration.
- **Limit Hot Water Exposure** Avoid long, hot showers or baths, which can strip the skin of its natural oils.

### 4. Incorporate Targeted Hydration Boosters

- **Hyaluronic Acid** A powerful humectant that draws water into the skin for long-lasting hydration.
- **Ceramides** Reinforce the skin's natural barrier to prevent moisture loss.
- **Niacinamide** Supports skin hydration and reduces redness or irritation.
- **Aquaporins** Look for products with ingredients like glycerin or urea, which enhance water transport within the skin.

### 5. Practice Healthy Lifestyle Habits

- **Limit Caffeine** Caffeine can dehydrate the skin, so consume it in moderation and balance with water intake.
- **Get Enough Sleep** During sleep, the skin repairs itself, retaining more moisture and improving elasticity.
- **Manage Stress** High stress levels can compromise the skin barrier, leading to dehydration. Practice relaxation techniques like yoga or meditation.



**6. Seek Professional Guidance**

- **Hydrating Facials** Professional treatments like hydrafacials or water-infusing masks can provide an intensive moisture boost.
- **Customized Advice** Consult a dermatologist if you experience persistent dryness or hydration issues despite following a proper routine.

**Taking it all Together**

Managing skin hydration requires a holistic approach that combines an effective skincare routine, proper nutrition, and protection against environmental stressors. By prioritizing hydration-focused products and adopting a healthy lifestyle, you can maintain a supple, glowing complexion and ensure your skin stays well-moisturized year-round. Small, consistent steps can make a significant difference in the health and appearance of your skin.

# PART 4

HAIR CHARACTERISTICS

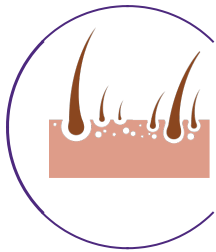




Our hair's appearance, resilience, and overall health are significantly influenced by our genetic makeup. Genetics play a key role in determining traits such as curl pattern, hair density, and susceptibility to thinning or hair loss over time. By understanding these genetic factors, we can take proactive steps to care for our hair and minimize the impact of hair thinning or loss on its health and appearance.

For example, specific genes influence the hair growth cycle and the structure of hair follicles, which directly affect the thickness and strength of individual strands. Other genetic variations may increase the likelihood of androgenetic alopecia, a common form of hair thinning and loss. By recognizing these genetic predispositions, we can develop tailored approaches to maintaining hair health, such as targeted treatments, nutritional support, and lifestyle adjustments.

In this part, we will examine two primary genetic indicators of hair health: **Hair Shape Measurement** and **Hair Thinning and Hair Loss**. We'll explore how these factors contribute to your hair's structure and overall vitality, offering strategies to help you preserve and enhance your hair's strength and appearance in alignment with your genetic profile.

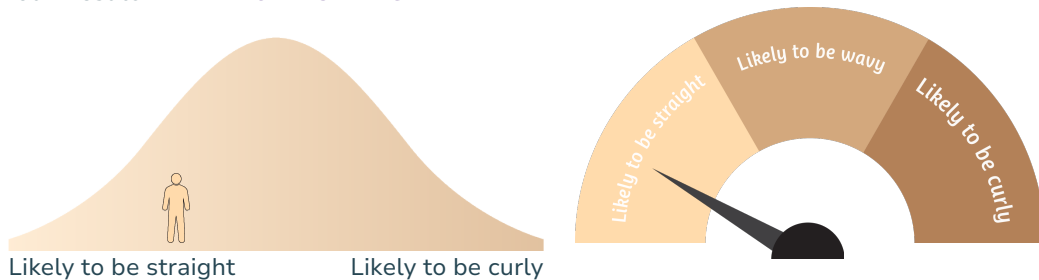


## Hair Shape

**Hair Shape** Measurement reflects genetic influences on hair texture, including curl pattern, thickness, and density. Genes involved in hair structure affect whether hair tends to be straight, wavy, or curly, as well as its overall resilience.

A **high genetic score** for Hair Shape Measurement often indicates a tendency for more textured, curly, or thicker hair types, which may require specialized care to maintain moisture and manageability. A **low genetic score** suggests straighter or finer hair types, which may benefit from volume-enhancing or strengthening products. Understanding hair shape helps in selecting care practices suited to natural hair texture.

**Your Result:** LIKELY TO BE STRAIGHT



Genetic Markers Used to Calculate the Score: 12 Genetic Markers

Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE:** 20<sup>th</sup> Percentile

Your genetic profile shows that your hair shape measurement is **low**. Out of every 100 people with a similar background, your hair shape measurement score is **lower than 80** of them. This suggests that you may naturally have **straighter and finer hair** compared to most people.

### Interpretation

People with a genetic profile similar to yours have reported a **lower likelihood of having curly or wavy hair**, indicating that your natural hair texture is more likely to be straight. While genetics largely define your hair's structure, styling techniques, products, and environmental factors can modify its appearance. Using products suited for straight hair can help enhance shine, smoothness, and manageability.



## Recommendations for Enhancing Hair Shape

Hair shape, whether straight, wavy, or curly, is primarily determined by genetics, and understanding your genetic tendency can help you manage your hair's natural texture. While you cannot change the inherent shape of your hair, there are several strategies you can adopt to enhance, maintain, or manage your hair shape effectively.

### 1. Moisturize and Hydrate Your Hair

- **Use Hydrating Shampoos and Conditioners** Choose products designed to nourish and hydrate your hair, especially for wavy or curly textures that may be prone to dryness and frizz. Look for shampoos with ingredients like glycerin, argan oil, and shea butter.
- **Deep Conditioning** Incorporate a deep conditioning treatment once a week to restore moisture and improve the manageability of your hair shape, especially for curly or wavy hair types.
- **Leave-In Conditioners** For added moisture, use a leave-in conditioner that can help tame frizz and enhance the definition of your hair shape.

### 2. Define and Enhance Your Natural Hair Shape

- **Use Curl-Enhancing Products** For curly or wavy hair, use curl creams, mousses, or gels that help define and separate curls or waves without weighing them down.
- **Avoid Heavy Products** For straight hair, avoid heavy creams or oils that can make your hair appear flat. Opt for lightweight styling products that add volume without compromising the shape.
- **Avoid Heat Damage** Excessive use of hot tools like straighteners or curling irons can damage your natural texture. If heat styling is necessary, always use a heat protectant to minimize damage.

### 3. Manage Frizz and Flyaways

- **Anti-Frizz Treatments** If your hair shape is wavy or curly, frizz may be a concern. Look for anti-frizz serums or sprays that help smooth the hair and control flyaways.
- **Hair Oils** Applying a small amount of hair oil, such as argan oil, can help seal in moisture and reduce frizz, making your hair shape more defined and shiny.
- **Avoid Over-Washing** Washing your hair too frequently can strip natural oils, leading to dry, frizzy hair. Aim to wash your hair every 2-3 days or as needed for your hair type.

### 4. Adapt Your Haircut to Your Hair Shape

- **Embrace Layers for Volume** If you have straight hair and want more texture, consider getting layers cut into your hair to add movement and volume.
- **Curly and Wavy Haircuts** For curly or wavy hair, ask for a haircut that enhances the shape, such as a layered cut that defines the curls or waves. A well-shaped haircut can help bring out the best in your natural texture.
- **Avoid Tight Hairstyles** Tight hairstyles, like ponytails or braids, can disrupt your natural hair shape over time, particularly if worn frequently.

### 5. Protect Your Hair from Damage

- **Sleep on Silk or Satin** Cotton pillowcases can cause friction, leading to frizz and disrupting your hair's natural shape. Use a silk or satin pillowcase to reduce friction and maintain the definition of your hair texture.
- **Minimize Chemical Treatments** Excessive chemical treatments, like coloring or perming, can alter your hair shape or cause damage. If you choose to color or treat your hair, consult a professional to minimize potential texture changes.
- **Use Gentle Hair Tools** Choose wide-tooth combs or fingers for detangling, particularly for curly or wavy hair. Avoid brushing wet hair to prevent breakage.



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## 6. Embrace Your Hair's Natural Shape

- **Minimal Styling** Embrace your hair's natural texture and use minimal heat styling to reduce damage. Letting your hair dry naturally can help maintain its natural shape and shine.
- **Accept and Enhance** If you have curly or wavy hair, embrace your natural texture rather than constantly trying to alter it. Enhancing and defining your natural shape can result in healthier, more manageable hair.

## Taking it all Together

Hair shape is largely influenced by genetics, but by focusing on hydration, defining products, and adopting healthy hair care practices, you can enhance and manage your natural texture. Whether you have straight, wavy, or curly hair, the key to managing your hair shape is maintaining its health, avoiding excessive heat or chemical damage, and using the right products to enhance your natural beauty.

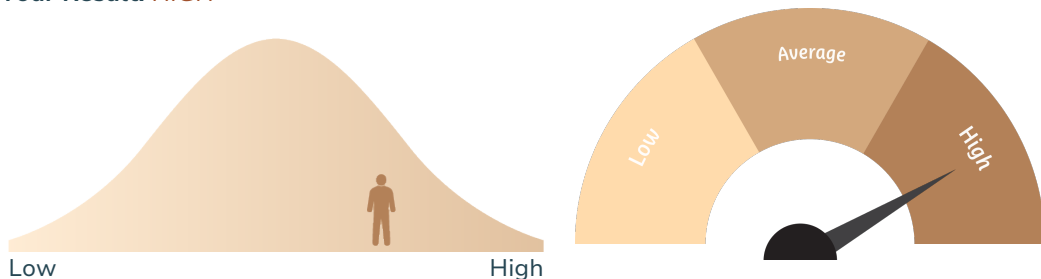


## Hair Thinning and Hair Loss

**Hair Thinning and Hair Loss** are influenced by genetic factors that regulate hair growth cycles, follicle health, and hormonal sensitivity. These factors determine how likely you are to experience hair thinning or shedding over time. Environmental factors such as diet, stress, and hair care practices also play a role in maintaining hair health.

A **high genetic score** for Hair Thinning and Hair Loss indicates a greater tendency to experience reduced hair density or shedding, suggesting the need for proactive measures like maintaining a nutrient-rich diet, minimizing stress, and using targeted hair care products. A **low genetic score** suggests a lower tendency for significant hair thinning or loss, although lifestyle and environmental factors may still influence overall hair health. Understanding your genetic tendencies can help you make informed decisions to support healthy hair growth.

Your Result: **HIGH**



Genetic Markers Used to Calculate the Score: 160,693 Genetic Markers  
Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 75<sup>th</sup> Percentile**

Your genetic profile shows that your tendency for hair thinning and hair loss is **high**. Out of every 100 people with a similar background, your risk is **higher than 75** of them. This suggests that you may be **more likely** to experience hair thinning or hair loss compared to most people.

### Interpretation

People with a genetic profile similar to yours have reported a **higher likelihood of experiencing hair thinning and hair loss**, suggesting that your hair may naturally be more prone to reduced density or increased shedding over time. Taking proactive steps, such as using strengthening hair care products, maintaining a balanced diet rich in essential nutrients, and minimizing stress, can help support follicle health. Consulting with a specialist for targeted treatments can also be beneficial in managing this tendency.



## Recommendations for Managing Hair Thinning and Hair Loss

Hair thinning and hair loss, often influenced by genetic, environmental, and hormonal factors, can be managed effectively through tailored hair care routines, medical interventions, and lifestyle adjustments. While some causes of hair thinning are hereditary, adopting proactive strategies can slow progression and improve overall hair health.

### 1. Hair Care Routine for Hair Thinning and Hair Loss

- **Gentle Shampooing** Use sulfate-free shampoos to minimize scalp irritation and prevent hair breakage. Wash hair two to three times weekly to maintain scalp health.
- **Condition Regularly** Apply a nourishing, lightweight conditioner to hydrate and strengthen hair strands. Avoid heavy silicone-based products that may weigh hair down.
- **Scalp Care** Massage the scalp regularly to promote circulation and stimulate hair follicles. Use gentle exfoliating treatments monthly to remove product buildup.
- **Avoid Heat and Chemicals** Minimize the use of heat styling tools and chemical treatments, such as bleaching or perms, to prevent further damage.

### 2. Hair Loss Treatments

- **Minoxidil** A topical treatment that promotes blood flow to the scalp and stimulates hair follicles. Results may take several months of consistent use.
- **Low-Level Laser Therapy (LLLT)** A non-invasive treatment that uses red light to stimulate hair follicles. Available through clinics or at-home devices.
- **Platelet-Rich Plasma (PRP) Therapy** Administered by specialists, this treatment involves injecting concentrated platelets into the scalp to encourage hair growth.
- **Hair Transplant Surgery** A permanent solution for advanced hair loss, this procedure moves healthy hair follicles to thinning areas.

### 3. Lifestyle and Dietary Adjustments

- **Balanced Diet** Incorporate nutrient-rich foods containing biotin, zinc, vitamin D, and omega-3 fatty acids to support hair strength and growth.
- **Supplements for Hair Health** Consider supplements such as biotin, collagen, or multivitamins. Consult a healthcare provider before starting any supplement.
- **Stress Management** Practice mindfulness techniques, yoga, or regular exercise to reduce stress, which can exacerbate hair loss.

### 4. Hormonal and Underlying Condition Management

- **Monitor Hormonal Imbalances** Hormonal fluctuations, such as during menopause, can accelerate hair loss. Seek medical advice for treatments like hormone replacement therapy or anti-androgen medications (e.g., spironolactone).
- **Address Medical Causes** Work with a healthcare provider to rule out and treat underlying conditions such as thyroid dysfunction, autoimmune diseases, or nutritional deficiencies.

### 5. Psychological and Emotional Support

- **Coping Strategies** Discuss your experiences with trusted friends, family, or a therapist to address the emotional impact of hair loss.
- **Wigs and Hairpieces** Explore high-quality wigs, extensions, or hairpieces to boost confidence. A stylist can guide you in choosing the right options.



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#### 6. Regular Monitoring and Professional Care

- **Routine Dermatologist Visits** Regularly consult a dermatologist or trichologist to monitor hair health and adjust treatment plans as needed.
- **Early Intervention** Initiate treatments promptly to maximize their effectiveness. Addressing hair thinning early can slow progression and improve outcomes.

### Taking it all Together

Managing hair thinning and hair loss requires a combination of preventative care, targeted treatments, and lifestyle changes. By integrating medical interventions like minoxidil or PRP therapy with dietary adjustments and stress management, individuals can optimize hair health and reduce the progression of hair loss. With early intervention and ongoing professional guidance, hair thinning can be managed effectively, promoting both confidence and well-being.

**PART 5** SKIN  
& SCALP CONDITIONS





Our genetic makeup plays a significant role in determining the likelihood of developing certain skin and scalp conditions. While environmental factors and lifestyle can impact skin health, genetics often underlie tendencies to specific conditions like dermatitis, eczema, psoriasis, and vitiligo. By understanding these genetic factors, individuals can take preventive steps and tailor their skincare and scalp-care routines to help manage or mitigate the effects of these conditions.

instance, genetic variations may make some individuals more prone to inflammation and sensitivities, leading to conditions like dermatitis and eczema. Other genetic markers can influence skin pigmentation and immune response, potentially increasing the risk of autoimmune skin conditions like psoriasis and vitiligo.

In this part, we will examine four primary genetic indicators of skin and scalp conditions: **Dermatitis**, **Eczema**, **Psoriasis**, and **Vitiligo**. We'll explore how each condition is influenced by genetic factors and provide recommendations for managing and supporting skin and scalp health based on your genetic profile.

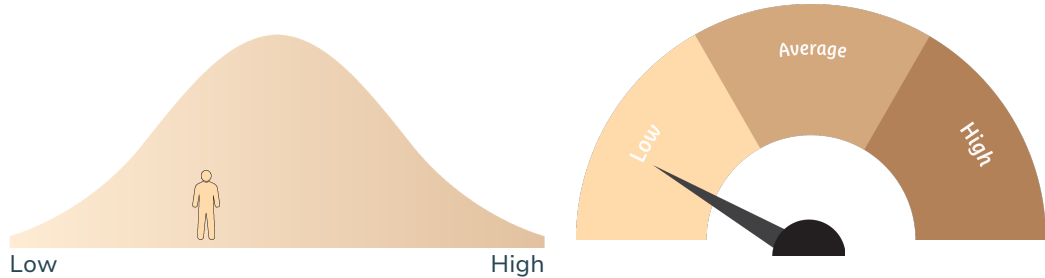


## Dermatitis

**Dermatitis** risk is influenced by genetic factors that impact the skin's immune response and barrier function, often leading to sensitivities or inflammatory reactions. Genes involved in skin inflammation and allergen response may increase susceptibility to dermatitis.

A **high genetic score** for Dermatitis indicates a tendency to skin sensitivity and inflammation, suggesting benefits from using gentle, hypoallergenic products and avoiding irritants. A **low genetic score** suggests more resilient skin with reduced risk of dermatitis. Recognizing this tendency can guide skincare choices that minimize irritation and support skin comfort.

Your Result: **LOW**



Genetic Markers Used to Calculate the Score: 242 Genetic Markers

Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 25<sup>th</sup> Percentile**

Your genetic profile shows that your risk of dermatitis is **low**. Out of every 100 people with a similar background, your risk is **lower than 75** of them. This suggests that you may be **less likely** to develop dermatitis compared to most people.

### Interpretation

Your genetic results suggest a **low genetic tendency to dermatitis**, indicating that you are less likely to experience frequent skin irritation or inflammation. However, exposure to irritants or allergens can still affect skin health. Maintaining a consistent and gentle skincare routine will help keep your skin balanced and protected.



## Recommendations for Managing Dermatitis

Dermatitis is a common skin condition characterized by inflammation, redness, and itching. It can be caused by various factors, including genetic tendency, environmental triggers, and skin care habits. Managing dermatitis effectively involves a combination of proper skincare, lifestyle adjustments, and minimizing exposure to triggers. Below are strategies to help you manage dermatitis based on your genetic tendency.

### 1. Skincare Routine for Dermatitis

- **Gentle, Hydrating Cleansers** Use a mild, fragrance-free cleanser to avoid irritation. Harsh soaps can strip your skin of natural oils and worsen dermatitis symptoms. Look for products that are specifically designed for sensitive or eczema-prone skin.
- **Moisturize Frequently** Keeping your skin moisturized is one of the most important steps in managing dermatitis. Apply a thick, emollient-rich moisturizer immediately after bathing to lock in moisture. Look for creams containing ceramides, shea butter, or petrolatum, which help restore the skin's natural barrier.
- **Avoid Harsh Skin Care Products** Avoid skincare products with alcohol, artificial fragrances, or irritating chemicals, as these can worsen dermatitis symptoms. Opt for hypoallergenic and dermatologist-approved products that are designed for sensitive skin.
- **Use Anti-Inflammatory Treatments** For flare-ups, consider using over-the-counter hydrocortisone creams or other anti-inflammatory topical treatments. These can help reduce redness, swelling, and itching. If symptoms persist, consult a healthcare provider for prescription treatments.

### 2. Lifestyle Adjustments

- **Avoid Known Triggers** If you have a known trigger for dermatitis, such as certain fabrics, environmental allergens, or foods, do your best to avoid these triggers. Common irritants include wool, dust mites, pet dander, and certain food allergens like dairy or nuts.
- **Wear Soft, Breathable Fabrics** Choose clothing made from soft, breathable fabrics like cotton to avoid irritation. Avoid wearing tight or scratchy clothing, as it can aggravate dermatitis symptoms.
- **Manage Stress** Stress is a common trigger for dermatitis flare-ups. Engage in relaxation techniques such as deep breathing, yoga, or meditation to manage stress levels. Adequate sleep and regular physical activity can also contribute to stress reduction.
- **Environmental Control** If allergens or environmental factors like dry air are triggers, consider using a humidifier in your home to maintain skin hydration, especially in colder months. Ensure that your living spaces are clean and free from irritants.

### 3. Avoid Scratching and Skin Irritation

- **Keep Nails Trimmed** Scratching can worsen dermatitis by damaging the skin and increasing the risk of infection. Keep your nails short and consider wearing gloves at night if you tend to scratch while sleeping.
- **Use Soothing Topicals** Apply soothing agents such as aloe vera gel, chamomile creams, or oatmeal baths to calm irritated skin. These ingredients can help reduce itching and inflammation while providing a cooling effect.
- **Cold Compresses** A cold compress or ice pack wrapped in a cloth can help relieve itching and inflammation during flare-ups. Apply the compress for 10-15 minutes to affected areas for relief.



#### 4. Dietary Considerations

- **Avoid Known Food Triggers** Certain foods may trigger or worsen dermatitis flare-ups. Common triggers include dairy, gluten, eggs, soy, and certain food additives. Keep a food diary to track any dietary patterns that may correlate with skin irritation.
- **Anti-Inflammatory Diet** Consider incorporating more anti-inflammatory foods into your diet, such as fatty fish (salmon, mackerel), nuts, seeds, leafy greens, and fruits rich in antioxidants like berries. Omega-3 fatty acids found in fish and flaxseeds can help reduce systemic inflammation and support skin health.
- **Hydration** Adequate hydration is essential for maintaining skin moisture and preventing dryness. Drink plenty of water throughout the day and use hydrating foods such as cucumbers, oranges, and watermelon to support skin hydration from the inside out.

#### 5. Medical Treatment and Professional Care

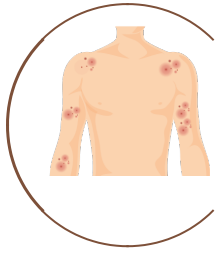
- **Topical Steroids** If your dermatitis becomes severe, topical steroids may be recommended by your doctor. These anti-inflammatory medications reduce swelling and redness. However, they should be used under medical supervision to avoid side effects.
- **Non-Steroidal Treatments** For long-term management of dermatitis, non-steroidal treatments like calcineurin inhibitors (e.g., tacrolimus) can be prescribed to help control inflammation without the side effects associated with steroids.
- **Phototherapy** If other treatments are ineffective, phototherapy (light therapy) may be an option. This treatment involves exposing the skin to controlled UV light to reduce inflammation and alleviate symptoms.
- **Allergy Testing** If you suspect allergens are a trigger for your dermatitis, allergy testing can help identify specific allergens that may be contributing to flare-ups. Once identified, you can take steps to avoid these triggers or undergo immunotherapy if recommended.

#### 6. Supportive Measures

- **Consult with a Dermatologist** If your dermatitis is persistent or worsening, seek professional advice. A dermatologist can help tailor a treatment plan that includes prescription medications or advanced therapies.
- **Use Specialized Bedding** For individuals with sensitive skin, consider using hypoallergenic bedding and clothing made from fabrics like organic cotton or bamboo to reduce irritation. This is especially helpful if you experience flare-ups at night.

### Taking it all Together

Managing dermatitis requires a holistic approach, combining good skincare practices, lifestyle modifications, and sometimes medical intervention. Focus on hydration, avoiding triggers, and maintaining a gentle skincare routine to prevent flare-ups. Stress management, dietary considerations, and using appropriate topical treatments will help keep your symptoms under control. Working with a dermatologist for personalized treatment and staying proactive about avoiding irritants will further support long-term management of dermatitis, allowing you to keep your skin healthy and comfortable.

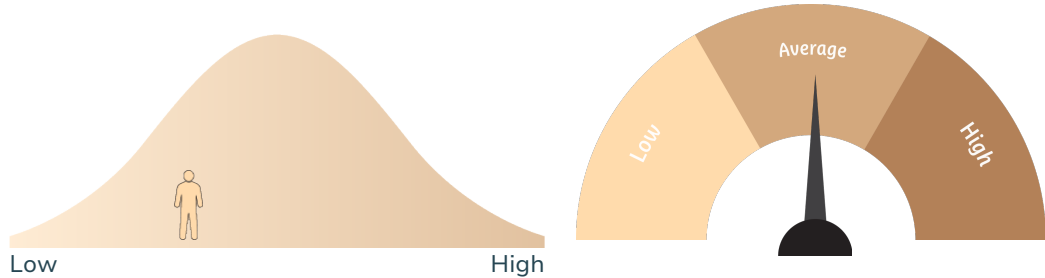


## Eczema

**Eczema** risk is driven by genetic factors that affect the skin barrier, moisture retention, and immune response, making the skin prone to dryness, itching, and inflammation. Genes involved in barrier protection and immune function play significant roles.

A **high genetic score** for Eczema suggests a greater likelihood of developing eczema, with a need for consistent moisture and skin barrier-supportive products. A **low genetic score** indicates a reduced risk for eczema, with naturally stronger skin defenses. Understanding this trait helps in preventive skincare planning and choosing soothing products for sensitive skin.

**Your Result: AVERAGE**



Genetic Markers Used to Calculate the Score: 1,090,702 Genetic Markers  
Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 42<sup>nd</sup> Percentile**

Your genetic profile shows that your risk of eczema is **average**. Out of every 100 people with a similar background, your risk is **lower than 58** of them. This suggests that your likelihood of developing eczema is **similar** to most people's.

### Interpretation

Your genetic results indicate an **average genetic tendency to eczema**, suggesting your likelihood of experiencing eczema is similar to that of the general population. However, factors like weather, allergens, and skincare habits can influence skin health. Regular moisturizing and avoiding harsh products can help maintain healthy skin.



## Recommendations for Managing Eczema

Eczema, or atopic dermatitis, is a chronic skin condition characterized by inflammation, itching, and redness. While there is no cure, managing eczema effectively involves a combination of skincare routines, lifestyle adjustments, and medical treatments to reduce flare-ups and maintain healthy skin.

### 1. Daily Skincare Routine for Eczema

- **Moisturize Regularly** Apply a high-quality, fragrance-free moisturizer at least twice daily to lock in hydration and prevent dryness.
- **Use Gentle Skincare Products** Choose hypoallergenic and fragrance-free products to minimize the risk of irritation or allergic reactions.
- **Bathing Tips** Use lukewarm water for baths or showers, limit their duration, and immediately apply moisturizer afterward to retain moisture.

### 2. Identifying and Avoiding Triggers

- **Environmental Triggers** Avoid irritants like harsh detergents, fragrances, and household cleaners that can worsen symptoms.
- **Dietary Triggers** Identify foods that may exacerbate eczema, such as dairy or gluten, and consider an elimination diet with guidance from a healthcare provider.
- **Clothing and Fabrics** Wear soft, breathable fabrics like cotton and avoid wool or synthetic materials that may irritate the skin.

### 3. Lifestyle Adjustments

- **Stay Hydrated** Drink plenty of water daily to support skin hydration from the inside out.
- **Stress Management** Practice stress-reducing activities such as yoga, meditation, or deep breathing, as stress can aggravate eczema symptoms.
- **Maintain a Healthy Diet** Incorporate foods rich in essential fatty acids, vitamins (like A, D, and E), and minerals (such as zinc) to promote skin health.

### 4. Medical Treatments

- **Topical Corticosteroids** Prescribed creams or ointments that reduce inflammation and itching during flare-ups.
- **Topical Calcineurin Inhibitors** Medications like tacrolimus or pimecrolimus for sensitive areas such as the face or neck.
- **Antihistamines** Oral medications to alleviate severe itching and improve sleep during flare-ups.

### 5. Complementary Therapies

- **Oatmeal Baths** Soak in colloidal oatmeal baths to soothe itching and reduce inflammation.
- **Wet Wrap Therapy** Apply damp wraps over moisturized skin to help reduce severe itching and promote healing.
- **Herbal Remedies** Natural remedies like coconut oil or aloe vera gel may provide additional soothing benefits for mild eczema symptoms.



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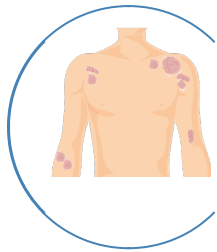
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#### 6. Professional Care and Monitoring

- **Consult a Dermatologist** Seek professional advice to develop a personalized treatment plan, including potential prescription therapies.
- **Monitor for Complications** Stay vigilant for signs of infection, such as increased redness or oozing, and seek medical attention promptly if they occur.

### Taking it all Together

Managing eczema requires a holistic approach, including diligent skincare, trigger avoidance, and medical intervention. A personalized routine involving moisturization, gentle skincare, and dietary adjustments can significantly reduce flare-ups. With professional care and complementary therapies, individuals with eczema can maintain healthier skin and improve their overall quality of life.

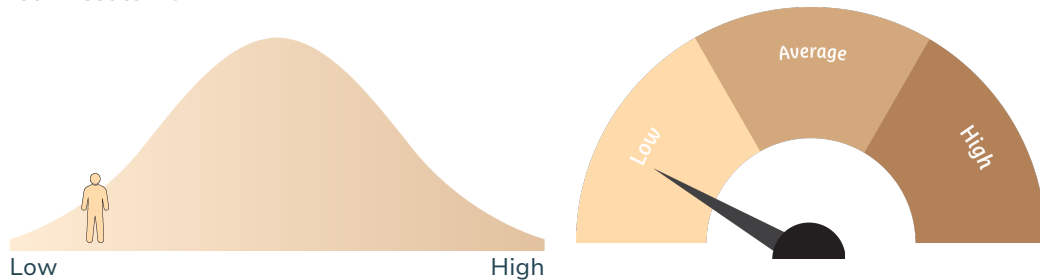


## Psoriasis

**Psoriasis** risk is influenced by genetic factors that impact skin cell turnover and immune system regulation, leading to chronic inflammation and rapid cell production. Genes affecting immune function and skin renewal are involved in this condition.

A **high genetic score** for psoriasis suggests an increased likelihood of developing this skin condition, indicating benefits from anti-inflammatory skincare products and regular dermatologist consultations. A **low genetic score** implies a lower risk for psoriasis, with naturally stable cell turnover. Understanding this trait helps inform skin management strategies and preventive care for sensitive skin.

Your Result: **LOW**



Genetic Markers Used to Calculate the Score: 204 Genetic Markers

Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 6<sup>th</sup> Percentile**

Your genetic profile shows that your risk of psoriasis is **low**. Out of every 100 people with a similar background, your risk is **lower than 94** of them. This suggests that you may be **less likely** to develop psoriasis compared to most people.

### Interpretation

Your genetic results suggest a **low genetic tendency to psoriasis**, indicating that you are less likely to develop this condition. However, occasional skin irritation or triggers like stress and infections can still affect your skin. Using soothing skincare products and maintaining a balanced lifestyle can support overall skin health.



## Recommendations for Managing Psoriasis

Psoriasis is a chronic autoimmune condition causing the rapid turnover of skin cells, resulting in scales and red patches. While incurable, several strategies can help manage symptoms, reduce flare-ups, and improve quality of life.

### 1. Skincare Routine for Psoriasis

- **Moisturize Regularly** Use heavy moisturizers containing ingredients like petroleum jelly, shea butter, or glycerin. Apply immediately after bathing to lock in moisture.
- **Gentle Cleansing** Use mild, soap-free cleansers and lukewarm water during showers. Avoid hot water and limit bath time.
- **Avoid Irritants** Choose fragrance-free and hypoallergenic products to prevent irritation.
- **Use Coal Tar or Salicylic Acid Products** Over-the-counter products containing these ingredients can slow cell turnover and reduce scaling.

### 2. Sun Exposure and Light Therapy

- **Moderate Sun Exposure** Controlled exposure to sunlight can help manage symptoms. Avoid sunburn and apply sunscreen to unaffected areas.
- **UVB Phototherapy** Narrow band UVB therapy slows cell turnover and improves symptoms. Requires multiple sessions under medical supervision.
- **PUVA Therapy** Combines light-sensitive medication with UVA exposure for severe cases. Requires professional oversight.

### 3. Lifestyle Adjustments

- **Avoid Triggers** Identify and avoid personal triggers such as stress, smoking, or infections. Keep a journal to track flare-up causes.
- **Stress Management** Incorporate stress-reducing activities like yoga, meditation, or mindfulness to manage flare-ups.
- **Healthy Diet** Focus on anti-inflammatory foods like fatty fish, fruits, vegetables, and whole grains. Discuss dietary changes with a healthcare provider.

### 4. Medical Treatments

- **Topical Corticosteroids** Reduce inflammation and slow skin cell production. Strength and usage should be guided by a healthcare provider.
- **Topical Immunomodulators** Medications like tacrolimus or pimecrolimus are effective for sensitive areas like the face or genitals.
- **Vitamin D Analogues** Products like calcipotriene promote normal skin cell turnover and are available in creams or shampoos.

### 5. Psychological Support

- **Counseling and Support Groups** Therapy can help cope with the emotional effects of psoriasis. Support groups offer shared experiences and community.
- **Boosting Self-Esteem** Engage in confidence-building activities and consult dermatologists for cosmetic recommendations.

### 6. Complementary and Alternative Therapies

- **Herbal Remedies** Natural treatments like aloe vera or turmeric may help soothe symptoms. Consult a healthcare provider before use.
- **Acupuncture** This alternative therapy may relieve pain, reduce stress, and improve well-being.



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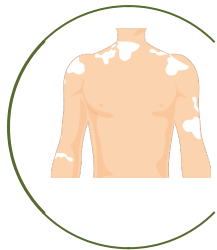
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### 7. Regular Monitoring and Professional Care

- **Routine Dermatologist Visits** Regular check-ups help adjust treatments and monitor progress.
- **Monitor for Comorbidities** Psoriasis increases the risk of conditions like cardiovascular disease. Regular health screenings are essential.

## Taking it all Together

Managing psoriasis involves a combination of skincare, lifestyle changes, medical treatments, and psychological support. Regular dermatologist visits and a comprehensive care plan can help improve skin health and quality of life.

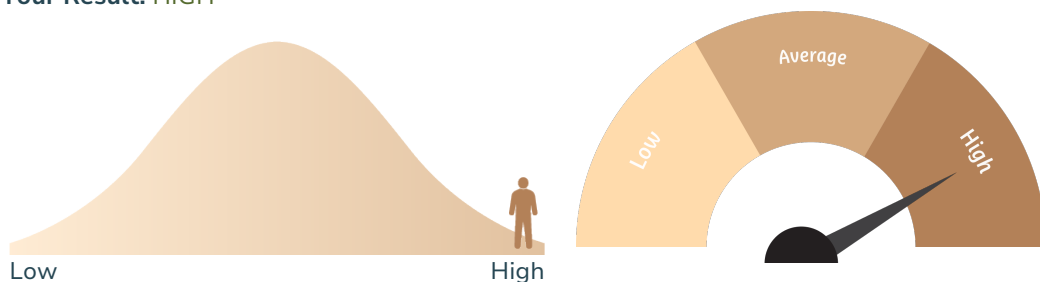


## Vitiligo

**Vitiligo** tendency is influenced by genetic factors that affect pigmentation processes and immune response, leading to the possibility of pigment loss in patches. Genes associated with immune regulation can increase the likelihood of this condition.

A **high genetic score** for Vitiligo suggests a higher chance of pigment loss, highlighting the importance of protective skincare and supportive therapies to address potential pigment changes. A **low genetic score** indicates a reduced risk of vitiligo. Awareness of this tendency aids in proactive skin care and monitoring for early signs of pigment changes.

**Your Result: HIGH**



Genetic Markers Used to Calculate the Score: 48 Genetic Markers

Total Genetic Markers Surveyed in this Analysis: 40,663,299 Genetic Markers

**YOUR GENETIC SCORE: 99<sup>th</sup> Percentile**

Your genetic profile shows that your risk of vitiligo is **high**. Out of every 100 people with a similar background, your risk is **higher than 99** of them. This suggests that you may be **more likely** to develop vitiligo compared to most people.

### Interpretation

Your genetic results indicate a **high genetic tendency to vitiligo**, suggesting you may have a greater likelihood of developing patches of depigmented skin due to autoimmune activity. Environmental and immune-related factors may also contribute to its onset. Consulting a dermatologist for early management and adopting sun-protective measures can help manage its progression.



## Recommendations for Managing Vitiligo

Vitiligo is a condition where the skin loses pigment, resulting in white patches or spots. This occurs when the body's immune system attacks the pigment-producing cells (melanocytes), causing them to stop producing melanin. Although there is no cure for vitiligo, several management strategies can help slow its progression and improve the appearance of affected areas.

### 1. Skincare Routine for Vitiligo

- **Moisturize Regularly** People with vitiligo often experience dry skin. It's essential to keep the skin well-moisturized to prevent irritation and dryness. Use gentle, hydrating creams and lotions that contain ingredients like shea butter, ceramides, or glycerin.
- **Sun Protection** Vitiligo patches lack melanin, leaving the skin more vulnerable to sunburn. Apply a broad-spectrum sunscreen with a high SPF (30 or higher) to protect your skin from harmful UV rays, even on cloudy days. Reapply sunscreen regularly, especially after swimming or sweating.
- **Gentle Skincare Products** Choose fragrance-free and gentle skincare products to avoid irritation, as the skin around vitiligo patches may be more sensitive. Avoid harsh chemicals, scrubs, or exfoliants that could irritate the skin.
- **Camouflage Makeup** If you wish to cover vitiligo patches, there are cosmetic products specifically designed for this purpose. Long-lasting, waterproof makeup can help even out skin tone temporarily. Consult a dermatologist for recommendations based on your skin type.

### 2. Lifestyle Adjustments

- **Avoid Skin Trauma** Scratching, rubbing, or injuring the skin can trigger the Koebner phenomenon, where new vitiligo patches appear in areas of injury or trauma. Be cautious of activities that may cause skin irritation or cuts.
- **Manage Stress** Emotional stress can contribute to the development and progression of vitiligo. Incorporate stress-reducing activities into your routine, such as mindfulness, yoga, deep breathing exercises, or meditation.
- **Balanced Diet** Eating a well-balanced diet rich in antioxidants, vitamins, and minerals can support your overall skin health. Specifically, vitamins like B12, folate, and vitamin D may help in pigment production and skin health. Omega-3 fatty acids, found in fatty fish, flaxseeds, and walnuts, can help reduce inflammation.
- **Avoid Smoking** Smoking may contribute to the progression of vitiligo. It's advisable to avoid tobacco use to prevent exacerbating the condition.

### 3. Sun Exposure and Light Therapy

- **Controlled Sun Exposure** Controlled, short periods of sun exposure may help in repigmenting the skin. Start with very brief exposure, gradually increasing the time as tolerated. However, always use sunscreen on the surrounding skin to avoid sunburn.
- **UVB Phototherapy** Narrow-band UVB therapy, often prescribed by dermatologists, uses UV light to stimulate pigment production and slow down the progression of vitiligo. This treatment requires careful management and is typically performed under medical supervision.
- **PUVA Therapy** Psoralen plus ultraviolet A (PUVA) therapy is another option for treating vitiligo. It involves taking a psoralen medication that makes the skin more sensitive to light, followed by exposure to UVA light. This therapy is used for more widespread vitiligo and requires medical supervision.

### 4. Medical Treatments

- **Topical Steroids** Topical corticosteroids may help repigment small areas of skin affected by vitiligo by reducing inflammation. These should be used under the guidance of a healthcare provider to avoid side effects.
- **Topical Calcineurin Inhibitors** Medications like tacrolimus and pimecrolimus can help control the immune response and may assist in repigmentation. These medications are often used for areas where corticosteroids are not recommended, such as the face or delicate skin areas.



### 5. Psychological Support

- **Counseling and Support Groups** Vitiligo can have a significant emotional impact due to changes in appearance. Speaking with a counselor or therapist can help address any feelings of distress or self-consciousness. Support groups, either online or in person, can also provide emotional support and connect you with others experiencing similar challenges.
- **Confidence-Building Techniques** Consider exploring ways to enhance your self-esteem and confidence. Participating in activities that you enjoy or that boost your self-image can help mitigate any negative feelings associated with the condition.

### 6. Alternative and Complementary Therapies

- **Herbal Treatments** Some people with vitiligo use herbal remedies like ginkgo biloba, which has shown some potential in slowing the progression of the condition. However, there is limited scientific evidence supporting these treatments. Always consult your healthcare provider before trying alternative therapies.
- **Acupuncture and Traditional Medicine** Some individuals find relief through acupuncture or other forms of traditional medicine. While these approaches can be soothing and help manage stress, they should not replace conventional medical treatments.

### 7. Regular Monitoring and Professional Care

- **Consult with a Dermatologist** Regular follow-ups with a dermatologist are essential to monitor the progression of vitiligo and adjust treatment plans as necessary. Dermatologists can help you choose the most appropriate therapies based on your specific case.
- **Monitor New Patches** Keep track of any new patches or changes in your skin, and report these to your dermatologist. Early intervention with new therapies may help to prevent further spread of vitiligo.

## Taking it all Together

Managing vitiligo involves a combination of preventive measures, medical treatments, and lifestyle adjustments. Sun protection and moisturizing are essential for protecting the skin from further damage and irritation. Medical therapies, including topical treatments, phototherapy, and, in some cases, surgical options, can help control the condition and promote repigmentation. Supportive care, such as counseling or joining support groups, can assist with the emotional impact of living with vitiligo. By following a comprehensive management plan, you can reduce the progression of vitiligo, improve the appearance of affected areas, and enhance your overall quality of life.



## Additional Resources

- 1. Mayo Clinic:** Mayo Clinic offers comprehensive information on various health topics, including skin and hair conditions, treatments, and prevention tips. Their content is reviewed by medical professionals for accuracy and reliability. [ [mayoclinic.org](https://www.mayoclinic.org) ]
- 2. American Academy of Dermatology (AAD):** The AAD website provides valuable resources on skin health, dermatological conditions, and hair disorders. It includes articles, patient education materials, and guidelines developed by dermatologists. [ [aad.org](https://www.aad.org) ]
- 3. National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS):** NIAMS, part of the National Institutes of Health (NIH), offers information on skin diseases, hair disorders, and related research. Their website provides fact sheets, research updates, and resources for patients and healthcare professionals. [ [niams.nih.gov](https://www.niams.nih.gov) ]
- 4. DermNet NZ:** DermNet NZ is a nonprofit organization that provides extensive information on dermatology and skin conditions. Their website includes a comprehensive dermatological atlas, educational articles, and clinical resources. [ [dermnetnz.org](https://www.dermnetnz.org) ]
- 5. Cleveland Clinic:** Cleveland Clinic offers reliable information on various health topics, including skin and hair conditions. Their website features articles, videos, and expert insights from healthcare professionals. [ [my.clevelandclinic.org](https://my.clevelandclinic.org) ]



**UNDERSTANDING**

➤➤➤ **GENETICS**



# UNDERSTANDING

## GENETICS

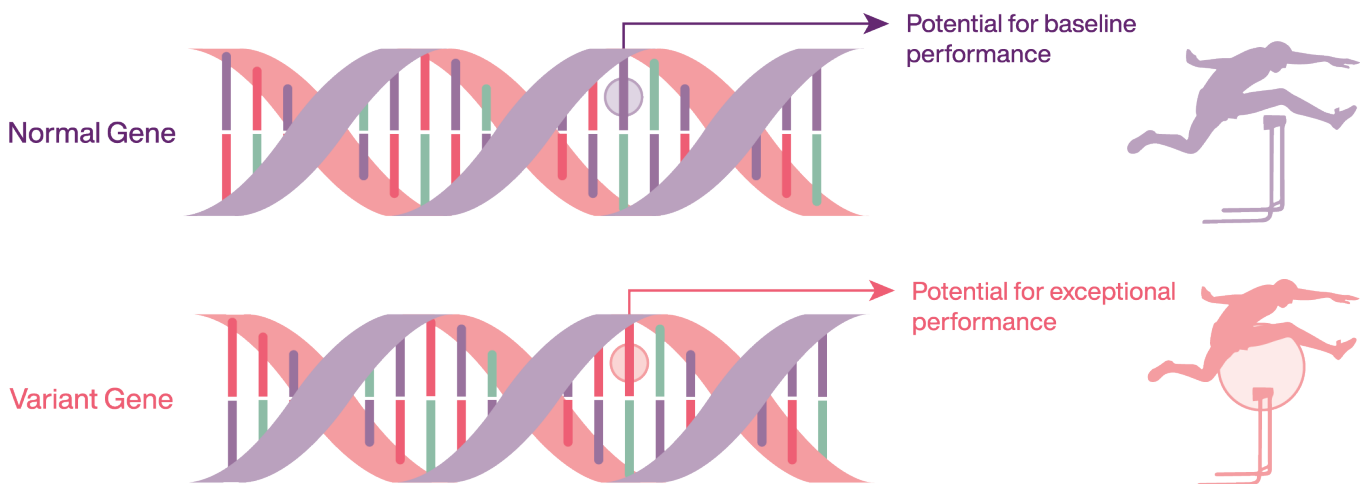
Genetics is the science of how our unique DNA influences traits, health, and even behaviors. By decoding the patterns within our DNA, we can gain valuable insights into what makes each of us unique, from physical characteristics to potential wellness needs. Here's an overview of genetics and how it relates to your health and wellness.

### 1. What is DNA?

DNA (deoxyribonucleic acid) is the molecule that carries the genetic instructions for all living organisms. Your DNA contains a unique code of four chemical bases (adenine, thymine, cytosine, and guanine) arranged in various sequences to form genes. These genes direct cellular activities and influence traits, such as eye color, height, and even how the body metabolizes nutrients.

### 2. Genes and Genetic Variants

Each person's DNA is organized into genes, which are segments that instruct cells to produce proteins responsible for various bodily functions. Although we all share similar genes, slight differences, called genetic variants or alleles, make each of us unique. These variants can influence how we respond to different foods, how quickly we recover from exercise, or our sensitivity to certain environmental factors. The most common type of variant is a single nucleotide polymorphism (SNP), which involves a change in a single base pair. SNPs help researchers understand how individual genes may impact specific wellness traits.



### 3. Polygenic Traits and Complex Conditions

Some traits and conditions, such as height, metabolism, and susceptibility to certain health conditions, are polygenic. This means they are influenced by many genes rather than a single gene. Polygenic traits are complex, with each gene contributing a small amount to the overall outcome. By studying multiple genetic variants, researchers can better understand and predict the likelihood of certain traits or predispositions.

### 4. Nature and Nurture: Genetics and Environment

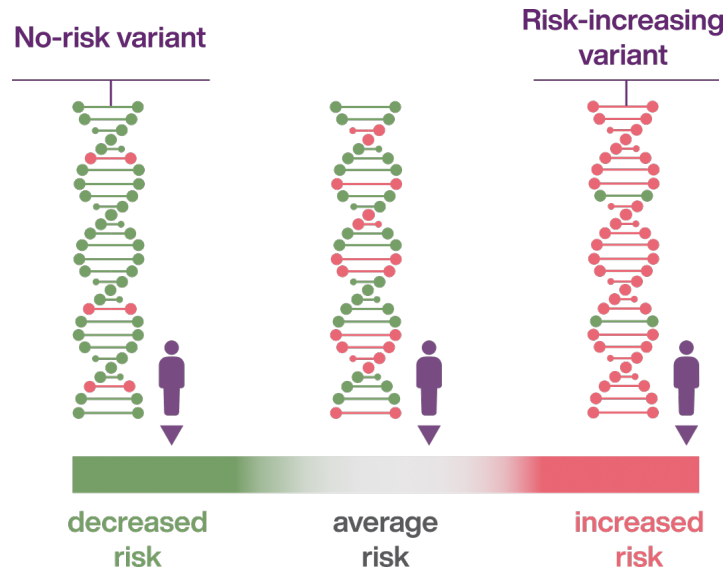
Genetics plays a powerful role in shaping who we are, but it works in tandem with the environment. Lifestyle factors such as diet, physical activity, stress, and sleep interact with our genes, affecting our wellness outcomes. For instance, while genetic predispositions can influence weight or cholesterol levels, diet and exercise can significantly modify these outcomes. Understanding genetics is about recognizing the balance between nature (your genetic makeup) and nurture (your lifestyle choices).



## HOW IS MY GENETIC SCORE BEING CALCULATED?

Your genetic score, also known as a polygenic risk score (PRS), is calculated by analyzing multiple genetic variants in your DNA that contribute to specific traits or health risks. Unlike single-gene disorders, where one gene has a major impact, complex traits and common conditions like cardiovascular health, metabolism, and skin characteristics are influenced by many small genetic factors combined with lifestyle and environmental influences.

**1. Understanding Genetic Variants** Each person's DNA has tiny differences called genetic variants, which are natural variations in the genetic code. These variants can influence how the body processes nutrients, responds to exercise, or predisposes someone to certain health conditions. For example, while one variant might have a minor impact on your metabolism, multiple variants combined can have a more significant effect.



**2. Calculating a Polygenic Risk Score (PRS)** A polygenic risk score is calculated by combining the effects of many genetic variants across your genome. Each variant contributes a small amount to the overall score, which reflects your relative predisposition for a specific trait or health outcome. Here's how it works:

- **Genome-Wide Analysis:** Scientists analyze thousands of genetic markers across your genome using advanced algorithms.
- **Weighted Contributions:** Each genetic variant has a weight based on how strongly it is associated with a particular trait or condition.
- **Summing Up the Score:** By combining the weighted contributions of each variant, the final polygenic risk score is calculated, representing your genetic predisposition for a specific trait.



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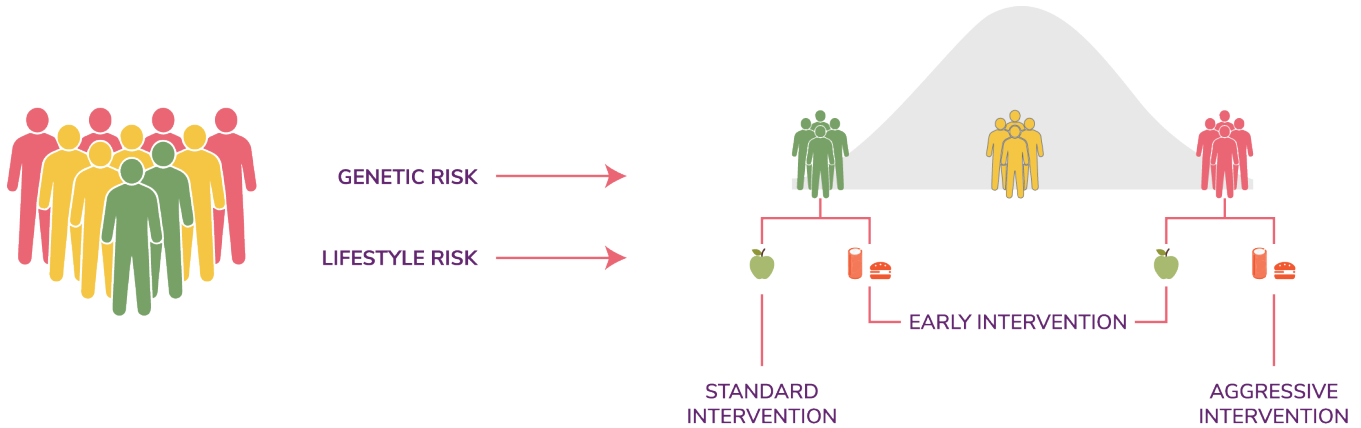
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**3. What Your Score Means** Your polygenic risk score is converted into a percentile that shows how your genetic predisposition compares to others in the general population. Here's what different percentiles can indicate:

- **High Percentile (75-100%):** You have a strong genetic predisposition for this trait. This could mean, for example, a greater genetic tendency toward high endurance or certain metabolic traits.
- **Average Percentile (26-74%):** You have an average genetic predisposition. You may benefit from a balanced approach in this area to achieve optimal results.
- **Low Percentile (0-25%):** This indicates a lower predisposition, but lifestyle factors may still significantly influence your outcomes.



**4. Limitations of Polygenic Scores** While polygenic risk scores offer valuable insights, there are limitations to keep in mind:

- **Not Diagnostic:** A polygenic score indicates genetic predispositions but does not determine certainty. It is not a diagnostic tool and cannot predict health outcomes with absolute accuracy.
- **Excludes Non-Genetic Factors:** Your score does not consider lifestyle, diet, or environmental factors, which can heavily impact health.
- **Specific to Certain Traits:** Polygenic scores are typically validated for common traits and may not account for rare genetic variations that can have a significant individual effect.

**5. Putting It All Together** Polygenic risk scores provide a personalized look at how your genetics may influence specific wellness traits. However, they work best alongside other personal health information, like lifestyle habits and environmental influences, for a well-rounded understanding of your health and wellness potential.



**LIVE HEALTHY.  
STAY YOUNG.**