

## Supplementary Material

Supplement to: Badurdeen S, Davis PG, Hooper SB et al. Physiologically-based cord clamping for infants  $\geq 32^{+0}$  weeks gestation - a randomised clinical trial and reference percentiles for heart rate and oxygen saturation.

### Contents

	Pages
1. Supplemental Table A. Safety Outcomes	2
2. Percentiles tables for heart rate and oxygen saturation	3-4
3. Supplemental Figures	5-6

**Supplemental Table A.** Summary statistics and selected group differences (where estimable) for safety outcomes.

*Supplemental Table A: Safety outcomes*

	<b>PBCC arm (N = 63)</b>	<b>ECC arm (N = 60)</b>	<b>Risk Difference (95% CI)</b>
<b>Maternal</b>			
Post-partum haemorrhage $\geq$ 1 L or the need for blood transfusion	6 (10%)	5 (8%)	1.2% (-8.9%, 11.3%)
Maternal post-partum haemorrhage between 500ml-999ml without blood transfusion	15 (24%)	14 (23%)	0.5% (-14.5%, 15.5%)
Critical care admission	0 (0%)	1 (2%)	
Infection up to 30 days after caesarean birth only <sup>^</sup>	1 (4%) N=27	0 (0%) N=25	
Thromboembolic event up to 30 days after caesarean birth	0 (0%) N=27	0 (0%) N=25	
Maternal death	0 (0%)	0 (0%)	
<b>Infant</b>			
Intubation in the delivery room	0 (0%)	0 (0%)	
Chest compressions in the delivery room	0 (0%)	0 (0%)	
Admissions to Neonatal Intensive Care for infants $\geq$ 36 weeks' gestation*	2 (4%) N=56	1 (2%) N=54	
First temperature $<$ 36.5 degrees Celsius	13 (21%)	10 (17%)	4.0% (-9.8%, 17.7%)
First temperature $<$ 35.5 degrees Celsius	1 (2%)	1 (2%)	
Pneumothorax treated with needle aspiration and/or chest tube insertion	0 (0%)	0 (0%)	
Jaundice treated with exchange transfusion	0 (0%)	0 (0%)	
Polycythaemia requiring partial exchange transfusion	0 (0%)	0 (0%)	
Hypoxic ischaemic encephalopathy treated with therapeutic hypothermia	0 (0%)	1 (2%)	
Significant acquired brain injury (on imaging or clinical diagnosis) as documented by the clinical team	0 (0%)	0 (0%)	
Neonatal death	0 (0%)	0 (0%)	

<sup>^</sup> Maternal post-caesarean infection was defined as maternal hospital re-attendance and commencement of antibiotic therapy (oral or intravenous) by emergency or maternity clinical teams.

\*Does not include admissions to special care nursery.

Note, no adjustment for the randomisation stratification factors is made in the risk difference.

Abbreviations: CI, confidence interval; ECC, early cord clamping; L, litre; PBCC, physiologically-based cord clamping.

**Percentiles tables for heart rate and oxygen saturation (SpO<sub>2</sub>) for infants  $\geq 35^{+0}$  weeks' gestation and no respiratory support after birth.**

**Supplemental Table B. Percentiles tables for heart rate and oxygen saturation for all births.**

All births N=295	Centile	97	90	75	50	25	10	3
	Minutes							
Heart Rate (bpm)	1	213	200	186	171	156	143	130
	2	212	200	187	173	158	146	133
	3	210	198	186	172	158	146	134
	4	208	196	184	171	157	145	133
	5	205	194	182	169	156	144	132
	6	203	192	180	167	153	141	130
	7	201	190	177	164	151	139	127
	8	200	188	175	162	148	135	123
	9	199	186	173	159	144	132	119
	10	198	185	171	156	141	127	114
SpO <sub>2</sub> (%)	1	92	84	75	66	56	47	39
	2	98	90	82	73	63	55	47
	3	100	96	89	81	73	66	58
	4	100	99	93	86	79	72	66
	5	100	100	95	89	83	78	72
	6	100	100	97	91	86	82	77
	7	100	100	98	93	89	85	81
	8	100	100	99	95	91	87	83
	9	100	100	100	96	92	88	85
	10	100	100	100	97	93	89	85

**Supplemental Table C. Percentiles tables for heart rate and oxygen saturation for caesarean births.**

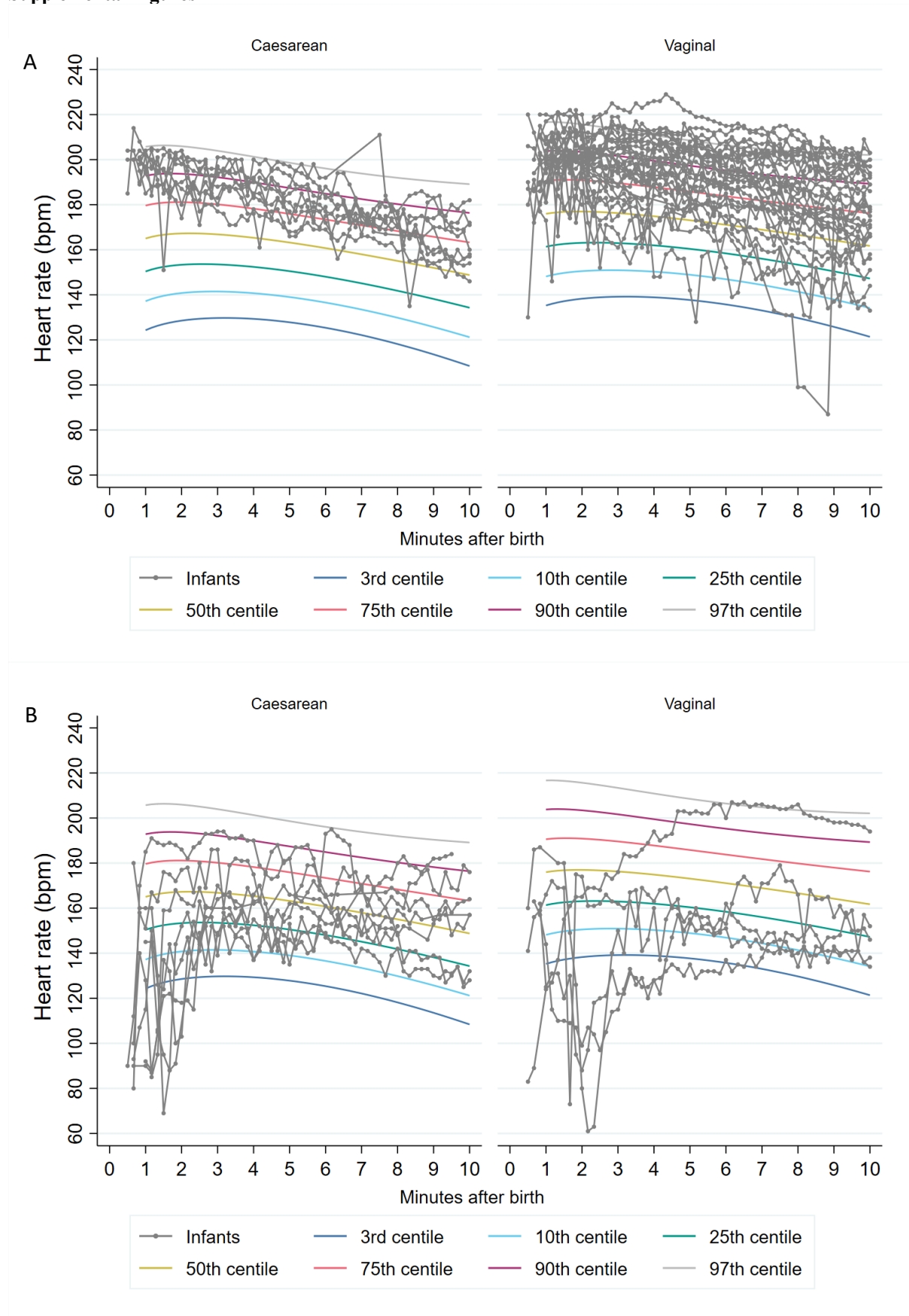
Caesarean Births N=134	Centile	97	90	75	50	25	10	3
	Minutes							
Heart Rate (bpm)	1	206	193	180	165	150	137	124
	2	206	194	181	167	153	141	129
	3	204	192	180	167	153	141	130
	4	201	190	178	165	152	141	129
	5	199	187	176	163	150	139	128
	6	196	185	173	161	148	137	125
	7	194	183	171	158	145	133	122
	8	192	180	168	155	142	130	118
	9	190	178	166	152	138	126	114
	10	189	176	163	149	134	121	108
SpO <sub>2</sub> (%)	1	77	68	59	50	40	31	22
	2	94	87	79	70	61	53	45
	3	100	93	86	79	71	64	57
	4	100	97	91	84	77	71	65

	5	100	99	94	88	82	76	71
	6	100	100	95	90	85	81	76
	7	100	100	97	92	88	84	80
	8	100	100	98	94	90	86	83
	9	100	100	100	95	91	88	84
	10	100	100	100	97	92	88	84

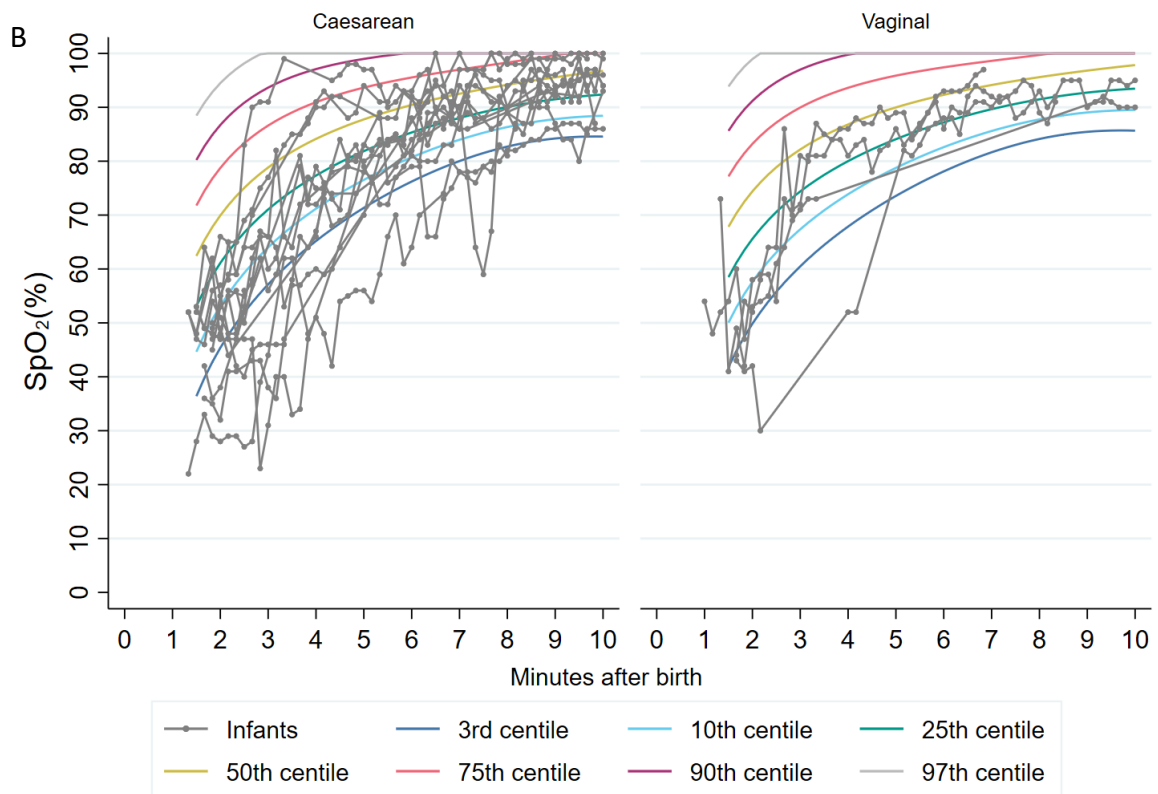
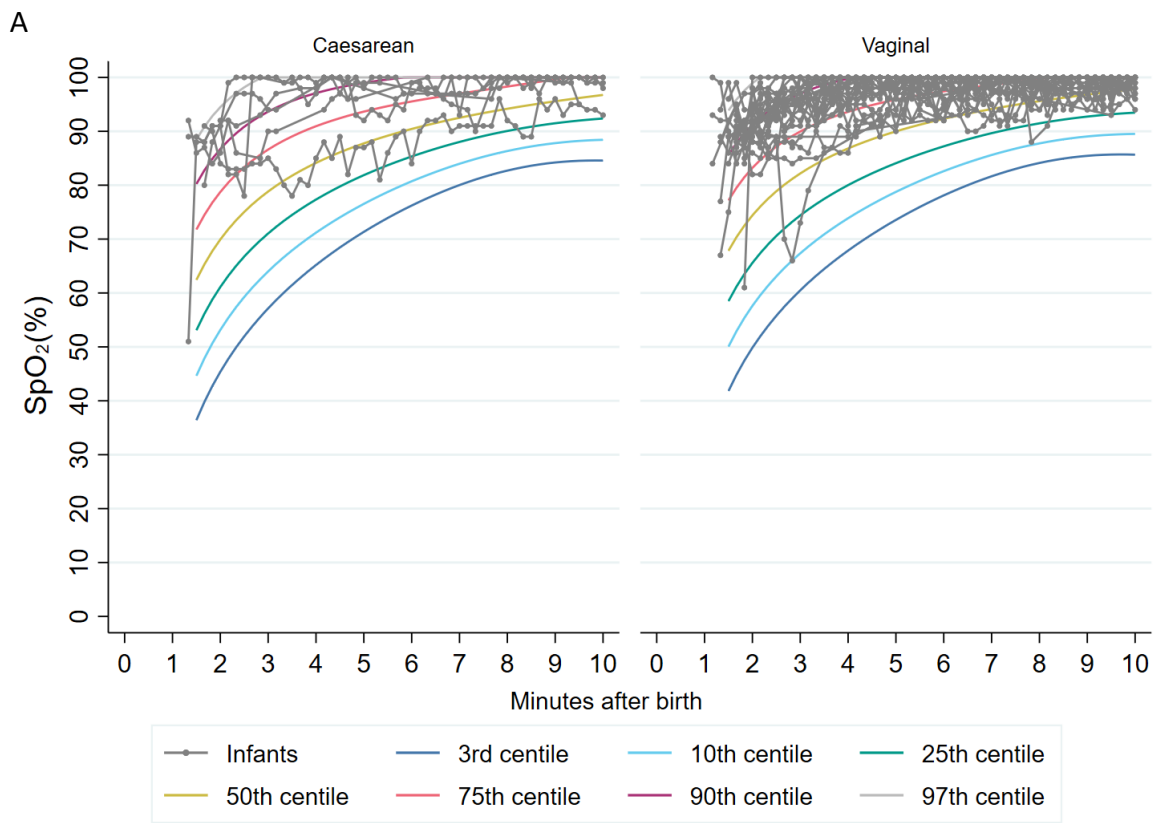
**Supplemental Table D. Percentiles tables for heart rate and oxygen saturation for vaginal births.**

Vaginal Births N=161	Centile	97	90	75	50	25	10	3
	Minutes							
Heart Rate (bpm)	1	217	204	191	176	161	148	135
	2	216	203	191	177	163	151	138
	3	213	202	190	176	163	151	139
	4	211	199	188	175	162	150	139
	5	208	197	186	173	160	149	138
	6	206	195	184	171	158	147	136
	7	205	193	182	169	156	144	133
	8	203	192	180	167	153	141	130
	9	203	190	178	164	150	138	126
	10	202	189	176	162	147	134	121
SpO <sub>2</sub> (%)	1	84	76	67	57	47	38	29
	2	99	91	83	74	66	58	50
	3	100	97	90	82	74	67	60
	4	100	100	94	87	80	74	68
	5	100	100	96	90	84	79	74
	6	100	100	97	92	87	83	78
	7	100	100	99	94	90	86	82
	8	100	100	100	96	91	88	84
	9	100	100	100	97	93	89	85
	10	100	100	100	98	93	90	86

Supplemental Figures



**Supplemental Fig A.** (A) Individual heart rate trajectories for infants with heart rate >200 beats per minute (bpm) within 2 minutes of birth and (B) infants with heart rate <100 bpm within 2 minutes of birth.



**Supplemental Fig B.** (A) Individual trajectories of oxygen saturation (SpO<sub>2</sub>) for infants with SpO<sub>2</sub> > 90% within 2 minutes of birth and (B) infants with SpO<sub>2</sub> < 50% within 2 minutes of birth.