**Letter of Medical Necessity for Heritable Disorders of Connective Tissue Panel**

**Patient Information**

**Date:**

**Patient Name:**

**Patient DOB:**

**Insurance Company Name, Address, City, State:**

**Policy Number:**

**Group Number:**

**ICD10 Codes:**

**Test Information**

**Test Name:** Heritable Disorders of Connective Tissue Panel

**CPT Codes:** 81410x1, 81411x1

**Laboratory:**

GeneDx, Inc.

(NPI#1487632998 / TAXID#205446298 / CLIA#21D0969951)

207 Perry Parkway

Gaithersburg, MD 20877

Telephone: (301) 519-2100

Fax: (201) 421-2010

This letter is in regards to my patient, [FIRST NAME LAST NAME], to request full coverage for the Heritable Disorders of Connective Tissue Panel to be performed by GeneDx. It is my professional determination that testing is medically necessary and will have a direct impact on this patient’s treatment and management.

**Patient Clinical and Family History**

This testing is requested due to this patient’s personal medical history, which includes the following clinical findings:

* Add Phenotype
* Add Phenotype
* Add Phenotype

The patient’s family history is negative for related conditions / unknown / remarkable for the following related clinical features:

The patient has previously had the following uninformative genetic and other testing:

* Add test
* Add test
* Add test

**Clinical Evidence and Guidelines for Testing**

The Heritable Disorders of Connective Tissue Panel includes germline analysis of genes that involve conditions including life-threatening cardiovascular and other complications such as loss of vision or severe and potentially lethal pulmonary or gastrointestinal effects. Panel testing includes both sequencing and deletion/duplication analysis of multiple genes simultaneously.

The heritable disorders of connective tissue (HDCT) are a group of clinically and genetically heterogeneous conditions that variably involve the cardiovascular, musculoskeletal, cutaneous, ocular, pulmonary, gastrointestinal and/or neurologic systems.1 Overlapping features and variable expressivity pose a challenge to clinical diagnosis such that genetic testing is frequently critical to ensure better, more cost-effective care and to reduce morbidity and mortality.2-5

Cardiovascular complications that occur in some HDCTs include an aortic and arterial aneurysm, dissection or rupture, as well as arterial tortuosity and stenosis.6-11 Musculoskeletal features in HDCTs include joint hypermobility with or without dislocations, scoliosis and/or kyphosis, pectus excavatum/carinatum and precocious osteoarthritis.10,11 Ocular complications including high myopia with or without retinal detachment, ectopia lentis, keratoconus, and iris hypoplasia are associated with some HDCTs.12,13 Complications of HDCTs may occur in other systems, such as organ rupture in Marfan syndrome and vascular EDS, pulmonary blebs and pneumothorax in Marfan syndrome, Loeys-Dietz syndrome and vascular EDS, and other neurological complications such as hypotonia, myopathy, periventricular heterotopia with or without seizures, developmental delays or intellectual disability, or psychiatric illness.11,14-16

Overlapping features and variable expressivity pose a challenge to clinical diagnosis.2,3,4 When syndromic features are absent, subtle, or non-specific (which is common), molecular diagnosis with genetic testing aids in diagnosis, management and establishing recurrence risk for family members.6,9,10,11,14-16

**Patient Clinical Utility and Medical Management Implications**

Medical management options for early detection or risk reduction are available for most genes on the Heritable Disorders of Connective Tissue Panel. These options are based on clinical guidelines and peer-reviewed literature, such as the 2010 American Heart Association Guidelines for the Diagnosis and Management of Patients with Thoracic Aortic Disease, which states that individuals with a pathogenic variant in a gene associated with an aortic aneurysm and/or dissection should undergo aortic imaging.17

In addition, accumulating data indicates that the genetic cause of TAAD, and in some cases the specific variant identified, can indicate the risk of a patient developing a thoracic aortic aneurysm and dissection, indications for surgical repair, and the risk for additional vascular disease and guidance for management.1 Thus, it is essential that an accurate diagnosis is established in order to determine appropriate medical management for this patient.

Specifically for this patient, the results of this test will also {ADD ADDITIONAL INFORMATION}

**Summary**

The Heritable Disorders of Connective Tissue Panel at GeneDx is a highly sensitive and cost-effective genetic test. I am requesting coverage for this medically necessary test in order to establish appropriate medical management for this patient. Without testing, treatment would be suboptimal, subjecting this patient to increased morbidity and potentially early mortality.

Thank you for your review and consideration. If you have questions, or if I can be of further assistance, please do not hesitate to call me at (XXX) XXX-XXXX.

Sincerely,

Signature

Ordering Provider’s Name

References:

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4. Weerakkody et al. (2016) Targeted next-generation sequencing makes new molecular diagnoses and expands genotype-phenotype relationship in Ehlers-Danlos syndrome. Genet Med [Epub ahead of print] (PMID: 27011056)

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7. Guo et al. (2015) MAT2A mutations predispose individuals to thoracic aortic aneurysms. Am J Hum Genet 96 (1):170-7 (PMID: 25557781)

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