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CARDIOVASCULAR ASPECTS OF THE PRE-PARTICIPATION SPORTS PHYSICAL

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The sudden cardiac death (SCD) of a young athlete is a rare but catastrophic event that sends shock waves through a community, and when this tragedy involves a high profile athlete being viewed by tens of thousands of spectators and millions more by television, the shock waves spread around the world. Though only about one out of 200,000 young athletes have an underlying heart defect that can lead to SCD, the far-reaching impact of the event predictably generates a great deal of discussion among the general public and within the medical community. Pre-participation screening offers the important possibility of primary prevention of SCD since the outcome of lethal cardiovascular disorders is usually irreversible. We will explore the cardiovascular aspects of pre-participation screening beginning with a discussion of the incidence and nature of the cardiovascular anomalies that cause SCD in the young. These include hypertrophic cardiomyopathy, arrhythmogenic right ventricular dysplasia, aortic dissection due to Marfan syndrome, congenital and acquired coronary artery anomalies, and electrophysiological anomalies including Wolff-Parkinson White syndrome (WPW), Long QT, Brugada, and CPVT (catecholaminergic polymorphic ventricular tachycardia). We will focus on how these potential causes of SCD might best be detected. Recognizing variations in epidemiology and etiology of SCD in North America, Europe and Asia, we will discuss the varying application of screening modalities, which include the use of the questionnaire, physical examination, electrocardiography (EKG) and exercise EKG. In this context, we will review the scope and nature of community-wide screening in USA as it compares with other countries, and we will revisit the controversy regarding the exclusion of EKGs from the AHA guidelines. The audience will be able to use what they learn by reviewing the incidence of various causes of sudden cardiac death (SCD) in young athletes and we will heighten awareness of these entities. Empowered with the knowledge regarding the etiologies that may lead to SCD in young athletes, the audience will be vigilant about these entities and know when to refer for specialty evaluation and care. Knowing the power of the EKG in expanding detection for many etiologies that may lead to SCD in young athletes, the audience will appreciate and obtain this information. This will help the audience in their job by empowering them with the knowledge regarding the etiologies that may lead to SCD in young athletes and the audience will be vigilant about these entities and know when to restrict athletes pending specialty evaluation. The other benefits include a discussion of etiologies that may lead to SCD in young athletes will have immediate impact on the clinical practice of pediatricians in the context of the pre-participation sports physical. This will heighten the awareness of clinically important details enhancing the detection of potentially lethal cardiovascular anomalies. This discussion will also provide the substrate for population research and registries to monitor the impact of enhanced detection.

Biography

Michael J Cooper graduated from Tel-Aviv University Medical School in 1977. He is specialized in Pediatrics followed by a Pediatric Cardiology Fellowship at University of California San Francisco (UCSF) Medical Center, USA. He remained at UCSF after fellowship and became full Professor of Pediatric Cardiology in 1988. Additionally, he conducts cardiovascular screening for young athletes at Northern California high schools. He also volunteers biannually in Palestine for children who lack access to care. In his free time, he publishes novels of historical fiction.

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