

JPED-D-25-00610
Supplementary Table S1

Supplementary Table S1 Generalized estimating equations (GEE) models including physician experience (doctors with vs. without specialization in neonatology or pediatric intensive care) and interaction with parameters and scenario, according to study periods.

Time	Terms	Variable	OR (95% CI)	p-value
Time 0 – 3s	Interaction terms	Parameter X Experience (global test)	-	0.408
		Monitor X Experience (global test)	-	0.026
		Parameter (global test)	-	<0.001
	Main effects	Monitor (global test)	-	0.057
		Experience on NICU/PICU (yes vs. no)	1.96 (0.96 – 3.99)	0.063
		Monitor 2	2.42 (1.13 – 5.19)	0.024
	Interaction with monitor	Monitor 3	0.70 (0.41 – 1.20)	0.191
		Monitor 2 X Experience on NICU/PICU	0.31 (0.11 – 0.86)	0.025
		Monitor 3 X Experience on NICU/PICU	1.09 (0.41 – 2.87)	0.862
Time 0 – 5s	Interaction terms	Parameter X Experience (global test)	-	0.356
		Monitor X Experience (global test)	-	0.001
		Parameter (global test)	-	<0.001
	Main effects	Monitor (global test)	-	0.067
		Experience on NICU/PICU (yes vs. no)	2.85 (1.25 – 6.49)	0.013
		Monitor 2	2.43 (1.20 – 4.91)	0.014
	Interaction with monitor	Monitor 3	0.56 (0.34 – 0.93)	0.024
		Monitor 2 X Experience on NICU/PICU	0.21 (0.07 – 0.65)	0.007

		Monitor 3 X Experience on NICU/PICU	1.33 (0.47 – 3.77)	0.597
Time 0 – 10s	Interaction terms	Parameter X Experience (global test)	-	not estimable
		Monitor X Experience (global test)	-	0.106
	Main effects	Parameter (global test)	-	<0.001
		Monitor (global test)	-	0.044
		Experience on NICU/PICU (yes vs. no)	2.38 (1.26 – 4.49)	0.008

GEE models with binomial family and logit link were used, accounting for repeated measures within individuals (exchangeable correlation structure).

Results are expressed as odds ratios (OR) and 95% confidence intervals (95%CI).

Parameters were compared using heart rate as reference.

Experience was categorized as doctors with vs. without specialization in neonatology (NICU) or pediatric intensive care (PICU)

Global tests correspond to Wald chi-square tests for each factor.

Some interaction terms between parameters and experience could not be estimated due to quasi-complete separation and collinearity, resulting from sparse data and perfect prediction in specific parameter–experience combinations.

These terms were omitted to ensure model stability and interpretability.