## **Supplementary Table 1.** HEAL-EEG study sites.

Study Site	Number of HEAL-EEG Enrolled and Included N=150
Benioff Children's Hospital; University of California, San Francisco	27
Children's Hospital Philadelphia; University of Pennsylvania	20
Children's National Medical Center; George Washington University	12
Lucile Packard Children's Hospital; Stanford University	37
Nationwide Children's Hospital; Ohio State University	35
Riley Hospital for Children; Indiana University	11
The Children's Hospital of San Antonio and Methodist Children's Hospital	8

**Supplementary Table 2.** Demographics and clinical characteristics of neonates at the HEAL-EEG study sites (included in the EEG study or not) and non-HEAL-EEG study sites.

Characteristic	HEAL-EEG Study Site		HEAL (not EEG Study Site)
	Included	Not Included	Suny Site)
	150	85	265
Maternal Characteristics, n (%)			
Race			
White	104 (69%)	58 (68%)	194 (73%)
Black	18 (12%)	17 (20%)	31 (12%)
Asian	15 (10%)	4 (4.7%)	14 (5.3%)
Other	13 (8.7%)	6 (7.1%)	26 (9.8%)
Hispanic ethnicity	33 (22%)	20 (24%)	69 (26%)
Age (years), mean (SD)	30.1 (6.6)	29.9 (6.5)	29.3 (6.1)
Education, high school or less	58 (39%)	19 (22%)	108 (41%)
Parity = 1 (including subject)	91 (61%)	49 (58%)	146 (55%)
Pregnancy and Delivery Complications, n (%)			
Maternal chorioamnionitis or fever	28 (19%)	18 (21%)	31 (12%)
Maternal pre-eclampsia or eclampsia	16 (11%)	7 (8.2%)	22 (8.3%)
Gestational diabetes	14 (9.3%)	12 (14%)	32 (12%)
Maternal obesity (BMI >30)	25 (17%)	7 (8.2%)	57 (22%)
Sentinel event	48 (32%)	25 (29%)	70 (26%)
Cesarean section delivery	99 (66%)	49 (58%)	181 (68%)
Infant Characteristics			
Female, n (%)	65 (43%)	33 (39%)	127 (48%)
Birth weight (grams), mean (SD)	3411 (558)	3376 (570)	3349 (621)
Gestational age (weeks), mean (SD)	39.2 (1.5)	39.1 (1.4)	39.1 (1.5)
5-minute Apgar score, median (IQR)	3 (2, 4)	3 (2, 5)	3 (2, 5)
Lowest pH <sup>‡</sup> , mean (SD)	6.94 (0.18)	6.93 (0.17)	6.92 (0.17)
Worst base deficit <sup>§</sup> , mean (SD)	17.6 (6.1)	18.7 (6.0)	18.6 (6.3)
Severe encephalopathy, n (%)	33 (22%)	20 (24%)	60 (23%)

\*Sentinel event = placental abruption, shoulder dystocia, uterine rupture or prolapsed cord. \$Worst pH and base deficit among cord arterial, cord venous, and arterial blood gas samples taken before 60 minutes of age.

Severe encephalopathy as defined by Sarnat.