

Genetic Insights: quick reference guide for healthcare providers

This guide is intended to facilitate discussion between a provider and their patient.

Genetic Insights test results: **Loeys-Dietz syndrome**

Key results

A pathogenic or likely pathogenic variant associated with Loeys-Dietz syndrome (LDS) was found in the *TGF β 3* gene.

People with LDS have a significantly increased risk of developing an aortic aneurysm and/or dissection and may have other health concerns.

Next steps

Clinical recommendations

Genetic Insights is a screening test and not intended for diagnosis. A follow-up genetic test should be performed in a clinical setting before any other action is taken.

Refer your patient to a genetic counselor.

Genetic counselors can provide counseling on the implications of this test result and next steps for your patient.

Resources

Ready to order?

Check with your institution and/or patient's insurance about the preferred testing laboratory.

Blueprint Genetics® offers LDS testing. To confirm this test result, **targeted variant testing** for the variant identified is available. You can order a confirmation test here: [Blueprint Genetics/TVT](#)

Have questions?

Call **1.866.GENE.INFO** (1.866.436.3463) to speak to a specialized Quest genetic counselor or geneticist available to healthcare providers to discuss test selection and results.

Your patient can schedule a 1-on-1 remote genetic counseling session through their online Genetic Insights Connective Tissue Disorder Report at no additional cost.

To find a genetic counselor with expertise in connective tissue disorder genetics practicing in your patient's area for an in-person session, please visit FindAGeneticCounselor.NSGC.org

Patient conversation starters:

Patient conversation starters summarize the preceding information in plain language to support meaningful conversations between you and your patient.

FindAGeneticCounselor.NSGC.org

Your Genetic Insights test is a screening test. The next step is to have your result confirmed with a second genetic test.

It's also important that you talk with a genetic counselor. Genetic counselors are experts in genetics and can help you understand this result and potential next steps.

You can access a genetic counselor through your online Genetic Insights dashboard at no additional cost to you, and we can discuss a referral to a local genetic counselor.

Visit QuestDiagnostics.com/Genetic-Health-Screening for more information about this test.

What is LDS?

LDS is a hereditary connective tissue disorder characterized by vascular, skeletal, craniofacial, and cutaneous findings.^{1,2}

People with LDS are at a significantly increased risk of developing an aneurysm, dissection, and/or rupture of the aorta or along the arterial tree.^{1,2}

Arterial aneurysms are often asymptomatic, and individuals may first present with an acute aortic dissection with high morbidity and mortality.^{2,3}

There is clinical variability between individuals with LDS.¹ Features outside of vascular involvement may include scoliosis, joint laxity, cleft palate, easy bruising of the skin, and allergic diseases.^{1,2}

Diagnosis is typically made by a specialist, such as a medical geneticist, and management is best coordinated by a multidisciplinary care team.¹

See the Management options section for more detail.

Patient conversation starters:

Loeys-Dietz syndrome (or LDS) is caused by having a DNA variant in a certain gene.

LDS is a connective tissue disorder; that means the tissues that help connect our bodies together—like the blood vessels—can be affected.

People with LDS have a higher than typical chance of having a tear in a major blood vessel like the aorta. But not everyone with LDS will have a tear in a blood vessel.

People with LDS should see a specialist, including a geneticist, to help monitor for and prevent health issues.



What this result means for family members

There are 2 primary ways someone can have a DNA variant associated with LDS:

The DNA variant can be inherited from a biological parent. In this case, at least 1 parent has the same DNA variant. Each full sibling and each child of someone with the variant has a 50% chance of having the same variant.

The DNA variant can arise in someone for the first time (also called a de novo variant). In this case, their children have a 50% chance of having the variant. Neither biological parent nor any siblings are likely to have the variant.

In people with a confirmed DNA variant associated with LDS, genetic testing for family members may help inform their risks and screening protocols.³ Therefore, it is strongly recommended that individuals share these results with their biological relatives.

Patient conversation starters:

There are 2 ways someone can end up having a DNA variant linked to LDS.

- First, it can be passed down from a parent. In this case, 1 parent would have that same DNA variant. Siblings would have a 50% chance (1 in 2 chance) of having the DNA variant
- Second, it is possible that the DNA variant happens in someone in a family for the first time. In this case, parents and siblings are not likely to have the DNA variant

However, in either case, each child of someone with a DNA variant linked to LDS has a 50% chance of having the same DNA variant.

Sharing this result with your family members is important so they can talk to a healthcare provider about genetic testing for LDS.

Management options

There are management and treatment options for people with LDS. Select clinical guidelines from the American College of Cardiology Foundation/American Heart Association³ include:

Scenario	Option(s)
<i>Screening</i>	People with a confirmed genetic variant associated with LDS should undergo complete aortic imaging at initial diagnosis and 6 months thereafter to establish if enlargement is occurring, and yearly magnetic resonance imaging of the cerebrovascular circulation to the pelvis
<i>Surgical aneurysm repair</i>	Surgical repair of the aorta in all adult patients with LDS should be considered at an aortic diameter based on clinical guidelines
<i>Control of hypertension</i>	Stringent control of hypertension, some exercise restrictions, and other risk-reducing measures may be recommended
<i>Pregnancy</i>	Individuals considering pregnancy should be counseled about the risks. Optimal care includes involvement with a high-risk maternal-fetal team along with an aortic specialty team ³

Patient conversation starters:

It's recommended that people with LDS make a plan to monitor their health. This way, any health problems can be found as early as possible, and a treatment plan can be made.

If your genetic test result is confirmed, it's important to work with the right specialists, including a geneticist, to make a plan that's right for you.

See the American College of Cardiology Foundation/American Heart Association³ and expert reviewed clinical guidelines¹ for complete recommendations. Guidelines and recommendations may change over time.

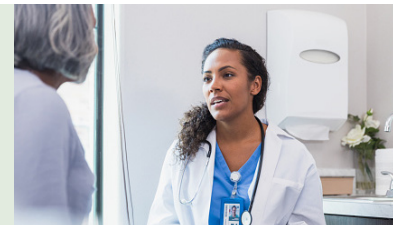
If this result is confirmed, a medical geneticist should be consulted for further clinical management. To locate a genetics center, please visit the [American College of Medical Genetics and Genomics](#).

Additional resources

The following advocacy groups have additional information and resources about LDS:

Loeys-Dietz Syndrome Foundation: LoeysDietz.org

John Ritter Foundation: JohnRitterFoundation.org



References

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- Hiratzka LF, Bakris GL, et al. ACCF/AHA/AATS/ACR/ASA/SCA/SCAI/SIR/STS/SVM Guidelines for the diagnosis and management of patients with thoracic aortic disease. *Circulation*. 2010;121(13):e266-369. doi:10.1161/CIR.0b013e3181d4739e

This information is not a substitute for medical advice, diagnosis, or treatment. The diagnosis or treatment of any disease or condition may be based on personal history, family history, symptoms, a physical examination, laboratory test results, and other information considered important by a healthcare provider.

Individuals should talk with a healthcare provider about the meaning of genetic test results and before stopping, starting, or changing any medication or treatment.

Genetic Insights is a test developed and performed by Quest Diagnostics. The test results are not diagnostic and do not determine overall chances of developing a disease or health condition. The tests are not cleared or approved by the US Food and Drug Administration.

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