Welcome To Your **Health Risk , Carrier Status and Drug Sensitivity**

DNA REPORT

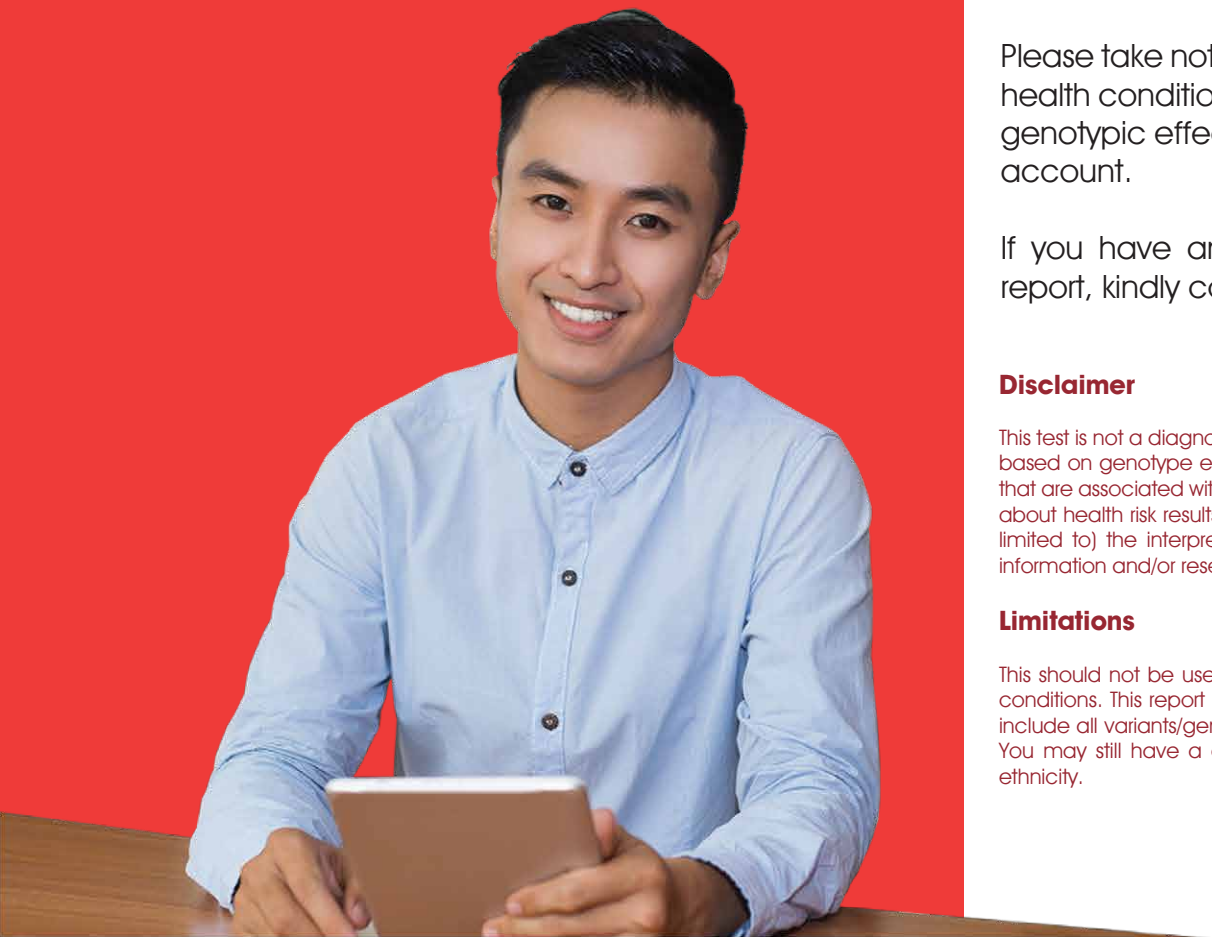
1111-1111-1111

PERSONAL DETAILS

Name	:	Sample
DOB	:	10/10/1990
Gender	:	Male
Report No	:	1111-1111-1111
Report Date	:	01/08/2021

Laboratory Info

Specimen Type	:	Saliva
Specimen ID	:	1111-1111



Hi Sample,

Thank you for choosing this DNA test to understand your genetic profile on genetic health risk and carrier status. Using the saliva samples provided by you, we have analysed over 300 genes to provide insights into your predisposed health risk and carrier status.

This DNA report covers aspects on how your genes influence your predisposed health risk in 85 diseases such as hypertension, Type II Diabetes and gout. This DNA report also tests for your carrier status on 43 types of monogenic disorders. Apart from that, it also tests your responses to common drugs, hospitalized medication, drugs for cancer treatments based on your DNA profile.

Please take note that this test is not a diagnosis for any disease or any other health conditions. This test is a prediction of personal genetic risk based on genotypic effect on certain diseases. Other risk factors were not taken into account.

If you have any questions or concerns regarding any aspects of your report, kindly contact us at **[your company email]**.

Disclaimer

This test is not a diagnosis for any diseases or any other health conditions. This test is a prediction of carrier status based on genotype effect on certain diseases. This result is based on SNPs (single nucleotide polymorphisms) that are associated with certain diseases. If you have a family history, certain disease condition or any concerns about health risk results, please talk to a healthcare professional. The contents of this report, including (but not limited to) the interpretation of lab results and recommendations, may change in future versions as more information and/or research become available.

Limitations

This should not be used as a diagnostic tool. The results of this test do not diagnose any diseases or related conditions. This report does not report if someone has two copies of a tested variant. This result also does not include all variants/genes associated with listed diseases and the result is limited to existing scientific research. You may still have a chance of being carrier because certain condition is rare and not well studied in all ethnicity.

GENETIC HEALTH RISK: **WHAT YOU SHOULD KNOW**

Genetic Health Risk reports tell you about genetic variants associated with increased risk for certain health conditions. They do not diagnose cancer or any other health conditions or determine medical action.

Factors like lifestyle and environment can also affect whether a person develops most health conditions. Our reports cannot tell you about your overall risk for these conditions, and they cannot determine if you will or will not develop a condition.

Having a risk variant does not mean you will definitely develop a health condition. Similarly, you could still develop the condition even if you do not have a variant detected. It is possible to have other genetic risk variants not included in these reports.

These reports do not replace visits to a healthcare professional. Consult with a healthcare professional for help in interpreting genetic results. Results should not be used to make medical decisions.

CARRIER STATUS TESTS: **WHAT YOU SHOULD KNOW**

Carrier status tests detect genetic variants that can cause inherited conditions. These variants are often found primarily in certain ethnicities.

Being a carrier means you have one variant for the condition. Carriers typically do not have the condition but can pass the variant to their children.

Knowing your carrier status is important when having children. If you and your partner are both carriers, you may have a child with the condition.

Genetic counseling can help you understand your results and options. It is recommended before and after testing, and also if you are a carrier.

Father is a carrier

Mother is a carrier

For each child, there is a :

25% chance
child is **not a** carrier

50% chance
child is a carrier

25% chance
child has the condition

If both parents are carriers, their child may inherit two variants and have the condition.

DRUG RESPONSE: **WHAT YOU SHOULD KNOW**

Introduction

Many drugs have well understood and narrowly defined targets such as a particular cellular receptor or intracellular enzyme. They may also have known specific interactions with enzymes responsible for activation, breakdown and clearance of the drugs. Genetic variants can determine how these drug-processing enzymes work.

Our body has more than thousands of genes that we inherited from our parents. Some genes are responsible for how your body processes medications. Drug response tests look for changes or variants in these genes that may determine whether a medication could be an effective treatment for you or whether you could have side effects to a specific medication.

Understanding Your Results

We have grouped the drugs we tested into several responses to a particular drug. Your DNA results provide information about how genes affect your response to different drugs.

Ultra Good Response
Based on your DNA profile, your metabolism of these drugs is too rapid and it may result in suboptimal therapeutic response to these drugs. You may consider to increase the starting dosage of these drugs.

Good Response
Based on your DNA profile, your metabolism of these drugs is at optimum rate (better than normal rate) and it may result in better therapeutic response to these drugs. You may use it as what is directed.

Normal Response
Based on your DNA profile, your metabolism of these drugs is at normal rate and it may result in normal therapeutic response to these drugs. You may use it as what is directed.

Intermediate Response
Based on your DNA profile, your metabolism of these drugs is at slightly slower rate and it may result in suboptimal therapeutic response to these drugs. Furthermore, the risk for developing side effects is slightly higher. You may consider to decrease the starting dosage of these drugs.

Low Response
Based on your DNA profile, your metabolism of these drugs is at a lower rate and it may result in suboptimal therapeutic response to these drugs. Furthermore, the risk for developing side effects is higher. You may consider to decrease the starting dosage of these drugs and use them with caution.

Disclaimer
These results are independent of medical diagnosis. For medical diagnosis and treatment decisions, consultation with a doctor or healthcare profession is necessary. One single DNA test cannot be used to determine how you will respond to all medications. You may need more than one test if you are taking more than one medication. This test is not available for all medications. It is available only for certain medications.

GENETIC HEALTH RISKS: **SUMMARY**

Disease Name	Variant Detected	Page
VISION		
Exfoliation Glaucoma	0 / 3	9
Age-related Cataract	1 / 1	10
Age-related Macular Degeneration	0 / 2	11
New Myopia	0 / 1	12
New Hyperopia	1 / 1	13
New Corneal Astigmatism	0 / 1	14
New Diabetic Retinopathy	0 / 3	15
New Vogt-Koyanagi-Harada Disease	2 / 3	16
SKIN ISSUES		
Atopic Dermatitis	3 / 8	18,19
Psoriasis	0 / 1	20
Keloid	1 / 1	21
Generalized Vitiligo	2 / 5	22
RESPIRATORY SYSTEM		
Asthma	1 / 2	24
Allergic Rhinitis	0 / 1	25
Chronic Obstructive Pulmonary Disease	1 / 2	26
Pulmonary Fibrosis	2 / 4	27
New Emphysema	0 / 1	28
New Obstructive Sleep Apnea	0 / 1	29
NERVOUS SYSTEM		
Alzheimer's Disease	0 / 1	31
Parkinson's Disease	0 / 2	32
Multiple Sclerosis	0 / 2	33
New Glioma	2 / 5	34
New Migraine	4 / 8	35
New Essential Tremor	0 / 1	36

Disease Name	Variant Detected	Page
ENDOCRINE SYSTEM		
Hypothyroidism	2 / 3	38
Graves' Disease	1 / 5	39
Type 2 Diabetes	1 / 3	40
CARDIOVASCULAR SYSTEM		
Hypertension	2 / 4	42
Coronary Heart Disease	3 / 5	43
Acute Myocardial Infraction	2 / 4	44
Ischemic Stroke	0 / 2	45
Atrial Fibrillation	2 / 5	46
Dilated Cardiomyopathy	1 / 1	47
Hypertriglyceridemia	0 / 2	48
New Coronary Spasm	0 / 1	49
New Intracranial Aneurysm	5 / 6	50
New Peripheral Artery Disease	0 / 2	51
New Venous Thromboembolism	1 / 3	52
New Abdominal Aortic Aneurysm	3 / 3	53
New Kawasaki Disease	5 / 5	54
New Orthostatic Hypotension	1 / 1	55
New Carotid Artery Disease	1 / 2	56
New Brugada Syndrome	2 / 2	57
URINARY SYSTEM		
Chronic Kidney Disease	0 / 1	59
Renal Calculus	3 / 4	60
IgA Nephropathy	1 / 3	61
Acquired Nephrotic Syndrome	0 / 1	62

GENETIC HEALTH RISKS: **SUMMARY**

Disease Name	Variant Detected	Page
INFECTION		
New Tuberculosis	2 / 2	64
New Chronic Hepatitis B	2 / 2	65
New Chronic Hepatitis C	1 / 1	66
New Leprosy	3 / 5	67,68
New Dengue Shock Syndrome	0 / 1	69
New Severe Malaria	2 / 2	70
GENDER		
New Endometriosis	6 / 8	72
New Uterine Fibroids	1 / 1	73
New Polycystic Ovary Syndrome	8 / 11	74,75
New Gestational Diabetes	2 / 3	76
New Intrahepatic Cholestasis of Pregnancy	0 / 1	77
BONE		
New Hip Fracture	3 / 7	79,80
New Lumbar Spine Stenosis	3 / 7	81
New Osteoporosis	1 / 2	82
EAR		
New Age-related Hearing Impairment	1 / 2	84
New Otosclerosis	1 / 2	85
NOSE		
New Rhinosinusitis	1 / 2	86

Disease Name	Variant Detected	Page
MOUTH		
New Dental Caries	1 / 2	89
New Periodontitis	1 / 3	90
MENTAL		
New ADHD	1 / 4	92
New Depression	2 / 4	93
New Autism	1 / 4	94
New Panic Disorder	0 / 1	95
New Eating Disorder	0 / 5	96
New Tourette Syndrome	4 / 4	97
New Chronic Fatigue Syndrome	0 / 3	98
New Obsessive Compulsive Disorder	1 / 3	99
OTHERS		
Rheumatoid Arthritis	2 / 5	101
Gout	1 / 4	102
Scoliosis	1 / 1	103
Restless Legs Syndrome	0 / 1	104
Alcohol Dependence	1 / 2	105
Bipolar Disorder	1 / 3	106
Hypersomnia	1 / 2	107
Hemochromatosis (HFE-related)	0 / 2	108
Gallstones	0 / 1	109
Primary Biliary Cirrhosis	1 / 2	110
Celiac Disease	0 / 1	111

CARRIER STATUS TESTS: **SUMMARY**

Disease Name	Variant Detected	Page	Disease Name	Variant Detected	Page
Autosomal Recessive Spastic Ataxia of Charlevoix-Saguenay (ARSACS)		113	Limb-Girdle Muscular Dystrophy Type 2E (LGMD2E)		137
Agenesis of the Corpus Callosum with Peripheral Neuropathy (ACCPN)		114	Limb-Girdle Muscular Dystrophy Type 2I (LGMD2I)		138
Autosomal Recessive Polycystic Kidney Disease (ARPKD)		115	Medium-chain Acyl-CoA Dehydrogenase Deficiency (MCAD deficiency)		139
Beta Thalassemia and Related Hemoglobinopathies		116,117	Maple Syrup Urine Disease Type 1B (MSUD 1B)		140
Bloom Syndrome		118	Mucolipidosis Type IV		141
Canavan Disease		119	Neuronal Ceroid Lipofuscinosis (CLN5-Related)		142
Congenital Disorder of Glycosylation Type 1a (PMM2-CDG)		120	Neuronal Ceroid Lipofuscinosis (PPT1-Related)		143
Cystic Fibrosis		121,122	Niemann-Pick Disease Type A		144
D-Bifunctional Protein Deficiency (DBPD)		123	Nonsyndromic Hearing Loss and Deafness, DFNB1 (GJB2-Related)		145
Dihydrolipoamide Dehydrogenase Deficiency (DLD deficiency)		124	Pendred Syndrome and DFNB4 Hearing Loss (SLC26A4-Related)		146
Familial Dysautonomia		125	Phenylketonuria and Related Disorders (PKU)		147,148
Familial Hyperinsulinism (ABCC8-Related)		126	Primary Hyperoxaluria Type 2 (PH2)		149
Familial Mediterranean fever (FMF)		127	Rhizomelic Chondrodysplasia Punctata Type 1 (RCDP1)		150
Fanconi Anemia Group C		128	Salla Disease		151
GRACILE Syndrome		129	Sickle Cell Anemia		152
Gaucher Disease Type 1		130	Sjögren-Larsson Syndrome		153
Glycogen Storage Disease Type Ia (GSDIa)		131	Tay-Sachs Disease		154
Glycogen Storage Disease Type Ib (GSDIb)		132	Tyrosinemia Type I		155
Hereditary Fructose Intolerance		133	Usher Syndrome Type 1F (Usher 1F)		156
Herlitz Junctional Epidermolysis Bullosa (LAMB3-Related)		134	Usher Syndrome Type 3A (Usher 3A)		157
Leigh Syndrome, French Canadian Type (LSFC)		135	Zellweger Syndrome Spectrum (ZSS) (PEX1-Related)		158
Limb-Girdle Muscular Dystrophy Type 2D (LGMD2D)		136			

Variant not detected Variant detected

DRUG SENSITIVITY: **SUMMARY**

Category	Drug Name	Results	Page
Common Drugs and Hospitalized Medication	Clopidogrel	Ultra Good Response - Increase the starting dosage	160
	Warfarin	Low Response - Use with caution	161
	Isoniazid	Low Response - Use with caution	162,163
	Omeprazole	Ultra Good Response - Increase the starting dosage	164
	Simvastatin	Intermediate Response - Decrease the starting dosage	165
	Sulfonylureas	Good Response - Use as directed	166
	Allopurinol	Good Response - Use as directed	167
	Citalopram	Good Response - Use as directed	168
	Diazepam	Ultra Good Response - Increase the starting dosage	169
	Caffeine	Good Response - Use as directed	170
	Ethanol	Good Response - Use as directed	171
	Voriconazole Tablets	Good Response - Use as directed	172,173
	Tacrolimus	Good Response - Use as directed	174
Common Drugs for Cancer	Fluorouracil	Normal Response - Use as directed	176
	Thiopurines	Good Response - Use as directed	177,178
	Capecitabine	Normal Response - Use as directed	179
Others	Abacavir	Good Response - Use as directed	181
	Celecoxib	Good Response - Use as directed	182
	Sildenafil	Good Response - Use as directed	183

HEALTH RISK
VISION

Health Risk

Exfoliation Glaucoma

Exfoliation Glaucoma (XFG) is characterized by a group of symptoms with optic atrophy and visual field defects. The most significant risk factor is pathologically elevated intraocular pressure (eye pressure). The elevated level of intraocular pressure and the tolerance of the optic nerve over pressure damage are associated with the occurrence and development of glaucomatous optic atrophy and visual field loss.

0 variant(s) detected

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

The signs and symptoms of glaucoma vary depending on the type and stage of your condition. For example:

- Open-angle glaucoma
- Patchy blind spots in your side (peripheral) or central vision, frequently in both eyes
- Tunnel vision in the advanced stages
- Acute angle-closure glaucoma
- Severe headache
- Eye pain
- Nausea and vomiting
- Blurred vision
- Halos around lights
- Eye redness

RISK FACTORS

Certain factors may increase your risk of developing exfoliation glaucoma which include:

- Having high internal eye pressure (intraocular pressure)
- Being over age 60
- Being black, Asian or Hispanic
- Having a family history of glaucoma
- Having corneas that are thin in the center
- Being extremely nearsighted or farsighted
- Having had an eye injury or certain types of eye surgery
- Taking corticosteroid medications, especially eyedrops, for a long time

Gene	Your Genotype	Your Result	Explanation
COL11A1	AA	Normal Risk	When this site carries G allele, it is significantly negatively correlated with the depth of the anterior chamber of the eye, which may increase the risk of exfoliation glaucoma.
PLEKHA7	TT	Normal Risk	If gene locus carries the risk C allele can increase the risk of disease.
Intergenic	CC	Normal Risk	According to large sample analysis, this site that carries the risk T allele can increase disease susceptibility.

Health Risk

Age-related Cataract

Age-related cataract is the most common type of cataract, with the incidence increased with age. It is thought to be associated with a slower metabolism in elderly due to degenerative changes, but in most cases the condition progresses slowly and does not affect vision. In some cases, it is true that the lens opacity (cloudiness) affects vision, while the diagnosis of age-related cataract is of clinical significance.

1 variant(s) detected

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Signs and symptoms of cataracts include:
· Clouded, blurred or dim vision
· Increasing difficulty with vision at night
· Sensitivity to light and glare
· Need for brighter light for reading and other activities
· Seeing "halos" around lights
· Frequent changes in eyeglass or contact lens prescription
· Fading or yellowing of colors
· Double vision in a single eye

RISK FACTOR

Factors that increase your risk of cataracts include:
· Increasing age
· Diabetes
· Excessive exposure to sunlight
· Smoking
· Obesity
· High blood pressure
· Previous eye injury or inflammation
· Previous eye surgery
· Prolonged use of corticosteroid medications
· Drinking excessive amounts of alcohol

COMPLICATIONS

No studies have proved how to prevent cataracts or slow the progression of cataracts. But doctors think several strategies may be helpful, including:
· Have regular eye examinations
· Quit smoking
· Manage other health problems
· Choose a healthy diet that includes plenty of fruits and vegetables
· Wear sunglasses
· Reduce alcohol consumption

Gene	Your Genotype	Your Result	Explanation
WRN	GG	Higher Risk	When the A>G mutation occurs at this site, the risk of disease increases.

Health Risk

Age-related Macular Degeneration

Age-related macular degeneration (AMD) is a natural consequence of aging with the deterioration of the macular area of the retina. It is one of the leading causes of irreversible blindness in the elderly. This type of eye disease mainly damages the central vision, which causes darkness, dark spots and image distortion in your vision, but does not cause pain. To date, there is no specific treatment for AMD, therefore prevention is important for this disease.

0 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Macular degeneration symptoms usually appear suddenly and worsen rapidly. They may include:
· Visual distortions, such as straight lines seeming bent
· Reduced central vision in one or both eyes
· Decreased intensity or brightness of colors
· A well-defined blurry spot or blind spot in your field of vision
· A general haziness in your overall vision
· Abrupt onset and rapid worsening of symptoms

RISK FACTOR

Factors that may increase your risk of macular degeneration include:
· Age of over 50
· Family history
· Smoking
· Obesity
· Cardiovascular disease

COMPLICATIONS

People whose wet macular degeneration has progressed to central vision loss have a higher risk of depression and social isolation. With profound loss of vision, people may see visual hallucinations (Charles Bonnet syndrome).

Gene	Your Genotype	Your Result	Explanation
ARMS2	GG	Normal Risk	The G>T mutation of this site may cause oxidative damage and apoptosis and eventually promote the occurrence of AMD.
CFH	TT	Normal Risk	Variant that carries the C allele may cause an over-reactive immune response, attack normal cells and promote AMD.

Health Risk

Myopia

Myopia (nearsightedness) is a common vision condition in which objects nearby can be seen clearly, but objects farther away are blurry. It occurs when the eye axis is too long or the corneal curvature is too curved causing light rays to bend (refract) incorrectly, focusing images in front of the retina instead of on the retina.

0 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Nearsightedness symptoms may include:
· Blurry vision when looking at distant objects
· The need to squint or partially close the eyelids to see clearly
· Headaches caused by eyestrain
· Difficulty seeing while driving a vehicle, especially at night (night myopia)

RISK FACTORS

Certain risk factors may increase the likelihood of developing nearsightedness, such as:
· Genetics
· Environmental conditions: lack of time spent outdoors may increase the chances of developing myopia.

COMPLICATIONS

Nearsightedness is associated with a variety of complications from mild to severe, such as:
· Reduced quality of life
· Eyestrain
· Impaired safety
· Other eye problems

Gene	Your Genotype	Your Result	Explanation
BLID	AA	Normal Risk	Individuals with AG and GG genotypes of this site tend to have a higher genetic risk of myopia.

Health Risk

Hyperopia

Hyperopia (farsightedness) is a common vision condition in which distant objects can be seen clearly, but objects nearby may be blurry.

1

variant(s) detected

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Farsightedness symptoms may include:
· Nearby objects may appear blurry
· Needing to squint to see clearly
· Having eyestrain, including burning eyes, and aching in or around the eyes
· Having general eye discomfort or a headache after doing close tasks, such as reading, writing, computer work or drawing, for a time

RISK FACTORS

Risk factor of developing hyperopia:
· Genetics

COMPLICATIONS

Farsightedness can be associated with several problems, such as:
· Crossed eyes
· Reduced quality of life
· Eyestrain
· Impaired safety

Gene	Your Genotype	Your Result	Explanation
TOX	CC	Normal Risk	Individuals with AA and AC genotypes of this gene tend to have a higher genetic risk of hyperopia.
GJD2	AC	Higher Risk	Individuals with AA and AC genotypes of this gene tend to have a higher genetic risk of hyperopia.

Health Risk

Corneal Astigmatism

Astigmatism is a common and generally treatable imperfection in the curvature of the eye that causes blurred distance and near vision. Astigmatism occurs when either the front surface of the eye or the lens, inside the eye, has mismatched curves. Instead of having one curve like a round ball, the surface is egg shaped. This causes blurred vision at all distances.

0 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Signs and symptoms of astigmatism may include:
- Blurred or distorted vision
- Eyestrain or discomfort
- Headaches
- Difficulty with night vision
- Squinting

Gene	Your Genotype	Your Result	Explanation
PDGFRA	CC	Normal Risk	Reports indicate that individuals with TT and TC genotypes of this gene tend to have a higher genetic risk of corneal astigmatism.

Health Risk

Diabetic Retinopathy

Diabetic retinopathy is a diabetes complication that affects eyes. It is caused by damage to the blood vessels of the light-sensitive tissue at the back of the eye (retina). The condition can develop in anyone who has type 1 or type 2 diabetes. This eye complication is more likely to be developed the longer someone has diabetes and the less controlled the blood sugar is.

0 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Diabetic retinopathy symptoms may include:
· Spots or dark strings floating in the vision (floaters)
· Blurred vision
· Fluctuating vision
· Impaired color vision
· Dark or empty areas in the vision
· Vision loss
· Diabetic retinopathy usually affects both eyes

RISK FACTORS

Risk of developing the eye condition can increase as a result of:
· Duration of diabetes — the longer the diabetes condition, the greater the risk of developing diabetic retinopathy
· Poor control of blood sugar level
· High blood pressure
· High cholesterol
· Pregnancy
· Tobacco use
· Being African-American, Hispanic or Native American

COMPLICATIONS

Diabetic retinopathy involves the abnormal growth of blood vessels in the retina. Complications can lead to serious vision problems:
· Vitreous hemorrhage
· Retinal detachment
· Glaucoma
· Blindness

Gene	Your Genotype	Your Result	Explanation
TBX18	CC	Normal Risk	Individuals with TT and TC genotypes of this gene tend to have a higher genetic risk of diabetic retinopathy.
MYSM1	TC	Normal Risk	Individuals with TT genotype of this gene tend to have a higher genetic risk of diabetic retinopathy.
PLXDC2	AA	Normal Risk	Individuals with GG genotype of this gene tend to have a higher genetic risk of diabetic retinopathy.

Health Risk

Vogt-Koyanagi-Harada Disease

Vogt-Koyanagi-Harada disease (VKH disease) affects the eyes, ears, nervous system, and skin. The exact cause of VKH disease is unknown, but the symptoms are thought to be due to an abnormal response of the immune system to a viral infection. Genetic factors may be involved.

2 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

In the early phase, symptoms may include:
· Headache
· Dizziness
· Neck stiffness
· Nausea and vomiting
· Hearing loss
· Ringing in the ears (tinnitus)

In next phase, symptoms may include blurry vision in one or both eyes, inflammation of the eyes and floating spots in the vision that are signs of retinal detachment.

The convalescent phase usually occurs a few weeks to months after the uveitis phase. In this phase, symptoms may include Vitiligo, hair loss and patches of white hair, eyelashes, and eyebrows (poliosis).

The recurrent phase occurs in about half of the people with VKH disease. Symptoms may include· cataracts, glaucoma and abnormal blood vessels growth under the retina (choroidal neovascularization)

RISK FACTORS

Risk factors include genetics and it affects more pigmented groups such as Hispanics, Asians, Native Americans, Middle Easterners, and Asian Indians

COMPLICATIONS

The most common complications are:
· Cataracts
· Glaucoma
· Choroidal Neovascularization
· Subretinal Fibrosis
· Choroidal Atrophy
· Posterior Synechiae
· Optic Atrophy

Gene	Your Genotype	Your Result	Explanation
IL23R	AA	Normal Risk	Individuals with AG and GG genotypes tend to have a higher genetic risk of Vogt-Koyanagi-Harada syndrome.
HLA-DRB1	GG	Higher Risk	Individuals with CG and GG genotypes tend to have a higher genetic risk of Vogt-Koyanagi-Harada syndrome.
ZNF365	TT	Higher Risk	Individuals with CT and TT genotypes tend to have a higher genetic risk of Vogt-Koyanagi-Harada syndrome.

HEALTH RISK
SKIN ISSUES

Health Risk

Atopic Dermatitis

Atopic dermatitis is a chronic inflammatory skin disease associated with inherited allergen. It is characterized by itching and skin redness. This disease is most common in infants and young children but can occur at any age.

3 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Atopic dermatitis (eczema) signs and symptoms vary widely from person to person and include:
- Dry skin
- Itching, which may be severe, especially at night
- Red to brownish-gray patches, especially on the hands, feet, ankles, wrists, neck, upper chest, eyelids, inside the bend of the elbows and knees, and in infants, the face and scalp
- Small, raised bumps, which may leak fluid and crust over when scratched
- Thickened, cracked, scaly skin
- Raw, sensitive, swollen skin from scratching

CAUSES

Healthy skin helps retain moisture and protects you from bacteria, irritants and allergens. Eczema is related to a gene variation that affects the skin's ability to provide this protection. This allows your skin to be affected by environmental factors, irritants and allergens. In some children, food allergies may play a role in causing eczema.

RISK FACTORS

The primary risk factor for atopic dermatitis is having a personal or family history of eczema, allergies, hay fever or asthma.

COMPLICATIONS

Complications of atopic dermatitis (eczema) may include:
- Asthma and hay fever
- Chronic itchy, scaly skin
- Skin infections
- Irritant hand dermatitis
- Allergic contact dermatitis
- Sleep problems

Atopic Dermatitis

Gene	Your Genotype	Your Result	Explanation
ZNF365	TT	Normal Risk	When this site carries C allele, the risk of disease increases.
MHC	AG	Moderate Risk	When this site carries A allele, the risk of disease increases.
IL13	CC	Normal Risk	When this site carries A allele, the risk of disease increases.
HLA-B	GG	Higher Risk	When this site carries G allele, the risk of disease increases.
C6orf10	GG	Higher Risk	When this site carries G allele, the risk of disease increases.
GLB1	AG	Moderate Risk	G>A mutation occurring at this site can increase the risk of disease.
Intergenic	CC	Higher Risk	When this site carries C allele, the risk of disease increases.
Intergenic	CC	Normal Risk	C>T mutation occurring at this site can increase the risk of disease.

Health Risk

Psoriasis

Psoriasis can develop at any age. It is mainly characterized by red, flaky, crusty patches of skin covered with silvery scales. It is a common chronic skin disease thought to be caused by autoimmune and inflammatory reactions. For those with psoriasis, it could have a significant impact on quality of life and mental well-being.

0 variant(s) detected

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Psoriasis signs and symptoms are different for everyone. Common signs and symptoms include:
· Red patches of skin covered with thick, silvery scales
· Small scaling spots (commonly seen in children)
· Dry, cracked skin that may bleed
· Itching, burning or soreness
· Thickened, pitted or ridged nails
· Swollen and stiff joints

RISK FACTOR

Anyone can develop psoriasis, but these factors can increase your risk of developing the disease:
· Family history
· Viral and bacterial infections
· Stress
· Obesity
· Smoking

COMPLICATIONS

If you have psoriasis, you're at greater risk of developing certain diseases. These include:
· Psoriatic arthritis
· Eye conditions
· Obesity
· Type 2 diabetes
· Cardiovascular disease
· Metabolic syndrome
· Other autoimmune diseases
· Parkinson's disease
· Kidney disease
· Emotional problems

Gene	Your Genotype	Your Result	Explanation
MHC	GG	Normal Risk	When this variant carries C allele, it may increase the possibility of misidentification of the immune system, thereby increasing the risk of psoriasis.

Health Risk

Keloid

Keloid is an inevitable outcome when the scar tissue undergoes wound healing process. A keloid scar is an enlarged, raised scar that can be pink, red, skin-colored or darker than the surrounding skin. Keloid scars are more common on the upper chest, shoulders, head (especially the earlobes after a piercing) and neck, but they can happen anywhere.

1 **variant(s) detected**

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Keloids come from the overgrowth of scar tissue. Keloid scars tend to be larger than the original wound itself. They may take weeks or months to develop fully.
The symptoms of a keloid can include:
· A localized area that is flesh-colored, pink, or red
· A lumpy or ridged area of skin that's usually raised
· An area that continues to grow larger with scar tissue over time
· An itchy patch of skin

CAUSES

Most skin injury types can contribute to scarring. This includes burns, acne scars, chickenpox scars, ear piercing, scratches, surgical incisions, and vaccination sites.
According to the (US) National Center for Biotechnology Information, keloid scarring is common in young people between the ages of 10 and 20. Studies have shown that those with darker complexions are at a higher risk of keloid scarring as a result of skin trauma. They occur in 15 – 20% of individuals with sub-Saharan African, Asian or Latino ancestry, significantly less in those of a Caucasian background and there are no reported cases in patients with albinism. Keloids tend to have a genetic component, which means one is more likely to have keloids if one or both of their parents have them.

Gene	Your Genotype	Your Result	Explanation
Intergenic	CC	Higher Risk	GWAS study found that this site carries a significant correlation with the occurrence of keloid.

Health Risk

Generalized Vitiligo

Vitiligo is a common skin pigmentation disease. This disease is characterized by pale white patches developed on the skin, caused by the lack of melanin - the pigment responsible for skin, hair and eyes color. Depigmentation usually first shows on sun-exposed skin, such as the hands, feet, arms, face and lips.

2 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Vitiligo signs include:
· Patchy loss of skin color
· Premature whitening or graying of the hair on your scalp, eyelashes, eyebrows or beard
· Loss of color in the tissues that line the inside of your mouth and nose (mucous membranes)
· Loss of or change in color of the inner layer of the eyeball (retina)

Depending on the type of vitiligo you have, the discolored patches may cover:
· Many parts of your body. With this most common type, called generalized vitiligo, the discolored patches often progress similarly on corresponding body parts (symmetrically).
· Only one side or part of your body. This type, called segmental vitiligo, tends to occur at a younger age, progress for a year or two, then stop.
· One or only a few areas of your body. This type is called localized (focal) vitiligo.

It is difficult to predict how your disease will progress. Sometimes the patches stop forming without treatment. In most cases, pigment loss spreads and eventually involves most of your skin. Rarely, the skin gets its color back.

COMPLICATIONS

Social or psychological distress, sunburn, skin cancer, eye problems (such as inflammation of the iris (iritis)) and hearing loss.

Gene	Your Genotype	Your Result	Explanation
Intergenic	AA	Normal Risk	Research analysis found that G allele at this locus is related to the early-onset and severe clinical type of vitiligo.
HLA	AA	Normal Risk	Big data analysis found that GG genotype at this locus is related to the early-onset and severe clinical type of vitiligo.
RNASET2	TC	Higher Risk	This variant is located on the RNASET2 gene and by carrying T allele, it may cause an increase in the expression of the RNASET2 gene, thereby increasing the risk of disease.
HLA	CC	Normal Risk	Big data analysis found that the site carries T allele is associated with the early-onset and moderate-to-severe clinical types of vitiligo.
Intergenic	AG	Higher Risk	Big data analysis found that when the site carries G allele, it increases the risk of vitiligo.

HEALTH RISK
RESPIRATORY SYSTEM

Health Risk

Asthma

Bronchial asthma, also known as asthma, is one of the most common chronic diseases worldwide nowadays. It is also one of the most common chronic childhood diseases that typically presents with wheezing, shortness of breath, chest tightness and/or coughing. Maintaining a healthy lifestyle, avoiding environmental triggers and taking the right medications are some of the ways to manage symptoms of asthma.

1 variant(s) detected

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Asthma symptoms vary from person to person. You may have infrequent asthma attacks, have symptoms only at certain times — such as when exercising — or have symptoms all the time. Some of the symptoms of asthma include:

- Shortness of breath
- Chest tightness or pain
- Trouble sleeping caused by shortness of breath, coughing or wheezing
- A whistling or wheezing sound when exhaling (wheezing is a common sign of asthma in children)
- Coughing or wheezing attacks that are worsened by a respiratory virus, such as a cold or the flu

RISK FACTORS

Certain factors may increase your risk of developing asthma which include:

- Having a blood relative (such as a parent or sibling) with asthma
- Having another allergic condition, such as atopic dermatitis or allergic rhinitis (hay fever)
- Being overweight
- Being a smoker
- Exposure to secondhand smoke
- Exposure to exhaust fumes or other types of pollution
- Exposure to occupational triggers, such as chemicals used in farming, hairdressing and manufacturing

COMPLICATIONS

Asthma may lead to the following complications:

- Signs and symptoms that interfere with sleep, work or recreational activities
- Sick days from work or school during asthma flare-ups
- Permanent narrowing of the bronchial tubes (airway remodeling) that affects how well you can breathe
- Emergency room visits and hospitalizations for severe asthma attacks
- Side effects from long-term use of some medications used to stabilize severe asthma

Gene	Your Genotype	Your Result	Explanation
SLC6A7	CC	Higher Risk	CC genotype at this site is associated with an increased risk of asthma.
ORMDL3	TC	Moderate Risk	TT genotype at this site is associated with an increased risk of asthma in children and young adult.

Health Risk

Allergic Rhinitis

People with allergic rhinitis, also called hay fever, develop cold-like signs and symptoms, such as a runny nose, itchy eyes, congestion, sneezing and sinus pressure. But unlike a cold, allergic rhinitis is not caused by a virus. It is caused by an allergic response to environmental allergens, such as pollen, dust mites, or tiny flecks of skin and saliva shed by cats, dogs, and other animals with fur or feathers (pet dander).

0 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Common symptoms of allergic rhinitis include:
· Sneezing, runny, stuffy and itchy nose
· Coughing, sore or scratchy throat
· Itchy, watery and dark circles under the eyes
· Frequent headaches
· Eczema-type symptoms, such as having extremely dry, itchy skin that can blister and weep
· Hives
· Excessive fatigue

RISK FACTORS

The primary risk factor for allergic rhinitis is having a personal or family history of asthma, eczema and food allergies. These can be caused by genetics. Allergic rhinitis most often appears at childhood and it may not last into adulthood. If allergic rhinitis started after age of 20, it may last through middle age.

COMPLICATIONS

Unfortunately, allergic rhinitis itself cannot be prevented. Treatment and management are keys to achieving a good quality of life with allergies. Some complications that can arise from hay fever include:
· Inability to sleep from symptoms keeping you up at night
· Development or worsening of asthma symptoms
· Frequent ear infections
· Sinusitis or frequent sinus infections
· Absences from school or work because of reduced productivity
· Frequent headaches

Gene	Your Genotype	Your Result	Explanation
HLA	TT	Normal Risk	When T>C mutation occurs at this site, the risk of disease increases.

Health Risk

Chronic Obstructive Pulmonary Disease

Chronic obstructive pulmonary disease (COPD) is an inflammatory lung disease. Its condition is related to the exposure to harmful gases and particles. It can further develop into pulmonary heart disease and respiratory failure with high disability and mortality rate. Although environmental toxins and pollution can also cause chronic obstructive pulmonary disease, such conditions are often associated with long-term smoking. Therefore, smoking cessation (quit smoking) reduces the risk of chronic obstructive pulmonary disease.

1 variant(s) detected

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

COPD symptoms often do not appear until significant lung damage has occurred, and they usually worsen over time, particularly if smoking exposure continues. For chronic bronchitis, the main symptom is a daily cough and mucus (sputum) production at least three months a year for two consecutive years. Other signs and symptoms of COPD may include:

· Shortness of breath, especially during physical activities
· Wheezing
· Chest tightness
· Having to clear your throat first thing in the morning, due to excess mucus in your lungs
· A chronic cough that may produce mucus (sputum) that may be clear, white, yellow or greenish
· Blueness of the lips or fingernail beds (cyanosis)
· Frequent respiratory infections
· Lack of energy
· Unintended weight loss (in later stages)
· Swelling in ankles, feet or legs

RISK FACTORS

Certain factors may increase your risk of developing chronic obstructive pulmonary disease which include:

· Exposure to tobacco smoke
· People with asthma who smoke
· Occupational exposure to dusts and chemicals
· Exposure to fumes from burning fuel
· Genetics

COMPLICATIONS

COPD can cause many complications, including:

· Respiratory infections
· Heart problems
· Lung cancer
· High blood pressure in lung arteries
· Depression

Gene	Your Genotype	Your Result	Explanation
FAM13A	TC	Normal Risk	Studies have shown that C>T mutation may be associated with changes in FEV1/FVC and susceptibility to COPD in the general population.
HYKK	TC	Higher Risk	Studies have shown that T>C mutation may be associated with COPD in the general population.

Health Risk

Pulmonary Fibrosis

Pulmonary fibrosis is a condition in which the lungs become scarred and damaged. As the disease progresses, it gets more difficult for your lungs to work properly, and breathing becomes increasingly difficult.

2 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Signs and symptoms of pulmonary fibrosis may include:
- Shortness of breath (dyspnea)
- A dry cough
- Fatigue
- Unexplained weight loss
- Aching muscles and joints
- Widening and rounding of the tips of the fingers or toes (clubbing)

RISK FACTORS

Factors that make you more susceptible to pulmonary fibrosis include:
- Age: the disorder is much more likely to affect middle-aged and older adults
- Gender: idiopathic pulmonary fibrosis is more likely to affect men than women
- Smoking
- Having radiation treatments to your chest or using certain chemotherapy drugs can increase your risk of pulmonary fibrosis
- Genetic factors

COMPLICATIONS

Complications of pulmonary fibrosis may include:
- High blood pressure in your lungs (pulmonary hypertension)
- Right-sided heart failure (cor pulmonale)
- Respiratory failure
- Lung cancer
- Lung complications

Gene	Your Genotype	Your Result	Explanation
TERT	CC	Normal Risk	Studies have shown that C>A mutations increase the risk of idiopathic pulmonary fibrosis.
DPP9	AA	Normal Risk	Studies have shown that A>G mutations in this position increases the risk of pulmonary fibrosis.
DSP	TG	Higher Risk	Studies have shown that T>G mutations at this site increase the risk of idiopathic pulmonary fibrosis.
ATP11A	GG	Higher Risk	Studies have shown that A>G mutation in this location increases the risk of pulmonary fibrosis.

Health Risk

Emphysema

Emphysema is a lung condition that causes shortness of breath. In people with emphysema, the air sacs in the lungs are damaged. Over time, the inner walls of the air sacs weaken and rupture — creating larger air spaces instead of many small ones. This reduces the surface area of the lungs and the amount of oxygen that reaches bloodstream.

0 **variant(s) detected**

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

The main symptom of emphysema is shortness of breath, which usually begins gradually. Other signs and symptoms include:
· Unexplained shortness of breath
· Lips or fingernails turn blue or gray with exertion
· Not mentally alert

RISK FACTORS

Factors that increase the risk of developing emphysema include:
· Smoking
· Age: most people experience the symtoms between the ages of 40-60
· Exposure to secondhand smoke
· Occupational exposure to fumes or dust
· Exposure to indoor and outdoor pollution

COMPLICATIONS

People who have emphysema are more likely to develop:
· Collapsed lung
· Heart problems
· Large holes in the lungs (bullae)

Gene	Your Genotype	Your Result	Explanation
SERPINE2	TC	Moderate Risk	Reports indicate that individuals with the CC genotype tend to have a higher genetic risk of pulmonary emphysema.

Health Risk

Obstructive Sleep Apnea

Obstructive sleep apnea causes breathing to repeatedly stop and start during sleep. Obstructive sleep apnea occurs when the throat muscles intermittently relax and block the airway during sleep. A noticeable sign of obstructive sleep apnea is snoring.

0 variant(s) detected

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Signs and symptoms of obstructive sleep apnea include:
- Excessive daytime sleepiness
- Loud snoring
- Observed episodes of stopped breathing during sleep
- Abrupt awakenings accompanied by gasping or choking
- Awakening with a dry mouth or sore throat
- Morning headache
- Difficulty concentrating during the day
- Experiencing mood changes
- High blood pressure
- Nighttime sweating
- Decreased libido

RISK FACTORS

Factors that increase the risk of developing obstructive sleep apnea include:
- Excess weight
- Narrowed airway
- Hypertension
- Chronic nasal congestion
- Smoking
- Diabetes
- Family history
- Asthma
- Gender: male are more likely to develop this disease than women

COMPLICATIONS

Obstructive sleep apnea is considered a serious medical condition. Complications may include:
- Daytime fatigue and sleepiness
- Cardiovascular problems
- Complications with medications and surgery
- Eye problems

Gene	Your Genotype	Your Result	Explanation
NRG1	AG	Normal Risk	Reports indicate that individuals with AG and GG genotypes tend to have a lower genetic risk of obstructive sleep apnea.

HEALTH RISK
NERVOUS SYSTEM

Health Risk

Alzheimer's Disease

Alzheimer's disease, a common cause of dementia, is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and, eventually, the ability to carry out the simplest tasks. In most people with Alzheimer's, symptoms first appear in their mid-60s.

0 variant(s) detected

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Memory loss is the key symptom of Alzheimer's disease. An early sign of the disease is usually difficulty remembering recent events or conversations. As the disease progresses, memory impairments worsen and other symptoms develop. At first, a person with Alzheimer's disease may be aware of having difficulty with remembering things and organizing thoughts. A family member or friend may be more likely to notice how the symptoms worsen.

RISK FACTOR

Risk factors for Alzheimer's disease include:
· Age
· Family history and genetics
· Down syndrome
· Mild cognitive impairment
· Past head trauma
· Lifestyle and heart health

COMPLICATIONS

Memory and language loss, impaired judgment, and other cognitive changes caused by Alzheimer's can complicate treatment for other health conditions. A person with Alzheimer's disease may not be able to:
· Communicate that he or she is experiencing pain — for example, from a dental problem
· Report symptoms of another illness
· Follow a prescribed treatment plan
· Notice or describe medication side effects

As Alzheimer's disease progresses to its last stages, brain changes begin to affect physical functions, such as swallowing, balance, and bowel and bladder control. These effects can increase vulnerability to additional health problems such as:
· Inhaling food or liquid into the lungs (aspiration)
· Pneumonia and other infections
· Falls
· Fractures
· Bedsores
· Malnutrition or dehydration

Gene	Your Genotype	Your Result	Explanation
APOE	TT	Normal Risk	This site that carries C allele may accelerate the beta-amyloid deposition while slowing down its degradation. It may cause neurofibrillary tangles, which increases the risk of disease.

Health Risk

Parkinson's Disease

Parkinson's disease is a neurological disease with a high incidence among elderly over 60 years old. Symptoms in the early stages of the disease usually manifest as tremor in one limb, lack of facial expression, soft or slurred speech and stiff or slowed movement.

0 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Parkinson's disease signs and symptoms can be different for everyone. Early signs may be mild and go unnoticed. Symptoms often begin on one side of your body and usually remain worse on that side, even after symptoms begin to affect both sides. Parkinson's signs and symptoms may include:

· Tremor
· Slowed movement (bradykinesia)
· Rigid muscles
· Impaired posture and balance
· Loss of automatic movements
· Speech changes
· Writing changes

RISK FACTOR

Risk factors for Parkinson's disease include:

· Age: people usually develop the disease around age 60 or older
· Heredity
· Gender: men are more likely to develop Parkinson's disease than are women
· Exposure to toxins

COMPLICATIONS

Parkinson's disease is often accompanied by these additional problems, which may be treatable:

· Thinking difficulties
· Depression and emotional changes
· Swallowing problems
· Chewing and eating problems
· Sleep problems and sleep disorders
· Bladder problems
· Constipation

Gene	Your Genotype	Your Result	Explanation
LRRK2	GG	Normal Risk	A allele promotes neuronal necrosis and increases inflammatory response, thereby increasing the risk of Parkinson's disease.
SCNA	CC	Normal Risk	When this variant site is TT genotype, it may lead to structural changes in alpha-synuclein, thereby increasing the risk of Parkinson's disease.

Health Risk

Multiple Sclerosis

Multiple sclerosis (MS) is an autoimmune disease involving the brain and spinal cord (central nervous system). It causes a wide range of potential symptoms, including problems with vision, arm or leg movement, sensation or balance. It is a lifelong condition that can sometimes cause serious disability, although it can occasionally be mild. Although MS cannot currently be cured, there are some treatments that can delay the progression of the disease and improve the quality of life of patients.

0 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Symptoms often affect movement, such as:
- Numbness or weakness in one or more limbs that typically occurs on one side of your body at a time, or the legs and trunk
- Electric-shock sensations that occur with certain neck movements, especially bending the neck forward (Lhermitte sign)
- Tremor, lack of coordination or unsteady gait

Vision problems are also common, including:
- Partial or complete loss of vision, usually in one eye at a time, often with pain during eye movement
- Prolonged double vision
- Blurry vision

Other symptoms for MS:
- Slurred speech
- Fatigue
- Dizziness
- Tingling or pain in parts of your body
- Problems with sexual, bowel and bladder function

RISK FACTOR

These factors may increase your risk of developing multiple sclerosis:
- Age: usually affects people between the ages of 16 and 55
- Family history
- Certain infections
- Having low levels of vitamin D and low exposure to sunlight is associated with a greater risk of MS
- Certain autoimmune diseases: thyroid disease, type 1 diabetes or inflammatory bowel disease
- Smoking

COMPLICATIONS

People with multiple sclerosis may also develop:
- Muscle stiffness or spasms
- Paralysis, typically in the legs
- Problems with bladder, bowel or sexual function
- Mental changes, such as forgetfulness or mood swings
- Depression
- Epilepsy

Gene	Your Genotype	Your Result	Explanation
HLA-DRA	GG	Normal Risk	Variant site carrying A allele is associated with the increase in the number of immunoglobulin IgG that may lead to an increased risk of multiple sclerosis.
IL7R	TC	Normal Risk	The CC genotypes at this site may result in a decrease in lymphocyte proliferation that increase the risk of disease.

Health Risk

Glioma

A glioma is a type of tumor that starts in the glial cells of the brain or the spine. Gliomas comprise about 30 percent of all brain tumors and central nervous system tumours, and 80 percent of all malignant brain tumours.

2 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Common signs and symptoms of gliomas include:
· Headache
· Nausea or vomiting
· Confusion or a decline in brain function
· Memory loss
· Personality changes or irritability
· Difficulty with balance
· Urinary incontinence
· Vision problems
· Speech difficulties
· Seizures

RISK FACTORS

The exact cause of gliomas is not known. But there are some factors that may increase your risk of a brain tumor. Risk factors include age (gliomas are most common in adults between ages 45 and 65 years old), exposure to radiation and family history.

COMPLICATIONS

Complications of gliomas include:
· Headache
· Seizures
· Chest pain
· Erectile dysfunction
· Loss of muscle control
· Loss of bowel or bladder control
· Numbness
· Weakness in the limbs or upper body

Gene	Your Genotype	Your Result	Explanation
TERT	CC	Higher Risk	Reports indicate that individuals with CC and AC genotypes tend to have a higher genetic risk of glioma.
CCDC26	TT	Normal Risk	Reports indicate that individuals with GT and GG genotypes tend to have a higher genetic risk of glioma.
CDKN2B-AS1	AA	Normal Risk	Reports indicate that individuals with GA and GG genotypes tend to have a higher genetic risk of glioma.
PHLDB1	GG	Normal Risk	Reports indicate that individuals with GT and GG genotypes tend to have a higher genetic risk of glioma.
RTEL1	AG	Higher Risk	Reports indicate that individuals with GA and GG genotypes tend to have a higher genetic risk of glioma.

Health Risk

Migraine

A migraine can cause severe throbbing pain or a pulsing sensation, usually on one side of the head. It is often accompanied by nausea, vomiting, and extreme sensitivity to light and sound. Migraine attacks can last for hours to days, and the pain can be so severe that it interferes with daily activities.

4 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Common signs and symptoms of migraine include:
· Pain usually on one side of the head
· Pain that throbs or pulses
· Sensitivity to light, sound, and sometimes smell and touch
· Nausea and vomiting

RISK FACTORS

Factors that increase the risk of developing migraines include family history, age (migraines tend to peak during 30s), gender (women are three times more likely to have migraines) and ormonal changes

COMPLICATIONS

Complications of migraines include:
· Migrainous infarction
· Persistent aura without infarction
· Migraine-triggered seizure
· Depression and anxiety
· Vertigo
· Nausea and vomiting
· Sleeplessness

Gene	Your Genotype	Your Result	Explanation
PRDM16	TC	Higher Risk	Reports indicate that individuals with AC and CC genotypes tend to have a higher genetic risk of migraine.
TSPAN2	AC	Higher Risk	Reports indicate that individuals with AC and AA genotypes tend to have a higher genetic risk of migraine.
MEF2D	AC	Higher Risk	Reports indicate that individuals with AC and CC genotypes tend to have a higher genetic risk of migraine.
TRPM8	AG	Normal Risk	Reports indicate that individuals with GG genotype tend to have a higher genetic risk of migraine.
PHACTR1	AG	Normal Risk	Reports indicate that individuals with AA genotype tend to have a higher genetic risk of migraine.
SUGCT	CC	Normal Risk	Reports indicate that individuals with TC and TT genotypes tend to have a higher genetic risk of migraine.
ASTN2	GG	Higher Risk	Reports indicate that individuals with AG and GG genotypes tend to have a higher genetic risk of migraine.
LRP1	TC	Normal Risk	Reports indicate that individuals with TT genotype tend to have a higher genetic risk of migraine.

Health Risk

Essential Tremor

Essential tremor is a nervous system (neurological) disorder that causes involuntary and rhythmic shaking. It can affect almost any part of the body, but the trembling occurs most often in hands — especially when doing simple tasks, such as drinking from a glass or tying shoelaces.

0 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Essential tremor signs and symptoms:
· Begin gradually, usually more prominently on one side of the body
· Worsen with movement
· Usually occur in the hands first, affecting one hand or both hands
· Aggravated by emotional stress, fatigue, caffeine or temperature extremes

RISK FACTORS

Known risk factors for essential tremor include:
· Genetic mutation
· Age: essential tremor is more common in people age 40 and older

COMPLICATIONS

If the tremors become severe, patients might find it difficult to:
· Hold a cup or glass without spilling
· Eat normally
· Put on makeup or shave
· Talk, if the voice box or tongue is affected
· Write legibly

Gene	Your Genotype	Your Result	Explanation
LRRK2	GG	Normal Risk	Reports indicate that individuals with GC and CC genotypes tend to have a higher genetic risk of essential tremor.

HEALTH RISK
ENDOCRINE SYSTEM

Health Risk

Hypothyroidism

An underactive thyroid gland (hypothyroidism) is where your thyroid gland does not produce enough hormones. Common signs of an underactive thyroid are tiredness, weight gain and feeling depressed. An underactive thyroid can often be successfully treated by taking daily hormone tablets to replace the hormones your thyroid is not making. There is no way of preventing hypothyroidism. Most cases are caused either by the immune system attacking the thyroid gland and damaging it, or by damage to the thyroid that occurs during some treatments for an overactive thyroid or thyroid cancer.

2 **variant(s) detected**

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

The signs and symptoms of hypothyroidism vary, depending on the severity of the hormone deficiency. Problems tend to develop slowly, often over a number of years.

Hypothyroidism signs and symptoms may include:
· Fatigue
· Increased sensitivity to cold
· Constipation
· Dry skin
· Weight gain
· Muscle weakness, aches, tenderness and stiffness
· Heavier than normal or irregular menstrual periods
· Thinning hair
· Slowed heart rate
· Enlarged thyroid gland (goiter)

RISK FACTOR

Although anyone can develop hypothyroidism, you're at an increased risk if you:
· Are a woman
· Are older than 60
· Have a family history of thyroid disease
· Have an autoimmune disease, such as type 1 diabetes or celiac disease
· Have been treated with radioactive iodine or anti-thyroid medications
· Received radiation to your neck or upper chest
· Have had thyroid surgery (partial thyroidectomy)
· Have been pregnant or delivered a baby within the past six months

COMPLICATIONS

Untreated hypothyroidism can lead to a number of health problems such as goiter, heart problems, mental health issues, peripheral neuropathy, myxedema, infertility and birth defects.

Gene	Your Genotype	Your Result	Explanation
VAV3	TC	Higher Risk	When the T>C mutation occurs at this site, the risk of disease increases.
HLA	AG	Higher Risk	When the site carries the risk gene G allele, the risk of disease increases.
SH2B3	CC	Normal Risk	When the site carries T allele, the disease risk increases.

Health Risk

Graves' disease

Graves' disease is an autoimmune disease. It results in the overproduction of thyroid hormones (hyperthyroidism). Because thyroid hormones affect a number of different body systems, signs and symptoms associated with Graves' disease can be wide ranging and significantly influence your overall well-being.

1 variant(s) detected

1111-1111-1111

Consult with a healthcare professional before making any major lifestyle changes.

SIGNS AND SYMPTOMS

Graves' disease signs and symptoms include:
· Anxiety and irritability
· A fine tremor of your hands or fingers
· Heat sensitivity and an increase in perspiration or warm, moist skin
· Weight loss, despite normal eating habits
· Enlargement of your thyroid gland (goiter)
· Change in menstrual cycles
· Erectile dysfunction or reduced libido
· Frequent bowel movements
· Bulging eyes (Graves' ophthalmopathy)
· Fatigue
· Thick, red skin usually on the shins or tops of the feet (Graves' dermopathy)
· Rapid or irregular heartbeat (palpitations)

RISK FACTOR

These factors might increase your risk of developing this condition: family history, age (Graves' disease usually develops in people younger than 40), gender (women are much more likely to develop Graves' disease than are men), presence of other autoimmune disorders (people with other disorders of the immune system, such as type 1 diabetes or rheumatoid arthritis, have an increased risk), emotional or physical stress, pregnancy and smoking.

COMPLICATIONS

Graves' disease can cause complications including pregnancy issues, heart disorders, thyroid storm and brittle bones.

Gene	Your Genotype	Your Result	Explanation
SLAMF6	AA	Normal Risk	The study found that when this site carries C allele, the risk of disease increases.
HLA-B	TT	Higher Risk	It is found that the C>T mutation occurs at this site can increase the risk of illness.
ABO	TC	Normal Risk	Related studies have found that TT homozygotes at this site increases the risk of disease in people with type O-blood.
TG	GG	Normal Risk	In vitro studies have shown that the AA genotype in this gene locus can influence the splicing of TG, leading to the increased expression of non-e46 TG isoform.
C1QTNF6	AA	Normal Risk	Large number of literatures showed that this site that carrying C allele is associated with the disease risk of GD.