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# Introduction to Your Personalized Health Report

## What's in the report?

This personalized health report provides a comprehensive overview of your genetic predispositions to a variety of health conditions. The analysis is based on the latest scientific research and is organized into several categories:

- **Cancer:** Looks at genetic changes that may increase your risk for various types of cancer, such as breast, prostate, or colon cancer. These risks are often linked to how your cells grow, divide, and repair damage.
- **Autoimmune and Inflammatory Diseases:** Covers conditions where the immune system mistakenly attacks your own body, like rheumatoid arthritis, lupus, or celiac disease. It also includes chronic inflammation, which plays a role in many long-term illnesses.
- **Cardiovascular Diseases:** Focuses on your risk for heart-related issues such as heart attack, high blood pressure, and stroke. It includes genetic factors that affect cholesterol, blood vessels, and heart rhythm.
- **Neurological and Mental Health Disorders:** Includes conditions that affect the brain and nervous system, such as Alzheimer's, Parkinson's, depression, and anxiety. It looks at how your genes may influence brain health, memory, and emotional well-being.
- **Infectious Diseases:** Examines how your genetic makeup may affect your body's ability to fight infections like hepatitis, tuberculosis, or even susceptibility to viruses. Some people's genes make them more or less likely to get sick or experience severe symptoms.
- **Respiratory Diseases:** Analyzes your risk for lung-related issues like asthma, chronic bronchitis, or reduced lung function. It includes genes related to your breathing and how your lungs respond to pollution or allergens.
- **Gastrointestinal Disorders:** Focuses on conditions that affect digestion, such as Crohn's disease, irritable bowel syndrome (IBS), or lactose intolerance. It looks at how your body processes food and handles inflammation in the gut.
- **Endocrine and Metabolic Disorders:** Involves hormone-related conditions like type 2 diabetes, thyroid imbalances, or obesity. It assesses how your genes influence metabolism, insulin sensitivity, and hormonal regulation.
- **Musculoskeletal Disorders:** Covers issues related to bones, joints, and muscles, such as osteoporosis, arthritis, and chronic back pain. It looks at genetic influences on bone density, joint function, and inflammation.

## How to Read the Tables?

Each health condition in this report includes a table that lists the specific genetic variants (called SNPs) linked to that condition. These tables help explain how your unique genetic code may influence your health. Here's what each column means:

- SNP (Single Nucleotide Polymorphism)

This is a reference ID for a specific location in your DNA where people commonly have slight differences. For example, a SNP might be labeled rs123456. Each SNP can affect how your body functions, especially in relation to certain diseases or traits.

- Genotype

Your genotype tells you which versions of the gene you inherited at this SNP location—one from each parent. For example, AA, CT, or GG. Some genotypes are associated with higher or lower risk depending on the SNP and condition.

- Risk Allele

This is the version of the gene that research has linked to an increased (or sometimes decreased) risk for a specific health condition. If your genotype includes the risk allele, it may influence your overall risk.

- Effect (Odds Ratio | Beta)

This value shows how strongly the risk allele affects your likelihood of developing the condition:

- Odds Ratio (OR): Used for conditions with a “yes or no” outcome (like a disease). An OR of 1.0 means average risk. Above 1.0 means increased risk; below 1.0 means reduced risk.
- Beta: Used for continuous traits (like blood pressure or BMI). A positive beta means an increase in the trait, while a negative beta suggests a decrease.
- Studies (PubMed IDs)

These are references to the scientific studies that support the findings. Each PubMed ID links to a research paper in the National Library of Medicine. You can look up these IDs online if you want to explore the science behind your results.

### How Total Effects Are Determined

To provide a simplified explanation of your genetic predispositions, we calculate a **total effect** for each nutrient or trait. This involves summing the effects of all relevant SNPs based on:

1. **Effect Size (Odds Ratio/Beta)** - Quantifies the strength of each SNP's impact.
2. **Presence of Risk Allele** - Only SNPs where your genotype matches the risk allele are included.

### Important Notes on Total Effects:

- **Statistical Independence Not Assumed:** SNPs are combined without accounting for possible correlations (linkage disequilibrium), which could lead to an overestimation or underestimation of the total effect.
- **Units of Effect:** Effects must be in comparable units. Where units differ, results are normalized for consistency.

This summary helps identify whether your genetic predisposition for a given trait is **positive**, **negative**, or **average**.

### Important Notes and Disclaimers

- **Not Medical Advice:** This report is for informational purposes only and is not a substitute for professional medical advice, diagnosis, or treatment. Always consult with a healthcare provider before making health decisions.
- **Beyond Genetics:** While this report highlights genetic predispositions, your actual nutritional needs and health outcomes are influenced by diet, lifestyle, and environment.
- **Limitations of Genetic Insights:** Research into genetic associations is ongoing. Findings are based on current knowledge and may evolve over time.

## Summary

### Cancer

Disease	Estimated Risk
Differentiated Thyroid Gland Carcinoma	Lower Risk
Thyroid Gland Carcinoma	Lower Risk
Cervix Carcinoma	Average Risk   Undetermined
Head and Neck Squamous Cell Carcinoma	Average Risk   Undetermined
Large Artery Stroke	Average Risk   Undetermined

<b>Disease</b>	<b>Estimated Risk</b>
Nasopharyngeal Neoplasm	Average Risk   Undetermined
Colon Carcinoma	Higher Risk
Estrogen-Receptor Positive Breast Cancer	Higher Risk
Male Breast Cancer	Higher Risk
Lung Squamous Cell Carcinoma	Higher Risk
Osteosarcoma	Higher Risk
Esophagus Adenocarcinoma	Higher Risk
Renal Cell Carcinoma	Higher Risk
Multiple Myeloma	Higher Risk
Oropharynx Cancer	Higher Risk
Colorectal Adenoma	Higher Risk
Lung Non-Small Cell Carcinoma	Higher Risk
Triple-Negative Breast Cancer	Higher Risk
Lung Adenocarcinoma	Higher Risk
Testicular Germ Cell Cancer	Higher Risk
Upper Aerodigestive Tract Neoplasm	Higher Risk
Glioblastoma	Higher Risk
Chronic Lymphocytic Leukemia	Higher Risk
Gastric Fundus Cancer	Higher Risk
Melanoma	Higher Risk
Neuroblastoma	Higher Risk
Testicular Cancer	Higher Risk
Estrogen-Receptor Negative Breast Cancer	Higher Risk
Hepatocellular Carcinoma	Higher Risk
Lymphoid Leukemia	Higher Risk
Squamous Cell Carcinoma	Higher Risk
Hodgkin's Lymphoma	Higher Risk
Pancreatic Carcinoma	Higher Risk
Lung Carcinoma	Higher Risk
Esophageal Carcinoma	Higher Risk
Breast Carcinoma	Higher Risk
Prostate Carcinoma	Higher Risk



## Autoimmune and Inflammatory Diseases

Disease	Estimated Risk
Bullous Pemphigoid	Lower Risk
Nephrotic Syndrome	Lower Risk
Vasculitis	Lower Risk
Autoimmune Thyroiditis	Lower Risk
Autoimmune Thyroiditis	Lower Risk
Immune System Disease	Lower Risk
Sjögren's Syndrome	Average Risk   Undetermined
Alopecia Areata	Average Risk   Undetermined
Autoimmune Hepatitis	Average Risk   Undetermined
Cutaneous Lupus Erythematosus	Average Risk   Undetermined
Cutaneous Mastocytosis	Average Risk   Undetermined
Dermatomyositis	Average Risk   Undetermined
Eosinophilic Esophagitis	Average Risk   Undetermined
Granulomatosis with Polyangiitis	Average Risk   Undetermined
Polymyositis	Average Risk   Undetermined
Refractory Celiac Disease	Average Risk   Undetermined
Temporal Arteritis	Average Risk   Undetermined
Thiopurine Immunosuppressant-Induced Pancreatitis	Average Risk   Undetermined
Myositis	Higher Risk
Anti-Neutrophil Antibody-Associated Vasculitis	Higher Risk
Juvenile Rheumatoid Arthritis	Higher Risk
Systemic Scleroderma	Higher Risk
Psoriatic Arthritis	Higher Risk
Ankylosing Spondylitis	Higher Risk
Stevens-Johnson Syndrome	Higher Risk
Toxic Epidermal Necrolysis	Higher Risk
Rheumatoid Factor-Negative Juvenile Idiopathic Arthritis	Higher Risk
Takayasu's Arteritis	Higher Risk
Primary Biliary Cholangitis	Higher Risk
Psoriasis	Higher Risk
Vitiligo	Higher Risk
Atopic Dermatitis	Higher Risk
Rheumatoid Arthritis	Higher Risk
Inflammatory Bowel Disease	Higher Risk
Ulcerative Colitis	Higher Risk
Crohn's disease	Higher Risk

### Cardiovascular Diseases

<b>Disease</b>	<b>Estimated Risk</b>
Peripheral Artery Disease	Lower Risk
Congenital Left-Sided Heart Lesions	Average Risk   Undetermined
Hypertrophic cardiomyopathy	Average Risk   Undetermined
Pulmonary hypertension	Average Risk   Undetermined
Raynaud Disease	Higher Risk
Cervical Artery Dissection	Higher Risk
Cardiovascular System Disease	Higher Risk
Dilated Cardiomyopathy	Higher Risk
Hypertension	Higher Risk
Myocardial Infarction	Higher Risk

## Neurological and Mental Health Disorders

<b>Disease</b>	<b>Estimated Risk</b>
Low Tension Glaucoma	Lower Risk
Myasthenia Gravis	Lower Risk
Creutzfeldt Jakob Disease	Average Risk   Undetermined
Hipersomni	Average Risk   Undetermined
REM Sleep Behavior Disorder	Average Risk   Undetermined
Age-Related Hearing Impairment	Average Risk   Undetermined
Autistic Disorder	Average Risk   Undetermined
Dyslexia	Average Risk   Undetermined
Hippocampal Sclerosis of Aging	Average Risk   Undetermined
Peripheral Neuropathy	Average Risk   Undetermined
Post-Traumatic Stress Disorder	Average Risk   Undetermined
Sporadic Creutzfeldt-Jakob Disease	Average Risk   Undetermined
Tropical Spastic Paraparesis	Average Risk   Undetermined
Otosclerosis	Higher Risk
Kuhnt-Junius Degeneration	Higher Risk
Epilepsy	Higher Risk
Lewy Body Dementia	Higher Risk
Open-Angle Glaucoma	Higher Risk
Restless Legs Syndrome	Higher Risk
Autism Spectrum Disorder	Higher Risk
Age-Related Macular Degeneration	Higher Risk
Intracranial Aneurysm	Higher Risk

## Infectious

<b>Disease</b>	<b>Estimated Risk</b>
Peritonsillar Abscess (Obsolete Classification)	Average Risk   Undetermined
Otitis Media	Average Risk   Undetermined
Typhoid Fever	Average Risk   Undetermined
Leprosy	Higher Risk
Hepatitis B	Higher Risk

**Respiratory**

<b>Disease</b>	<b>Estimated Risk</b>
Obstructive Sleep Apnea	Average Risk   Undetermined
Rhinitis	Average Risk   Undetermined
Respiratory Failure	Higher Risk
Chronic Rhinosinusitis	Higher Risk
Chronic Obstructive Pulmonary Disease	Higher Risk
Allergic Rhinitis	Higher Risk
Interstitial Lung Disease	Higher Risk

**Gastrointestinal**

<b>Disease</b>	<b>Estimated Risk</b>
Collagenous Colitis	Average Risk   Undetermined
Gastroesophageal Reflux Disease (GERD)	Average Risk   Undetermined
Pancreatitis	Average Risk   Undetermined
Intestinal Disease	Higher Risk
Barrett's Esophagus	Higher Risk
Hemorrhoid	Higher Risk
Duodenal Ulcer	Higher Risk
Gastric Ulcer	Higher Risk
Hypertrophic Pyloric Stenosis	Higher Risk

## Endocrine and Metabolic Disorders

<b>Disease</b>	<b>Estimated Risk</b>
Diabetes Mellitus	Average Risk   Undetermined
Gestational Diabetes	Average Risk   Undetermined
Metabolic Dysfunction-Associated Steatotic Liver Disease	Higher Risk
Metabolic Dysfunction-Associated Steatohepatitis	Higher Risk
Cholelithiasis	Higher Risk
Prostatic Hypertrophy	Higher Risk
Paget's Disease of Bone	Higher Risk
Hyperthyroidism	Higher Risk
Chronic Kidney Disease	Higher Risk
Polycystic Ovary Syndrome	Higher Risk
Sclerosing Cholangitis	Higher Risk
Hypothyroidism	Higher Risk
Obesity	Higher Risk
Central Precocious Puberty	Higher Risk
Toxic Diffuse Goiter	Higher Risk
Gout	Higher Risk

**Musculoskeletal**

<b>Disease</b>	<b>Estimated Risk</b>
Degenerative Disc Disease	Average Risk   Undetermined
Scoliosis	Average Risk   Undetermined
Osteoarthritis of the Hand	Higher Risk
Ossification of the Posterior Longitudinal Ligament of the Spine	Higher Risk
Osteoporosis	Higher Risk
Adolescent Idiopathic Scoliosis	Higher Risk





# Cancer

## Hodgkin's Lymphoma

Hodgkin's lymphoma (previously referred to as Hodgkin's disease) is a type of cancer originating in the lymphatic system, which is part of the body's immune network. It is distinguished from other lymphomas by the presence of Reed-Sternberg cells, a particular kind of abnormal cell. The disease commonly appears in lymph nodes located in the neck, chest, or underarms, though it can spread to other lymph nodes and organs if not treated promptly. Advances in treatment have significantly improved survival rates, making Hodgkin's lymphoma one of the more treatable forms of cancer when diagnosed early.

### Prevention

At present, there is no definitive method for preventing Hodgkin's lymphoma, as its exact causes remain only partially understood. Maintaining general health through balanced nutrition, regular exercise, and good hygiene can support immune function. Prompt medical evaluation of persistent symptoms—especially swollen lymph nodes or unexplained fatigue—allows for earlier detection, which is crucial for improved treatment outcomes.

### Risk Factors

The risk of developing Hodgkin's lymphoma can be influenced by a few factors. A history of Epstein-Barr virus (EBV) infection is associated with some cases, though not everyone with EBV will develop lymphoma. Family history, particularly when first-degree relatives are affected, slightly raises the likelihood of a diagnosis. Weakened immune function, such as in individuals with HIV, may also increase vulnerability. The disease tends to be more common in young adults and adults over 55, but it can appear at any age.

### Symptoms

Individuals with Hodgkin's lymphoma often notice painless swelling of lymph nodes in the neck, armpits, or groin. They may also experience persistent fatigue, fever, night sweats, and unintended weight loss. Sometimes, itching or increased sensitivity to alcohol at sites of enlarged lymph nodes can occur. While many of these symptoms can be related to other illnesses, persistent or worsening signs warrant prompt medical evaluation to rule out Hodgkin's lymphoma or catch it in early stages.

### Treatments

Therapies for Hodgkin's lymphoma commonly include chemotherapy and radiation, either separately or in combination, depending on the stage and subtype. Chemotherapy aims to destroy cancerous cells throughout the body, while radiation targets specific affected lymph node regions. In more advanced cases, targeted therapies or immunotherapy agents may be used to harness the body's immune system against malignant cells. Treatment plans are highly individualized, taking into account factors like overall health, age, and disease extent. With modern protocols, cure rates for Hodgkin's lymphoma are high, especially when treatment is initiated early.

### Analysis

Overall, the data shows a higher risk than normal. This means the genetic factors may raise the chances of issues.

SNP	Genotype	Risk Allele	Effect (Odds Ratio   Beta)	Studies (Pubmed IDs)
rs17391694	CC	C	1.13	<a href="#">23128233</a>
rs2395185	GG	G	1.92	<a href="#">19915573</a>
rs3129890	TT	T	1.48	<a href="#">35939300</a>

SNP	Genotype	Risk Allele	Effect (Odds Ratio   Beta)	Studies (Pubmed IDs)
rs3824662	CC	C	1.52	<a href="#">35939300</a>

## Breast Carcinoma

Breast carcinoma is the most common type of cancer in women worldwide, originating from the epithelial cells lining the ducts or lobules of the breast. It encompasses various subtypes, with ductal carcinoma and lobular carcinoma being the most prevalent. Breast carcinoma can be invasive, spreading to surrounding tissues and distant organs, or non-invasive (in situ), confined to its place of origin. Early detection and tailored treatment significantly improve prognosis, especially when identified at localized stages.

### Prevention

Preventing breast carcinoma focuses on risk reduction and early detection:

- **Lifestyle Modifications:**
  - Maintain a healthy weight and engage in regular physical activity.
  - Limit alcohol intake and avoid smoking.
  - Adopt a balanced diet rich in fruits, vegetables, and whole grains.
- **Hormonal Management:** Discuss the risks and benefits of hormone replacement therapy (HRT) with a healthcare provider.
- **Breastfeeding:** Associated with a lower risk of breast cancer in women.
- **Risk-Reduction Strategies:** High-risk individuals may consider prophylactic mastectomy or chemoprevention with medications such as tamoxifen or raloxifene.
- **Regular Screening:** Mammograms and clinical breast exams help detect abnormalities early, improving treatment outcomes.

These measures help reduce the incidence of breast carcinoma and enhance early diagnosis.

### Risk Factors

Risk factors for breast carcinoma include:

- **Age:** Risk increases with age, particularly after 50.
- **Gender:** Women are significantly more affected than men.
- **Family History:** A strong familial link, especially with BRCA1 or BRCA2 gene mutations.
- **Reproductive Factors:** Early menstruation, late menopause, late first pregnancy, or no pregnancies increase risk.
- **Lifestyle:** Obesity, alcohol consumption, and a sedentary lifestyle are modifiable risks.
- **Hormonal Exposure:** Prolonged use of HRT or oral contraceptives may elevate risk.
- **Radiation Exposure:** Prior radiation therapy to the chest.
- **Personal History:** Previous breast cancer or benign breast conditions.

### Symptoms

Symptoms of breast carcinoma vary and may include:

- A new lump or mass in the breast or underarm
- Changes in breast size, shape, or appearance
- Nipple discharge, possibly bloody
- Skin changes, such as dimpling, redness, or scaling
- Inverted nipple or changes in nipple appearance
- Persistent breast pain or discomfort

Early stages may be asymptomatic, highlighting the importance of routine screenings.

### Treatments

Treatment for breast carcinoma depends on the type, stage, and patient preferences:

- **Surgery:**
  - Lumpectomy or mastectomy to remove the tumor or entire breast.
  - Sentinel lymph node biopsy or axillary lymph node dissection to assess spread.
- **Radiation Therapy:** Often used post-surgery to eliminate residual cancer cells.
- **Systemic Therapy:**

- Chemotherapy for aggressive or advanced cancers.
- Hormonal therapy (e.g., tamoxifen, aromatase inhibitors) for hormone receptor-positive cancers.
- Targeted therapy (e.g., HER2 inhibitors like trastuzumab) for specific subtypes.
- Immunotherapy for advanced triple-negative breast cancer.
- **Rehabilitation and Support:** Psychological counseling, physical therapy, and support groups to aid recovery and quality of life.

A multidisciplinary approach ensures comprehensive care, including oncologists, surgeons, and supportive care specialists.

### Analysis

Overall, the data shows a higher risk than normal. This means the genetic factors may raise the chances of issues.

SNP	Genotype	Risk Allele	Effect (Odds Ratio   Beta)	Studies (Pubmed IDs)
rs10472076	CC	C	1.05	25751625, 23535729
rs1053338	AA	A	0.95	32139696
rs10759243	AA	A	1.06	32139696, 25751625, 23535729
rs10760444	AA	A	0.96	32139696
rs10771399	AA	A	1.16	25751625, 23535729
rs10816625	AA	A	0.90	32139696
rs10941679	AA	A	0.89	32139696
rs11075995	AA	A	1.06	29058716, 32139696
rs11199914	TT	T	0.96	32139696
rs11242675	TT	T	1.06	23535729
rs12405132	CC	C	1.05	25751625
rs12710696	TT	T	1.04	32139696
rs13387042	AA	A	1.17	23535729, 21263130, 25751625, 17529974, 20453838
rs13393577	TT	T	1.53	22452962
rs1353747	TT	T	1.08	23535729, 25751625, 32139696
rs140068132	AA	A	1.67	25327703
rs1436904	TT	T	1.04	25751625, 23535729, 32139696
rs1550623	AA	A	1.06	23535729, 32139696
rs17268829	TT	T	0.95	32139696
rs17356907	AA	A	1.10	25751625, 32139696, 23535729
rs2016394	GG	G	1.05	23535729
rs204247	AA	A	0.96	32139696
rs2736108	CC	C	1.06	25751625

SNP	Genotype	Risk Allele	Effect (Odds Ratio   Beta)	Studies (Pubmed IDs)
rs28539243	AA	A	1.05	<a href="#">32139696</a>
rs2943559	AA	A	0.91	<a href="#">32139696</a>
rs3803662	AA	A	1.26	<a href="#">25751625</a> , <a href="#">23535729</a> , <a href="#">23544012</a> , <a href="#">20453838</a>
rs3817198	TT	T	0.94	<a href="#">32139696</a>
rs4233486	TT	T	1.04	<a href="#">32139696</a>
rs4245739	AA	A	1.10	<a href="#">33398198</a> , <a href="#">23535732</a> , <a href="#">29892016</a>
rs4593472	TT	T	0.96	<a href="#">32139696</a>
rs527616	GG	G	1.05	<a href="#">25751625</a> , <a href="#">23535729</a>
rs6001930	TT	T	0.90	<a href="#">32139696</a>
rs616488	AA	A	1.07	<a href="#">23535729</a> , <a href="#">23535733</a> , <a href="#">32139696</a> , <a href="#">25751625</a>
rs6472903	TT	T	1.09	<a href="#">23535729</a> , <a href="#">25751625</a> , <a href="#">32139696</a>
rs6507583	AA	A	1.09	<a href="#">25751625</a> , <a href="#">32139696</a>
rs6562760	GG	G	1.09	<a href="#">29058716</a>
rs6597981	AA	A	0.96	<a href="#">32139696</a>
rs66823261	TT	T	0.96	<a href="#">32139696</a>
rs67397200	GG	G	1.17	<a href="#">29058716</a>
rs676256	TT	T	1.10	<a href="#">32139696</a>
rs6762644	AA	A	0.95	<a href="#">32139696</a>
rs720475	GG	G	1.06	<a href="#">23535729</a> , <a href="#">25751625</a>
rs7529522	TT	T	0.96	<a href="#">32139696</a>
rs7707921	AA	A	1.06	<a href="#">32139696</a> , <a href="#">25751625</a>
rs78378222	TT	T	1.49	<a href="#">31649266</a> , <a href="#">32424353</a>
rs8170	AA	A	1.21	<a href="#">23535733</a> , <a href="#">20852631</a>
rs865686	TT	T	1.12	<a href="#">25751625</a> , <a href="#">23535729</a> , <a href="#">21263130</a>
rs9348512	CC	C	1.18	<a href="#">23544012</a>
rs9485372	GG	G	1.08	<a href="#">32139696</a> , <a href="#">22383897</a>
rs9693444	AA	A	1.07	<a href="#">32139696</a> , <a href="#">23535729</a> , <a href="#">25751625</a>

## Cervix Carcinoma

Cervix carcinoma, commonly known as cervical cancer, originates in the cells of the cervix, the lower part of the uterus that connects to the vagina. It is primarily caused by persistent infection with high-risk types of the human papillomavirus (HPV). Cervical cancer develops gradually, starting with precancerous changes called cervical intraepithelial neoplasia (CIN). Early detection through screening and HPV vaccination has significantly reduced its incidence in many parts of the world.

### Prevention

Preventing cervix carcinoma involves reducing risk factors and promoting early detection:

- **HPV Vaccination:** Immunization against high-risk HPV types significantly lowers the risk of cervical cancer.
- **Regular Screening:** Pap smears and HPV testing detect precancerous changes early for timely treatment.
- **Safe Sexual Practices:** Using condoms and limiting the number of sexual partners reduce HPV transmission risk.
- **Avoid Smoking:** Smoking weakens the immune system and increases the risk of cervical cancer.
- **Early Treatment of Precancerous Lesions:** Removing abnormal cells found during screening can prevent progression to cancer.

Combining these strategies has proven highly effective in reducing the burden of cervical cancer.

### Risk Factors

Risk factors for cervix carcinoma include:

- **HPV Infection:** The most significant risk factor, particularly with high-risk types like HPV-16 and HPV-18.
- **Multiple Sexual Partners:** Increases the likelihood of HPV exposure.
- **Early Sexual Activity:** Initiating sexual activity at a younger age heightens risk.
- **Immunosuppression:** Conditions like HIV or long-term immunosuppressive therapy elevate susceptibility.
- **Smoking:** Doubles the risk by damaging cervical cells and weakening the immune response.
- **Prolonged Use of Oral Contraceptives:** Slightly increases the risk with extended use over several years.
- **Family History:** A genetic predisposition may play a role in some cases.

### Symptoms

Symptoms of cervix carcinoma may not appear until the disease is advanced. Common signs include:

- **Abnormal Vaginal Bleeding:** Such as bleeding after intercourse, between periods, or after menopause.
- **Unusual Vaginal Discharge:** Often watery, pink, or foul-smelling.
- **Pelvic Pain:** Persistent pain or discomfort, particularly during intercourse.
- **Urinary or Bowel Symptoms:** Changes in frequency or pain during urination and bowel movements in advanced cases.

Early-stage cervical cancer is often asymptomatic, highlighting the importance of regular screening.

### Treatments

Treatment for cervix carcinoma depends on the stage of the disease and patient health:

- **Early-Stage Treatment:**
  - Cone biopsy or loop electrosurgical excision procedure (LEEP) for precancerous lesions.
  - Radical hysterectomy or trachelectomy (cervix removal) for localized cancer.

- **Advanced-Stage Treatment:**
  - Chemoradiation, a combination of chemotherapy and radiation therapy, is the standard for locally advanced cases.
  - Systemic chemotherapy for metastatic cancer.
  - Immunotherapy or targeted therapy for recurrent or advanced cases (e.g., pembrolizumab for PD-L1-positive tumors).
- **Palliative Care:** Focused on symptom relief and improving quality of life in terminal stages.
- **Follow-Up and Monitoring:** Regular check-ups post-treatment to detect recurrence or complications.

A multidisciplinary approach involving gynecologic oncologists ensures optimal care and outcomes.

### Analysis

The data is too limited to clearly show whether the overall risk is high or low.

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SNP	Genotype	Risk Allele	Effect (Odds Ratio   Beta)	Studies (Pubmed IDs)
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