

# Summary Report



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#### DISCLAIMER

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



# How this works

Our Health Reports analyze how your DNA influences your health. We then use this analysis to give you personalized risk estimates and recommendations.



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



Your DNA is like an instruction manual — it contains a lot of information. You can think of it as a blueprint for your body.

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

Our Summary Reports combine different Wellness and Trait Reports related to a certain health topic. They give you a more complete picture about different aspects of your health and wellness.



We use artificial intelligence and machine learning to analyze all this information. We then summarize your results as a risk score or display it on a gauge. When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people: In total, we analyze up to 83 million genetic variants.



Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

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

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

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



Our team of scientists also ranks each recommendation. We rank based on impact and strength of evidence.

Impact shows how strongly a recommendation will affect your health in a certain area.

Evidence reflects how much scientific support there is for the recommendation in the medical literature. Rankings are from 1 to 5 (low to high):



In Summary Reports, we combine top evidence-based recommendations for different conditions.

We focus on recommendations that help with more conditions included in a Summary Report.

For each recommendation, we list all conditions it may help with. We also include impact, evidence, regimen, personalized parts, and other details specific to each condition.



### Impact

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

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

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

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

### **Recommendation Evidence**

#### ••••5/5

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

#### ••••4/5

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

#### ••••3/5

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

#### ••••2/5

Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or

### **Genotype-specific evidence**

#### 🗩 🗩 🖝 🖝 🛛 High-quality

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

#### Medium-quality

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

#### • • • • • Low-quality

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

#### • • • • • Indirect

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

many studies but with ambiguous results.

#### •••• 1/5

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

No evidence in humans.

#### • • • • • In theory

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

### Some things to keep in mind:

- The scores/gauges use the latest scientific studies. But they are not perfect and will change as the models improve.
- Not everyone with risk variants will develop a health condition.
- Genetics is not the whole story. Your health is most often a combination of genetics, lifestyle, and environmental factors. Great news, as this means that you can often change your lifestyle to lower your risk.
- Results might be more accurate for some ethnic groups than others. This depends on the studies used in each report.
- People without risk variants can also develop health conditions.
- It's important to work with your doctor to better understand your risks. Our reports do not diagnose or treat any health condition. They are not a substitute for medical advice. If you're diagnosed with a certain health condition, follow your doctor's advice.

# Summary

As we age, our skin starts to sag and develop wrinkles, our hair begins to gray and thin, and we long for the looks of our younger days. However, even those younger days can have issues like acne or eczema. Our skin is our biggest organ and exposed to the environment more than any other. Thus, it has its own unique set of issues.

Your genetic predispositions can affect everything from collagen production to the ability to handle UV light or the likelihood of various skin conditions. Being aware of these can help you make smarter decisions about your skin health and minimize the risk factors.

This comprehensive report covers various topics related to skin health, divided in two major groups: **skin features and skin conditions**.

# This summary report contains:



# **Overview of Your Results**

👰 Beauty





# Skin Conditions







Typical likelihood of rosacea





Typical likelihood of hyperhidrosis

# Your Results in Details



# Beauty

Your skin serves as a protective barrier, helps regulate body temperature, and helps maintain hydration. The color, thickness, and texture of skin and hair is a unique combination of factors dictated by our genetics, environment, lifestyle, and age. In addition to their functional roles, these features largely determine your **beauty**.

Your genetic predispositions can affect any of these elements, whether you are more prone to dry skin, wrinkles, hair loss, and more. Understanding these factors can help you navigate the unending sea of skin and hair products out there to keep your skin and hair healthy and beautiful!



Typical predisposition for hair graying

# **Skin Hydration**

#### Key Takeaways:

- Genes involved in skin hydration may influence skin barrier function and the transport of water in the skin.
- Other factors include being over 40, cold and windy or low-humidity climates, certain occupations, swimming frequently in chlorinated pools, and certain diseases or conditions.
- If you have high genetic risk, you may lower your overall risk by taking action on those factors that you can change.
- Click the **Recommendations** tab for potential dietary and lifestyle changes.

The skin acts as a barrier to protect you from your surroundings. One of the main functions of the *epidermis* (the outermost layer of the skin) is to keep your skin hydrated by retaining water. If the epidermis is not able to retain enough water, the skin will start to feel dry, rough, and saggy. This tends to happen naturally as you age  $[\underline{R}, \underline{R}, \underline{R}]$ .

Genetic factors may play a role in skin hydration. Genes involved may influence skin barrier function and the transport of water in the skin [R, R, R].



Likely higher skin hydration based on 13 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CRIPT	rs79885808	TT
ARAP2	rs7654356	AA
TNKS	rs138684226	CC
ARHGAP21	rs34485271	II
ABLIM1	rs <b>77962058</b>	AA
TASP1	rs149092789	AA
UPP1	rs <b>75043305</b>	II
MCPH1	rs141074203	AA
FZD10	rs7953082	AA
HAPLN1	rs9293356	II
MKNK2	rs887932	GG
PLEKHG1	rs9398017	СС
IL34	rs8061854	TT

# **Facial Wrinkles**

Wrinkles are small but visible folds in the skin. Wrinkles appear with age and develop over several decades. They are more evident in areas of the body that are usually exposed, such as the face, neck, forearms, and hands. The most noticeable wrinkles are facial [R, R, R].

Up to **55%** of differences in people's facial wrinkling may be due to genetics. Involved genes may influence **skin color and health** [ $\mathbb{R}$ ,  $\mathbb{R}$ ,  $\mathbb{R}$ ].

**UV radiation also contributes to facial wrinkling.** Excessive sunbathing or use of tanning beds exposes the skin to unhealthy levels of UV radiation and leads to premature aging. Hence, experts recommend wearing sunscreen [ $\mathbb{R}$ ,  $\mathbb{R}$ ,  $\mathbb{R}$ ].

**Make sure to find the right balance**. <u>Sunlight</u> or bright light during the day can benefit your body (by increasing vitamin D levels) and mind (by boosting mood) [ $\mathbb{R}$ ,  $\mathbb{R}$ ].

The color of your skin also influences facial wrinkling. Wrinkles appear more rapidly in people sensitive to UV radiation. Hence, white skin may wrinkle earlier than other skin types [R, R].

Others factors that may also contribute to facial wrinkling include [R, R, R]:

- Aging
- Smoking
- Very low weight
- Health conditions (e.g., depression)



Likely a typical amount of facial wrinkles based on 20 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SIK2	rs11213999	CC
TPGS2	rs <b>78569750</b>	GG
BBX	rs1283106	CC
BMP6	rs1225927	TT
LRRC3B	rs116248825	CC
HACD4	rs116873518	GG
SYNDIG1	rs184605088	CC
/	rs <b>72811030</b>	AA
LINGO2	rs117828793	CC
BMP6	rs382029	TT
GLIS1	rs <b>702491</b>	TC
/	rs11711327	AG
NUDT12	rs113322056	GA
NUDT12	rs112608607	СТ
MON1B	rs62047859	TT
DCSTAMP	rs147672305	TT
RESF1	rs1150997	AT
САЗ	rs184880542	GG

# **Age Spots**

Solar lentigines, **also known as age spots**, sun spots, or liver spots, are dark, harmless spots on the skin. They are caused by increased production of melanin, the skin pigment. Age spots tend to appear more frequently on visible parts of the body, as they are usually a sign of *photoaging*—skin aging due to excessive exposure to UV radiation [ $\mathbb{R}$ ,  $\mathbb{R}$ ,  $\mathbb{R}$ ,  $\mathbb{R}$ ].

**Genetics may influence age spots.** Genes involved may contribute to the production of melanin, the skin pigment [R].

The main factor leading to age spots is excessive exposure to UV radiation. Hence, people who sunburn easily and those who have a history of sunburns are more likely to get age spots [R, R].

Hence, experts recommend wearing sunscreen. **Make sure to find the right balance**. <u>Sunlight</u> or bright light during the day can benefit your body (by increasing vitamin D levels) and mind (by boosting mood) [R, R, R, R, R].

As we age, the likelihood of age spots also increases. More than 90% of white people older than 50 years of age may have age spots [R, R]

Diabetes may also increase the risk of age spots, especially in women [R].



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PPARGC1B	rs <b>251468</b>	CC
RAB11FIP2	rs61866017	GG
RAB11FIP2	rs35563099	CC

# **Skin Elasticity**

#### Key Takeaways:

- Up to **60%** of differences in people's skin aging may be due to genetics.
- Other risk factors include age, excessive sun exposure, smoking, and pollution.
- If you have high genetic risk, you may lower overall risk by taking action on those factors that you can change.
- Click the **Recommendations** tab for potential dietary and lifestyle changes.

Skin elasticity is the ability of it to stretch and then return to its original form. Losing elasticity is a natural part of the aging process, creating loose skin and wrinkles.

Risk factors for reduced skin elasticity and wrinkles include [R]:

- Older age
- Excessive sun exposure
- Smoking
- Pollution

Up to **60%** of differences in people's skin aging may be due to **genetics**. Involved genes affect the metabolism of collagen, elastin, and other proteins involved in skin elasticity [R].



Likely typical skin elasticity based on 15 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SGMS1	rs182035024	CC
/	rs61218791	AA
STXBP5	rs117444935	GG
FAM171A1	rs112251095	AA
ANAPC4	rs34293498	TT
RNF32	rs73499013	GG
KIF2B	rs12601165	GG
IL16	rs8027891	GG
MYO18A	rs8067915	GC
GAD2	rs3847380	GT
TFRC	rs <b>146095627</b>	AA
CD96	rs9876163	II
CEBPA	rs6510372	II
GRAMD2B	rs170580	II
DIAPH3	rs1592108	II

# **Stretch Marks**

#### Key Takeaways:

- Gene variants involved in stretch marks formation may affect elastin and other skin proteins.
- Other factors include being female, pregnancy, rapid growth or gaining/losing weight, steroid use, breast enlargement surgery, and African ancestry.
- Stretch marks are a common condition starting in adolescence.
- If you have high genetic risk, you may lower overall risk by taking action on those factors that you can change.

Stretch marks are a type of scarring typically caused by our skin stretching or shrinking too quickly.

They are typically caused by:

- Growth spurts in puberty
- Pregnancy
- Rapid weight loss or gain
- Rapid muscle gain due to weight training
- Breast enlargement surgery
- Extended corticosteroid use
- Some medical conditions such as Cushing's syndrome

The following factors may further increase the risk of stretch marks [R]:

- Being female
- African ancestry
- Genetics

Research has found different gene variants involved in stretch marks formation. Involved genes may affect **elastin** and other skin proteins [R].



GENE	SNP	GENOTYPE
SCFD1	rs9707389	TT
/	rs6673165	TT
/	rs <b>7421449</b>	AA
TAFA1	rs9809500	GG
TAFA1	rs9848233	CC
TENM4	rs <b>548541</b>	GG
SRSF6	rs6093816	GG
SRSF6	rs6093813	CC
SRSF6	rs58314244	GG
SRSF6	rs2010809	CC
L3MBTL1	rs <b>57083567</b>	CC
SRSF6	rs6103260	GG
CHRNB2	rs12143679	CC
GADL1	rs4955369	TT
ATXN1	rs59302766	AA
TJP1	rs41280060	GG
SLC26A8	rs11969921	AA
BNIP5	rs16887986	CC
BNIP5	rs11968573	TT

# Hair Loss

#### Key Takeaways:

- About 60% of differences in people's chances of having hair loss may be due to genetics.
- Risk factors include genetics, cancer treatments, excessive male hormone activity, and certain health conditions.
- Up to half of all men and women develop androgenetic alopecia. If you are experiencing hair loss, speak to your doctor.
- Click the **next steps** tab for relevant labs and lifestyle factors.

Androgenetic alopecia is a common type of hair loss. You may know it as male- or female-pattern baldness [R].

Up to half of all men and women develop androgenetic alopecia. Men typically experience a receding hairline and hair loss at the top of the head. Women typically experience hair thinning at the top and crown of the head  $[\underline{R}, \underline{R}]$ .

Androgenetic alopecia is fairly common and harmless. However, it may impact confidence and self-image in some people [R, R].

Androgenetic alopecia is usually caused by high activity of male sex hormones, like <u>dihydrotestosterone</u> (DHT). However, hair loss may also be caused by a health condition or exposure to cancer treatments [ $\mathbb{R}$ ,  $\mathbb{R}$ ].

Some people are at greater risk than others of losing their hair. This may be partly due to **genetics**  $[\mathbb{R}]$ .

Treatments for androgenetic alopecia include [R, R]:

- Topical medication
- Hair transplants
- Low-level laser therapy

- Hair follicle activity (LGR4, TWIST1, PRKD1, RUNX3)
- Hair cell death (BCL2, TOP1, IRF4, MAPT)
- Male sex hormone activity (AR, MEF2C)

Genetically high free testosterone levels may be causally associated with a high risk of androgenetic alopecia  $[\mathbf{R}]$ .



Typical likelihood of hair loss based on 13,176 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ALX4	rs2863081	AA
FERD3L	rs2073963	GT
PAX1	rs2180439	СТ
COPB2	rs10212419	GG
PTHLH	rs10843026	GG
PAX1	rs1160312	AA
FADS2	rs1535	AA
/	rs382854	TT
RREB1	rs675209	СТ
TWIST1	rs13245206	AG
TWIST1	rs17140672	GA
TWIST1	rs10225279	GT
BCL2	rs <b>7226979</b>	TC
BCL2	rs12457893	CA
PTHLH	rs805512	CA
TCF4	rs2958184	CA
/	rs2149150	AC
AUTS2	rs6945541	СТ
AUTS2	rs939963	GC

# **Hair Graying**

Hair color is determined by the amount and type of pigment called **melanin** in your hair follicles. The same pigment determines skin, eye, and hair color. **Graying happens with the loss of this melanin**, which is a natural effect of aging.

Anywhere from **30% up to 90%** of differences in people's hair graying may be due to genetics [R].

Other risk factors for graying hair include  $[\mathbf{R}]$ :

- Obesity
- Lack of exercise
- Drug use
- High cholesterol
- High uric acid

Conditions that may contribute to hair graying include [R]:

- High blood pressure
- Thyroid disorders
- Liver conditions



Typical predisposition for hair graying based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
KIF1A	rs59733750	ΑΑ
NSMCE1	rs1127228	CC
MROH2A	rs2361506	GT
PRDM8	rs <b>7680591</b>	AT
IRF4	rs <b>12203592</b>	CC



# Skin Conditions

You didn't like having acne as a teen and definitely still don't want to deal with itchy eczema or stubborn psoriasis. **We link skin health and appearance to overall wellbeing and attractiveness, sometimes to an excessive degree**.

Your genetic predisposition can affect your chances of various skin conditions that may affect your appearance, health, and quality of life. Knowing these risks can help you keep an eye out for warning signs and take actions to protect your skin.



### Acne

#### Key Takeaways:

- About 50-90% of differences in people's chances of developing acne may be due to genetics.
- Around 85% of people develop acne between the ages of 12 and 24.
- Risk factors include: sugary food, dairy, oily makeup, stress, and hormonal changes.
- If your genetic risk is high, and you are young—take action now.
- Click the **Recommendations** tab for potential dietary and lifestyle changes.

Acne is a common skin condition easily recognized by the pimples that appear on the face and back [R, R].

Pimples are caused by blocked hair follicles. Oil, dead skin cells, and bacteria can all plug hair follicles and contribute to pimples [R, R].

Acne is extremely common in teenagers. In fact, it affects about 90% of boys and 80% of girls at some point in their teen years [R, R].

Researchers aren't sure about the exact cause of acne. One possible explanation is that the body makes more sex hormones during puberty. These hormones can increase the production of *sebum*, a skin oil that can plug a follicle. In response, the bacteria Cutibacterium acnes (C. acnes) can begin to grow [R, R].

It is normal for *C. acnes* to live on your skin, mainly in and around the hair follicles. In fact, it may even help protect against infection by more dangerous bacteria. However, some types of C. acnes have been linked to acne [<u>R</u>].

Besides puberty, factors that may trigger or worsen acne include [R, R]:

- Sugary food
- Dairy
- Oily makeup
- Stress
- Hormonal changes
- Genetics

Acne isn't usually dangerous and often goes away on its own. However, zits may leave scars on the skin long after they're gone. Both acne and its scars can affect a person's self-esteem. It is therefore important to manage acne and its potential impact on mental health [R, R, R].



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TGFB2	rs1159268	GA
SEMA4B	rs34560261	CC
WNT10A	rs74333950	TT
ADAMTS18	rs <b>72803831</b>	GG
SLC45A1	rs80293268	GC
EDNRA	rs6842241	CC
GPR25	rs296522	CC
MAP3K1	rs455660	CC
EDAR	rs260643	AG
PCNX3	rs61744384	AT
TIMP4	rs3773364	GA
DBX1	rs1838055	GC
MYEOV	rs10896460	TG
UPB1	rs2070475	TA
FGF10	rs16874036	GA
SUGCT	rs9639838	TC
DUSP16	rs7312010	AG
DEXI	rs <b>7194305</b>	AG
H4C13	rs169262	СТ

Treatments often combine oral medication, creams, and skin washing. Other treatments include light therapy and chemical peels [R, R, R].

About 50-90% of differences in people's chances of developing acne may be attributed to genetics. Genes involved in acne may influence [R, R, <u>R, R</u>]:

- Hormones (MYC, DDB2, SELL)
- Skin cell function (TP63, CACNA1H, ADAM19)

### **Eczema**

#### Key Takeaways:

- Up to 75% of differences in people's chances of developing eczema may be due to genetics.
- Eczema triggers include: allergens, cold, dry air, Infections, skin irritants, and stress.
- It can affect your appearance and quality of life.
- If you have a high genetic risk, take special care to avoid potential triggers.
- Click the Recommendations tab for potential dietary and lifestyle changes.

Eczema is an inflammatory skin condition. It causes dry skin and itchy red rashes, usually on the elbow creases, neck, and back of the knees [R, R].

Up to 1 in 3 children experience eczema, usually in the first year of life. The condition is less common (2-10%) in adults [R].

Factors that tend to worsen eczema include  $[\underline{R}, \underline{R}]$ :

- Contact with allergens (pollen, mold, dust mites, or animals)
- Cold, dry air
- Infections like the flu
- Contact with skin irritants (chemicals or fabrics)
- <u>Stress</u>

People with eczema may be more prone to skin infections. Normally, the skin has a protective barrier that keeps out germs. Eczema can compromise this barrier, making it easier for infections to arise  $[\underline{R}, \underline{R}]$ .

The symptoms of eczema can usually be managed at home with the help of [<u>R</u>]:

- Moisturizers
- Humidifiers
- Topical medications
- Trimming or covering fingernails (to limit scratching)
- Avoiding skin irritants

While the causes of eczema aren't completely clear, genetics seems to play a major role. What's more, the genetics of eczema, asthma, hay fever, and food allergies are very similar. This means that if you have one, you're more likely to have the others [R, R].

Up to 75% of differences in people's chances of developing eczema may be attributed to genetics. Genes involved in eczema may influence [R, R, R, <u>R, R, R</u>]:



GENE	SNP	GENOTYPE
OVOL1	rs10791824	GG
STMN3	rs3848669	TT
TREH	rs10790275	CC
ADO	rs4372325	CC
PRR5L	rs10836538	GG
PPP2R3C	rs <b>2415269</b>	GG
SATB1	rs <b>4395418</b>	CC
SLC22A5	rs60153262	TC
NCF4	rs <b>4821564</b>	CC
ID2	rs891058	GG
D2HGDH	rs34290285	GG
LRRC32	rs7936434	GC
TRIB1	rs12334935	GA
MDM1	rs2227491	TC
RUNX3	rs6672420	TA
ARHGAP27	rs9895436	AG
TNFSF18	rs6691738	TG
FLG	rs61816761	GG
FLG	rs138726443	GG

- Skin barrier function (FLG, OVOL1, KIF3A)
- Inflammation (IL13, IL4)
- Immune response (HLA-DQA1, EMSY)

# **Hives**

#### Key Takeaways:

- Your genetics plays a factor in developing hives through inflammation signaling and histamine levels. Chronic hives are more common in women.
- Risk factors include previous allergic reactions and your genetics.
- Common triggers are foods or food additives, medications, airborne allergens, insect bites, infection, stress, cold/heat.
- Click the **next steps** tab for relevant lifestyle factors.

Hives are red, swollen, and itchy bumps that appear on the skin. While hives usually do not last very long, some people can develop chronic hives. In these cases, outbreaks can happen frequently and last for six weeks or more  $[\underline{R}, \underline{R}, \underline{R}, \underline{R}]$ .

#### While occasional hives are common, less than 1% of American adults

have chronic hives. Chronic hives are slightly more common in women than in men  $[\mathbb{R}]$ .

Hives occur when immune cells release chemicals like histamine into the blood. This can be triggered by  $[\underline{R}, \underline{R}, \underline{R}]$ :

- Certain foods or food additives (e.g., seafood, nuts, eggs)
- Certain medications (e.g., NSAIDs)
- Airborne allergens (e.g., pollen, animal dander)
- Insect bites
- Infection
- Stress
- Cold or heat

Some people are more likely to develop hives than others. Risk factors include  $[\underline{R}]$ :

- Previous allergic reactions
- Genetics

Hives can be a symptom of an underlying problem. For example, some cases of chronic hives are caused by autoimmune disease. However, most cases of chronic hives have no known cause. Work with your doctor to find and manage any underlying conditions [ $\mathbb{R}$ ].

Treatment for hives usually includes  $[\underline{R}, \underline{R}]$ :

- Avoiding allergens
- Medication

Genetics plays a significant role in the development of hives. Genes



More likely to have hives based on 12,371 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GCSAML	rs56043070	GA
CSGALNACT1	rs2958556	AG
CBLB	rs6787175	GC
OR7A5	rs144323407	GT
OR7A17	rs116999541	AG
BRAF	rs117325894	TT
NDRG2	rs1998847	AA
TPSB2	rs143547788	GG
STIM1	rs3750996	AA
ADGRG6	rs78973304	TT
AEBP2	rs141804487	TT
PDE3A	rs139395703	TT
TC2N	rs117777291	CC
ADGRG6	rs76767175	GG
ADGRG6	rs118139202	TT
THNSL2	rs <b>12478124</b>	CC
THNSL2	rs114910076	AA
PCDH20	rs118082163	AA
ADAMTSL3	rs76543944	CC

involved in hives may influence  $[\underline{R}, \underline{R}, \underline{R}]$ :

- Histamine levels (HNMT, FCER1A)
- Other inflammation signals (ALOX5, PTGER4, PLCG2)

Genetically high levels of omega-3s may be causally associated with a lower risk of allergic urticaria [R].

# **Psoriasis**

#### Key Takeaways:

- Up to **90%** of differences in people's odds of developing psoriasis may be due to genetics.
- Psoriasis triggers include: infections, weather, skin injuries, stress, cigarette smoke, alcohol abuse, steroid withdrawal.
- About 2% of Americans have psoriasis, mostly appearing in younger and older adults.
- Even though the condition is rare, people with high genetic risk should understand and be wary of potential triggers.
- Click the **Recommendations** tab for potential dietary and lifestyle changes.

*Psoriasis* is an autoimmune skin disease in which the body attacks its own skin cells. In response, skin cells begin to grow too quickly. New cells then begin to pile up on the skin's surface, forming plaques. The result is itchy, inflamed, scaly skin — the hallmark of psoriasis [R, R, R].

About 2% of Americans have psoriasis. It can appear at any age, but most cases develop between the ages of 15-20 or 55-60  $[\mathbb{R}]$ .

People predisposed to psoriasis don't always have symptoms. In fact, symptoms may only appear after contact with a "trigger" [R].

Some common triggers include [R]:

- Throat and skin infections
- Dry and cold weather
- Skin injuries (like bug bites and sunburns)
- Stress
- Cigarette smoke
- Alcohol abuse
- Topical steroid withdrawal

Signs and symptoms of psoriasis include [R]:

- White scales covering patches of inflamed, itchy skin (often on the elbows, knees, scalp, and back)
- Joint stiffness
- Thickened or discolored nails

People with psoriasis also tend to have problems with their kidneys, heart, and joints. In fact, about 30% of patients have *psoriatic arthritis*. This painful condition mainly affects the fingers and toes [ $\mathbb{R}$ ].

As there is no cure for psoriasis, treatment aims to manage symptoms. Your doctor may suggest  $[\underline{R}, \underline{R}, \underline{R}]$ :



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
STAT3	rs <b>744166</b>	AG
TNIP1	rs <b>17728338</b>	GA
IFNLR1	rs10794648	CC
IFIH1	rs1990760	TT
IL12B	rs <b>7709212</b>	TC
ZNF816	rs9304742	TT
REL	rs842625	GG
SPATA2	rs <b>7352944</b>	TT
LCE3C	rs4845459	CA
TNFAIP3	rs643177	TC
COG6	rs34394770	TT
TP63	rs28512356	CC
ETS1	rs6590334	TT
PPP2R3C	rs8016947	TG
CAVIN1	rs <b>56364076</b>	TC
SLC44A2	rs892085	AG
DDX58	rs11795343	TC
POU2F3	rs <b>2847500</b>	AG
IL13	rs <b>20541</b>	AG

- Light therapy
- Coal tar
- Medications that block the immune response
- Topical vitamin D
- Retinoids

Between 60-90% of differences in psoriasis may be attributed to genetics. Genes involved in psoriasis may influence [R, R, R]:

- Inflammation (IL12B, IL23A, IL23R, NFKBIZ)
- Immune response (IFNLR1, NOS2, IFIH1, HLA-C)

Genetically high neutrophil levels may be causally associated with a higher risk of psoriasis [R].

### Rosacea

#### Key Takeaways:

- Genes involved in rosacea may influence skin pigments and/or inflammation.
- Risk factors include UV-sensitive skin, being female, over age 45, and your genetics.
- A high genetic risk may be affected by limiting sun exposure and being aware of potential triggers.
- Rosacea affects about **1 in 20** people worldwide, and is triggered by things like sun exposure, stress, and makeup.

*Rosacea* is a common skin condition that causes face redness. It mostly affects the forehead, nose, cheeks, and chin. It can look a lot like acne or other skin conditions  $[\mathbb{R}, \mathbb{R}]$ .

Other rosacea symptoms may include  $[\underline{R}, \underline{R}]$ :

- Small broken veins in the nose and cheeks (spider veins)
- Pimple-like bumps
- Heat and tenderness
- Thickened skin on the nose

About 1 out of 20 people worldwide have rosacea. It most commonly affects people over the age of 45. Although rosacea can affect anyone, it is usually reported in women with lighter skin  $[\mathbb{R}, \mathbb{R}]$ .

Other risk factors for rosacea include  $[\underline{R}, \underline{R}]$ :

- UV-sensitive skin
- Genetics

Many things may trigger or worsen rosacea. These include [R]:

- Sun exposure
- Heat
- Wind
- Intense exercise
- Alcohol
- Stress
- Makeup
- Medication
- Some foods

Rosacea itself is not usually dangerous. However, one form of the condition can affect the eye. This is called *ocular rosacea*, and it can cause dry, irritated eyes and eyelids. It can also lead to complications like blurred vision and sensitivity to light [ $\mathbb{R}$ ,  $\mathbb{R}$ ,  $\mathbb{R}$ ].



GENE	SNP	GENOTYPE
HLA-DMA	rs56934772	TT
HES6	rs55775132	GG
HLA-DMA	rs41317102	СС
HLA-DQA2	rs2894254	TT
WNT7B	rs59614521	TT
HLA-DQA1	rs9272729	GG
DCAF4	rs11628905	CC
MICB	rs <b>519417</b>	GG
KCNJ3	rs <b>75561433</b>	GG
MICB	rs3130614	TT
MICB	rs1144710	TT
KCNJ3	rs10191743	TT
SLC45A2	rs16891982	GC
HERC2	rs1129038	TT
HERC2	rs12912427	GG
MMP15	rs191291131	CC
ALG13	rs201820102	A
CAMK1G	rs193183075	CC
KIAA1109	rs77937677	GG

To manage rosacea, doctors may recommend [R, R, R]:

- Avoiding triggers
- Sunscreen (at least SPF 30)
- Moisturizers
- Medication
- Laser therapy

People with ocular rosacea are more prone to eye infections. These are treated with antibiotics. Contact lenses may worsen this condition, so they should be avoided [R].

**Genetics seem to play a significant role in rosacea**. Genes involved in rosacea may influence [<u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>]:

- Inflammation (HLA-DRB1, HLA-DQA1, BTNL2, IL13)
- Skin pigments (SLC45A2)
- Both of the above (IRF4, MC1R)

# Vitiligo

#### Key Takeaways:

- Up to 80% of differences in people's chances of developing vitiligo may be due to genetics, and many will see it develop before adulthood.
- About **1%** of the world's population has vitiligo, so even if you have high genetic risk, the actual risk is still low.
- A high genetic risk may make vitiligo triggers such as an autoimmune response or a sunburn, more likely to trigger the condition.
- Click the **Recommendations** tab for potential dietary and lifestyle changes, and **next steps** for relevant labs.

*Vitiligo* is a condition in which the skin loses pigment. Normally, special skin cells called melanocytes produce a pigment called *melanin*. This pigment helps give the skin, hair, and eyes their color. In vitiligo, these skin cells are damaged or die off [ $\mathbb{R}$ ,  $\mathbb{R}$ ].

In the skin, pigment is often lost in patches. In 90% of cases, these patches appear on both sides of the body, in a symmetrical pattern. For example, if a white patch appears around the left eye, it will also appear around the right eye  $[\underline{R}, \underline{R}]$ .

Vitiligo mostly affects the skin. However, it can also make hair go gray prematurely  $[\underline{R}]$ .

About 1% of people worldwide develop vitiligo. Anyone can get it, but it is more noticeable in people with darker skin  $[\underline{R}, \underline{R}]$ .

The cause of vitiligo is unclear. It may happen due to [R, R, R]:

- An autoimmune condition
- A trigger event (e.g., stress, skin injury, severe sunburn, chemical contact)
- Genetics

Possible complications of this condition include [R, R]:

- Stress
- Sunburn
- Eye problems
- Hearing loss

Treatment options for vitiligo include [R]:

- Medication
- Light therapy
- Surgery







Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
HLA-DQA2	rs <b>9271597</b>	AA
ASIP	rs6059655	GG
HLA-A	rs60131261	GG
TYR	rs1126809	GG
FAP	rs2111485	GG
IRF4	rs12203592	CC
SERPINB1	rs <b>78521699</b>	AA
FARP2	rs41342147	GG
GZMB	rs8192917	CC
FOXP1	rs34346645	CC
CD44	rs1043101	GG
PTPRC	rs16843742	TT
DEF8	rs4268748	СТ
SUOX	rs2017445	TA
C1QTNF6	rs229527	CA
LPP	rs13076312	СТ
/	rs148136154	TC
IL2RA	rs706779	СТ
SH2B3	rs10774624	GA

Up to 80% of differences in people's chances of developing vitiligo may be attributed to genetics. Genes involved in vitiligo may influence  $[\mathbb{R}, \mathbb{R}]$ :

- The immune response (HLA-DQB1, HLA-DQA1, PTPN22)
- Skin pigmentation (FGFR1OP, ZMIZ1, OCA2)
- Cell death (GZMB, SLC29A3, CASP7)

# **Heavy Sweating**

#### Key Takeaways:

- Genes that affect excessive sweating may influence nerve function and chemical messengers.
- Excessive sweating can impact quality of life and cause undue stress and anxiety. If you are at high genetic risk, take action on your risk factors to help lower overall risk.
- Up to 5% of people in the U.S. may have hyperhidrosis. If you have symptoms, you may want to consult your doctor to rule out other conditions.
- Click the next steps tab for relevant lab tests.

*Hyperhidrosis* is the scientific term for heavy sweating [R].

It's normal to sweat a lot because of exercise, heat, or stress. In the absence of these conditions, a lot of sweat might be a sign that something is wrong  $[\underline{R}]$ .

Sweating turns from normal to worrisome if it [R]:

- Changes the way you live your daily life
- Causes anxiety or social problems
- Suddenly gets much worse for no apparent reason
- Suddenly starts while sleeping (night sweats) for no apparent reason

Up to 5% of people in the United States may have hyperhidrosis. Many people do not realize it is a treatable medical condition. For this reason, they often do not bring up symptoms with their doctors. Only about 1 in 2 people who have it will be diagnosed [ $\mathbb{R}$ ,  $\mathbb{R}$ ].

Most cases of heavy sweating are caused by a nerve problem. Simply put, the nerves that control the sweat glands are too active. This condition is called *primary focal hyperhidrosis*. It may be treated with [R, R, R, R]:

- Topical medication
- Antiperspirants
- Surgery
- Botulinum toxin therapy

Heavy sweating can also be caused by another health condition. This is called *secondary hyperhidrosis*. Underlying conditions that may cause this include [R]:

- Diabetes
- Menopause
- Thyroid problems
- Low blood sugar



Infection

### Researchers suggest that genetics plays a role in the development of heavy sweating. Genes involved in heavy sweating may influence [R]:

- Chemical messenger activity (BCHE, PSEN2, DARS)
- Nerve function (PPP3R1, PPP1CB, ITPR2)

rs117093392	AA
rs143772159	CC
rs144975908	GG
rs190252627	CC
rs75470475	CC
rs113867145	GG
rs183414800	TT
rs113992293	GG
rs61740873	GG
rs74837903	TT
rs111398942	CC
rs149876322	CC
rs113434595	CC
	rs117093392 rs143772159 rs144975908 rs190252627 rs75470475 rs75470475 rs113867145 rs183414800 rs113992293 rs113992293 rs61740873 rs74837903 rs74837903 rs111398942 rs149876322 rs149876322

CC

CC

AA

rs1534480

rs12280544

rs139024759

**PPP1CB** 

DLG2

TLN2

# Your Recommendations

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

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



Stress may trigger or worsen hives. This is likely because stress may disturb the immune system and increase inflammation [R, R, R, R, R, R, R, R].

In turn, hives may worsen stress. Chronic hives are also linked to anxiety and depression [R, R, R, R].

Relaxation techniques may help improve quality of life in people with hives [R].

😟 Vitiligo	IMPACT	
Stress is linked to higher rates of vitiligo. Stressful life events may trigger vitiligo and worsen symptoms [ <u>R</u> ,		
Stress may contribute to vitiligo by altering the immune response. It may also increase oxidative damage to skin cells [R, R].		
Relaxation and coping techniques can help reduce stress. They may also improve the quality of life in people with vitiligo [ $R$ ,		



People with rosacea may also be more likely to have anxiety or depression [R, R].

Managing stress and mental health may help [R].

Rosacea



People with your CRHR1 gene variant may be more prone to stress [ $\mathbb{R}$ ]. Take special care to reduce stress by practicing relaxation techniques.

GENE SNP GENOTYPE EVIDENCE
/ rs80143279 / • • • • • • •

	IMPACT	EVIDENCE
( 🛨 ) Heavy Sweating		•••• 3/5

Stress may contribute to heavy sweating. In turn, sweating a lot may impact mental health by harming self-esteem and affecting social interactions [R, R, R, R, R].

Some relaxation techniques may help people who sweat heavily. They include [R, R, R]:

- Mindfulness
- Meditation
- Yoga
- Biofeedback

People with stress by p	n your CRHR1 gene	variant may be techniques.	more prone to stress [R]. Take special care to reduce
	•	•	
YOUR GENETIC V	ARIANTS		
GENE	SNP	GENOTYPE	EVIDENCE
/	rs80143279	/	

	IMPACT	EVIDENCE
( · · ) Hair Graying	••••2/5	•••• 2/5

High levels of perceived stress are associated with premature hair graying. However, the evidence is mixed [R, R, R, R].

Several cases of sudden hair graying due to severe emotional stress have been reported [R].

Norepinephrine released in response to stress may cause the death of the stem cells that give hairs their color. Relaxation techniques are a great way to reduce stress, potentially helping prevent premature hair graying [R].

(C) Acne				IMPACT	
Stress may worsen	acne [ <u>R, R, R, R]</u> .				
The hormones relea	sed during times of stress r	nay [ <u>R</u> , <u>R</u> , <u>R</u> ]:			
<ul><li>Increase fat pro</li><li>Increase skin in</li><li>Slow the repair</li></ul>	duction in the skin flammation of acne wounds				
Relaxation techniqu	ies may help improve acn	<b>e</b> [ <u>R</u> , <u>R</u> ].			
People with stress by p	n your CRHR1 gener	variant may be techniques.	more prone to stress	[ <u>R</u> ]. Take special care to	o reduce
YOUR GENETIC V	ARIANTS				
G E N E /	SNP rs80143279	GENOTYPE /			



Light therapy may help by killing the melanin-producing cells and removing the top layer of the skin [R].

Please note: Light therapy may damage skin and increase signs of aging. Please consult your doctor before trying any light therapy [R, R].

$\bigcirc$		IMPACT	EVIDENCE
(-)	Eczema		•••• 3/5

#### Experts recommend UV light therapy for some people with eczema, but it requires medical supervision [R, R, R].

With proper safety precautions, **blue light therapy** can be practiced at home. It may help decrease eczema severity by [R, R, R]:

- Reducing inflammation
- Slowing skin cell growth and division

Please note: Light therapy may damage skin and increase signs of aging. Please consult your doctor before trying any light therapy [R, R].

	IMPACT	EVIDENCE
( 🞦 ) Psoriasis	••••3/5	•••• 3/5

#### Light therapy is one of the best treatments to help with psoriasis. It may help people with moderate to severe symptoms [R, R, R].

Light therapy with **blue light** or **red light** may help improve psoriasis symptoms by [R, R, R, R, R, R]:

- Reducing inflammation
- Slowing skin cell growth and division

Please note: Light therapy may damage skin and increase signs of aging. Please consult your doctor before trying any light therapy [R, R].





Experts say that some types of light therapy can help with rosacea. In particular, a doctor may recommend laser therapy in severe cases [R, R, R].

Light therapy may reduce redness, itching, and burning in rosacea. It may also reduce spider veins. Types of light therapy that may help include [R, R]:

- Laser therapy
- Intense pulsed light therapy
- Photodynamic therapy

Laser therapy should only ever be done by a professional. Furthermore, it might take several weeks to show any improvement [R].

Please note: Light therapy may damage skin and increase signs of aging. Please consult your doctor before trying any light therapy [R, R].

IMPACT	EVIDENCE
••••5/5	•••• 4/5
	IMPACT

**Experts recommend light therapy for treatment of vitiligo.** Your doctor may prescribe different types of light therapy based on the specifics of your condition. It may take a few months of regular treatments to start seeing results [R, R, R].

Light therapy helps by increasing skin pigmentation. It may help alone or in combination with medication [R, R, R, R].

**Please note**: Light therapy may damage skin and increase signs of aging. UV light may increase the risk of skin cancer, especially in combination with certain medications. Consult your doctor before trying any light therapy [R, R, R].



( <u>::</u> )	Facial Wrinkles	IMPACT	evidence

Lasers for skin resurfacing may improve facial wrinkles. Some forms destroy the outer layer of the skin (ablative laser resurfacing) while others don't (non-ablative laser resurfacing). Although ablative lasers are typically assumed to be more aggressive, most of the research found both modalities similarly effective and safe [R, R, R].

CO2 laser may be more effective than Er:YAG laser, especially for deeper wrinkles. In turn, Er:YAG may be preferred for superficial wrinkles due to its faster recovery [R, R, R].

Both RF microneedling and laser therapy may be similarly effective at improving facial wrinkles. Their combination may yield the best results [R, R, R, R].

Light therapy may help by removing the outer layer of the skin and increasing the production of elastin and collagen [R].

Please note: Light therapy may damage skin and increase signs of aging. Please consult your doctor before trying any light therapy [R, R].

$\frown$		IMPACT	EVIDENCE
(-)	Stretch Marks		

Light therapy may improve stretch marks. However, radiofrequency microneedling may be slightly more effective. Among the different light therapies, the most effective one may be **CO2 fractional laser**. Other successfully tested light therapies use [R, R, R, R, R]:

- Ablative and non-ablative lasers [R, R, R, R, R, R]
- Intense pulsed light [<u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>]
- Narrowband UV light [R]

Light therapy may improve the tone, redness, elasticity, and thickness of the skin with stretch marks.

Combining light therapy with topical aloe vera or beta-glucans may improve stretch marks even more [R, R].

Light therapy may help by [R]:

- Increasing skin pigmentation
- Removing the outer layer of the skin
- Promoting collagen and elastin production

Please note: Light therapy may damage skin and increase signs of aging. Please consult your doctor before trying any light therapy [R, R].



Experts say light therapy may help some people with acne. However, evidence is limited, and they do not recommend a specific regimen [R, R, R].

Light therapy with blue light, red light, and their combination may help improve acne. However, the evidence is mixed [R, R, R].

Light therapy may help by  $[\underline{R}, \underline{R}]$ :

- Slowing skin cell growth
- Killing acne-causing bacteria

Please note: Light therapy may damage skin and increase signs of aging. Please consult your doctor before trying any light therapy [R, R].



GENE	SNP	GENOTYPE	EVIDENCE	
/	rs478304	/		



Please note: Oral niacin, the other form of vitamin B3, can cause skin flushing [R].



Topical creams with niacinamide (3-5% applied for 4-12 weeks) may improve skin hydration and elasticity, and reduce skin water loss [R, R, R, R].

Niacinamide may help by improving the barrier function of the skin and protecting it from sunlight damage [R, R].

	IMPACT	EVIDENCE
(℃) Acne		

Applying niacinamide (2-5%) to the skin may help with acne, especially in people with oily skin [R, R, R, R, R].

Niacinamide likely helps by [<u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>]:

- Limiting the production of skin oil
- Reducing skin inflammation
- Strengthening the skin barrier





Oral pycnogenol (40-100 mg/day for 12 weeks) may improve skin hydration and elasticity, and reduce moisture loss [R, R].

Pycnogenol is rich in polyphenols that may reduce oxidative damage to the skin [R].

- 5 Vitamin	D			
Helps with	the following			
🙄 Hives				IMPACT EVIDENCE
People with chroni	c hives tend to have lowe	er levels of vitamin D [ <u>R</u> ,	<u>R, R]</u> .	
n line with this, vit	amin D supplements (4,00	00 IU/day for 12 weeks)	may help improve chronic hives [ <u>R</u> , <u>R</u> ,	, <u>R</u> ].
n line with this, vit /itamin D may hel	amin D supplements (4,00 p by reducing inflammatio	00 IU/day for 12 weeks) on [ <u>R</u> ].	nay help improve chronic hives [ <u>R</u> , <u>R</u> ,	, <u>R</u> ].
n line with this, vit /itamin D may hel Please note: <i>Expe</i> R].	amin D supplements (4,00 p by reducing inflammation <i>rts recommend getting 6</i>	00 IU/day for 12 weeks) on [ <u>R</u> ]. 500-800 IU of vitamin D	may help improve chronic hives [ <mark>R</mark> , <u>R</u> ,	, <mark>R</mark> ]. against taking more than 4,000 IU per day
n line with this, vit /itamin D may hel Please note: <i>Expe</i> R].	amin D supplements (4,00 p by reducing inflammation <i>rts recommend getting 6</i>	00 IU/day for 12 weeks) on [R]. 500-800 IU of vitamin D	may help improve chronic hives [R, R,	, R]. against taking more than 4,000 IU per day
n line with this, vit /itamin D may hel Please note: Expe R]. People wi vitamin D	amin D supplements (4,00 p by reducing inflammation rts recommend getting 6 NALIZED TO YOUR GENES th your GC gene v to potentially help	00 IU/day for 12 weeks) on [R]. 500-800 IU of vitamin D variant may have le	may help improve chronic hives [R, R,	against taking more than 4,000 IU per day
n line with this, vit (itamin D may hel Please note: Expe C]. People wi vitamin D YOUR GENETIC	amin D supplements (4,00 p by reducing inflammatic rts recommend getting 6 NALIZED TO YOUR GENES th your GC gene v to potentially help	00 IU/day for 12 weeks) on [R]. 500-800 IU of vitamin D variant may have le	may help improve chronic hives [R, R,	against taking more than 4,000 IU per day
n line with this, vit (itamin D may hele Please note: Expendent Please note: Expendent People with vitamin D YOUR GENETIC GENE	amin D supplements (4,00 p by reducing inflammatic rts recommend getting 6 NALIZED TO YOUR GENES Th your GC gene v to potentially help	00 IU/day for 12 weeks) on [R]. 500-800 IU of vitamin D , variant may have le b with hives.	Der day. Medical bodies recommend a	against taking more than 4,000 IU per day



Vitiligo is linked to low vitamin D levels. This is especially true in people who work indoors [R, R, R].

**Vitamin D supplements** may help restore normal pigment production and vitamin D levels in people with vitiligo. They may do this by supporting a balanced immune response [R, R, R, R, R, R].

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




People with eczema may have low levels of vitamin D. Supplementation may help improve vitamin D levels and eczema symptoms [R, R].

However, the evidence is mixed, and experts do not recommend vitamin D supplementation to treat eczema [R, R].

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

Perso	NALIZED TO YOUR GENES		
Your GC g sunlight o	jene variant is linked or supplements.	l to lower vitami	in D levels [ <u>R</u> ]. Make sure to get enough vitamin D from
YOUR GENETIC	VARIANTS		
GENE	SNP	GENOTYPE	EVIDENCE
/	rs2282679	/	





Topical tretinoin cream (0.1% applied for 10 months) may improve age spots and other signs of skin aging [R, R].

It is unclear if natural retinoids such as retinol, retinaldehyde, and retinyl esters help with age spots [R].

Topical retinoids may help by inhibiting melanin production and promoting skin renewal [R, R].

Please note: Topical retinoids may cause skin dryness, burning, itching, and swelling at the site of application. It is recommended to start with the lowest dose and frequency of application, and gradually increase them as tolerance develops. Because retinoids increase skin sensitivity to sunlight, people on retinoid therapy are recommended to limit sun exposure. Pregnant women shouldn't use topical retinoids because they may increase the risk of malformations [<u>R</u>].

$\frown$		IMPACT	EVIDENCE
(-)	Facial Wrinkles		•••• 4/5

Topical retinoids may improve wrinkles and other symptoms of skin aging. Studied forms include [R, R]:

- Tretinoin (0.02-5%)
- Isotretinoin (0.05-0.1%)
- Tazarotene (0.01-0.1%)

It is unclear if natural retinoids such as retinol, retinaldehyde, and retinyl esters help with fine facial wrinkles [R].

Topical retinoids may help by regulating skin cell growth and increasing collagen content [R].

Please note: Topical retinoids may cause skin dryness, burning, itching, and swelling at the site of application. It is recommended to start with the lowest dose and frequency of application, and gradually increase them as tolerance develops. Because retinoids increase skin sensitivity to sunlight, people on retinoid therapy are recommended to limit sun exposure. Pregnant women shouldn't use topical retinoids because they may increase the risk of malformations [<u>R</u>].



Psoriasis

IMPACT EVIDENCE **4**/5 ----5/5

Experts recommend some forms of topical vitamin A to help manage psoriasis. These are called retinoids or vitamin A analogues. They may help with moderate to severe plaque psoriasis  $[\underline{R}, \underline{R}]$ .

Retinoids can slow skin cell growth. They may help most in combination with prescription topicals and UV light therapy. However, the evidence is mixed [<u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>].

Please note: When used at high doses, retinoids may cause skin irritation and greater sensitivity to light. Retinoids have also been linked to birth defects. Pregnant women should not use them in any form [R, R, R].





Topical retinoids may improve skin elasticity and repair skin damage caused by sunlight. Studied forms include:

- Tretinoin (0.02-0.1%) [<u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>]
- Isotretinoin (0.05-0.1%) [R, R, R]
- Retinaldehyde (0.05-0.1%) [<u>R</u>, <u>R</u>, <u>R</u>]
- Retinoic acid (0.05%) [R]

Topical retinoids may help by regulating skin cell growth and increasing collagen content [R].

Please note: Topical retinoids may cause skin dryness, burning, itching, and swelling at the site of application. It is recommended to start with the lowest dose and frequency of application, and gradually increase them as tolerance develops. Because retinoids increase skin sensitivity to sunlight, neede on votingid they are very mended to limit our expressive. Average about the terior terior terior the terior the terior t



Recommendation References: [R]

8 Acupuncture	S.	
Heips with the following		
Hives	IMPACT	evidence
Acupuncture may help improve hives. It may help alone or when added to medication	[ <u>R</u> , <u>R</u> ].	
Acupuncture may help by reducing histamine and inflammation [R, R].		

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

	NALIZED TO YOUR GENES		
People wit levels. Acı	th your HNMT gene upuncture may help	variant may be by reducing his	more prone to hives. This gene affects histamine stamine [ <u>R</u> , <u>R</u> , <u>R</u> ].
YOUR GENETIC	VARIANTS		
GENE	SNP	GENOTYPE	EVIDENCE
/	rs1050891	/	





IMPACT

EVIDENCE

••••• 0/5



UV radiation from sunlight may age the skin by causing oxidative damage [R].



Decreased skin elasticity is a key feature of skin aging due to sunlight (*photoaging*) [ $\mathbb{R}$ ,  $\mathbb{R}$ ,  $\mathbb{R}$ ].

Good sun-protection practices recommended by experts to reduce skin aging include [R, R]:

- Using a broad-spectrum sunscreen with an SPF of 30 or more and applying it repeatedly, especially if swimming or sweating
- Wearing sun-protective clothing
- Avoiding sun exposure during peak UV times (between 11 AM and 3 PM in summer)
- Seeking shade whenever possible
- Avoiding the use of indoor tanning
- Consulting the UV index and taking precautions based on its predicted levels

UV radiation from sunlight may age the skin by causing oxidative damage [R].

10 CR Pomegranate Extract Helps with the following	
Age Spots	IMPACT EVIDENCE
Pomegranate may help by reducing oxidative damage to the skin	[R].
Eacial Wrinkles	IMPACT EVIDENCE
Drinking fermented pomegranate extract (50 mL/day for 8 weeks	) may improve skin elasticity, moisture, and collagen content [ $\mathbb{R}$ ].
Pomegranate may help by reducing oxidative damage to the skin	[ <u>R</u> ].
Skin Elasticity	IMPACT EVIDENCE
Drinking fermented pomegranate extract (50 mL/day for 8 weeks	) may improve skin elasticity, moisture, and collagen content [R].
Pomegranate extract may help both alone and combined with oth	ner plant extracts [R].

The polyphenols found in pomegranate extract may reduce oxidative damage to the skin [R].



Applying coffee pulp serum (3 mL/day for 4 weeks) on the skin may improve age spots and other signs of skin aging. Drinking it may be similarly effective [R].

Topical formulations with the extracts of coffee seeds and resurrection plant (*Myrothamnus flabellifolia*) leaves applied for 8 weeks may also help with age spots [R].

Coffee extract may help by reducing oxidative damage to the skin [R].



Applying coffee pulp serum (3 mL/day for 4 weeks) on the skin may improve skin elasticity, texture, moisture, and collagen content. Drinking it may be similarly effective [R].

Topical formulations with coffee extract and other fruit and vegetable extracts applied for 8-12 weeks may improve wrinkles and other signs of skin aging [R, R].

Coffee extract may help by reducing oxidative damage to the skin [R].



 IMPACT
 EVIDENCE

 ••••••1/5
 ••••••1/5

Applying coffee pulp serum (3 mL/day for 4 weeks) on the skin may improve skin elasticity, texture, moisture, and collagen content. Drinking it may be similarly effective [R].

Coffee extract may help by reducing oxidative damage to the skin  $[\underline{R}]$ .









Foods and ingredients that may trigger hives include [R, R, R, R, R, R]:

- Eggs
- Nuts and seeds (e.g., tree nuts, sesame, and peanuts)
- Seafood (e.g., shrimp and fish)
- Foods that contain or release histamine (e.g., alcohol and cheese)
- Food additives (e.g., preservatives, artificial flavors, and colors)

Avoiding food triggers may help prevent hives in those who are sensitive or allergic [R].

**Please note**: Avoiding food triggers may only help people who have been diagnosed with a food allergy. Please talk to your doctor if you suspect any food triggers [R].



#### Many people have eczema flare-ups after eating certain foods [R, R, R].

The most common food triggers in children tend to differ from those in adolescents and adults [R, R].

In children, food triggers often include dairy, egg, and peanuts. In adults, apple, hazelnut, and celery may be problematic [R, R, R].

Different **additives in processed foods** may also trigger eczema symptoms. These include [R, R, R, R]:

- Monosodium glutamate (MSG)
- Balsam of Peru (found in flavorings and spices)
- Propylene glycol

In line with this, a diet high in processed foods may increase the odds of eczema [R, R].

Avoiding food triggers may help prevent eczema flare-ups. However, this may only be the case for people with a proven allergy [R, R].

**Please note**: Food-triggered eczema should be tested and diagnosed by a healthcare professional. Please talk to your doctor if you suspect any food triggers [R, R].





-(17)- 💭	9	
Avoid Air Pollution		
Helps with the following		U
Age Spots	IMPACT	evidence

Exposure to fine particulate matter from air pollution may increase the risk of age spots [R].

Air pollution may cause oxidative stress and inflammation in the skin. Pollutants may also increase the sensitivity of the skin to UV radiation [R].

$\frown$	IMPACT	EVIDENCE
( 📫 ) Facial Wrinkles	•••• 4/5	•••• 4/5

Air pollutants, especially particulate matter and ozone, contribute to premature skin aging and wrinkling [R, R, R].

Moreover, pollution may worsen the effects of excessive sunlight exposure on the skin [R, R].

Air pollution may speed up skin aging by causing oxidative stress and inflammation. Pollutants may also increase the sensitivity of the skin to UV radiation [R].





#### Experts agree that a number of physical triggers may contribute to the development of hives [R, R, R, R].

These can include:

- Contact triggers (e.g., touching certain plants or chemicals) [R, R]
- Exposure to cold (e.g., cold temperatures, swimming in cold water, etc.) [R, R]
- Exposure to sweat or heat (e.g., warm temperatures, hot bathing, etc.) [R, R]
- Skin irritation (e.g., skin trauma or pressure from tight clothing) [R, R, R]

### Avoiding known physical triggers is important for preventing hives [R, R, R].

😟 Vitiligo	IMPACT	evidence

## Many physical triggers may contribute to vitiligo. These include [R, R, R, R, R, R, R, R, R]:

- Sunburn
- Skin trauma (such as cuts and tattoos)
- Prolonged friction or pressure from clothing
- Contact with certain chemicals

**Experts recommend protecting the skin against physical triggers**. Wearing a broad-spectrum, water-resistant sunscreen (SPF 50 or more) is important [R, R, R].







# Intense Pulsed Light (IPL) Therapy

Helps with the following





Avoid Cig	garette Smoke				9	
Helps with	the following					e
Psoriasis					<b>••</b> 4 / 5	EVIDENCE
rts say that ci	garette smoke may incre	ase the odds of psori	iasis. Both smoking and s	econdhand smoke ai	re harmful. In fa	act, <b>the more yo</b>
a the average		1				
ke, the greater	<b>your risk</b> [ <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> ]					
<b>ke, the greater</b> king may also r	r <b>your risk</b> [ <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> ] make psoriasis symptoms	). worse and reduce trea	atment response [ <mark>R</mark> , <u>R</u> ].			
<b>ke, the greater</b> king may also r king may worse	<b>your risk</b> [ <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> ] make psoriasis symptoms en psoriasis by increasing	]. worse and reduce trea <u>oxidative stress</u> and in	atment response [ <mark>R</mark> , <u>R</u> ]. nflammation [ <u>R</u> ].			
ke, the greater king may also r king may worse <b>Smoking n</b> YOUR GENETIC	Tyour risk [R, R, R, R, R, R, R] make psoriasis symptoms en psoriasis by increasing ALIZED TO YOUR GENES	l. worse and reduce trea <u>oxidative stress</u> and in sis in people with	atment response [R, R]. hflammation [R].	ne variant [R].		
ke, the greater king may also r king may worse	r your risk [R, R, R, R, R, R, R] make psoriasis symptoms en psoriasis by increasing ALIZED TO YOUR GENES MAY WORSEN PSORIAS	J. worse and reduce trea <u>oxidative stress</u> and in sis in people with	atment response [R, R]. nflammation [R].	ne variant [R].		

$\frown$		IMPACT	EVIDENCE	
(-)	Eczema			5

Smoking and exposure to secondhand smoke may be linked to higher odds of eczema. This is likely because cigarette smoke impairs the function of the skin barrier and immune system [R, R, R].

😟 Hair Loss				IMPACT	
Smoking is linked	to an increased risk of hai	r loss [ <u>R, R, R, R]</u> .			
Cigarette smoke ma	ay contribute to hair loss by	[ <u>R</u> ]:			
<ul><li>Damaging hair</li><li>Impairing hair</li><li>Reducing fema</li></ul>	<sup>r</sup> follicles growth ale sex hormones				
Quitting smoking m	ay help prevent hair loss [ <mark>R</mark>	].			
People wit follicle dev R].	ch your TWIST1 gene velopment. Cigarette	e variant may be e smoke may da	e more prone to hair le mage hair follicles, se	oss. This gene plays a r o make sure to avoid it	ole in hair [ <u>R</u> , <u>R</u> , <u>R</u> ,
YOUR GENETIC	VARIANTS				
GENE	SNP	GENOTYPE	EVIDENCE		
TWIST1	rs10225279	/			



Smokers may have reduced skin elasticity  $[\underline{R}, \underline{R}]$ .

Former smokers may see improvements in skin elasticity and brightness 9 months after giving it up [ $\mathbb{R}$ ].

Smoking may increase oxidative damage to the skin and reduce skin collagen content [R].



IMPACT EVIDENCE

Smokers may be at increased risk of premature hair graying. However, the evidence is mixed [R, R, R].

Smoking increases oxidative stress, which may damage the cells that produce melanin [R].





- 25 - 25		9
Limit Alcohol Intake		
Helps with the following		
Psoriasis	IMPACT	evidence

Drinking alcohol is linked to higher odds of psoriasis. This may be especially true for men [R, R, R, R, R].

Alcohol may also interact with medications for psoriasis. This may prevent medications from working as well and even lead to some side effects [R, R, R].

Heavy Sweating	IMPACT	
Experts agree that alcohol may cause heavy sweating in some people [ $\underline{R}$ , $\underline{R}$ ].		
Drinking alcohol is also linked to night sweats and hot flashes in women [ $\mathbb{R}$ , $\mathbb{R}$ ].		
Alcohol may contribute to heavy sweating by widening your blood vessels and increasing your heart rate	[ <u>R</u> ].	
Hair Graying	IMPACT	EVIDENCE
People with premature hair graying may have higher alcohol intake [ $\mathbb{R}$ , $\mathbb{R}$ ].		
Alcohol may increase oxidative damage to the cells that produce hair pigments [R].		
Rosacea	IMPACT	EVIDENCE





Moisturize	e the Skin				8
Helps with th	e following				e
Rosacea				IMPACT	
oisturizers have bee	en linked to a lower risk	of rosacea [ <u>R</u> ].			
ey may help streng	then the skin barrier and	d relieve symptoms lik	ke dry skin [ <u>R</u> , <u>R</u> , <u>R</u> ].		
oisturizers also help	when used together wi	ith topical medication [	[ <u>R</u> , <u>R</u> ].	·	
perts recommend higher) are importa	when used together wi <b>protecting the skin to h</b> nt [ $\mathbb{R}$ , $\mathbb{R}$ , $\mathbb{R}$ ]. ZED TO YOUR GENES	ith topical medication [ nelp with rosacea. Us	[ <mark>R, R</mark> ]. ing a gentle, fragrance-free mo	isturizer and broad-spectru	m sunscreen (SPF 30
oisturizers also help (perts recommend higher) are importa PERSONALI Your OVOL1 skin barrier.	when used together wi protecting the skin to h nt [R, R, R]. ZED TO YOUR GENES gene variant is lin Moisturizing help	ith topical medication [ nelp with rosacea. Us nked to dry and ps protect the sk	[R, R]. ing a gentle, fragrance-free mo irritated skin. This gen kin barrier and relieve c	isturizer and broad-spectru e plays a role in ma dryness [ <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> ].	m sunscreen (SPF 30
oisturizers also help (perts recommend higher) are importa PERSONALI YOUR OVOL1 skin barrier.	e when used together wi protecting the skin to h nt [R, R, R]. ZED TO YOUR GENES gene variant is lin Moisturizing help	ith topical medication [ nelp with rosacea. Us nked to dry and ps protect the sk	[R, R]. ing a gentle, fragrance-free mo irritated skin. This gen kin barrier and relieve c	isturizer and broad-spectru e plays a role in ma dryness [ <u>R</u> , <u>R</u> , <u>R</u> , <u>R</u> ].	m sunscreen (SPF 30



Aging gradually worsens the barrier function of the skin. This results in increased water loss, causing dry, pale skin with fine wrinkles [R, R].

Applying moisturizer products may help improve skin appearance, barrier function, and renewal. Creams, oils, and lotions may be similarly effective [<u>R</u>, <u>R</u>].

Moisturizers may work better when they include active ingredients that reduce oxidative damage and promote skin cell growth and repair [R].



 IMPACT
 EVIDENCE

 ••••••4/5
 ••••••4/5

Experts say that moisturizers may improve the severity of eczema symptoms. They may also reduce the need for medication and the number of flare-ups [R, R, R].

Oil-based ointments and creams may be best for those with eczema. You should apply moisturizer after a bath, while the skin is still damp. This can help lock water into your skin [R, R, R].

Plant oils such as coconut oil may also help with dry skin and eczema. However, people with eczema should avoid moisturizing with olive oil, as it may damage the skin. They should also avoid moisturizers with fragrance [R, R, R, R, R].

Moisturizing helps by hydrating and repairing dry skin. Dry skin may allow allergens to pass through the skin barrier more easily. This can trigger an immune reaction and inflammation [R, R].

Skin barrier creams may be more helpful than regular moisturizers for eczema. However, the evidence is mixed. These creams contain ingredients naturally found in healthy skin, such as:

- Ceramides or other lipids (fats) [R, R, R, R, R, R]
- Filaggrin (a protein) [<u>R</u>, <u>R</u>, <u>R</u>]

Your OVOL protect the	L1 gene variant is line skin barrier [R, R,	n <b>ked to eczema. <u>R</u>].</b>	It likely impairs the skin barrier. Moisturizing helps
YOUR GENETIC	VARIANTS		
GENE	SNP	GENOTYPE	EVIDENCE
/	rs479844	/	

	IMPACT	EVIDENCE
$(\bigcirc)$ Skin Hydration	•••• 5/5	•••• 4/5

Aging gradually worsens the barrier function of the skin. This results in increased water loss, causing dry, pale skin with fine wrinkles [R, R].

Applying moisturizer products may help improve skin appearance, barrier function, and renewal. Creams, oils, and lotions may be similarly effective,

but oils have more staying power and are especially recommended for very dry skin. Experts recommend applying moisturizers several times per day, immediately after taking a bath or shower, or washing your hands [R, R, R].

Moisturizers may work better when they include active ingredients that reduce oxidative damage and promote skin cell growth and repair [R].

It is also important to reduce water loss from the skin. Some useful tips include [R, R]:

- Limiting contact with hot water to preserve protective skin oils
- Using skincare products that contain ingredients like ceramides and hyaluronic acid
- Avoiding skincare products that contain ingredients like alcohol, fragrances, and retinoids
- Protecting your skin from the sun, wind, and cold

- <u>29</u> - 🗊	C	
<b>Topical Licorice Root</b>		
Helps with the following		
Rosacea	IMPACT	evidence
Topical <i>licochalcone A</i> (a compound in licorice root) may help as part o in people with rosacea [R, R, R].	f a skincare routine. It may help improve redness, roughne	ess, and spider veins

Licochalcone A may help by reducing oxidative stress and inflammation [R, R].

	IMPACT	EVIDENCE
a	•••• 2/5	••••2/5
	I.	

Licorice root gel (2%) may improve eczema symptoms. These include skin redness, itching, and swelling. When combined with willow bark and gentian root extracts, topical licorice root may also help with eczema [R, R].

Some creams contain an active compound of licorice called *licochalcone A*. These may help with eczema symptoms [R, R, R, R].

Topical licorice may help by:

- Reducing inflammation [R]
- Boosting skin hydration [R]

Perso	NALIZED TO YOUR GENES		
A			
			like hair and a shire inflorence tion. To side a like side was
tour ILRI	gene variant is linke	ed to eczema. It	likely increases skin inflammation. Topical licorice may
YOUR GENETIC	VARIANTS		
GENE	SNP	GENOTYPE	EVIDENCE
/	rs5743618	/	



 IMPACT
 EVIDENCE

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30 Co Aloe Vera		
Helps with the following		
Eacial Wrinkles		
Oral aloe extract (1,200-5,000 mg/day for 8-12 weeks) may improve wrinkle depth, skin moistur	re and elasticity, and collagen production	[ <u>R</u> , <u>R</u> ].
Aloe may help by improving collagen production [R].		
Skin Elasticity	IMPACT EVID	ence
Consuming aloe extract (1200-5000 mg/day for 8-12 weeks) may improve skin elasticity and hy	/dration [ <u>R, R, R]</u> .	
Aloe vera may also help in combination with other plant extracts [R].		
Aloe may help by improving skin barrier function and collagen production [R].		
Skin Hydration	IMPACT EVID	ENCE 2 / 5
Consuming aloe sterols (19-40 mcg/day for 8-12 weeks) may improve skin hydration and elastic	city [ <u>R</u> , <u>R</u> , <u>R</u> ].	
Topical formulations with Aloe vera (0.1-0.5%) applied for 1-2 weeks may also improve skin hydr	ration [ <u>R</u> ].	
Aloe may help by improving skin barrier function and collagen production [ $\mathbb{R}$ ].		



Recommendation References: [R]

<b>32 C</b> <b>Pantothenic Acid (Vitamin B5)</b> Helps with the following	
Hair Graying Supplementation with <u>vitamin B5</u> (200 mg/day calcium pantother	IMPACT EVIDENCE The second s
Eczema	IMPACT EVIDENCE
Skin Hydration	IMPACT EVIDENCE



-(34)- &		
Amla	2	
Helps with the following		000
<b>Facial Wrinkles</b>		EVIDENCE 0 / 5

**Please note:** There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.

Skin Elasticity	IMPACT	evidence

**Please note:** There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.

	IMPACT	EVIDENCE
$(\bigcirc)$ Skin Hydration	••••• 0/5	••••• 0/5

**Please note:** There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.



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Skin Elasticity

- 37 - &		
Carotenoids		
Helps with the following		000
<b>Facial Wrinkles</b>	IMPACT	evidence

Astaxanthin is the most widely investigated carotenoid for wrinkles. Oral supplementation (3-6 mg/day for 4-12 weeks) may restore skin moisture and improve skin texture and elasticity. However, it may not reduce wrinkle depth [R, R].

Other carotenoids that may help repair skin aging include:

- Zeaxanthin  $[\underline{R}, \underline{R}]$
- Beta-carotene [R]
- Lycopene [R]
- Lutein [R]

Carotenoids may help by reducing oxidative damage to the skin [R].

Skin Elasticity	IMPACT	EVIDENCE
Carotenoids may help repair skin aging, including loss of elasticity. Tested carotenoids include:		
Astaxanthin [R, R]		

- Lycopene [<u>R</u>, <u>R</u>]
- Beta-carotene [R]
- Zeaxanthin  $[\mathbf{R}]$
- Lutein [R]

Carotenoids may help by reducing oxidative damage to the skin [R].



- Zeaxanthin  $[\underline{R}, \underline{R}]$
- Astaxanthin [R]
- Lycopene [R]
- Lutein [R]

Carotenoids may help by reducing oxidative damage to the skin [R].

- 38 - &		
Collagen Peptides	A A	
Helps with the following		000
Facial Wrinkles	IMPACT	EVIDENCE

Oral hydrolyzed collagen (2.5-5 g/day for 8-12 weeks) may improve skin wrinkling, elasticity and hydration [R, R].

The collagen content of the skin naturally decreases with age. Collagen supplements may help with wrinkles by restoring it [R].

Skin Elasticity	IMPACT	evidence 3 / 5			
Oral hydrolyzed collagen (2.5-5 g/day for 8-12 weeks) may improve skin elasticity and other parameters [ $\mathbb{R}$ , $\mathbb{R}$ , $\mathbb{R}$ , $\mathbb{R}$ , $\mathbb{R}$ ]. Collagen supplements may help by increasing the amount of this protein in the skin [ $\mathbb{R}$ ].					
Skin Hydration         Oral hydrolyzed collagen (2.5-5 g/day for 8-12 weeks) may improve skin hydration and elasticity [R, R].	IMPACT				

Collagen supplements may help by increasing the amount of this protein in the skin [R].
-(39)- 19	•	9
Djulis		
Helps with the following		
Eacial Wrinkles	IMPACT	evidence

Consuming a djulis drink for 8 weeks may increase the elasticity, moisture, and collagen content of the skin while reducing wrinkles and textures [R].

Djulis is a rich source of antioxidants that may prevent skin aging [R].

Skin Elasticity	IMPACT	EVIDENCE	
Consuming a djulis drink for 8 weeks may increase the hydration, elasticity, and collagen content of the skin [R].			
Djulis is a rich source of antioxidants that may prevent skin aging [ $\mathbb{R}$ ].			

EVIDENCE

•••• 1/5

## Skin Hydration

Consuming a djulis drink for 8 weeks may increase the hydration, elasticity, and collagen content of the skin [R].

Djulis is a rich source of antioxidants that may prevent skin aging  $[\underline{R}]$ .



**Please note:** There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.

Skin Elasticity	IMPACT	EVIDENCE 0 / 5

**Please note:** There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.

	IMPACT	EVIDENCE
$(\odot)$ Skin Hydration	••••• 0/5	••••• 0/5

**Please note:** There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.





-43-1		9
Stay Hydrated		
Helps with the following		
Skin Elasticity	IMPACT	EVIDENCE <b>2 / 5</b>

Increasing fluid intake may increase skin tone and elasticity. It may have bigger benefits in people who don't drink enough water. However, it's not sure if this also applies to older people [R].

Eacial Wrinkles	IMPACT	evidence
Skin Hydration	IMPACT	EVIDENCE

Additional water intake may increase skin hydration, especially in people who don't drink sufficient amounts of water. However, the evidence is limited [R].

-(44)- &	
Topical Vitamin	
Facial Wrinkles	EVIDENCE

Vitamin C may also help combined with other active ingredients such as:

- Retinol [<u>R</u>]
- Gotu kola [<u>R</u>]
- Rice peptides [R]

Vitamin C may help by reducing oxidative damage to the skin and promoting collagen production [R].

Skin Elasticity	IMPACT	
Topical vitamin C (5-20%) may increase skin elasticity and other skin parameters [ $\mathbb{R}$ , $\mathbb{R}$ ].		
Topical vitamin C may also help in combination with plant extracts and other antioxidant vitamins [ <u>R</u> , <u>R</u> , <u>R</u> ,	<u>R, R]</u> .	
Vitamin C may help by reducing oxidative damage to the skin and promoting collagen production [R].		
Skin Hydration	IMPACT	
Topical vitamin C (5-20%) may increase skin hydration and collagen production [ <u>R</u> , <u>R</u> , <u>R</u> ].		

Vitamin C may help by reducing oxidative damage to the skin and promoting collagen production [R].





- Green tea lotion (2%)
- EGCG solution (1-5%)

Green tea may help by  $[\underline{R}, \underline{R}]$ :

- Reducing inflammation
- Decreasing skin oil production



Topical aloe vera may help keep the skin hydrated and reduce inflammation [R].

Experts say it may help manage mild psoriasis by improving symptoms like scaling and itching [R, R, R, R, R].

However, the evidence is mixed  $[\underline{R}]$ .

**Please note**: Some people may have an allergic reaction after putting aloe vera on their skin. Do not use aloe if you are allergic to plants that are part of the lily family (such as onions and tulips) [R, R, R].

Stretch Marks	IMPACT	evidence
Applying aloe vera gel may improve the texture and itching of stretch marks, and slow down their progression [R, R].		
Topical aloe vera may help by improving collagen production [ <u>R</u> ].		

$\frown$		IMPACT	EVIDENCE
$(\mathfrak{C})$	Acne	•••••••••••••••••••••••••••••••••••••••	<b>••••• •</b> /5

47 & Milk Thistle (Silymarin)	
(: Vitiligo	IMPACT EVIDENCE
<b>Rosacea</b>	IMPACT EVIDENCE
C Acne	IMPACT EVIDENCE

48 Zinc		
Hair Loss	IMPACT ••••••••••••••••••••••••••••••••••••	evidence
Vitiligo	IMPACT ••••••••••••••••••••••••••••••••••••	evidence
Constraint Acne People with acne may have lower zinc levels [R, R, R].	IMPACT	

**Zinc supplements** may help improve acne by reducing inflammation and skin oil production [<u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>, <u>R</u>].

Please note: A high intake of zinc may cause stomach pain and gut irritation. Adults should not ingest more than 40 mg of zinc per day [R, R].



Heavy Sweating

 IMPACT
 EVIDENCE

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- 50- &		
<b>Topical Beta-Glucans</b>		
Helps with the following	000	
Stretch Marks	IMPACT EVIDENCE	

Applying topical beta-glucans on the skin may improve stretch marks in pregnant women. They may be more effective when combined with laser therapy [R].

Topical beta-glucans may help by increasing collagen content [R].

$\frown$	$\frown$ –	IMPACT	EVIDENCE
( <u> </u>	Eczema	••••• • • • • • • • • • • • • • • • • •	••••• • • • • 5