

Bring This to Your Doctor

Genetic testing to rule out other Ehlers-Danlos syndromes and related connective tissue disorders in people diagnosed with, or suspected of having, hypermobile EDS

REQUEST: A comprehensive **connective tissue disorder / aortopathy / Ehlers-Danlos genetic panel with deletion/duplication analysis**. Please make sure **COL3A1** is included (vascular EDS).

Genes that should be on the panel

Ehlers-Danlos syndromes

- **COL3A1** (vascular)
- COL5A1, COL5A2 (classical)
- COL1A1, COL1A2 (arthrochalasia, cardiac-valvular, classical)
- TNXB, AEBP1 (classical-like)
- PLOD1, FKBP14 (kyphoscoliotic)
- ADAMTS2 (dermatosparaxis)
- ZNF469, PRDM5 (brittle cornea)
- CHST14, DSE (musculocontractural)
- B4GALT7, B3GALT6, SLC39A13 (spondylodysplastic)
- COL12A1 (myopathic)
- C1R, C1S (periodontal)

Marfan, Loeys-Dietz, and aortic disease

- FBN1 (Marfan)
- TGFBR1, TGFBR2, SMAD2, SMAD3, TGFB2, TGFB3 (Loeys-Dietz and related)
- ACTA2, MYH11, MYLK, PRKG1, LOX (familial thoracic aortic disease)
- FLNA, SLC2A10, EFEMP2, FBLN5, ELN (related vascular and connective tissue conditions)

Also ask about

- A baseline **serum tryptase** level (hereditary alpha tryptasemia can mimic hEDS)

Tell your doctor if any of these apply to you or your family

- Arterial rupture or dissection before age 40
- Unexplained colon perforation
- Uterine rupture in pregnancy without a prior C-section
- Family member with vascular EDS
- Sudden unexplained death before age 50, or ruptured organ or vessel in the family
- Thin, translucent skin; easy bruising
- Aortic enlargement or aneurysm
- Atrophic scars, doughy skin, early hernias
- Dislocated eye lens, cleft palate or split uvula
- Severe symptoms starting in childhood

Questions to ask

1. Does this panel include deletion/duplication testing?
2. Can I see a genetic counselor before and after the test?
3. If my result is positive, how will my family members be tested?
4. If my result is negative or "uncertain," what happens next?

Laboratories that offer connective tissue and aortopathy panels

GeneDx • Ambry Genetics • Labcorp (includes Invitae) • Blueprint Genetics • PreventionGenetics • Fulgent Genetics
Panel names and gene lists change. Confirm the current list with your doctor or the lab.

What a result means

A positive result can guide imaging, medications, procedure and pregnancy planning, and testing for relatives. A negative result is reassuring but does not rule out every condition, and some results come back as variants of uncertain significance. In a University of Miami study, about 1 in 4 patients (47 of 178) who met the 2017 hEDS criteria had an alternative or additional diagnosis identified by genetic testing.

Educational handout; not a substitute for individual medical advice. Please discuss with your physician and a certified genetic counselor.

Reference: Forghani I, See J, McGonigle WC. Hypermobile Ehlers-Danlos Syndrome: Diagnostic Challenges and the Role of Genetic Testing. Genes (Basel). 2025;16(5):530. doi:10.3390/genes16050530