

highly variable. Standard scores have been developed to predict risk of operative mortality.

Objective: To assess the relationship between 2 standard CHD operative mortality scores and risk for postoperative arrhythmias using a large cohort with prospective arrhythmia surveillance.

Methods: Patients undergoing CHD surgery at our institution from 9/2007-2/2021 were prospectively enrolled. Daily assessment of telemetry was performed by study personnel and confirmed by pediatric electrophysiologists. Surgical procedures were categorized using Risk Adjustment for Congenital Heart Surgery (RACHS) and Society for Thoracic Surgery Congenital Heart Surgery Mortality (STAT) scores. Due to the small number of RACHS 5 cases, scores 5 and 6 were combined.

Results: Out of 3676 operative cases, 1838 (50%) had one or more post-operative arrhythmia. There were 3338 cases categorized using STAT score and 2487 cases categorized using RACHS score, with distributions and proportion of patients with 1 or more postoperative arrhythmia for each score shown in the table.

Conclusion: Mortality risk scores are modest predictors of postoperative arrhythmias after CHD surgery. The proportion of patients with postoperative arrhythmias generally increases with increasing RACHS or STAT scores. Arrhythmia risk after lower mortality risk procedures is better predicted by RACHS score, while arrhythmia risk after higher mortality risk procedures are better predicted by STAT score. The risk of arrhythmia is substantial even among low mortality risk cases using either measure.

Proportion of patients with postoperative arrhythmias

	1	2	3	4	5/6
RACHS					
Total Number	289	876	976	178	168
% with Arrhythmia	37%	44%	53%	68%	66%
STAT					
Total Number	1064	950	407	706	211
% with Arrhythmia	47%	42%	55%	58%	68%

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A NOVEL VISUAL DIAGNOSTIC ASSESSMENT OF EXPERT AND NOVICE GAZE PATTERNS ON PEDIATRIC ELECTROCARDIOGRAMS USING EYE TRACKING TECHNOLOGY

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Background: Pediatric electrocardiogram (ECG) interpretation is difficult to master. Understanding how experienced pediatric electrophysiologists (EPs) visually process ECGs using eye tracking technology (ETT) may allow for development of novel educational tools.

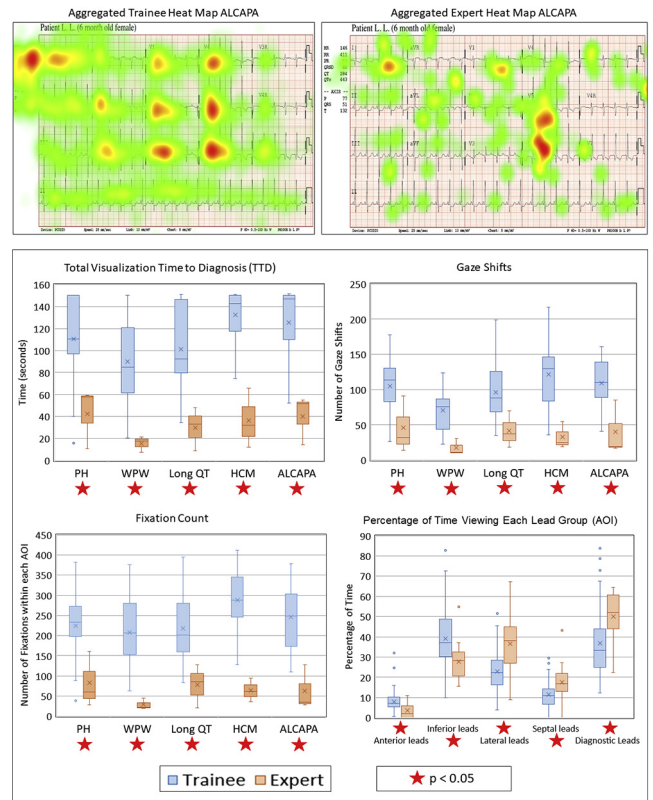
Objective: To establish characteristics of expert and novice gaze patterns using ETT during assessment of ECGs.

Methods: Using a Tobii Pro Fusion screen-based ETT, 3 EPs (10-25 yrs experience) and 18 pediatric trainees (8 residents, 10 cardiology fellows) read 5 ECGs from patients with pulmonary hypertension, WPW, Long QT, hypertrophic cardiomyopathy, and anomalous left coronary artery from the pulmonary artery. Visual parameters [Time to Diagnosis (TTD), Percentage of Time (%T) fixating on unique areas of interest (AOI), number of times the location of viewing shifted within an AOI (Fixation Count), the number of times gaze shifted away from and back to an AOI (Gaze Shifts)] and diagnostic accuracy were compared between trainees and EPs.

Results: Trainees had less efficient gaze patterns, indicated by longer TTD, higher Gaze shifts and Fixation Counts for all ECGs.

EPs spent a higher %T at key diagnostic leads, septal leads, and lateral leads. Trainees spent a higher %T at anterior and inferior leads. Diagnostic accuracy was 66% for trainees vs. 100% for EPs.

Conclusion: Trainees and EPs have significant differences in visual diagnostic strategy during ECG interpretation. Trainee gaze patterns are less efficient with less attention at key diagnostic leads compared to EPs. Importantly, this study established distinct regional attention patterns that can be used to establish an educational model for ECG interpretation.



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ASSOCIATION BETWEEN SHORTENED QT INTERVAL AND BRADYCARDIA WITH THE D801N VARIANT OF ATP1A3 IN PATIENTS WITH ALTERNATING HEMIPLEGIA OF CHILDHOOD

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Background: Alternating hemiplegia of childhood (AHC) results from pathogenic variation of ATP1A3 which encodes the sodium-potassium ATPase 3. While AHC classically causes neurologic dysfunction, recent literature suggests that some of these patients may also experience alterations in cardiac repolarization and sudden unexplained death in epilepsy.

Objective: To determine the impact of ATP1A3 variation on cardiac repolarization and arrhythmia predisposition.

Methods: We analyzed 12-lead electrocardiograms from 66 patients (male=33, female=33) referred for AHC evaluation. Of these 66 patients, 27 patients (male=14, female=13) had 24-hour Holter monitor studies available. Patients were grouped and