Appendix 1. STAN® Clinical Guidelines: Classification of Cardiotocographic Patterns

Cardiotocographic Classification	Baseline Heart Frequency	Variability Reactivity	Decelerations
Normal	110-150 beats per min	5-25 beats per min Accelerations	Early decelerations Uncomplicated variable decelerations with a duration of less than 60 sec and a beat loss of less than 60 beats/min
Intermediary*	100-110 beats per min 150-170 beats per min Short bradycardia episode	More than 25 beats per min without accelerations Fewer than 5 beats per min for more than 40 min	Uncomplicated variable decelerations with a duration of less than 60 sec and a beat loss of greater than 60 beats per min
Abnormal	150-170 beats per min and reduced variability greater than 170 beats per min	Fewer than 5 beats per min for more than 60 min Sinusoidal pattern	Repeated late decelerations Complicated variable decelerations with a duration of more than 60 sec
Preterminal	Total lack of variability and reactivity with or without decelerations or bradycardia		

FIGO, International Federation of Gynecology and Obstetrics;

* Combination of several intermediary observations will result in an abnormal CTG.

Westerhuis MEMH, Visser GHA, Moons KGM, van Beek E, Benders MJ, Bijvoet SM, et al. Cardiotocography plus ST-analysis of fetal electrocardiogram compared with cardiotocography only for intrapartum monitoring: a randomized controlled trial. Obstet Gynecol 2010;115(6).

The authors provided this information as a supplement to their article.

Appendix 2. ST-Changes that Prompt Clinical Intervention, Such as Delivery or Solving a Cause of Fetal Distress

	Intermediary CTG	Abnormal CTG
Episodic T/QRS-rise (duration shorter than 10 min)	Increase greater than 0.15 from baseline	Increase greater than 0.10 from baseline
Baseline T/QRS-rise (duration at least 10 min)	Increase greater than 0.10 from baseline	Increase greater than 0.05 from baseline
Biphasic ST (a component of the ST-segment below the baseline)	Continuous longer than 5 min or >2 episodes of coupled Biphasic ST type 2 or 3	Continuous longer than 2 min or >1 episode of coupled Biphasic ST type 2 or 3

CTG, cardiotocography.

The ST log requires 20 minutes recording for automatic ST analysis to start. A decrease in signal quality with insufficient number of T/QRS measurements requires manual data analysis.

Appendix 3. Distribution of Missing Values for Outcomes Related to Cord-Artery pH Among Baseline and Outcome Variables*

	Complete Cases (All Variables Completely Observed) n=4,378	Patients With at Least One Missing Value n=1,289	P value
Patient age at delivery – yr	32 ± 4.7	32 ± 5.0	0.96
Gestational age at delivery – wk	40 ± 1.4	40 ± 1.5	0.47
Nulliparous – no. (%)	2511 (57.4)	725 (56.2)	0.48
Previous cesarean delivery – no. (%)	566 (12.9)	150 (11.6)	0.22
Pregnancy related hypertensive disorder – no. (%)	525 (12.0)	153 (11.9)	0.91
Prolonged pregnancy (at least 42 wks) – no. (%)	546 (12.5)	158 (12.3)	0.84
Cervical dilatation at randomization – cm	4.2 ± 2.4	4.1 ± 2.3	0.12
Meconium stained amniotic fluid – no. (%)	1131 (25.8)	340 (26.4)	0.70
Intrapartum fever (at least 37.8 °C) – no. (%)	374 (8.5)	96 (7.4)	0.21
Epidural anaesthesia – no. (%)	1870 (42.7)	519 (40.3)	0.12
Oxytocin augmentation – no. (%)	3048 (69.6)	882 (68.4)	0.41
Induction of labor – no. (%)	1797 (41.0)	544 (42.2)	0.46
Birthweight (g)	**3558 ± 513**	**3497 ± 533**	**<0.01**
Birthweight less than 2500 g – no. (%)	**79 (1.8)**	**42 (3.3)**	**<0.01**
Neonatal female gender – no. (%)	2042 (46.6)	626 (48.6)	0.22
Cord-artery pH less than 7.05 & BDecf greater than 12mmol/L – no. (%)	33 (0.8)	7 (0.9)	0.65
Cord-artery pH less than 7.05 & BDblood greater than 12mmol/L – no. (%)	**75 (1.7)**	**20 (2.6)**	**0.10**
Cord-artery pH less than 7.05 – no. (%)	90 (2.1)	20 (2.6)	0.35
Cord-artery pH less than 7.00 – no. (%)	37 (0.8)	9 (1.2)	0.39
Apgar score 1 min less than 4 – no. (%)	73 (1.7)	15 (1.2)	0.20
Apgar score 5 min less than 7 – no. (%)	61 (1.4)	15 (1.2)	0.53
Fetal blood sampling – no. (%)	684 (15.6)	195 (15.1)	0.67
Cesarean delivery – no. (%)	**579 (13.2)**	**217 (16.8)**	**<0.01**
Instrumental vaginal delivery – no. (%)	**662 (15.1)**	**153 (11.9)**	**<0.01**
Intervention for fetal distress – no. (%)	391 (31.5)	105 (28.4)	0.25
Total neonatal admissions – no. (%)	628 (14.3)	204 (15.8)	0.19
Admission to NICU – no. (%)	65 (1.5)	20 (1.6)	0.86
Moderate or severe HIE (Sarnat grade 2 or 3) – no. %	3 (0.1)	1 (0.1)	0.91
Allocation to index group – no. (%)	**2221 (50.7)**	**606 (47.0)**	**0.02**

BDblood, base deficit calculated in blood; NICU, neonatal intensive care unit; HIE, hypoxic ischemic encephalopathy.

Variables in bold indicate that missing data were not completely at random but related to other subject characteristics, which indicates not to perform a complete case analysis but rather apply multiple imputation first (see text).

* Plus-minus values are means ± SD. P-values were calculated via Chi-square or Student's t-tests for dichotomous or continuous variables, respectively.

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