Table 1 Patient characteristics of children with and without brain injury.

	No brain injury (n=153)	Brain injury (n=72)
Prenatal characteristics		
Parental education level		
Low	25 (16%)	15 (21%)
Middle	45 (29%)	22 (31%)
High	71 (46%), unknown 12 (8%)	30 (42%), unknown 5 (7%)
Multiplet pregnancy	22 (14%)	8 (11%)
Antenatal steroids	144 (94%), unknown 1 (0.7%)	63 (88%), unknown 1 (1%)
Infant characteristics		
Ethnicity		
Western	105 (69%)	49 (68%)
Non-Western	47 (31%), unknown 1 (0.7%)	23 (32%)
Female sex	54 (35%)	35 (49%)
GA at birth (weeks^{+days})	27^{+5} [26^{+2};28^{+5}]	26^{+6} [26^{+1};28^{+0}]
Birth weight (grams)	996 [813;1255]	960 [808;1119]
Birth weight Z-score (SD)	-0.1 [-0.8;0.7]	-0.1 [-1.0;0.6]
Apgar 5min (0-10)	8 [7;9], unknown 1 (0.7%)	8 [7;9], unknown 1 (1%)
IRDS, treated	100 (65%), unknown 1 (0.7%)	42 (58%)
Endotracheal intubation	107 (70%)	50 (69%)
Days on mechanical ventilation	2 [0;11]	3 [0;17]
Postnatal steroid therapy	26 (17%), unknown 1 (0.7%)	12 (17%), unknown 1 (1%)
BPD, of which:	47 (45%)	38 (53%)
Mild	71 (31%)	25 (35%)
Severe	22 (14%)	13 (18%)
PDA, treated	59 (39%)	25 (35%)
Use of inotropics	15 (10%)	13 (18%)
NEC	8 (5%)	5 (7%)
Culture proven sepsis	63 (41%)	24 (33%)
IVH, of which:	0 (0%)	54 (75%)
Grade I	0 (0%)	28 (39%)
Grade II	0 (0%)	25 (35%)
Grade II+	0 (0%)	1 (1%)
PVL	0 (0%)	6 (8%)
Stroke	0 (0%)	13 (18%), unknown 2 (3%)
Cerebellar bleeding	0 (0%)	8 (11%)
ROP, of which:	63 (41%)	30 (42%), unknown 1 (1%)
Grade I	50 (33%)	19 (26%)
Grade II	8 (5%)	3 (4%)
Grade III/IV	5 (3%)	8 (11%)
Duration of NICU-stay (days)	31 [17;58]	33 [21;65]
GA at NICU transfer to level-II hospital	32^{+1} [30^{+3};34^{+4}]	31^{+5} [30^{+3};35^{+1}]

Data are shown as median [interquartile range] or absolute numbers (percentage).

n = number of patients, GA = gestational age, IRDS = infant respiratory distress syndrome treated with surfactant, BPD = bronchopulmonary dysplasia, PDA = persistent ductus arteriosus treated medically or surgically, NEC = necrotizing enterocolitis ≥ stage 2, IVH = intraventricular hemorrhage, PVL = periventricular leukomalacia, ROP = retinopathy of prematurity, NICU = neonatal intensive care unit.

Table 2. Brain measurements from birth until 2 months corrected age in children with and without brain injury

		No brain injury (n=153)						
Length (mm)		Birth		GA 29wks		NICU transfer		2M-visit
	n	Median (IQR)	n	Median (IQR)	n	Median (IQR)	n	Median (IQR)
Corpus callosum	115	36.5 [33.4;39.1]	126	38.2 [36.4;39.7]	82	40.5 [39.0;42.2]	72	52.8 [49.3;55.4]
Corpus callosum-fastigium	116	40.1 [38.5;42.3]	122	41.4 [40.0;43.0]	78	43.9 [42.6;45.4]	70	56.8 [55.1;58.4]
Head circumference	150	250 [235;265]	117	257 [242;265]	82	274 [265;283]	69	389 [375;400]
Growth (mm/wk)		Birth-NICU transfer				Birth-2M		
	n	Median (IQR)				n	Median (IQR)	
Corpus callosum	76	1.11 [0.83;1.37]				65	0.79 [0.66;0.88]	
Corpus callosum-fastigium	74	0.90 [0.61;1.13]				61	0.80 [0.74;0.89]	
Head circumference	71	5.39 [3.28;7.00]				68	6.92 [6.24;7.35]	
		Brain injury (n=72)						
Length (mm)		Birth		GA 29wks		NICU transfer		2M-visit
	n	Median (IQR)	n	Median (IQR)	n	Median (IQR)	n	Median (IQR)
Corpus callosum	53	34.4 [33.1;36.8]	54	37.5 [35.1;38.8]	38	40.2 [38.2;43.3]	29	51.6 [50.0;54.0]
Corpus callosum-fastigium	52	39.0 [37.1;40.9]	58	41.0 [39.9;42.6]	36	43.86[41.4;46.1]	27	56.8 [54.1;58.5]
Head circumference	71	246 [235;258]	56	252 [243;262]	34	271 [259;284]	28	385 [366;395]
Growth (mm/wk)		Birth-NICU transfer				Birth-2M		
	n	Median (IQR)				n	Median (IQR)	
Corpus callosum	41	1.19 [0.96;1.36]				27	0.80 [0.65;0.89]	
Corpus callosum-fastigium	34	1.01 [0.73;1.36]				24	0.83 [0.73;0.91]	
Head circumference	32	5.84 [4.44;6.76]				27	6.59 [6.01;7.05]	

n = number of patients/measurements, GA = gestational age, wk = week, NICU = neonatal intensive care unit, M = month, IQR = interquartile range.

Table 3. Associations between length and growth of CC, CCF and HC, and neurodevelopmental outcomes at 2 years in children without brain injury (n=153)

	Cognition		Motor		Language		Behavior	
CC	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Length (per 5 mm)								
Birth	107	1.54 (-4.01;7.09)	94	**5.87 (0.38;11.36)**	105	5.49 (-1.51;12.48)	104	-0.65 (-5.29;3.99)
GA 29wks	116	2.37 (-2.49;7.24)	96	4.89 (-0.31;10.08)	114	2.81(-3.81;9.42)	115	0.15 (-3.89;4.19)
NICU-transfer	75	-1.13 (-7.36;5.10)	64	2.32 (-3.70;8.35)	74	0.31 (-7.29;7.89)	73	-1.48 (-6.17;3.21)
2M-visit	68	**5.93 (2.75;9.11)**	62	**4.64 (1.32;7.96)**	68	**6.48 (2.01;10.95)**	68	-1.96 (-4.70;0.78)
Growth (per 0.25 mm/wk)								
Birth-NICU transfer	72	0.07 (-1.39;1.53)	61	-0.96 (-2.50;0.59)	70	0.00 (-2.04;2.04)	71	-0.80 (-1.99;0.40)
Birth-2M	61	**5.11 (0.88;9.35)**	56	**4.52 (0.14;8.90)**	61	3.83 (-2.20;9.86)	61	-2.46 (-6.07;1.15)
	Cognition		Motor		Language		Behavior	
CCF	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Length (per 5 mm)								
Birth	107	-3.71 (-9.88;2.46)	94	1.51 (-4.77;7.79)	105	-2.18 (-10.08;5.72)	104	-0.24 (-5.43;4.95)
GA 29wks	113	-2.13 (-7.80;3.54)	94	-3.39 (-9.48;2.70)	111	-3.08 (-10.72;4.56)	112	0.72 (-3.97;5.40)
NICU-transfer	72	-1.47 (-9.68;6.74)	61	-2.57 (-10.52;5.37)	72	1.67 (-8.09;11.44)	71	0.31 (-5.79;6.40)
2M-visit	66	**9.08 (2.38;15.78)**	60	0.04 (-7.14;7.22)	66	8.42 (-0.95;17.79)	66	-1.53 (-7.14;4.07)
Growth (per 0.25 mm/wk)								
Birth-NICU transfer	69	-0.15 (-1.71;1.42)	58	-0.29 (-1.97;1.40)	68	0.52 (-1.65;2.68)	69	0.44 (-0.85;1.72)
Birth-2M	57	5.52 (-0.27;11.30)	52	1.85 (-4.28;7.98)	57	6.45 (-1.57;14.46)	57	-2.70 (-7.56;2.17)
	Cognition		Motor		Language		Behavior	
HC	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Circumference (per 20 mm)								
Birth	138	1.87 (-2.57;6.31)	117	0.39 (-4.35;5.12)	135	-1.84 (-8.01;4.33)	135	1.06 (-2.64;4.76)
GA 29wks	110	-3.36 (-6.87;0.14)	92	-1.93 (-5.91;2.06)	107	**-6.47 (-11.45;-1.50)**	108	0.23 (-2.84;3.31)
NICU-transfer	77	1.56 (-4.85;7.96)	65	0.42 (-6.01;6.85)	76	-1.57 (-9.40;6.26)	75	-2.74 (-7.51;2.04)
2M-visit	66	**7.22 (2.87;11.57)**	60	3.62 (-1.06;8.30)	66	**8.72 (2.73;14.72)**	66	-0.51 (-4.25;3.23)
Growth (per 1 mm/wk)								
Birth-NICU transfer	67	0.21 (-0.89;1.32)	56	0.06 (-1.12;1.23)	66	-0.13 (-1.64;1.37)	66	-0.53 (-1.42;0.36)
Birth-2M	65	2.56 (-1.09;6.21)	59	1.37 (-2.43;5.17)	65	**5.81 (0.94;10.66)**	65	-1.49 (-4.51;1.53)

Beta-coefficients (B) are shown per interquartile range of each marker, followed by 95% confidence intervals (CI). Significant associations are depicted in **bold**. Neurodevelopmental outcomes were based on the cognitive and total motor score of the Bayley Scales of Infant and Toddler Development-Third edition (for cognition and motor outcome, respectively), Lexi-list (language) and total score of the Child Behavior Checklist (behavior). Models were adjusted for sex (female 0, male 1), gestational age at birth (weeks), birth weight Z-score and combined parental education (low/middle/high). Apart from these four covariates, the GA29wks and 2M-visit models were also adjusted for gestational age or corrected age at measurement, respectively. Results from similar analyses on infants with brain injury are shown in supplemental Table S6.

CC = corpus callosum, n = number of patients/ultrasounds included, GA = gestational age, NICU = neonatal intensive care, M = months, CCF = corpus callosum-fastigium, HC = head circumference.

Table 4. **Added value of CC length, CCF length and/or HC at 2M-visit for prediction of neurodevelopmental outcome at 2 years in children without brain injury.**

N=72	Basic neonatal model		Neonatal + HC model		Neonatal + CC model		Neonatal + CCF model		Neonatal + HC + CC model		Neonatal + HC + CC + CCF model	
	R^2	P	ΔR^2	ΔP	ΔR^2	ΔP	ΔR^2	ΔP	ΔR^2	ΔP	ΔR^2	ΔP
Cognition	11.8	**0.040**	+1.4	0.248	**+9.8**	**0.013**	+2.2	0.108	**+8.8**	**0.036**	+6.2	0.108
Motor	6.6	0.155	-0.8	0.450	+6.5	0.083	-3.0	0.846	+4.1	0.170	+2.7	0.271
Language	8.4	0.085	+3.5	0.128	**+8.9**	**0.015**	-1.5	0.571	**+9.8**	**0.029**	+7.1	0.092

Explanatory value (adjusted R^2, as percentage) per outcome using the 'basic neonatal' model with only neonatal risk factors (sex, GA at birth, combined parental education level, BPD grade, treated PDA, and total days of hospital admission), and the difference in R^2 (ΔR^2) when CC length at 2 months, CCF length at 2 months, HC at 2 months, or a combination of those, are added to this model (all adjusted for CA at ultrasound). Significance levels (P) are given for R^2 of the 'basic neonatal model', as well as for the increase in explanatory value (ΔP) when brain growth markers are added. Neurodevelopmental outcomes were based on cognitive and total motor score of the Bayley Scales of Infant and Toddler Development-Third edition (for cognition and motor outcome, respectively) and the Lexi-list (language).

GA = gestational age, BPD = bronchopulmonary dysplasia, PDA = patent ductus arteriosus, CC = corpus callosum, CCF = corpus callosum-fastigium length, HC = head circumference, CA = corrected age.

**Supplemental Figure S1. Flowchart of the study population.**
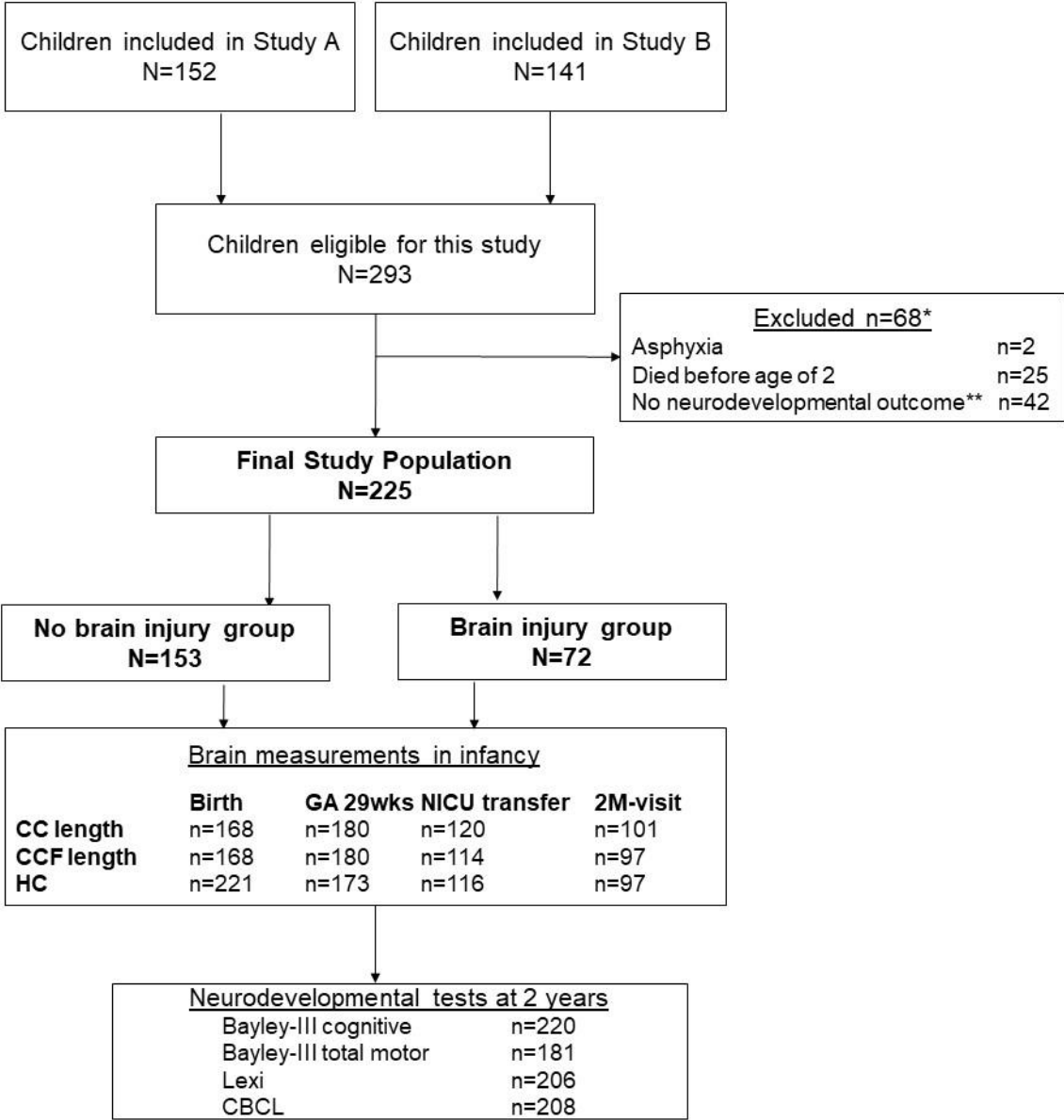
* Numbers per reason of exclusion exceed total number of children excluded as some children were excluded for multiple reasons. ** Possible reasons for absent neurodevelopmental test results: child refusal, not able to perform test (e.g. cerebral palsy), test performed elsewhere with unknown result, no appointment at outpatient clinic, no show at outpatient clinic visit. IVH = intraventricular hemorrhage, PHVD = post hemorrhagic ventricular dilation, CC = corpus callosum, CCF = corpus callosum-fastigium, HC = head circumference, GA = gestational age, wk = weeks, NICU = neonatal intensive care unit, M = months corrected age, Bayley-III = Bayley Scales of Infant and Toddler Development-Third edition; CBCL = Child Behavior Checklist.

Supplemental Figure S2. Ultrasonic measurement of corpus callosum and corpus callosum-fastigium length.(1)
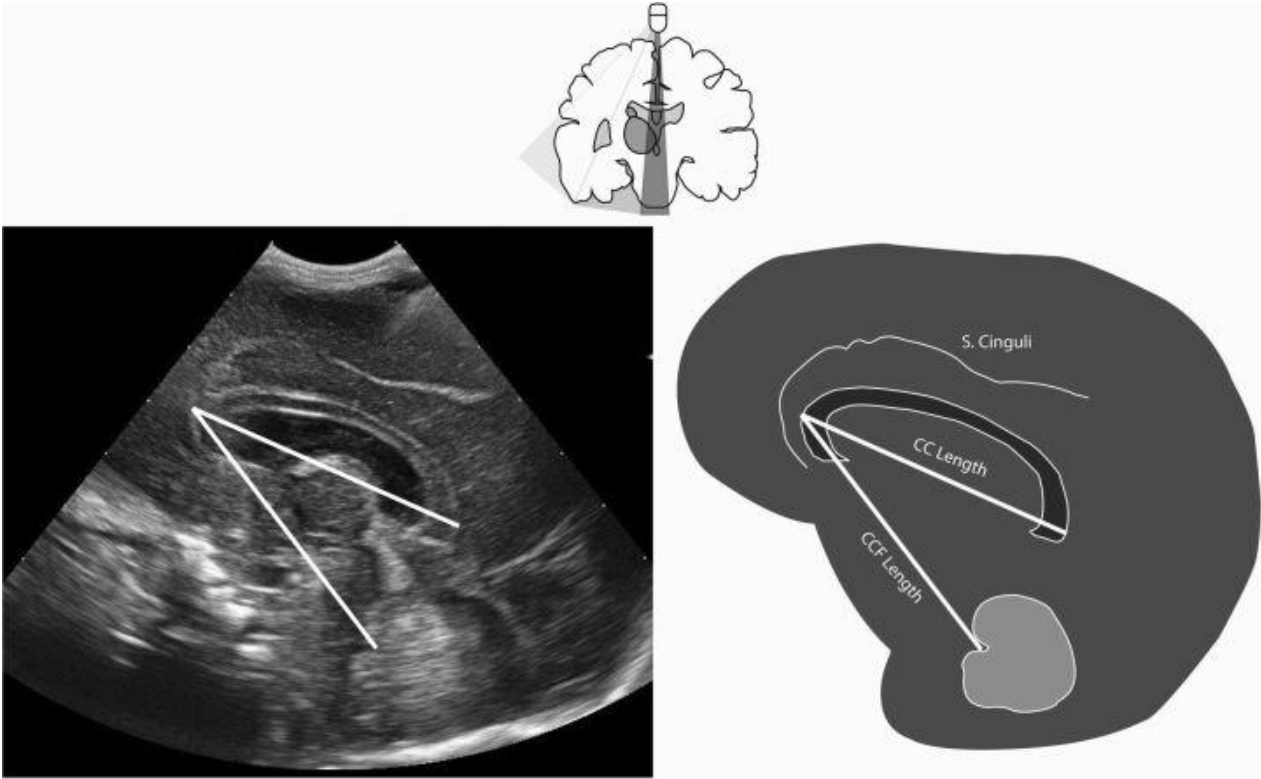
In the upper part, we show the coronal view of the brain and the position of the sonography probe for assessment of the corresponding correct sagittal plane below. Measurements of the corpus callosum–fastigium and corpus callosum length are displayed in the sagittal sonography view (*left*) and schematically (*right*). S. Cinguli indicates sulcus cinguli.(1)

**Supplemental Figure S3. CC length, CCF length and HC by gestational age during NICU-stay.**
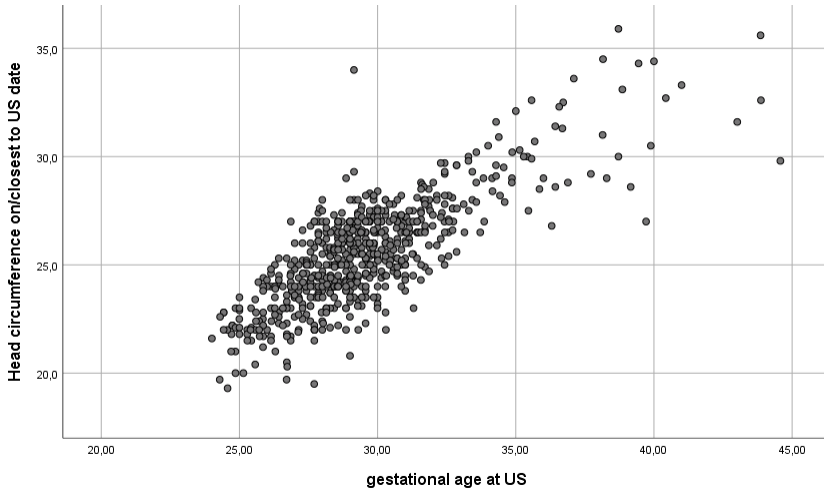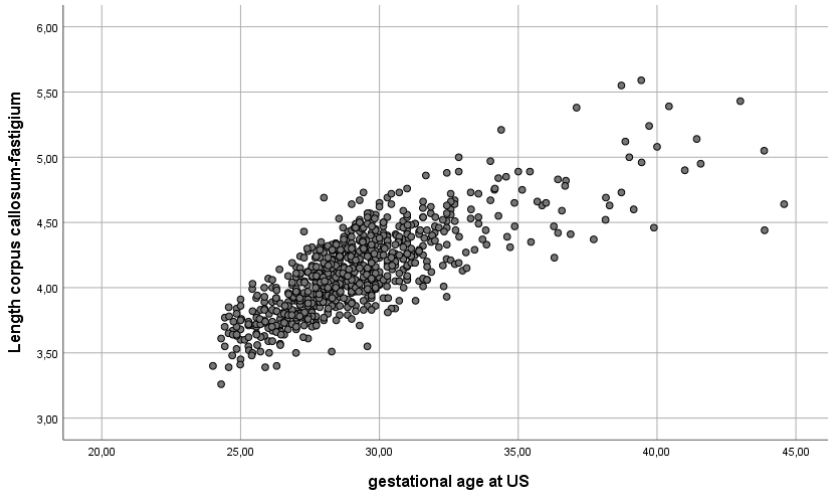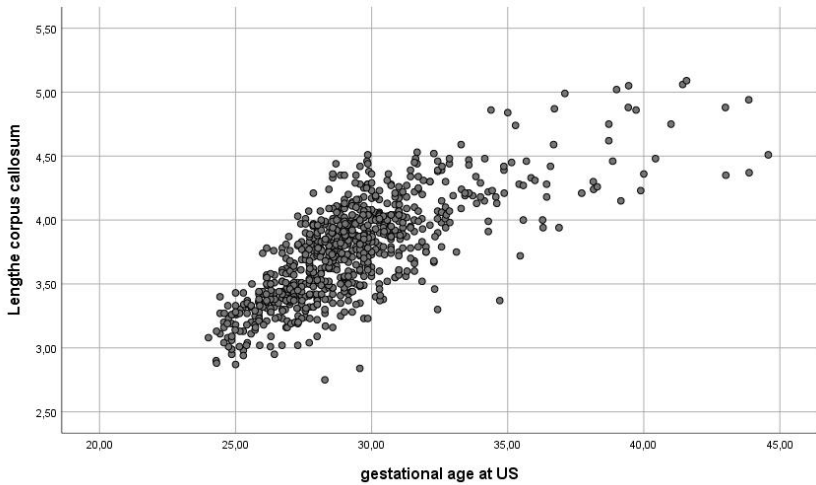
Graphs consist of 808 ultrasonic measurements for CC length (in cm), 779 ultrasonic measurements for CCF length (in cm), and 637 tape measurements of HC (in cm), respectively.
NICU = neonatal intensive care unit, CC = corpus callosum, CCF = corpus callosum-fastigium, HC = head circumference, US = ultrasound (cranial), cm = centimeters.

Supplemental Figure S4. CC length and CCF length by HC during NICU-stay.
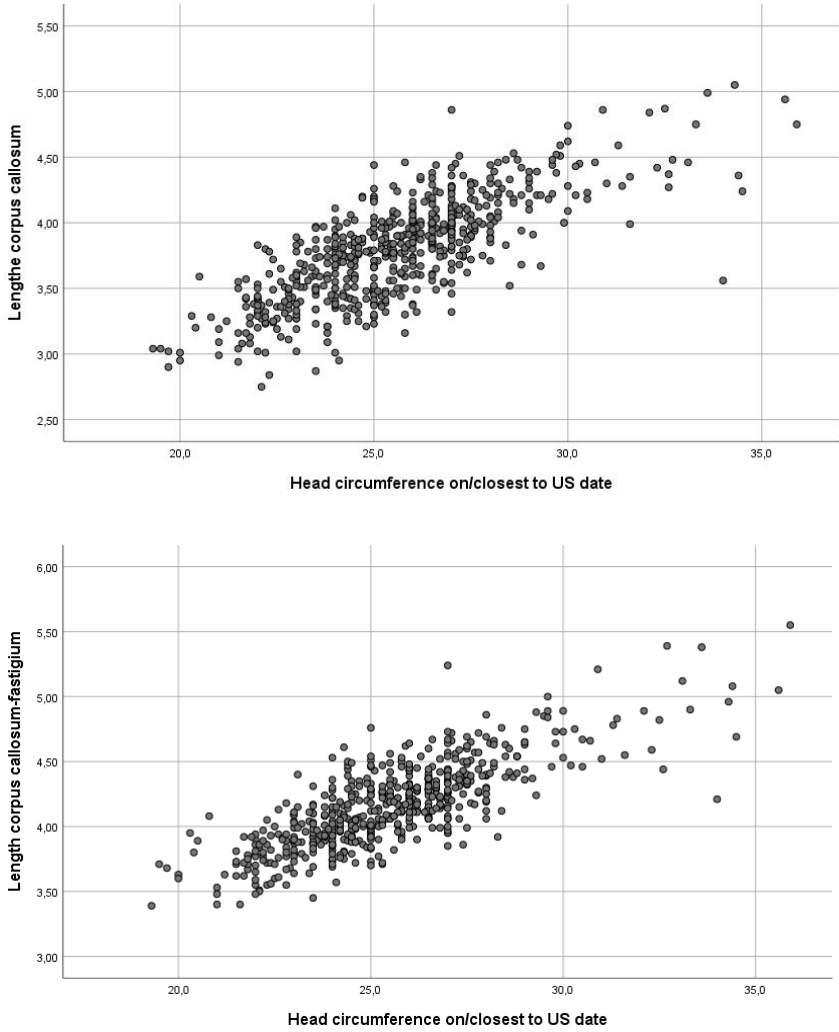
Graphs consist of all available ultrasonic measurements for CC length (in cm, graph 1) and CCF length (in cm, graph 2), and tape measurements of HC (in cm) on or closest to date of ultrasound, during NICU-stay. NICU = neonatal intensive care unit, CC = corpus callosum, CCF = corpus callosum-fastigium, HC = head circumference, cm = centimeters.

Supplemental Table S5. Neurodevelopmental outcome at 2 years in children with and without brain injury.

	No injury (N=153)	Any brain injury (N=72)	Relative risk	95%-CI			p-value
Cerebral palsy, of which:	5 (3%), unknown 1 (0.7%)	8 (11%)	**3.40**	**1.15**	**-**	**10.03**	**0.03**
- GMFCS I	5 (3%)	7 (10%)					
- GMFCS II	0 (0%)	0 (0%)					
- GMFCS III	0 (0%)	1 (1%)					
Visual disorders,* of which:	8 (5%)	8 (11%)	2.13	0.83	-	5.44	0.12
- Wearing glasses	6 (4%)	8 (11%)					
- Strabismus	4 (3%)	4 (6%)					
- Nystagmus	1 (0.7%)	0 (0%)					
Bayley-III cognitive score, of which:	100 [90;105], unknown 3 (2%)	96 [90;105], unknown 2 (3%)					
- Moderate / severe impairment (score <85)	14 (9%)	8 (11%)	1.21	0.53	-	2.76	0.64
Bayley-III total motor score, of which:	98 [91;107], unknown 29 (19%)	94 [89;102], unknown 15 (21%)					
- Moderate / severe impairment (score <85)	8 (5%)	10 (14%)	**2.66**	**1.09**	**-**	**6.45**	**0.03**
Lexi test score, of which:	91 [81;100], unknown 12 (8%)	88 [81;99], unknown 7 (10%)					
- Moderate / severe impairment (score <81)	35 (23%)	16 (22%)	0.97	0.58	-	1.64	0.91
CBCL total score, of which:	45 [39;51], unknown 12 (8%)	50 [40;57], unknown 5 (7%)					
- Clinical problem behavior (score >63)	6 (4%)	5 (7%)	1.77	0.56	-	5.56	0.33

Data are shown as median [interquartile range], absolute numbers (percentage) and relative risks with 95% confidence values and p-values (significant in **bold**). * Numbers of wearing glasses, strabismus and nystagmus exceed total number of visual disorders as some children had multiple diagnoses.

N = number, CI = confidence interval, GMFCS = Gross Motor Function Classification System, Bayley-III = Bayley Scales of Infant and Toddler Development-Third edition; CBCL = Child Behavior Checklist.

Supplemental Table S6. Associations between length and growth of CC, CCF and HC, and neurodevelopmental outcomes at 2 years in children with brain injury (n=72)

		Cognition		Motor		Language		Behavior
CC	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Length (per 5 mm)								
Birth	50	2.66 (-5.52;10.83)	43	2.96 (-5.75;11.66)	49	6.17 (-4.81;17.14)	50	-1.20 (-7.93;5.52)
GA 29wks	49	2.73 (-4.52;9.98)	40	2.09 (-6.32;10.51)	46	-7.19 (-17.46;3.08)	48	1.43 (-5.09;7.96)
NICU-transfer	34	NA	32	NA	34	NA	34	NA
2M-visit	28	NA	21	NA	26	NA	27	NA
Growth (per 0.25 mm/wk)								
Birth-NICU transfer	39	NA	34	NA	37	NA	39	NA
Birth-2M	27	NA	20	NA	25	NA	26	NA
		Cognition		Motor		Language		Behavior
CCF	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Length (per 5 mm)								
Birth	48	-1.67 (-12.23;8.88)	42	3.36 (-7.74;14.46)	48	-0.29 (-14.44;13.87)	48	-6.58 (-14.99;1.84)
GA 29wks	51	3.77 (-5.52;13.06)	42	9.43 (-0.59;19.44)	48	0.42 (-12.67;13.51)	50	-6.15 (-13.88;1.58)
NICU-transfer	32	NA	31	NA	32	NA	32	NA
2M-visit	27	NA	21	NA	26	NA	26	NA
Growth (per 0.25 mm/wk)								
Birth-NICU transfer	31	NA	30	NA	31	NA	31	NA
Birth-2M	24	NA	18	NA	23	NA	23	NA
		Cognition		Motor		Language		Behavior
HC	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Circumference (per 20 mm)								
Birth	65	6.12 (-0.08;12.32)	53	3.60 (-3.67;10.87)	61	5.56 (-3.46;14.58)	63	-1.13 (-7.20;4.95)
GA 29wks	50	1.16 (-5.33;7.64)	41	2.87 (-4.19;9.93)	47	-2.95 (-12.04;6.14)	49	0.10 (-5.46;5.66)
NICU-transfer	32	NA	30	NA	32	NA	32	NA
2M-visit	27	NA	21	NA	26	NA	27	NA
Growth (per 1 mm/wk)								
Birth-NICU transfer	30	NA	29	NA	30	NA	30	NA
Birth-2M	27	NA	20	NA	25	NA	26	NA

Beta-coefficients (B) are shown per interquartile range of each marker, followed by 95% confidence intervals (CI). To avoid type I or II error in subgroups too small for the number of covariates in the model, analyses were only performed when the number of patients/ultrasounds was 40 or higher. Significant associations are depicted in **bold**.

We used the cognitive and total motor score of the Bayley Scales of Infant and Toddler Development-Third edition (for cognition and motor outcome, respectively), Lexi-list

(language) and total score of the Child Behavior Checklist (behavior). Models were adjusted for sex (female 0, male 1), gestational age at birth (weeks), birth weight Z-score and combined parental education (low/middle/high). Apart from these four covariates, the GA29wks and 2M-visit models were also adjusted for gestational age or corrected age at measurement, respectively. Results from similar analyses on infants with brain injury are shown in supplemental Table 3.

CC = corpus callosum, n = number of patients/ultrasounds included, GA = gestational age, NICU = neonatal intensive care, NA = not applicable, M = months, CCF = corpus callosum-fastigium, HC = head circumference.

Supplemental Table S7. Associations between length and growth of CC, CCF and HC, and neurodevelopmental outcomes at 2 years in children without brain injury (n=153, basic model).

		Cognition		Motor		Language		Behavior
CC	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Length (per 5 mm)								
Birth	113	-0.45 (-5.2;4.30)	96	3.90 (-0.72;8.51)	106	2.31 (-3.75;8.37)	105	-0.71 (-4.63;3.21)
GA 29wks	124	1.90 (-2.04;5.83)	101	3.06 (-0.95;7.07)	118	2.81 (-2.48;8.10)	119	-1.64 (-4.87;1.59)
NICU-transfer	80	1.26 (-4.52;7.05)	68	1.78 (-3.32;6.88)	77	0.49 (-6.13;7.11)	76	-1.42 (-5.53;2.69)
2M-visit	70	**5.64 (2.45;8.83)**	62	**4.16 (1.00;7.32)**	70	**6.26 (2.04;10.48)**	70	-2.05 (-4.59;0.50)
Growth (per 0.25 mm/wk)								
Birth-NICU transfer	75	0.04 (-1.48;1.56)	61	-0.94 (-2.46;0.57)	70	-0.05 (-2.09;1.98)	71	-0.78 (-1.97;0.41)
Birth-2M	63	**5.40 (1.01;9.79)**	56	**4.58 (0.34;8.83)**	63	4.39 (-1.45;10.23)	63	-2.71 (-4.92;1.23)
		Cognition		Motor		Language		Behavior
CCF	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Length (per 5 mm)								
Birth [a]	114	-3.30 (-9.13;2.54)	97	1.54 (-4.24;7.32)	107	-0.99 (-8.50;6.52)	106	-1.35 (-6.19;3.50)
GA 29wks	120	-0.92 (-5.98;4.13)	98	-2.47 (-7.68;2.73)	114	-0.59 (-7.35;6.16)	115	-1.88 (-6.05;2.30)
NICU-transfer [a]	76	1.02 (-6.20;8.24)	64	-1.37 (-7.90;5.16)	74	3.08 (-5.14;11.30)	73	-0.68 (-5.82;4.47)
2M-visit [b]	68	5.66 (-0.71;12.03)	60	-0.93 (-7.21;5.35)	68	7.13 (-1.11;15.36)	68	-1.99 (-6.84;2.85)
Growth (per 0.25 mm/wk)								
Birth-NICU transfer	73	-0.84 (2.36;0.67)	58	-0.50 (-2.05;1.06)	68	-0.08 (-2.13;1.97)	69	0.65 (-0.55;1.86)
Birth-2M	55	3.39 (-2.56;9.33)	52	0.96 (-4.85;6.67)	59	5.14 (-2.51;12.79)	59	-2.35 (-6.94;2.25)
		Cognition		Motor		Language		Behavior
HC	n	B (CI)	n	B (CI)	n	B (CI)	n	B (CI)
Circumference (per 20 mm)								
Birth [a]	147	-0.17 (-3.19;2.84)	121	-0.15 (-3.27;2.98)	138	-0.16 (-4.31;3.99)	138	-0.73 (-3.20;1.73)
GA 29wks	116	-1.33 (-3.69;1.02)	95	-1.13 (-3.59;1.32)	109	-1.94 (-5.19;1.32)	111	-1.33 (-3.27;0.62)
NICU-transfer [a]	80	2.66 (-1.65;6.98)	67	0.31 (-3.63;4.25)	77	0.14 (-4.82;5.10)	76	-1.73 (-4.75;1.29)
2M-visit [b]	67	2.68 (-0.95;6.32)	60	1.15 (-2.37;4.67)	68	**5.33 (0.78;9.87)**	68	-0.85 (-3.58;1.88)
Growth (per 1 mm/wk)								
Birth-NICU transfer	70	0.08 (-1.00;1.15)	55	0.08 (-1.01;1.17)	66	-0.18 (-1.60;1.24)	66	-0.39 (-1.23;0.46)
Birth-2M	66	1.83 (-1.82;5.47)	59	0.99 (-2.53;4.50)	67	**5.71 (1.22;10.20)**	67	-1.58 (-4.37;1.20)

Beta-coefficients (B) are shown per interquartile range of each marker, followed by 95% confidence intervals (CI). We used the cognitive and total motor score of the Bayley Scales of Infant and Toddler Development-Third edition (for cognition and motor outcome, respectively), Lexi-test (language) and total score of the Child Behavior Checklist (behavior). [a] Adjusted for GA at ultrasound, [b] adjusted for corrected age at ultrasound. Significant associations are depicted in **bold**.

CC = corpus callosum, n = number of patients/ultrasounds included, GA = gestational age, NICU = neonatal intensive care, M = months, CCF = corpus callosum-fastigium, HC = head circumference.

Supplemental Table S8. Associations between length and growth of CC, CCF and HC, and neurodevelopmental outcomes at 2 years in children with brain injury (n=72, basic model).

		Cognition		Motor		Language		Behavior
CC	**n**	**B (CI)**	**n**	**B (CI)**	**n**	**B (CI)**	**n**	**B (CI)**
Length (per 5 mm)								
Birth	51	1.35 (-5.86;8.56)	44	3.64 (-3.82;11.10)	49	6.11 (-3.32;15.53)	51	-2.29 (-8.16;3.58)
GA 29wks	52	3.20 (-3.73;10.12)	43	2.12 (-5.91;10.15)	48	-2.81 (-12.25;6.64)	50	1.60 (-4.66;7.86)
NICU-transfer	38	NA	35	NA	37	NA	37	NA
2M-visit	28	NA	21	NA	26	NA	27	NA
Growth (per 0.25 mm/wk)								
Birth-NICU transfer	39	NA	34	NA	37	NA	39	NA
Birth-2M	27	NA	20	NA	25	NA	26	NA
		Cognition		**Motor**		**Language**		**Behavior**
CCF	**n**	**B (CI)**	**n**	**B (CI)**	**n**	**B (CI)**	**n**	**B (CI)**
Length (per 5 mm)								
Birth [a]	51	0.43 (-9.39;10.26)	42	5.94 (-4.43;16.31)	49	2.81 (-10.23;15.84)	50	**-8.39 (-16.14;-0.65)**
GA 29wks	56	4.77 (-4.17;13.71)	46	**10.77 (1.04;20.50)**	52	3.38 (-8.73;15.50)	54	-6.02 (-13.90;1.87)
NICU-transfer [a]	36	NA	34	NA	35	NA	35	NA
2M-visit [b]	27	NA	21	NA	26	NA	26	NA
Growth (per 0.25 mm/wk)								
Birth-NICU transfer	33	NA	30	NA	32	NA	33	NA
Birth-2M	24	NA	18	NA	23	NA	23	NA
		Cognition		**Motor**		**Language**		**Behavior**
HC	**n**	**B (CI)**	**n**	**B (CI)**	**n**	**B (CI)**	**n**	**B (CI)**
Circumference (per 20 mm)								
Birth [a]	69	4.50 (-1.58;3.44)	56	4.61 (-0.74;9.96)	64	5.81 (-0.54;12.17)	66	-2.71 (-7.03;1.60)
GA 29wks	54	3.18 (-1.08;7.45)	44	4.04 (-0.72;8.81)	50	3.28 (-2.45;9.01)	52	1.02 (-2.66;4.70)
NICU-transfer [a]	34	NA	31	NA	34	NA	34	NA
2M-visit [b]	27	NA	21	NA	26	NA	27	NA
Growth (per 1 mm/wk)								
Birth-NICU transfer	32	NA	29	NA	32	NA	32	NA
Birth-2M	27	NA	20	NA	25	NA	26	NA

Beta-coefficients (B) are shown per interquartile range of each marker, followed by 95% confidence intervals (CI). We used the cognitive and total motor score of the Bayley Scales of Infant and Toddler Development-Third edition (for cognition and motor outcome, respectively), Lexi-test (language) and total score of the Child Behavior Checklist (behavior). [a] Adjusted for GA at ultrasound, [b] adjusted for corrected age at ultrasound. Significant associations are depicted in **bold**.

CC = corpus callosum, n = number of patients/ultrasounds included, GA = gestational age, NICU = neonatal intensive care, NA = not applicable, M = months, CCF = corpus callosum-fastigium, HC = head circumference.

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