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-PSY3-5] 日本の学校心臓検診： その成果とデジタル化への展望

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キーワード：School Heart Screening、ECG、AI

School ECG screening in Japan was initiated for all first graders in elementary, middle, and high schools in 1995. After several guideline refinements, comprehensive guidelines for school cardiac screening were published in 2025. Currently, the objectives of school cardiac screening include the early detection and management of pediatric heart diseases and the prevention of sudden cardiac death. Reports demonstrated early identification of conditions, including long QT syndrome, cardiomyopathies, pulmonary arterial hypertension (Am J Respir Crit Care Med 2019), and atrial septal defects. In addition, the effectiveness of AED-based resuscitation has been reported, positioning school cardiac screening and AED deployment as dual strategies to prevent sudden cardiac death.Amidst the advancement of medical DX, efforts to digitalize school cardiac screening have commenced. We previously reported an AI model for predicting Qp/Qs by using chest X-rays (JAMA Cardiol2020). We recently developed an AI model for ECG interpretation. Collected data included patient age, sex, ECG waveform data, and automated diagnostic outcomes. ECG waveforms were adjudicated by specialists according to established guidelines. The AI model achieved an accuracy of 83% in detecting abnormalities, significantly higher than traditional automated interpretation accuracy (57%; P＜.001, McNemar) (Front Ped 2025). To further enhance diagnostic accuracy, expanding regional collaborative research to increase case numbers and establishing a national framework for collaborative digital ECG research are essential.