

Ordering Guidance: Genetic Testing for Cardiomyopathy and Arrhythmia

Multigene Panels Available in Ontario:

- Arrhythmia, Adult Cardiomyopathy, Pediatric Cardiomyopathy, Adult Cardiomyopathy and Arrhythmia, and Pediatric Cardiomyopathy and Arrhythmia
- Disease Specific Panels
 - Adult Hypertrophic Cardiomyopathy, Pediatric Hypertrophic Cardiomyopathy
 - Long QT Syndrome (LQTS)
 - Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT)
 - Brugada Syndrome (single gene)

Identifying Eligible Patients and Selecting a Genetic Test

Detailed eligibility criteria are outlined in the Cardiomyopathy and Arrhythmia Genetic Testing Recommendations ([Genetics Guidance](#)). Individuals ≤ 18 years (or ≤ 25 based on presentation) should be offered a pediatric panel where available. See table for high level guidance below:

Clinical and Family History (FHx) Scenarios	Multigene Panel or Next Step
Clear diagnosis with no FHx, or FHx of the same diagnosis	Disease specific panel
Arrhythmia and FHx of a different arrhythmia	Arrhythmia panel
Cardiomyopathy and FHx of a different cardiomyopathy	Cardiomyopathy panel
Mixed history of cardiomyopathy and arrhythmia in patient and/or family	Cardiomyopathy and arrhythmia panel
Complex presentation (e.g., atypical cardiac presentation and/or additional extra-cardiac/multisystem features)	Consider consultation with subspecialty cardiologist and/or genetics clinic; depending on the clinical presentation of the patient, exome sequencing may be considered

Ordering Genetic Testing

Genetic testing can be arranged by a qualified geneticist or genetic counsellor. It is recommended that cardiologists who order genetic testing work in collaboration with a genetics clinic to establish appropriate testing and result disclosure pathways.

1. Complete a requisition from either [Children's Hospital of Eastern Ontario](#) or [Kingston Health Science Centre](#); your patient can have bloodwork done at a community laboratory.
2. Give your patient the [Cardiomyopathy and Arrhythmia Genetic Testing Information for Patients](#)
3. Make a plan to review results; results will be sent to the ordering clinician in 8-10 weeks

Additional Support

For further assistance in test selection, test ordering, result interpretation, and management recommendations, please consider the following options as needed:

- Send a referral to your local genetics clinic ([Genetics Clinics in Ontario](#))
- Submit an eConsult request to connect with a genetics specialist through [OTNhub](#)