|  |  |  |
| --- | --- | --- |
| Variable | Univariable Odds ratio of admission to hospital (95%CI) | Adjusted Odds ratio of admission to hospital (95%CI) |
| Age (per year) | 101 (101-101) | 101 (101-101) |
| Sex. Male  (Reference = Female) | 1∙28 (1∙21-1∙36) | 1∙16 (1∙08-1∙25) |
| Pre existing disease: Reference = None | | |
| Mild systemic disease  Severe systemic disease  Severe that is a constant threat to life  Not recorded | 1∙14 (1∙06-1)  1 (1-1)  2∙34 (1-2)  139 (117-166) | 0∙96 (0∙87-105)  147 (132-165)  2∙04 (160-260)  062 (049-078) |
| Presence of CT brain scan Abnormality  (Reference= No injury on CT brain scan) | 1656 (14-18) | 970 (863-1095) |
| GCS 15 in ED\*\*  (Reference = GCS <15 in ED) | 0 (0-0) | 035 (032-038) |
| Significant Extracranial Injury (AIS 3+)  (Reference = No significant Extracranial Injury (AIS <3)) | 2 (2-3) | 240 (224-258) |
| Arriving at ED intubated  (Reference = Arriving at ED not intubated) | (93-544) | 4111 (184-1165) |
| Low Energy Transfer  (Reference = High Energy Transfer) | 0(0-1) | 082 (034-053) |
| Age: Energy Transfer (Low Energy) Interaction | 101 (101-101) | 101 (101-101) |

TABLE SHOWING : MULTIVARIABLE ANALYSIS OF FACTORS (age, sex, pre-existing disease status, presence of CT brain abnormality, ED GCS < 15, presence of significant extracranial injury, being intubated on ED arrival, causal energy transfer mechanism and its interaction with age) PREDICTING HOSPITAL ADMISSION IN 18035\* PATIENTS FROM THE CENTER TBI REGISTRY \*excluding patients who died in ER n=69, arrived as secondary transfers n= 2706, or with missing Age / CT Abnormality / GCS sum score / extracranial injury n=873. GCS Considered as binary category in accordance with guidance for hospital admission (8). Area Under Receiver Operator Characteristic Curve (AUC) = 0.81 . GCS=Glasgow Coma Score, ED= Emergency Department, CT= CT brain scan, CI=Confidence Interval, IQR=Interquartile range, AIS=Abbreviated Injury Scale,