会長企画シンポジウム

2025年7月11日(金) 16:45 ~ 18:15 第1会場（文化会館棟 1F 大ホール）

会長企画シンポジウム3（II-PSY3）
児童生徒の心電図検診の国際的な状況とデジタル化のインパクト

座長：三谷 義英（三重大学医学部附属病院 周産母子センター）
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[II-PSY3-1] AI Screening ECG Interpretation: an important tool which is needed to identify children at risk of sudden cardiac arrest across the US

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キーワード：sudden cardiac death、prevention、electrocardiography

Sudden cardiac arrest and death in the young (SCDY) spans age, gender, race, ethnicity, education, socioeconomic class, and all levels of exercise. SCDY is an international pediatric problem caused by diseases which are detectable in childhood. Identifying an at-risk child leads to risk mitigation at a young age, treatments resulting in permanent cure in some diseases, or medication/lifestyle changes to promote excellent quality of life. In the US, prevention has focused on the adolescent athlete through cardiac screening using a limited history and physical exam by a primary care provider before participation in school sports (American Heart Association evaluation or version by the American Academy of Pediatrics). School-associated screening is not nationally regulated and does not include an electrocardiogram (ECG). Screening ECGs have been debated extensively based on the consequences of false positive interpretation and cost. However, public groups across the US have been screening children for decades with inclusion of ECG. Criteria to interpret ECGs in athletes have reduced false positives. However, there is no ECG interpretation approach applicable to all children. Machine learning (AI) offers a future where ECG screening can be performed at large scale in all children. AI is a path to identify at-risk children across the US, yet, many obstacles must be overcome. National and international collaboration must occur to develop AI tools enabling precision ECG screening for our diverse population.