



SUDDEN CARDIAC DEATH IN THE YOUNG

COMPREHENSIVE CARDIOVASCULAR PATHOLOGY CONSULTATION

Mayo Clinic is offering a limited pilot program to help Medical Examiners and Coroners evaluate cases of apparent sudden cardiac death (SCD) occurring in individuals, age 1-40 years.

Unexplained Sudden Death in the Young

When young individuals die suddenly, heart conditions may be the cause. Getting an accurate and complete diagnosis in these cases is essential. Some cardiac conditions are hereditary and surviving family members may also be at risk. In order to identify these conditions, careful gross, microscopic and (when necessary) post-mortem genetic testing are required. A genetic diagnosis in the right circumstances can help surviving family members better understand their health and allow them to work with health care providers to mitigate these risks.

Why is Post-mortem Genetic Testing Important?

- Genetic testing is complementary to traditional morphologic assessment and helps to identify inherited cardiac disease in 25-35% of cases of SCD in the young.
- Getting an accurate and complete diagnosis is essential in cases of both autopsy positive (explained) and autopsy negative (unexplained) SCD.
- Family members can better understand their own risks associated with cardiac disease, and subsequent screening will depend on accurately describing the phenotype and genotype in the case of sudden death
- The diagnosis of genetic cardiomyopathy (dilated, hypertrophy, arrhythmogenic, restrictive) can be very subtle, particularly in the young (1-40 years), and genetic heart rhythm syndromes, also known as cardiac channelopathies like long QT syndrome (LQTS), leave no clues to be found at standard autopsy.

When to Submit Samples

Consider submitting samples for post-mortem genetic testing when the following criteria have been met:

- Individuals between the ages of 1 and 40 years.
- The death is sudden and unexplained, especially if during exercise or during sleep
- Unexplained drowning
- Unexplained single motor vehicle accident at death
- The existence of a family history of any of the following:
 - Sudden death or inherited heart disease
 - Known genetic cardiac diagnosis

Ready to order a test?

www.mayocliniclabs.com/order-tests/account-setup.html

Please reference test code: SUDC

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SUDDEN CARDIAC DEATH (SCD) PATHOLOGY EVALUATION



WHAT CASES CAN BE REFERRED?

- Sudden, unexpected death
- Decedent age between 1-40 years
- Strong probability of a cardiac cause of death



FAMILY IMPACT OF SCD

- SCD can devastate families and a complete diagnosis may help prevent death in other family members
- Testing can rule out or confirm suspected hereditary cardiac conditions



COST

\$300



WHAT TO SUBMIT

- Wet tissue (whole, fixed, undissected heart)
- 10 mL of blood (purple-top EDTA tube)*
- Slides and blocks
- A copy of the autopsy report

* If blood is unavailable, genetic testing may still be performed on tissue if deemed necessary.



TURN-AROUND TIME

Comprehensive diagnostic report issued in 2-4 weeks



EVALUATION & REPORT

- Gross and histological evaluation by CV pathologist
- Comprehensive diagnostic & molecular genetic testing, when necessary (as determined by the pathologist)
- Cardiovascular pathology consult services team:
 - 5 staff CV pathologists
 - 2 molecular geneticists
 - 1 genetic cardiologist
 - 2 CV genetic counselors