MADP Alliance for Disease Prevention

# Who Should Consider Genetic Testing - And Why It Matters

Genetic testing can identify mutations in your DNA that may increase your risk for cancer, cardiovascular disease, and other serious health conditions. Knowing your genetic profile can provide an important tool for guiding preventive screening and potential treatment strategies.

## Who May Be Considered Higher Risk?

Anyone can choose to have genetic testing, but it is especially important for people whose **personal or family history** suggests a higher inherited risk for certain conditions. These include cancers, cardiovascular disease, and conditions such as metabolic or blood disorders.

You may be at higher risk if you have:

⇒ A **personal or family history** of cancer, heart disease, or other serious illnesses diagnosed at a younger age than usual.

⇒ **Multiple relatives** with the same or related diseases, especially across several generations.

⇒ An **immediate relative** (parent, sibling, or child) who has had - or died from - cancer or coronary artery disease (CAD), particularly at a younger age.

⇒ **Multiple family members with different types of cancer**, which can sometimes signal an inherited genetic mutation that increases risk across several organs.

⇒ A family history of **sudden cardiac death**, unexplained blood clots, or **inherited cholesterol disorders** (such as familial hypercholesterolemia).

⇒ **Ancestry linked to a higher prevalence** of certain genetic variants, such as:

**Ashkenazi Jewish heritage** – Higher likelihood of BRCA1/BRCA2 mutations, which increase the risk for breast, ovarian, prostate, and pancreatic cancers.

**African ancestry** – Higher likelihood of LPA gene variants that raise lipoprotein (a) levels, increasing the risk for premature heart disease and aortic valve problems (present in ~30–40% of African Americans vs. ~20–25% of the general U.S. population).

**African, Mediterranean, or Southeast Asian ancestry** – Higher prevalence of sickle cell disease or thalassemia (inherited blood disorders).

**Northern European ancestry** – Increased frequency of hereditary hemochromatosis, which can cause iron overload and organ damage if untreated.

## Personal and Family History Clues That May Warrant Testing

You may benefit from speaking with a healthcare provider or genetic counselor about genetic testing if you have:

- Cancer at a young age (typically before age 50).
- Multiple cancers in the same individual or within the family.
- Rare or unusual cancers (e.g., male breast cancer, medullary thyroid cancer) within the family.
- Known inherited syndromes (e.g., BRCA, Lynch syndrome, Li-Fraumeni) within the family.
- Multiple colon polyps or other precancerous conditions.
- Non-cancer inherited conditions linked to higher cancer or heart risk.

### If You Are Adopted or If You Lack Access to Family History

If you are adopted, estranged from family, or have limited biological history, you can still take proactive steps:

**Be vigilant** - learn common warning signs and symptoms and communicate concerns to your provider.

**Review your personal health profile** - including diagnoses, lifestyle habits, and environmental exposures.

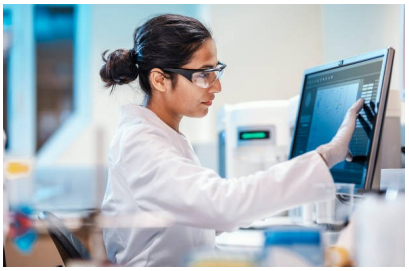
**Ask about genetic counseling and testing** - some guidelines recommend testing even without known family history if other risk factors are present.

**Discuss tailored screening options** - such as blood-based tests, imaging, or other diagnostic tools based on your risk profile and personal concerns.

### Why Genetic Testing Matters

Genetic testing is more than a risk assessment - it can be an important part in a comprehensive prevention strategy. Learning about your genetic risk early gives your healthcare team the opportunity to:

- Recommend **starting screening tests earlier** or having them more often.
- Monitor for the **earliest signs of disease**, when treatment is most effective.
- Advise on lifestyle changes or **preventive treatments** to lower your risk.
- **Identify risks** for cancer or cardiovascular disease before symptoms appear.
- Provide information that may also help **protect the health of your children or other family members**.



Genetic counselors or an experienced licensed healthcare provider can help interpret your personal medical risk, recommend appropriate testing, and guide you in the next steps.

## Important Note: Genetic Testing Legal Protection and Your Rights

Under current U.S. federal law, you **cannot be denied health insurance coverage** or **charged higher premiums based on your genetic test results**. The **Genetic Information Nondiscrimination Act (GINA)** protects individuals from genetic discrimination in both health insurance and employment.

GINA ensures that:

- **Health insurers** cannot use your genetic information to decide eligibility, coverage, or premiums.
- **Employers** cannot use genetic information when making decisions about hiring, firing, job assignments, or promotions.
- **Your genetic information** - and that of your family - is legally protected and must be kept private.

The Genetic Information Nondiscrimination Act (GINA) does **NOT** apply to life insurance, disability insurance, or long-term care insurance. If you are considering purchasing these types of policies, you may want to consider before undergoing genetic testing.