

Name of Sponsoring Organization/Provider: National Society of Genetic Counselors

Conference/Course Title: Cardiovascular Genetics

Date of Educational Activity/Session: Online, on-demand, recorded June 2024-January 2025

Lecture #	Lecture Title	Objectives	Content	Length of Lecture w/associated readings/practice questions (in minutes)	Contact Hours	Lecturer	Teaching/Learning Strategies
Lecture 1	Overview of Cardiac Structure, Function, and Screening Tests	<ol style="list-style-type: none"> <li>1. Review the basic components of cardiac anatomy</li> <li>2. Examine how one might use currently available diagnostic tools to evaluate a patient with suspected heritable cardiac disease</li> <li>3. Recognize some of the limitations of current diagnostic tools.</li> </ol>	Speaker reviews cardiac anatomy including overall discussion of circulation and conduction system. Cardiac screening tools such as echocardiogram, EKG, MRI, cardiac catheterization and others are also reviewed.	38	0.5	Ashley Neal, MD	Online lectures
Lecture 2	Inherited Arrhythmias: Approach to genetic evaluation and testing	<ol style="list-style-type: none"> <li>1. Describe the clinical diagnosis and features of inherited arrhythmias</li> <li>2. Recognize factors associated with a higher risk for a cardiac event among individuals with LQTS</li> <li>3. Examine genetic testing and counseling approaches for the inherited arrhythmias</li> </ol>	Speaker reviews common genetic and syndromic causes of arrhythmia, factors that increase cardiac risk, and genetic testing options. Conditions covered include Long QT, Brugada syndrome, and CPVT.	49	1	Erin Miller, MS	Online lectures
Lecture 3	Sudden Cardiac Death: Approach to genetic evaluation and testing	<ol style="list-style-type: none"> <li>1. Identify when genetic testing for sudden cardiac arrest and death should be offered</li> <li>2. Describe the approach for postmortem genetic testing</li> <li>3. Recognize challenges and barriers to postmortem genetic testing</li> </ol>	Speaker reviews incidence, statistics, and outcomes related to sudden cardiac arrest/death, genetic and non-genetic causes of SCD, and genetic testing recommendations for SCD.	56	1	Erin Miller, MS	Online lectures
Lecture 4	Aortopathies: Genetic Counseling and Testing	<ol style="list-style-type: none"> <li>1. Recognize the importance of genetic counseling for aortopathies</li> <li>2. Review the published guidelines for genetic testing for aortopathies</li> <li>3. Explain the clinical genetic evaluation process for patients with aortopathy</li> </ol>	Speaker reviews syndromic and nonsyndromic causes of aortopathy including testing, screening, and inheritance. Conditions covered include Marfan syndrome, Loeys-Dietz syndrome, and Familial Thoracic Aortic Aneurysms among others.	38	0.5	Amy Shikany, MS	Online lectures
Lecture 5	Hypertrophic and Restrictive Cardiomyopathy	<ol style="list-style-type: none"> <li>1. Describe the clinical diagnosis of hypertrophic cardiomyopathy</li> <li>2. Review genetic testing and counseling approaches for hypertrophic cardiomyopathy</li> <li>3. Explain the process for cascade screening for hypertrophic cardiomyopathy</li> </ol>	Speaker reviews syndromic and nonsyndromic causes of hypertrophic cardiomyopathy including genetic testing, screening, and management.	37	0.5	Erin Miller, MS	Online lectures
Lecture 6	Dilated Cardiomyopathy and Left Ventricular Non-Compaction (LVNC)	<ol style="list-style-type: none"> <li>1. Describe the clinical diagnosis of dilated cardiomyopathy and the nuances of left ventricular non-compaction</li> <li>2. Identify phenotypic and genotypic features of dilated cardiomyopathy</li> <li>3. Review how to conduct a family history risk assessment for dilated cardiomyopathy</li> </ol>	Speaker reviews syndromic and nonsyndromic causes of dilated cardiomyopathy including genetic testing, screening, and management. TTN among other genes are discussed.	35	0.5	Cara Barnett, MS	Online lectures
Lecture 7	Arrhythmogenic Cardiomyopathy	<ol style="list-style-type: none"> <li>1. Describe the clinical diagnosis of arrhythmogenic cardiomyopathy and the overlap between ACM/DCM/minimickers</li> <li>2. Identify phenotype and genotypic features of ACM</li> <li>3. Conduct a family history risk assessment for ACM</li> </ol>	Speaker reviews syndromic and non-syndromic causes of arrhythmogenic cardiomyopathy including genetic testing, screening, risk factors, and management. PKP2 related ACM and DSDP related ACM are discussed amongst others.	34	0.5	Cara Barnett, MS	Online lectures
Lecture 8	Syndromic Causes of Congenital Heart Disease	<ol style="list-style-type: none"> <li>1. Identify syndromes associated with specific types of congenital heart defects</li> <li>2. Recognize genetic causes for the most common syndromes identified in patients with CHD</li> <li>3. Identify major extracardiac findings in the syndromes presented</li> </ol>	Speaker reviews common syndromes and their associated congenital heart defects. Trisomy 21, 22q11.2 deletion syndrome, Williams syndrome, and the RASopathies are discussed amongst others.	30	0.5	Nicole Weaver, MS	Online lectures
Lecture 9	Genetic Counseling for Congenital Heart Defects	<ol style="list-style-type: none"> <li>1. Recognize the importance of genetic counseling for and genetic associated with congenital heart disease</li> <li>2. Review published guidelines for genetic counseling and testing in congenital heart disease</li> <li>3. Explain the process for creating a standardized approach for genetic testing in infants with congenital heart disease</li> </ol>	Speaker reviews genetic testing technologies and when they should each be utilized for evaluation related to CHD.	41	0.5	Amy Shikany, MS	Online lectures
Lecture 10	Familial Coronary Heart Disease	<ol style="list-style-type: none"> <li>1. Identify the categories of heart disease</li> <li>2. Describe clinical aspects and risk factors of coronary artery disease</li> <li>3. Review how to conduct a risk assessment for familial hypercholesterolemia</li> </ol>	Speaker reviews non syndromic and syndromic causes of familial coronary artery disease, risk factors, screening, genetic testing, and management recommendations. FH are discussed amongst others.	34	0.5	Cara Barnett, MS	Online lectures
Lecture 11	Pulmonary Arterial Hypertension	<ol style="list-style-type: none"> <li>1. Review how PAH affects the heart</li> <li>2. Explore different causes and classifications of PH/PAH</li> <li>3. Recognize the importance of and options for genetic testing in PAH</li> </ol>	Speaker reviews symptoms, risks, genetic causes, management and genetic testing options related to PAH.	45	0.75	Courtney Hannum, MS	Online lectures
Lecture 12	Cardiac Involvement in Neuromuscular Conditions	<ol style="list-style-type: none"> <li>1. Identify neuromuscular disorders with prominent cardiac phenotypes</li> <li>2. Review the genetic heterogeneity of common neuromuscular disorders</li> <li>3. Apply knowledge of neuromuscular and cardiovascular phenotypes to real world case examples</li> </ol>	Speaker describes cardiac findings, extracardiac findings, and genetic testing of dystrophinopathies including DMD/BMD, myotonic dystrophy, and limb girdle muscular dystrophy amongst others.	30	0.50	Alayne Meyer, MS	Online lectures