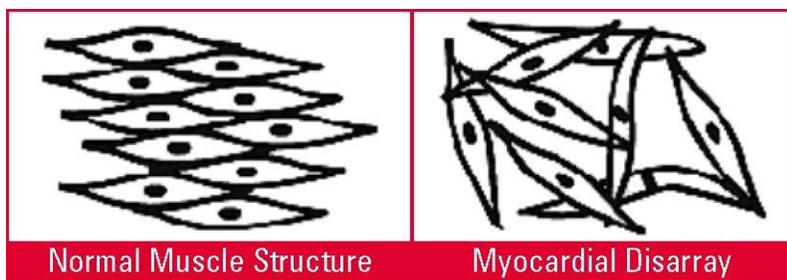


## What is Hypertrophic Cardiomyopathy (HCM)?

*Cardiomyopathy* is a condition in which the muscle of the heart is abnormal in the absence of an apparent cause. This terminology is purely descriptive and is based on the Latin deviation. HCM is a primary, and usually familial, cardiac disorder with heterogeneous expression, unique pathophysiology, and a diverse clinical course for which several disease causing mutations in the genes encoding proteins of the cardiac sarcomere have been reported. There are three types of cardiomyopathy: *hypertrophic*, *dilated* and *restrictive*.

While HCM has typically been recognized by its structure (ie. Hypertrophy), the electrical function of the heart is also adversely affected. The main feature of hypertrophic cardiomyopathy is an excessive thickening of the heart muscle (hypertrophy literally means to thicken). Thickening is seen in the ventricular septal measurement (normal range .08-1.2mm) and in the weight of the heart. In HCM, septal measurements may be in the range of 1.3mm to 6.0+mm. Heart muscle may also thicken in normal individuals as a result of high blood pressure or prolonged athletic training, which is called athletic heart. There is, however, a fine line between and athletic heart and a heart with HCM. In Hypertrophic Cardiomyopathy (HCM), muscle thickening occurs *without an obvious cause*. In addition, microscopic examination of the heart muscle in HCM is abnormal. The normal alignment of muscle cells is absent, and this abnormality is called *myocardial disarray*.



### Myocardial Disarray

These diagrams above contrast the regular, parallel alignment of muscle cells in a normal heart with the irregular, disorganized alignment of muscle cells, or myocardial disarray, found in some parts of the heart in hypertrophic cardiomyopathy.