

Novel SCD-screening Protocol Offers Advantages Over AHA Recommendations



A new screening protocol for identifying young competitive athletes (YCA) at risk of sudden cardiac death (SCD) has been shown to offer advantages over the recommendations of American Heart Association (AHA), as its false-positive rate is less than half that of the AHA protocol. The study, carried out by researchers at the University of British Columbia, suggests that the use of this innovative protocol would minimise the risk of death and significantly reduce the financial burden.

SCD raises serious concerns, mainly because there are no warning symptoms. Pre-participation screening is therefore essential as it aims to identify YCA at risk. The routinely used AHA-recommended protocol yields a high rate of false positives that prompts further testing and consultation with a physician, thus leading to psychological distress and higher costs.

Cardiologists from the University of British Columbia Vancouver Coastal Health created their own evidence-based protocol and compared it to that recommended by the AHA. The researchers' new evidence-based questionnaire was designed to differentiate between symptoms indicative of serious heart conditions and those related to more benign conditions more effectively. It also excluded physical examination by a physician.

The investigators screened 1,419 YCA aged between 14 and 35. Approximately half of the participants (n=714) underwent screening following the 12-element AHA recommendations, physical examination and electrocardiogram (ECG) examination. The other half (n=705) were subsequently screened using the SportsCardiologyBC (SCBC) questionnaire and ECG examination in the absence of a physical examination.

Overall, 7 of the participants were diagnosed with heart conditions associated with SCD. These conditions included pre-excitation (n=4), long QT syndrome (n=1), mitral valve prolapse (n=1) and hypertrophic cardiomyopathy (n=1). Six of these 7 athletes (85.7%) possessed ECG abnormalities and 2 of them had reported an abnormal ECG personal or family history. Only 2 of the 7 would have been detected as the result of a medical history and physical examination.

Importantly, the experimental (SCBC) questionnaire and protocol was associated with a significantly lower number of false positive screens (25 of 679 or 3.7%) compared with the AHA-recommended strategy (55 of 680 or 8.1%). The findings indicate that physical examination was unhelpful and costly, as it did not identify any of the YCA who had serious heart conditions and yielded a high rate of false positives.

A screening protocol that includes a more detailed questionnaire and ECG but excludes a physical examination is therefore recommended, as it will eliminate physician costs and minimise the risk of death.

Sources : [CanadianJournal of Cardiology](#)

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