

Case for Support: Center for Comprehensive Cardiomyopathy Care

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Center for Comprehensive Cardiomyopathy Care

Due to the high prevalence and significant morbidity and mortality associated with cardiomyopathies, Valley desires to establish a **Center for Comprehensive Cardiomyopathy Care** to provide timely diagnoses and treatments to cardiomyopathy patients in our community. To our knowledge, no other cardiomyopathy centers exist in northern New Jersey, and Valley is well equipped with many of the necessary components to establish a comprehensive, multidisciplinary cardiomyopathy center.

Cardiomyopathies are diseases with abnormal myocardial structure and function in the absence of coronary disease, hypertension, valvular heart disease, or congenital malformation. They are a heterogeneous group of diseases that usually exhibit inappropriate ventricular hypertrophy or dilation due to a variety of causes that are frequently genetic and are responsible for heart failure and sudden cardiac death. Cardiomyopathies accounted for 51% of all heart transplants, 33% of defibrillator implantations, 38% of mechanical circulatory support, and 11.3% of hospitalizations for heart failure. (Lannou S, 2020); hypertrophic cardiomyopathy alone affects 1 in 500 Americans.

In the past, many cardiomyopathies were defined as “idiopathic” due to our inability to identify the etiology of the syndromes. Due to advancements in genetic testing and cardiac imaging, we are more successfully identifying the causes of cardiomyopathies and offering effective therapies to decrease mortality and enhance quality of life. Cardiomyopathies are divided into two major groups based on predominant organ involvement: primary cardiomyopathies are those predominantly confined to heart muscle (Figure 1), while secondary cardiomyopathies show pathological myocardial involvement as part of a variety of generalized, multiorgan disorders (Table 1).

Cardiomyopathies account for a large portion of the more than 500 heart failure hospitalizations annually at Valley. Cardiomyopathies are common enough to justify a center

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devoted to their diagnosis and treatment, but infrequent enough that general cardiologists often lack the necessary tools and experience to adequately diagnose and manage these conditions.

- Valley's **Advanced Cardiac Imaging Center** provides all the necessary imaging modalities required to accurately diagnose cardiomyopathies including cardiac MRI, CT, echocardiography, and nuclear medicine with cardiac imaging specialists experienced in identifying cardiomyopathies.
- Valley's **Cardiac Electrophysiology** team is on the forefront of diagnosis and treatment of arrhythmias, heart failure, and syncope.
- Valley's **Cardiothoracic Surgery** program is one of the few centers in the country with expertise in surgical treatment of hypertrophic cardiomyopathy.
- Valley's **Center for Comprehensive Heart Failure Care** offers a multidisciplinary approach to heart failure care management, including an infusion clinic, heart failure disease management teaching, pulmonary artery sensor monitoring, and heart failure device therapy such as cardiac contractility modulation and Barostim (in collaboration with electrophysiology). Valley has an established shared care program for patients with left ventricular assist devices (LVADs) and is embarking on implanting destination therapy LVADs in the near future.
- Valley's **Interventional and Structural** program offers percutaneous diagnostic and therapeutic modalities for cardiomyopathies including endomyocardial biopsies, high-risk coronary procedures, minimally invasive valve replacement and repair, and septal alcohol ablation.
- Valley boasts a robust **Research and Clinical Trials** team with both industry sponsored and investigator-initiated clinical trials with multiple publications annually in prestigious journals.

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- Since 2019, the cardiologists at Valley have diagnosed aTTR amyloid cardiomyopathy in over 174 patients and conducted 455 visits in our **Cardio-oncology clinic** with the goal of preventing and treating cardiomyopathies associated with cancer treatments.

Valley is proud to be a regional cardiovascular affiliate of the Cleveland Clinic's Heart & Vascular Institute, which has been ranked the No. 1 heart hospital by *U.S. News & World Report* for over 29 consecutive years. This affiliation gives Valley access to best practices and expert faculty at the Cleveland Clinic, allowing our patients to benefit from expertise of the Cleveland Clinic while enjoying personalized care close to home.

In addition to its well-established multidisciplinary cardiac team and our affiliation with Cleveland Clinic, Valley is well-positioned to create a successful cardiomyopathy center due to its focus on patient-centered care. Unlike some of the large quaternary care centers where patients may feel they are "just a number," Valley strives to provide patients and their families with a personalized, boutique experience. Because there are many types of cardiomyopathies with a wide range of phenotypes, no two patient experiences will be the same. Valley clinicians are skilled in tailoring treatment plans to meet the needs of each unique situation.

Our Comprehensive Cardiomyopathy team will evaluate and treat patients in both inpatient and outpatient settings. Because cardiomyopathy is often first identified during a hospitalization, the cardiomyopathy team will have a strong inpatient presence. Valley opened a brand new, state-of-the-art hospital in Paramus in April 2024. The seven-story, 875,000 square-foot hospital is the centerpiece of a 40-acre Valley Health System campus and includes a large procedural platform with two cardiac hybrid ORs, specialized cardiac imaging, telemetry, and cardiac critical care floors. In addition, a comprehensive suite of hospital-based cardiovascular services have now moved to the sixth and seventh floors of the north tower of Valley's Medical Arts Pavilion, located at 140 East Ridgewood Avenue in Paramus. Our initial focus will be on making the correct diagnosis using cardiac imaging, genetic testing, and cardiac biopsies if needed. Once a diagnosis is established, Valley has the capabilities of offering a full spectrum of treatments for cardiomyopathies including:

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- Medical therapies
- Cardiac pacemakers and defibrillators
- Ablations for atrial and ventricular arrhythmias
- Cardiac surgery
- Interventional procedures such as septal alcohol ablations
- Destination therapy LVADs

Valley has recruited a world-class LVAD surgeon, Dr. Paul Burns, who joined our team in February 2023. Becoming an LVAD center allows Valley to provide a full complement of care to patients with heart failure and cardiomyopathies, as well as keep our patients close to home for treatment. Since cardiomyopathies are frequently genetic, we will establish a screening program for family members of cardiomyopathy patients similar to our Integrated Aortic Program.

In order to establish this much-needed program, The Valley Hospital Foundation asks you to consider a gift of \$750,000, which will be used as seed funding to initiate a **Center for Comprehensive Cardiomyopathy Care**. Dr. Mittal and his team have identified programmatic funding opportunities, as well as the following key positions to develop the center.

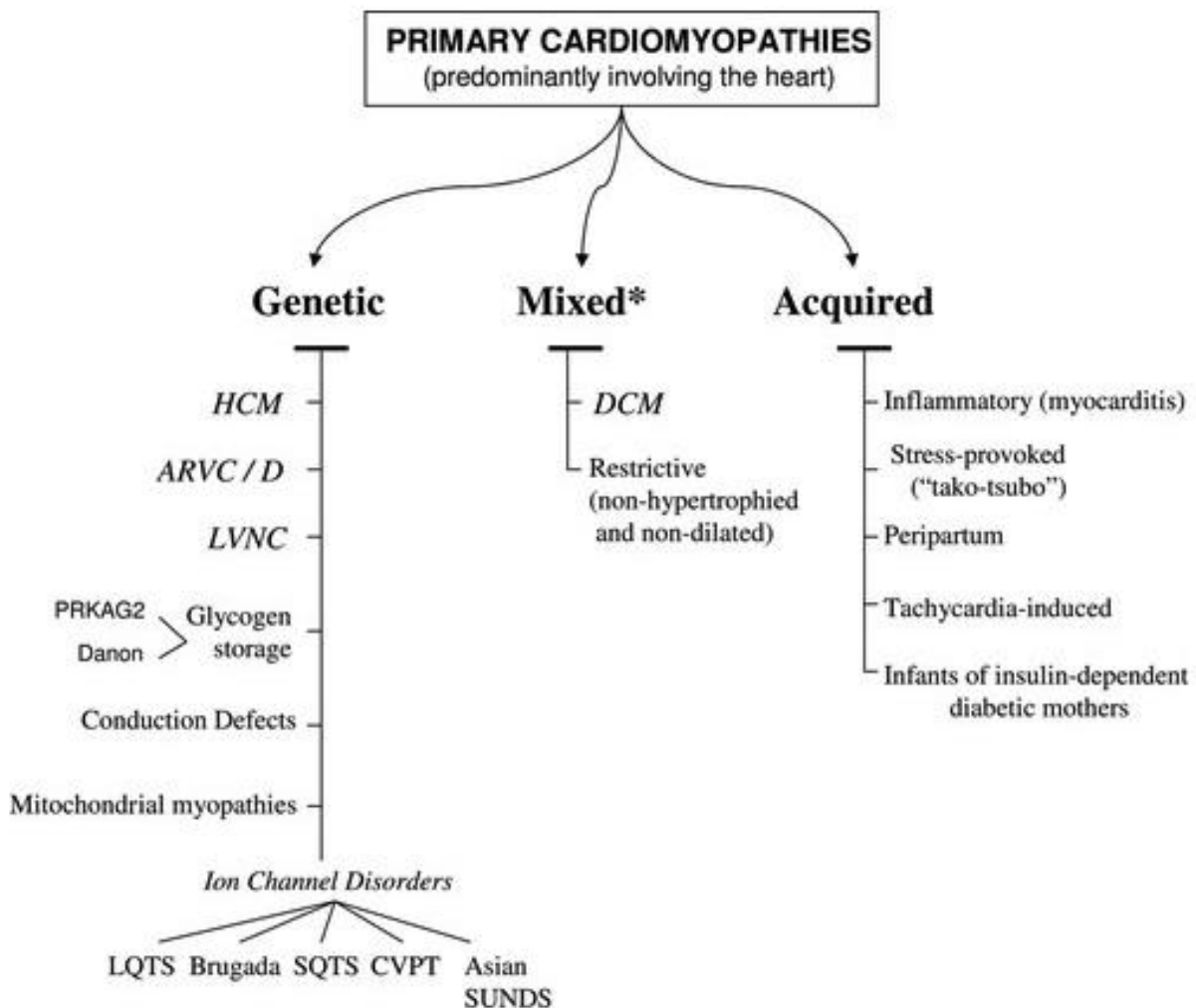
- **Cardiomyopathy navigator/coordinator**—receiving a diagnosis of cardiomyopathy can be overwhelming for patients and their families. A cardiomyopathy navigator will be the point person to help facilitate appointments, schedule tests, direct patient questions to the appropriate team member, and provide emotional support. A navigator/coordinator is usually an RN-level position.
- **Genetic counseling**—many cardiomyopathies have a genetic component. Genetic counseling provides an explanation of genetic testing to patients and families in layman’s terms. It can help guide family members who may also be at risk for genetic conditions to the appropriate providers for screening. It can help patients with cardiomyopathy make decisions regarding family planning.

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- **Advanced practice nurse**—after the multidisciplinary team designs a plan for diagnosis and treatment, a nurse practitioner skilled in cardiomyopathy can follow through with the treatment plan and monitor response to therapy.

With your generous support, we will secure the initial funding to proceed with this program. In order to maximize the impact of your gift, payments can extend up to five years from your commitment date.

Figure 1.



HCM = hypertrophic cardiomyopathy

ARVC/D = arrhythmogenic right ventricular cardiomyopathy/dysplasia

LVNC = left ventricular non-compaction cardiomyopathy

DCM = dilated cardiomyopathy

Table 1.

Secondary Cardiomyopathies

Infiltrative

Amyloidosis (primary, familial autosomal dominant, senile, secondary forms)

Gaucher disease

Hurler's disease

Hunter's disease

Storage

Hemochromatosis

Fabry's disease

Glycogen storage disease (type II, Pompe)

Niemann-Pick disease

Toxicity

Drugs, heavy metals, chemical agents

Endomyocardial

Endomyocardial fibrosis

Hypereosinophilic syndrome (Loeffler's endocarditis)

Inflammatory (granulomatous)

Sarcoidosis

Endocrine

Diabetes mellitus

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Hypothyroidism

Hyperthyroidism

Hyperparathyroidism

Pheochromocytoma

Acromegaly

Cardiofacial

Noonan's syndrome

Lentiginosis

Neuromuscular/neurological

Fredreich's ataxia

Duchenne-Becker muscular dystrophy

Emery-Dreifuss muscular dystrophy

Myotonic dystrophy

Neurofibromatosis

Tuberous sclerosis

Nutritional deficiencies

Beriberi, pellagra, scurvy, selenium, carnitine, kwashiorkor

Autoimmune/collagen

Systemic lupus erythematosus

Dermatomyositis

Rheumatoid arthritis

Scleroderma

Polyarteritis nodosa

Electrolyte imbalance

Consequence of cancer therapy

Anthracyclines/ HER-2 therapies

Cyclophosphamide

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Radiation

Bibliography

Lannou S, M. N. (2020). The Public Health Burden of Cardiomyopathies: Insight from a Nationwide Inpatient Study. *J Clin Med*, 920-934.