



A **connective tissue disorder** caused by mutations in the **FBN1** gene, leading to reduced fibrillin-1, a key protein that forms microfibrils providing strength and flexibility to tissues. This results in **tissue instability, overgrowth, and related complications**. Inherited in an **autosomal dominant** manner, it affects about **1 in 5,000** people.

**AD**  
Autosomal  
dominant

## CLINICAL FEATURES

### Growth:

- Tall stature

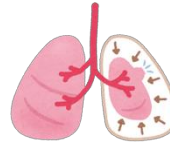
### Facial features:

- Long, narrow face
- Enophthalmos
- Down-slanting palpebral fissures
- Malar hypoplasia
- Micro/retrognathia
- High-arched palate



### Neurologic:

- Ectopia lentis
- Myopia
- Normal intelligence (helps differentiate from homocystinuria)



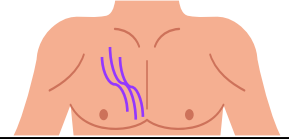
### Cardiorespiratory:

- Pectus excavatum or carinatum
- Aortic dilation or dissection
- Mitral valve prolapse
- Pneumothorax



### MSK/skin:

- Scoliosis
- Reduced elbow extension
- Positive wrist/ thumb sign
- Arachnodactyly
- Pes planus
- Skin striae



## DIAGNOSIS

- Identification of **key clinical features**

### Confirmatory Genetic Testing:

- **FBN1** molecular genetic testing



## SURVEILLANCE

### Imaging:

- Annual **echocardiography**
- Intermittent **surveillance of aorta** with CT or magnetic resonance angiography (MRA) beginning in adolescence



## DIFFERENTIAL DIAGNOSIS

- **Homocystinuria**: metabolic disorder characterized by **accumulation of homocysteine**, leading to connective tissue, vascular, and neurological complications.
- **Loeys-Dietz syndrome**: genetic connective tissue disorder that affects the aorta and other blood vessels, leading to **aneurysms, arterial tortuosity, and craniofacial abnormalities**.

- Aortic root disease is the **main cause of morbidity and mortality**
- **~50% in young children** and progresses over time
- **Mitral valve prolapse** in 40-55%



## MANAGEMENT

- Use of **beta-blockers** and **angiotensin receptor blockers** is recommended to reduce hemodynamic stress related to aortic root disease.
- **Avoid contact sports** and **weightlifting** due to risk of aortic dilation/dissection.
- Surgery may be needed for cardiac and/or skeletal issues.



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