

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

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Supplemental Appendices

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Supplemental Table 1

Sex/Race/Ethnicity of Children with Head Trauma
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	TBI on CT*	No TBI on CT	No CT	Overall
	N = 1,157	N = 14,751	N = 27,491	N = 43,399
Sex				
Male	738 (64%)	9,323 (63%)	16,994 (62%)	27,055 (62%)
Female	419 (36%)	5,427 (37%)	10,495 (38%)	16,341 (38%)
Race/ethnicity				
Caucasian	657 (57%)	7,825 (53%)	11,103 (40%)	19,585 (45%)
African-American	260 (22%)	4,211 (29%)	11,259 (41%)	15,730 (36%)
Hispanic	112 (10%)	1,647 (11%)	3,517 (13%)	5,276 (12%)
Asian	30 (3%)	312 (2%)	549 (2%)	891 (2%)
Other	13 (1%)	176 (1%)	283 (1%)	472 (1%)
Unknown	85 (7%)	580 (4%)	780 (3%)	1,445 (3%)

Note: Some percentages in the table do not add to 100% because of rounding and missing data.

Supplemental Table 2

Top 3 Injury Mechanisms by Age Group

	Frequency (%)
Children < 2 years of age	
Fall from elevation	5,887 (54%)
Fall down stairs	1,533 (14%)
Fall to ground from standing/walking/running	979 (9%)
Children 2 - 12 years of age	
Fall from elevation	5,653 (24%)
Fall to ground from standing/walking/running	3,189 (14%)
Object struck head - accidental	2,181 (9%)
Children 13 - 17 years of age	
Assault	2,186 (24%)
Sports	1,751 (19%)
Occupant in motor vehicle crash	1,659 (18%)

Supplemental Table 3

Intracranial Findings on CT by Age

	< 2 years	2 - 12 years	13 -17 years	Overall
	N = 335	N = 536	N = 286	N = 1,157*
Subdural hematoma	106 (32%)	140 (26%)	80 (28%)	326 (28%)
Subarachnoid hemorrhage	84 (25%)	122 (23%)	77 (27%)	283 (24%)
Cerebral contusion	40 (12%)	127 (24%)	87 (30%)	254 (22%)
Pneumocephalus	26 (8%)	148 (28%)	70 (24%)	244 (21%)
Cerebral hemorrhage/intracerebral Hematoma	47 (14%)	106 (20%)	77 (27%)	230 (20%)
Extra-axial hematoma	71 (21%)	92 (17%)	28 (10%)	191 (17%)
Cerebral edema	20 (6%)	73 (14%)	50 (17%)	143 (12%)
Epidural hematoma	43 (13%)	65 (12%)	30 (10%)	138 (12%)
Midline shift/shift of brain structures	33 (10%)	57 (11%)	44 (15%)	134 (12%)
Diastasis of the skull	27 (8%)	41 (8%)	12 (4%)	80 (7%)
Intraventricular hemorrhage	14 (4%)	24 (4%)	19 (7%)	57 (5%)
Shear injury	2 (1%)	12 (2%)	11 (4%)	25 (2%)
Cerebellar hemorrhage	5 (1%)	10 (2%)	8 (3%)	23 (2%)
Diffuse axonal Injury	0 (0%)	7 (1%)	9 (3%)	16 (1%)
Herniation	1 (0%)	7 (1%)	4 (1%)	12 (1%)
Traumatic infarction	2 (1%)	3 (1%)	3 (1%)	8 (1%)
Sigmoid sinus thrombosis	0 (0%)	1 (0%)	0 (0%)	1 (0%)

*556 patients had more than one TBI visualized on CT scan

Supplemental Table 4

Intracranial Findings on CT by GCS Score

	GCS 3-8	GCS 9-13	GCS 14-15	Overall
	N = 214	N = 160	N = 783	N = 1,157*
Subdural hematoma	83 (39%)	53 (33%)	190 (24%)	326 (28%)
Subarachnoid hemorrhage	89 (42%)	42 (26%)	152 (19%)	283 (24%)
Cerebral contusion	68 (32%)	34 (21%)	152 (19%)	254 (22%)
Pneumocephalus	56 (26%)	40 (25%)	148 (19%)	244 (21%)
Cerebral hemorrhage/intracerebral Hematoma	68 (32%)	47 (29%)	115 (15%)	230 (20%)
Extra-axial hematoma	32 (15%)	26 (16%)	133 (17%)	191 (17%)
Cerebral edema	86 (40%)	20 (13%)	37 (5%)	143 (12%)
Epidural hematoma	18 (8%)	21 (13%)	99 (13%)	138 (12%)
Midline shift/shift of brain structures	62 (29%)	19 (12%)	53 (7%)	134 (12%)
Diastasis of the skull	20 (9%)	15 (9%)	45 (6%)	80 (7%)
Intraventricular hemorrhage	32 (15%)	8 (5%)	17 (2%)	57 (5%)
Shear Injury	12 (6%)	3 (2%)	10 (1%)	25 (2%)
Cerebellar hemorrhage	10 (5%)	2 (1%)	11 (1%)	23 (2%)
Diffuse axonal Injury	13 (6%)	0 (0%)	3 (0%)	16 (1%)
Herniation	11 (5%)	1 (1%)	0 (0%)	12 (1%)
Traumatic infarction	7 (3%)	0 (0%)	1 (0%)	8 (1%)
Sigmoid sinus thrombosis	0 (0%)	0 (0%)	1 (0%)	1 (0%)

*556 patients had more than one TBI visualized on CT

Supplemental Table 5**Neurosurgical Procedure by Age**

	< 2 years	2 - 12 years	13 - 17 years	Overall
	N = 35	N = 105	N = 60	N = 200*
Hematoma drained	19 (54%)	42 (40%)	24 (40%)	85 (43%)
ICP monitor	9 (26%)	48 (46%)	25 (42%)	82 (41%)
Ventriculostomy	6 (17%)	25 (24%)	27 (45%)	58 (29%)
Fracture elevation	11 (31%)	21 (20%)	10 (17%)	42 (21%)
Dura repair for CSF leak	1 (3%)	14 (13%)	3 (5%)	18 (9%)
Craniectomy/bone flap	3 (9%)	4 (4%)	5 (8%)	12 (6%)
Lobectomy	3 (9%)	4 (4%)	1 (2%)	8 (4%)
Tissue debridement	0 (0%)	6 (6%)	1 (2%)	7 (4%)
Other neurosurgical procedure	2 (6%)	1 (1%)	2 (3%)	5 (3%)

*85 patients had more than one neurosurgical procedure performed.

ICP = intracranial pressure monitor, CSF = cerebrospinal fluid

Other neurosurgical procedures include shunt placement, lumbar drain, fontanelle tap, suture cranial nerves and meninges repair.

Supplemental Table 6

Neurosurgical Procedure by GCS Score

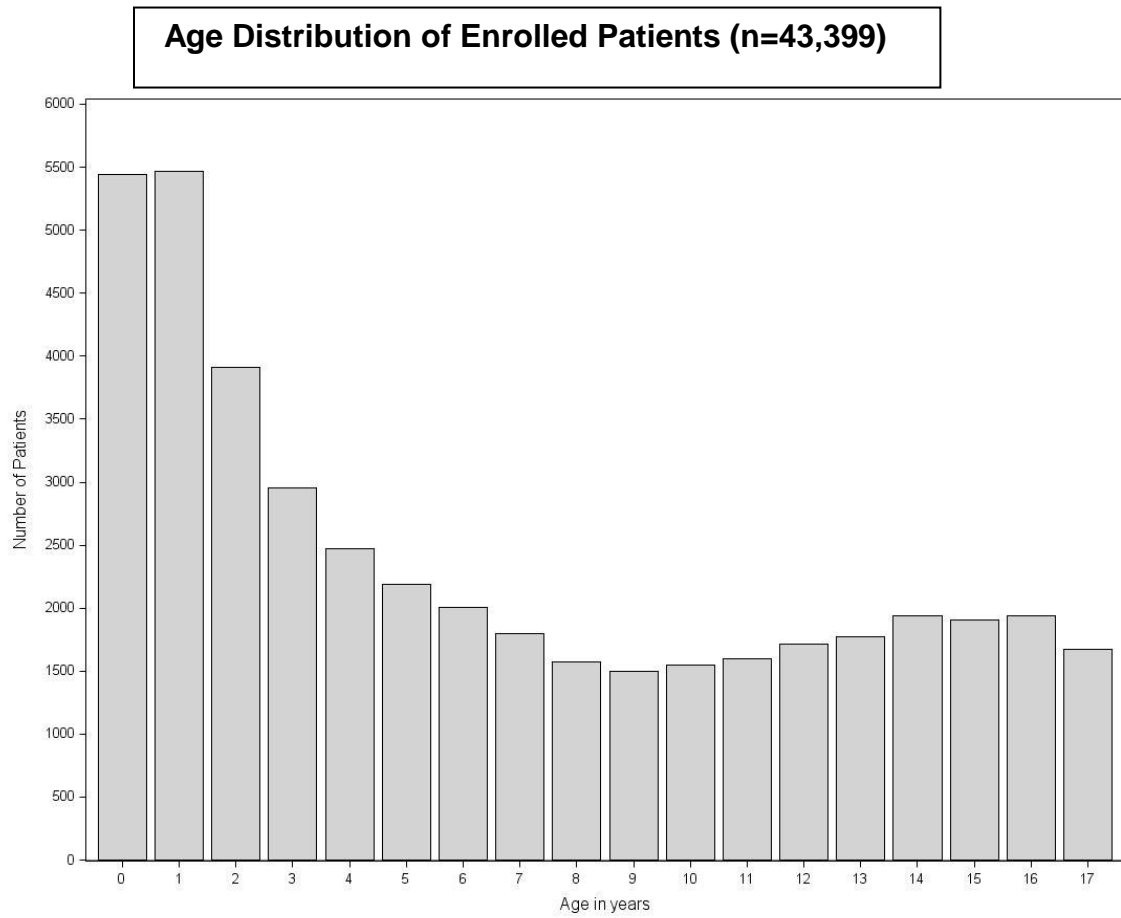
	GCS 3 - 8	GCS 9 - 13	GCS 14 - 15	Total
Number	108/354	32/615	60/42,430	200/43,399
(%)	(30.5%)	(5.2%)	(0.1%)	(0.5%)
Hematoma drained	33 (31%)	18 (56%)	34 (57%)	85 (43%)
ICP monitor	69 (64%)	12 (38%)	1 (2%)	82 (41%)
Ventriculostomy	51 (47%)	6 (19%)	1 (2%)	58 (29%)
Fracture elevation	6 (6%)	8 (25%)	28 (47%)	42 (21%)
Dura repair for CSF leak	8 (7%)	4 (13%)	6 (10%)	18 (9%)
Craniectomy/bone flap	9 (8%)	0 (0%)	3 (5%)	12 (6%)
Lobectomy	7 (6%)	0 (0%)	1 (2%)	8 (4%)
Tissue debridement	2 (2%)	1 (3%)	4 (7%)	7 (4%)
Other neurosurgical procedure	2 (2%)	2 (6%)	1 (2%)	5 (3%)

*85 patients had more than one neurosurgical procedure performed.

ICP = intracranial pressure monitor, CSF = cerebrospinal fluid

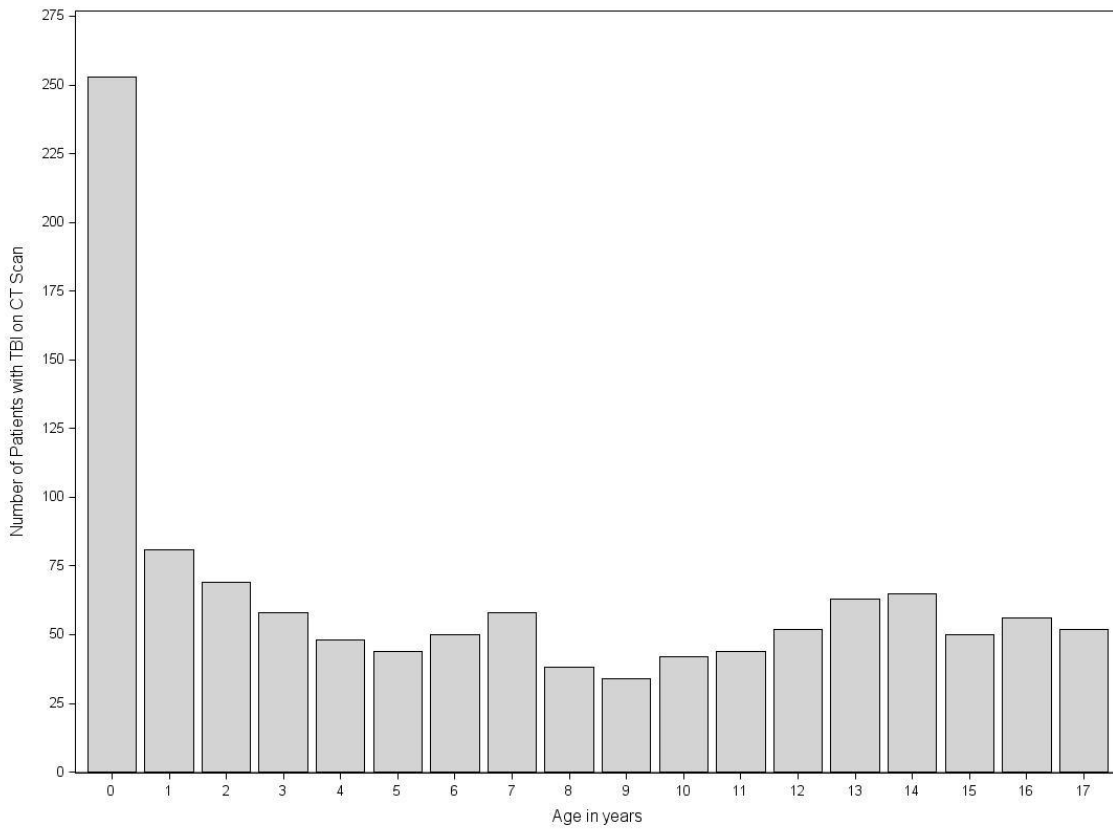
Other neurosurgical procedures include shunt placement, lumbar drain, fontanelle tap, suture cranial nerves and meninges repair

Supplemental Figure 1



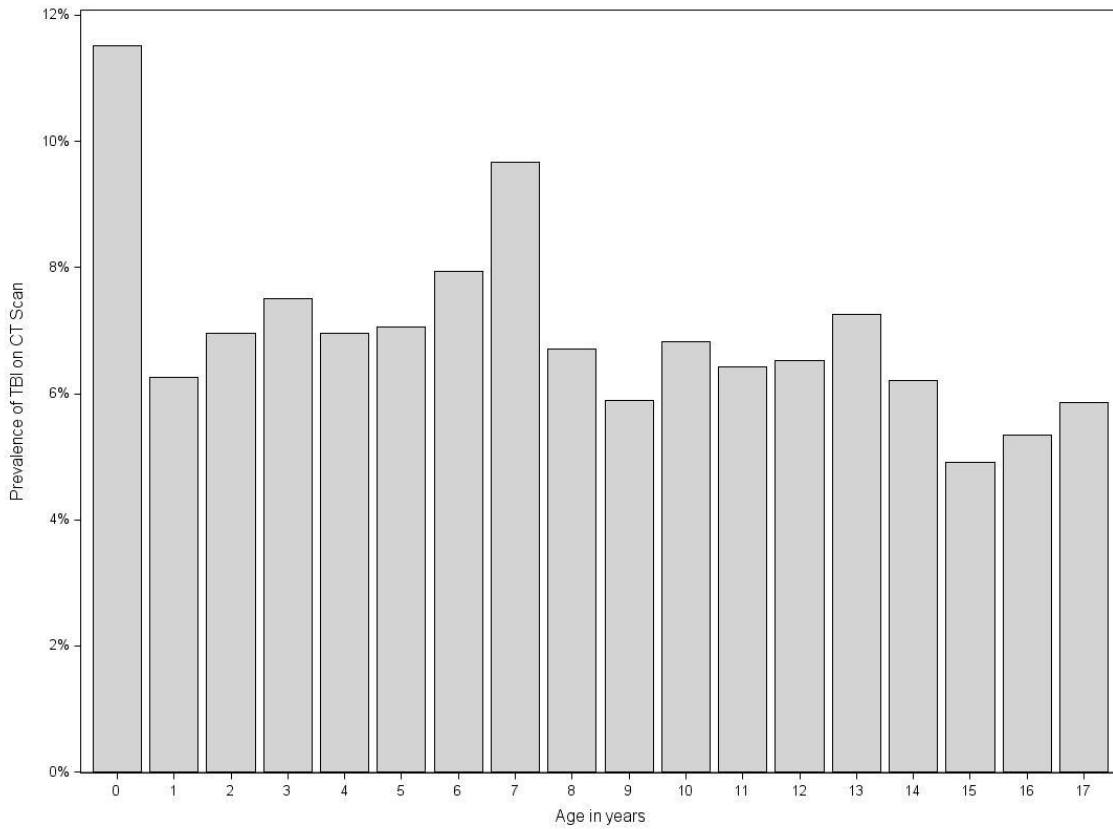
Supplemental Figure 2

Age Distribution of Patients with TBIs on CT



Supplemental Figure 3

Prevalence of TBIs on CT Stratified by Age



Supplemental Figure 4

Prevalence of TBIs on CT Stratified by GCS Score

