

Table 6 for E-journal inclusion :**Association between all clinical correlates and CT results.**

Finding	Total (%)	Negative CT scan (%)	Positive CT scan (%)	P-value
	(N=22,772)	(N=22,491)	(N=281)	
Age				
0-6mths	852 (3.8)	841 (3.8)	11 (3.9)	
6mths – 1 year	1600 (7.1)	1589 (7.1)	11 (3.9)	
1 year – 2 years	3777 (17)	3758 (17)	19 (6.8)	
2 years – 5 years	6492 (29)	6468 (29)	24 (9)	
5 years–11 years	6577 (29)	6473 (29)	104 (37)	
11 years-16years	3340 (15)	3228 (14)	112 (40)	P<0.001
Missing	134 (0.6)			
Sex				
Male	14767 (65)	14568 (65)	199 (71)	
Female	7941 (35)	7859 (35)	82 (29)	P=0.024
Missing	64 (0.3)			
Hours since incident				
0-3hrs	14937 (76)	14705 (76)	232 (86)	
3-6hrs	2984 (15)	2977 (15)	7 (2.6)	
6-12hrs	591 (3)	582 (3)	9 (3.3)	
12-24hrs	511 (2.6)	501 (2.6)	10 (3.7)	
24-48hrs	307 (1.6)	305 (1.6)	2 (0.7)	
>48hrs	290 (1.5)	280 (1.4)	10 (3.7)	P<0.001
Missing	3152 (14)			
Type of accident				
RTA occupant	189 (0.8)	175 (0.8)	14 (5.0)	P<0.001
RTA cyclist	786 (3.5)	743 (3.3)	43 (15)	P<0.001
RTA pedestrian	372 (1.6)	293 (1.3)	79 (28)	P<0.001
Any type of RTA	1347 (5.9)	1211(5.4)	136 (48)	P<0.001
Fall from a height	4506 (20)	4451 (20)	55 (20)	P=0.994
0-1m	2230 (9.8)	2226 (9.9)	4 (1.4)	P<0.001
1-2m	1809 (7.9)	1797 (8.0)	12 (4.3)	P=0.024
2-3m	330 (1.4)	317 (1.4)	13 (4.6)	P<0.001
>3m	124 (0.5)	98 (0.4)	26 (9.3)	P<0.001
Slip/Trip/Fall	12058 (53)	12025 (54)	33 (12)	P<0.001
Hit by projectile/object	2361 (10)	2328 (10)	33 (12)	P=0.435
Assault	933 (4)	923 (4)	10 (3.6)	P=0.763
Other mechanism	1525 (6.7)	1512 (6.7)	13 (4.6)	P=0.191
Fall down stairs	1202 (5.3)	1194 (5.3)	8 (2.8)	P=0.079
Child dropped	398 (1.7)	390 (1.7)	8 (2.8)	P=0.163
Speed of injury				
Slow	14345 (63)	14306 (64)	39 (14)	
Medium	6815 (30)	6729 (30)	86 (32)	

Fast	1455 (6.4)	1307 (5.8)	148 (54)	P<0.001
Missing	157 (0.7)			
Other death at incident	10 (0.1)	5 (0.1)	5 (1.8)	P<0.001
Unwitnessed injury	936 (4.1)	886 (3.9)	50 (18)	P<0.001
Agent				
Broad/Hard	11652 (52)	11451 (51)	201 (74)	
Broad/Soft	2478 (11)	2463 (11)	15 (5.5)	
Localised/Hard	8124 (36)	8067 (36)	57 (21)	
Localised/Soft	391 (1.7)	391 (1.7)	0 (0)	P<0.001
Missing	127 (0.6)			
Loss of Consciousness				
Any LOC	1185 (5.2)	1041 (4.6)	144 (51)	P<0.001
LOC >1min	524 (2.3)	400 (1.8)	124 (44)	P<0.001
LOC>5mins	213 (0.9)	118 (0.5)	95 (34)	P<0.001
Any amnesia	720 (3.2)	651 (2.9)	69 (25)	P<0.001
Amnesia				
Amnesia>1min	488 (2.1)	419 (1.9)	69 (25)	P<0.001
Amnesia >5mins	288 (1.3)	226 (1.0)	62 (22)	P<0.001
Any LOC or amnesia	1502 (6.6)	1340 (6.0)	162 (58)	P<0.001
LOC or Amnesia >5mins	418 (1.8)	291 (1.3)	125 (45)	P<0.001
Vomiting				
Any vomiting	2498 (11)	2383 (10)	115 (41)	P<0.001
Vomiting 2 or more times	1418 (6.2)	1336 (5.9)	82 (29)	P<0.001
Vomiting 3 or more times	857 (3.8)	801 (3.6)	56 (20)	P<0.001
Headache				
Headache Mild	3972 (19)	3960 (19)	12 (5.0)	
Headache Moderate	716 (3.4)	688 (3.3)	28 (12)	
Headache Severe	95 (0.4)	78 (0.4)	17 (7.1)	P<0.001
Symptoms				
Vertigo/Dizziness	644 (2.8)	630 (2.8)	14 (5.0)	P=0.043
Drowsiness	949 (4.2)	889 (4.0)	60 (21)	P<0.001
Nausea/not feeding	615 (2.7)	601 (2.7)	14 (5.0)	P=0.025
Hearing loss	23 (0.1)	22 (0.1)	1 (0.4)	P=0.249
Visual symptoms	242 (1.1)	238 (1.1)	4 (1.4)	P=0.547
Disorientation/Abnormal Behaviour	234 (1.0)	193 (0.9)	41 (15)	P<0.001
Alcohol or drug intoxication	48 (0.2)	35 (0.2)	13 (4.6)	P<0.001
Seizure	109 (0.5)	81 (0.4)	28 (10)	P<0.001
Difficulty taking history	255 (1.1)	248 (1.1)	7 (2.5)	P=0.040
Examination				
Bruising mean (SD)	1.3 (1.3)	1.3 (1.3)	3.5 (1.8)	P<0.001
Swelling mean (SD)	1.3(1.4)	1.3 (1.4)	4.0 (1.7)	P<0.001
Laceration mean (SD)	0.9 (1.0)	0.9 (1.0)	2.7 (1.7)	P<0.001

Bruise/Swelling/Laceration >5cm in under 1 year old	52 (0.2)	46 (0.2)	6 (2.1)	P<0.001
Depth of Injury				
Superficial	13189 (90)	13155 (91)	34 (23)	P<0.001
Deep injury	991 (6.8)	964 (6.7)	27 (18)	P<0.001
Injury down to bone	430 (2.9)	344 (2.4)	86 (59)	P<0.001
Type of Injury				
Facial injury	5212 (23)	5167 (23)	45 (16)	P=0.006
Frontal injury	8291 (36)	8200 (37)	91 (32)	P=0.171
Parietal injury	2216 (9.7)	2158 (9.6)	58 (22)	P<0.001
Temporal injury	1100 (4.8)	1048 (4.7)	52 (19)	P<0.001
Occipital injury	3429 (15)	3390 (15)	39 (14)	P=0.610
Vertex injury	600 (2.6)	590 (2.6)	10 (3.6)	P=0.343
Suspected penetrating injury	49 (0.2)	38 (0.2)	11 (3.9)	P<0.001
Depressed skull fracture	57 (0.3)	18 (0.1)	39 (14)	P<0.001
Tense fontanelle	4 (0.1)	2 (0.1)	2 (0.7)	P=0.001
Suspect major head injury (penetrating injury, depressed skull fracture, fontanelle)	104 (0.5)	58 (0.3)	46 (16)	P<0.001
Blood from ear or nose	464 (2)	402 (1.8)	62 (22)	P<0.001
CSF from ear or nose	36 (0.2)	20 (0.1)	16 (5.7)	P<0.001
Serious facial injury	33 (0.1)	22 (0.1)	11 (3.9)	P<0.001
Facial crepitus	3 (0.1)	0	3 (1.1)	P<0.001
Panda eyes	38 (0.2)	20 (0.1)	18 (6.4)	P<0.001
Haemotympanum	20 (0.1)	11 (0.1)	9 (3.2)	P<0.001
Battle's sign	12 (0.1)	10 (0.1)	2 (0.7)	P=0.009
Suspect basal skull fracture(blood or CSF/nose/ear, serious facial injury or crepitus, panda eyes or haemotympanum)	536 (2.4)	451 (2.0)	85(30)	P<0.001
Other major trauma	126 (0.6)	73 (0.3)	53 (19)	P<0.001
Suspect Non-accidental injury	61 (0.3)	41 (0.2)	20 (7.1)	P<0.001
No responsible adult available to supervise pt at home	8 (0.1)	8 (0.1)	0	P=0.905
Child on protection register	16 (0.1)	13 (0.1)	3 (1.1)	P=0.001
Learning disability	102 (0.4)	98 (0.4)	4 (1.4)	P=0.038
History of neurosurgery	29 (0.1)	27 (0.1)	2 (0.7)	P=0.050
Coagulopathy	14 (0.1)	14 (0.1)	0	P=0.840
History of Epilepsy	50 (0.2)	48 (0.2)	2 (0.7)	P=0.127
Other relevant past medical History	142 (0.6)	135 (0.6)	7 (2.5)	P=0.002
Glasgow Coma Score				
GCS<15	495 (2.2)	339 (1.5)	156 (56)	P<0.001
GCS<14	266 (1.2)	137 (0.6)	129 (46)	P<0.001
GCS<13	193 (0.8)	80 (0.4)	113 (40)	P<0.001
GCS<15 if age <1 year	79(0.3)	71 (0.3)	8(2.8)	P<0.001

Mean GCS score (S.D.)	15 (0.68)	15 (0.38)	12 (3.9)	P<0.001
Mean Eyes GCS (S.D.)	4.0 (0.21)	4.0 (0.13)	3.1 (1.2)	P<0.001
Mean Motor GCS (S.D.)	6.0 (0.24)	6.0 (0.14)	5.0 (1.5)	P<0.001
Mean Voice GCS (S.D.)	5.0 (0.29)	5.0 (0.18)	3.7 (1.6)	P<0.001
Number of pts under 1 with GCS unobtainable	189 (7.7)			
Number of pts age 1-2 with GCS unobtainable	53 (1.4)			
Number of pts over 2 years of Age with GCS unobtainable	39 (0.2)			
Focal Neurology				
Pupils not equal and reactive	81 (0.4)	48 (0.2)	33 (12)	P<0.001
Papilloedema	12 (0.1)	5 (0.1)	7 (2.5)	P<0.001
Nystagmus	12 (0.1)	8 (0.1)	4 (1.4)	P<0.001
Motor weakness	35 (0.2)	20 (0.1)	15 (5.3)	P<0.001
Sensory weakness	8 (0.1)	6 (0.1)	2 (0.7)	P=0.004
Abnormal reflexes	3 (0.1)	3 (0.1)	0	P=1
Abnormal co-ordination	7 (0.1)	6 (0.1)	1 (0.4)	P=0.083
Any focal neurology (Pupils, papilloedema, nystagmus, motor, sensory, reflex, coordination weakness)	150 (0.7)	96 (0.4)	54 (19)	P<0.001

Appendix 1

STARD Checklist

Section and topic	Item	Describe	Reported on page #
TITLE/ABSTRACT/ KEYWORDS	1	The article as a study on diagnostic accuracy (recommend MeSH heading 'sensitivity and specificity')	Page 33
INTRODUCTION	2	The research question(s), such as estimating diagnostic accuracy or comparing accuracy between tests or across participant groups	Aim stated on page 5
METHODS			
<i>Participants</i>	3	The study population: the inclusion and exclusion criteria, setting(s) and location(s) where the data were collected	Page 5
	4	Participant recruitment: was this based on presenting symptoms, results from previous tests, or the fact that the participants had received the index test(s) or the reference standard?	Inclusion criteria stated in Methods page 5
	5	Participant sampling: was this a consecutive series of patients defined by selection criteria in (3) and (4)? If not specify how patients were further selected.	Consecutive series stated in Methods 5 (all patients in the North-west recruited
	6	Data collection: were the participants identified and data collected before the index test(s) and reference standards were performed (prospective study) or after (retrospective study)?	Proforma details in Methods section page 6
<i>Reference standard</i>	7	The reference standard and its rationale	Gold standard for positive and hegative outcome for significant intracranial pathology stated in detail page 6-7
<i>Test methods</i>	8	Technical specification of material and methods involved including how and when measurements were taken, and/or cite references for index test(s) and reference standard	Stated pages 5-7
	9	Definition and rationale for the units, cutoffs and/or categories of the results of the index test(s) and the reference standard	Definition of Significant intracranial pathology given in methods from page 5
	10	The number, training and expertise of the persons (a) executing and (b) reading the index test(s) and the reference standard	Positive CT scan as reported by consultant radiologist stated in

			page 5 , additional clinican details given in methods
	11	Whether or not the reader(s) of the index test(s) and reference standard were blind (masked) to the results of the other test(s) and describe any information available to them	Readers were not blind to the clinical status of the patient but this is clear in the context of the study.
<i>Statistical methods</i>	12	Methods for calculating measures of diagnostic accuracy or making comparisons, and the statistical methods used to quantify uncertainty (e.g. 95% confidence intervals)	All statistical tests given in Methods , page 7
	13	Methods for calculating test reproducibility, if done	Methods for Kappa coefficient given from page 7
RESULTS			
<i>Participants</i>	14	When study was done, including beginning and ending dates of recruitment	Given in methods page 5
	15	Clinical and demographic characteristics (e.g. age, sex, spectrum of presenting symptom(s), comorbidity, current treatment(s), recruitment center)	Given in Table 1
	16	How many participants satisfying the criteria for inclusion did or did not undergo the index test and/or the reference standard; describe why participants failed to receive either test (a flow diagram is strongly recommended)	Our negative outcome measure is a composite measure after multimodal prospective monitoring. And thus all our patients underwent this rigorous process.
<i>Reference standard</i>	17	Time interval and any treatment administered between index and reference standard	Not applicable
	18	Distribution of severity of disease (define criteria) in those with the target condition; describe other diagnoses in participants without the target condition	Table 2
<i>Test results</i>	19	A cross tabulation of the results of the index test(s) by the results of the reference standard; for continuous results, the distribution of the test results by the results of the reference standard	Given in table 3
	20	Indeterminate results, missing responses and outliers of index test(s) stratified by reference standard result and how they were handled	N/A
	21	Adverse events of index test(s) and reference standard	False negatives discussed page 10-11

<i>Estimation</i>	22	Estimates of diagnostic accuracy and measures of statistical uncertainty (e.g. 95% confidence intervals)	Table 3
	23	Estimates of variability of diagnostic accuracy between subgroups of participants, readers or centers, if done	Given table 3
	24	Measures of test reproducibility, if done	Kappa coefficients given in results page 10
DISCUSSION	25	The clinical applicability of the study findings	Discussed fully