

Supplementary Online Content

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eAppendix 1. Traumatic Brain Injury (TBI) Severity Case Definitions.

eAppendix 2. Traumatic Brain Injury (TBI) Severity Classification Using Modified Defense and Veterans Brain Injury Center (DVBIC) 2012 ICD-9 Diagnostic Code List.

eAppendix 3. Dementia ICD-9 Diagnostic Code List.

eTable. Traumatic Brain Injury Case Distribution.

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

eAppendix 1. Traumatic Brain Injury (TBI) Severity Case Definitions

Data Source	TBI Severity			
	Mild, Without LOC	Mild, With LOC	Mild, LOC Unknown	Moderate/Severe
CTBIE	LOC = 0; AOC = a moment to 24 hrs; AND PTA 0 to 1 day	LOC > 0 to 30 min; AOC = a moment to 24 hrs; AND PTA 0 to 1 day	N/A	LOC > 30 min; AOC > 24 hours; OR PTA > 1 day
NPCD	Mild TBI (ICD-9 codes); AND LOC = 0	Mild TBI (ICD-9 codes); AND LOC = brief (< 1 hr)	Mild TBI (ICD-9 codes); AND LOC = unknown or unspecified	Moderate, Severe or Penetrating TBI (ICD-9 codes)

CTBIE, Comprehensive Traumatic Brain Injury Evaluation; AOC, alteration of consciousness; ICD-9, International Classification of Diseases – 9th edition; LOC, loss of consciousness; NPCD, National Patient Care Database; PTA, post-traumatic amnesia. Specific ICD-9 codes are from the Defense and Veterans Brain Injury Center (DVBIC) 2012 criteria and are listed in Appendix 3.

eAppendix 2. Traumatic Brain Injury (TBI) Severity Classification Using Modified Defense and Veterans Brain Injury Center (DVBIC) 2012 ICD-9 Diagnostic Code List

ICD-9	Description	DVBIC 2012 Severity Classification	CENC Severity Classification
310.2	Postconcussion Syndrome	Mild	Mild, LOC unknown
800.0	closed fracture of vault of skull w/o mention of intracranial injury	n/a	n/a
800.00	closed fracture of vault of skull w/o mention of intracranial injury w/state of consciousness unspecified	Mild	Mild, LOC unknown
800.01	closed fracture of vault of skull w/o mention of intracranial injury w/o LOC	Mild	Mild, no LOC
800.02	closed fracture of vault of skull w/o mention of intracranial injury w/brief (< 1 hr) LOC	Mild	Mild, LOC
800.03	closed fracture of vault of skull w/o mention of intracranial injury w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
800.04	closed fracture of vault of skull w/o mention of intracranial injury w/prolonged (> 24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
800.05	closed fracture of vault of skull w/o mention of intracranial injury w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
800.06	closed fracture of vault of skull w/o mention of intracranial injury w/LOC of unspecified duration	Mild	Mild, LOC Mild, LOC
800.09	closed fracture of vault of skull w/o mention of intracranial injury w/concussion unspecified	Mild	unknown
800.1	closed fracture of vault of skull with cerebral laceration and contusion	n/a	n/a
800.10	closed fracture of vault of skull with cerebral laceration and contusion w/state of consciousness unspecified	Moderate	Mod/Sev
800.11	closed fracture of vault of skull with cerebral laceration and contusion w/o LOC	Moderate	Mod/Sev
800.12	closed fracture of vault of skull with cerebral laceration and contusion w/brief (<1 hr) LOC	Moderate	Mod/Sev
800.13	closed fracture of vault of skull with cerebral laceration and contusion w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
800.14	closed fracture of vault of skull with cerebral laceration and contusion w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
800.15	closed fracture of vault of skull with cerebral laceration and contusion w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
800.16	closed fracture of vault of skull with cerebral laceration and contusion w/LOC of unspecified duration	Moderate	Mod/Sev
800.19	closed fracture of vault of skull with cerebral laceration and contusion w/concussion unspecified	Moderate	Mod/Sev
800.2	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage	n/a	n/a
800.20	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/state of consciousness unspecified	Moderate	Mod/Sev
800.21	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/o LOC	Moderate	Mod/Sev
800.22	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/brief (<1 hr) LOC	Moderate	Mod/Sev
800.23	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
800.24	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
800.25	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
800.26	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/LOC of unspecified duration	Moderate	Mod/Sev
800.29	closed fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/concussion unspecified	Moderate	Mod/Sev

800.3	closed fracture of vault of skull with other and unspecified intracranial hemorrhage	n/a	n/a
800.30	closed fracture of vault of skull with other and unspecified intracranial hemorrhage w/state of consciousness unspecified	Moderate	Mod/Sev
800.31	closed fracture of vault of skull with other and unspecified intracranial hemorrhage w/o LOC	Moderate	Mod/Sev
800.32	closed fracture of vault of skull with other and unspecified intracranial hemorrhage w/brief (<1 hr) LOC	Moderate	Mod/Sev
800.33	closed fracture of vault of skull with other and unspecified intracranial hemorrhage w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
800.34	closed fracture of vault of skull with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
800.35	closed fracture of vault of skull with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
800.36	closed fracture of vault of skull with other and unspecified intracranial hemorrhage w/LOC of unspecified duration	Moderate	Mod/Sev
800.39	closed fracture of vault of skull with other and unspecified intracranial hemorrhage w/concussion unspecified	Moderate	Mod/Sev
800.4	closed fracture of vault of skull with intracranial injury of other and unspecified nature	n/a	n/a
800.40	closed fracture of vault of skull with intracranial injury of other and unspecified nature w/state of consciousness unspecified	Moderate	Mod/Sev
800.41	closed fracture of vault of skull with intracranial injury of other and unspecified nature w/o LOC	Moderate	Mod/Sev
800.42	closed fracture of vault of skull with intracranial injury of other and unspecified nature w/brief (<1 hr) LOC	Moderate	Mod/Sev
800.43	closed fracture of vault of skull with intracranial injury of other and unspecified nature w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
800.44	closed fracture of vault of skull with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
800.45	closed fracture of vault of skull with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
800.46	closed fracture of vault of skull with intracranial injury of other and unspecified nature w/LOC of unspecified duration	Moderate	Mod/Sev
800.49	closed fracture of vault of skull with intracranial injury of other and unspecified nature w/concussion unspecified	Moderate	Mod/Sev
800.5	open fracture of vault of skull w/o mention of intracranial injury	n/a	n/a
800.50	open fracture of vault of skull w/o mention of intracranial injury w/state of consciousness unspecified	Mild	Mild, LOC unknown
800.51	open fracture of vault of skull w/o mention of intracranial injury w/o LOC	Mild	Mild, no LOC
800.52	open fracture of vault of skull w/o mention of intracranial injury w/brief (<1 hr) LOC	Mild	Mild, LOC
800.53	open fracture of vault of skull w/o mention of intracranial injury w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
800.54	open fracture of vault of skull w/o mention of intracranial injury w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
800.55	open fracture of vault of skull w/o mention of intracranial injury w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
800.56	open fracture of vault of skull w/o mention of intracranial injury w/LOC of unspecified duration	Moderate	Mod/Sev
800.59	open fracture of vault of skull w/o mention of intracranial injury w/concussion unspecified	Moderate	Mod/Sev
800.6	open fracture of vault of skull with cerebral laceration and contusion	n/a	n/a
800.60	open fracture of vault of skull with cerebral laceration and contusion w/state of consciousness unspecified	Penetrating	Mod/Sev
800.61	open fracture of vault of skull with cerebral laceration and contusion w/o LOC	Penetrating	Mod/Sev

800.62	open fracture of vault of skull with cerebral laceration and contusion w/brief (<1 hr) LOC	Penetrating	Mod/Sev
800.63	open fracture of vault of skull with cerebral laceration and contusion w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
800.64	open fracture of vault of skull with cerebral laceration and contusion w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
800.65	open fracture of vault of skull with cerebral laceration and contusion w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
800.66	open fracture of vault of skull with cerebral laceration and contusion w/LOC of unspecified duration	Penetrating	Mod/Sev
800.69	open fracture of vault of skull with cerebral laceration and contusion w/concussion unspecified	Penetrating	Mod/Sev
800.7	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage	n/a	n/a
800.70	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/state of consciousness unspecified	Penetrating	Mod/Sev
800.71	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/o LOC	Penetrating	Mod/Sev
800.72	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/brief (<1 hr) LOC	Penetrating	Mod/Sev
800.73	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
800.74	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
800.75	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
800.76	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/LOC of unspecified duration	Penetrating	Mod/Sev
800.79	open fracture of vault of skull with subarachnoid subdural and extradural hemorrhage w/concussion unspecified	Penetrating	Mod/Sev
800.8	open fracture of vault of skull with other and unspecified intracranial hemorrhage	n/a	n/a
800.80	open fracture of vault of skull with other and unspecified intracranial hemorrhage w/state of consciousness unspecified	Penetrating	Mod/Sev
800.81	open fracture of vault of skull with other and unspecified intracranial hemorrhage w/o LOC	Penetrating	Mod/Sev
800.82	open fracture of vault of skull with other and unspecified intracranial hemorrhage w/brief (<1 hr) LOC	Penetrating	Mod/Sev
800.83	open fracture of vault of skull with other and unspecified intracranial hemorrhage w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
800.84	open fracture of vault of skull with other and unspecified intracranial hemorrhage w/prolonged (More Than 24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
800.85	open fracture of vault of skull with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
800.86	open fracture of vault of skull with other and unspecified intracranial hemorrhage w/LOC of unspecified duration	Penetrating	Mod/Sev
800.89	open fracture of vault of skull with other and unspecified intracranial hemorrhage w/concussion unspecified	Penetrating	Mod/Sev
800.9	open fracture of vault of skull with intracranial injury of other and unspecified nature	n/a	n/a
800.90	open fracture of vault of skull with intracranial injury of other and unspecified nature w/state of consciousness unspecified	Penetrating	Mod/Sev
800.91	open fracture of vault of skull with intracranial injury of other and unspecified nature w/o LOC	Penetrating	Mod/Sev
800.92	open fracture of vault of skull with intracranial injury of other and unspecified nature w/brief (<1 hr) LOC	Penetrating	Mod/Sev
800.93	open fracture of vault of skull with intracranial injury of other and unspecified nature	Penetrating	Mod/Sev

800.94	unspecified nature w/moderate (1-24 hrs) LOC open fracture of vault of skull with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
800.95	open fracture of vault of skull with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
800.96	open fracture of vault of skull with intracranial injury of other and unspecified nature w/LOC of unspecified duration	Penetrating	Mod/Sev
800.99	open fracture of vault of skull with intracranial injury of other and unspecified nature w/concussion unspecified	Penetrating	Mod/Sev
801.0	closed fracture of base of skull w/o mention of intracranial injury	n/a	n/a
801.00	closed fracture of base of skull w/o mention of intracranial injury w/state of consciousness unspecified	Mild	Mild, LOC unknown
801.01	closed fracture of base of skull w/o mention of intracranial injury w/o LOC	Mild	Mild, no LOC
801.02	closed fracture of base of skull w/o mention of intracranial injury w/brief (<1 hr) LOC	Mild	Mild, LOC
801.03	closed fracture of base of skull w/o mention of intracranial injury w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
801.04	closed fracture of base of skull w/o mention of intracranial injury w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
801.05	closed fracture of base of skull w/o mention of intracranial injury w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
801.06	closed fracture of base of skull w/o mention of intracranial injury w/LOC of unspecified duration	Mild	Mild, LOC Mild, LOC unknown
801.09	closed fracture of base of skull w/o mention of intracranial injury w/concussion unspecified	Mild	unknown
801.1	closed fracture of base of skull with cerebral laceration and contusion	n/a	n/a
801.10	closed fracture of base of skull with cerebral laceration and contusion w/state of consciousness unspecified	Moderate	Mod/Sev
801.11	closed fracture of base of skull with cerebral laceration and contusion w/o LOC	Moderate	Mod/Sev
801.12	closed fracture of base of skull with cerebral laceration and contusion w/brief (<1 hr) LOC	Moderate	Mod/Sev
801.13	closed fracture of base of skull with cerebral laceration and contusion w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
801.14	closed fracture of base of skull with cerebral laceration and contusion w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
801.15	closed fracture of base of skull with cerebral laceration and contusion w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
801.16	closed fracture of base of skull with cerebral laceration and contusion w/LOC of unspecified duration	Moderate	Mod/Sev
801.19	closed fracture of base of skull with cerebral laceration and contusion w/concussion unspecified	Moderate	Mod/Sev
801.2	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage	n/a	n/a
801.20	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/state of consciousness unspecified	Moderate	Mod/Sev
801.21	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/o LOC	Moderate	Mod/Sev
801.22	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/brief (<1 hr) LOC	Moderate	Mod/Sev
801.23	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
801.24	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
801.25	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev

801.26	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/LOC of unspecified duration	Moderate	Mod/Sev
801.29	closed fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/concussion unspecified	Moderate	Mod/Sev
801.3	closed fracture of base of skull with other and unspecified intracranial hemorrhage	n/a	n/a
801.30	closed fracture of base of skull with other and unspecified intracranial hemorrhage w/state of consciousness unspecified	Moderate	Mod/Sev
801.31	closed fracture of base of skull with other and unspecified intracranial hemorrhage w/o LOC	Moderate	Mod/Sev
801.32	closed fracture of base of skull with other and unspecified intracranial hemorrhage w/brief (<1 hr) LOC	Moderate	Mod/Sev
801.33	closed fracture of base of skull with other and unspecified intracranial hemorrhage w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
801.34	closed fracture of base of skull with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
801.35	closed fracture of base of skull with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
801.36	closed fracture of base of skull with other and unspecified intracranial hemorrhage w/LOC of unspecified duration	Moderate	Mod/Sev
801.39	closed fracture of base of skull with other and unspecified intracranial hemorrhage w/concussion unspecified	Moderate	Mod/Sev
801.4	closed fracture of base of skull with intracranial injury of other and unspecified nature	n/a	n/a
801.40	closed fracture of base of skull with intracranial injury of other and unspecified nature w/state of consciousness unspecified	Moderate	Mod/Sev
801.41	closed fracture of base of skull with intracranial injury of other and unspecified nature w/o LOC	Moderate	Mod/Sev
801.42	closed fracture of base of skull with intracranial injury of other and unspecified nature w/brief (<1 hr) LOC	Moderate	Mod/Sev
801.43	closed fracture of base of skull with intracranial injury of other and unspecified nature w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
801.44	closed fracture of base of skull with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
801.45	closed fracture of base of skull with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
801.46	closed fracture of base of skull with intracranial injury of other and unspecified nature w/LOC of unspecified duration	Moderate	Mod/Sev
801.49	closed fracture of base of skull with intracranial injury of other and unspecified nature w/concussion unspecified	Moderate	Mod/Sev
801.5	open fracture of base of skull w/o mention of intracranial injury	n/a	n/a
801.50	open fracture of base of skull w/o mention of intracranial injury w/state of consciousness unspecified	Mild	Mild, LOC unknown
801.51	open fracture of base of skull w/o mention of intracranial injury w/o LOC	Mild	Mild, no LOC
801.52	open fracture of base of skull w/o mention of intracranial injury w/brief (<1 hr) LOC	Mild	Mild, LOC
801.53	open fracture of base of skull w/o mention of intracranial injury w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
801.54	open fracture of base of skull w/o mention of intracranial injury w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
801.55	open fracture of base of skull w/o mention of intracranial injury w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
801.56	open fracture of base of skull w/o mention of intracranial injury w/LOC of unspecified duration	Moderate	Mod/Sev
801.59	open fracture of base of skull w/o mention of intracranial injury w/concussion unspecified	Moderate	Mod/Sev
801.6	open fracture of base of skull with cerebral laceration and contusion	n/a	n/a

801.60	open fracture of base of skull with cerebral laceration and contusion w/state of consciousness unspecified	Penetrating	Mod/Sev
801.61	open fracture of base of skull with cerebral laceration and contusion w/o LOC	Penetrating	Mod/Sev
801.62	open fracture of base of skull with cerebral laceration and contusion w/brief (<1 hr) LOC	Penetrating	Mod/Sev
801.63	open fracture of base of skull with cerebral laceration and contusion w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
801.64	open fracture of base of skull with cerebral laceration and contusion w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
801.65	open fracture of base of skull with cerebral laceration and contusion w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
801.66	open fracture of base of skull with cerebral laceration and contusion w/LOC of unspecified duration	Penetrating	Mod/Sev
801.69	open fracture of base of skull with cerebral laceration and contusion w/concussion unspecified	Penetrating	Mod/Sev
801.7	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage	n/a	n/a
801.70	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/state of consciousness unspecified	Penetrating	Mod/Sev
801.71	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/o LOC	Penetrating	Mod/Sev
801.72	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/brief (<1 hr) LOC	Penetrating	Mod/Sev
801.73	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
801.74	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
801.75	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
801.76	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/LOC of unspecified duration	Penetrating	Mod/Sev
801.79	open fracture of base of skull with subarachnoid subdural and extradural hemorrhage w/concussion unspecified	Penetrating	Mod/Sev
801.8	open fracture of base of skull with other and unspecified intracranial hemorrhage	n/a	n/a
801.80	open fracture of base of skull with other and unspecified intracranial hemorrhage w/state of consciousness unspecified	Penetrating	Mod/Sev
801.81	open fracture of base of skull with other and unspecified intracranial hemorrhage w/o LOC	Penetrating	Mod/Sev
801.82	open fracture of base of skull with other and unspecified intracranial hemorrhage w/brief (<1 hr) LOC	Penetrating	Mod/Sev
801.83	open fracture of base of skull with other and unspecified intracranial hemorrhage w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
801.84	open fracture of base of skull with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
801.85	open fracture of base of skull with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
801.86	open fracture of base of skull with other and unspecified intracranial hemorrhage w/LOC of unspecified duration	Penetrating	Mod/Sev
801.89	open fracture of base of skull with other and unspecified intracranial hemorrhage w/concussion unspecified	Penetrating	Mod/Sev
801.9	open fracture of base of skull with intracranial injury of other and unspecified nature	n/a	n/a
801.90	open fracture of base of skull with intracranial injury of other and unspecified nature w/state of consciousness unspecified	Penetrating	Mod/Sev
801.91	open fracture of base of skull with intracranial injury of other and unspecified nature w/o LOC	Penetrating	Mod/Sev

801.92	open fracture of base of skull with intracranial injury of other and unspecified nature w/brief (<1 hr) LOC	Penetrating	Mod/Sev
801.93	open fracture of base of skull with intracranial injury of other and unspecified nature w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
801.94	open fracture of base of skull with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
801.95	open fracture of base of skull with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
801.96	open fracture of base of skull with intracranial injury of other and unspecified nature w/LOC of unspecified duration	Penetrating	Mod/Sev
801.99	open fracture of base of skull with intracranial injury of other and unspecified nature w/concussion unspecified	Penetrating	Mod/Sev
803.0	other closed skull fracture w/o mention of intracranial injury	n/a	n/a
803.00	other closed skull fracture w/o mention of intracranial injury w/state of consciousness unspecified	Mild	Mild, LOC unknown
803.01	other closed skull fracture w/o mention of intracranial injury w/o LOC	Mild	Mild, no LOC
803.02	other closed skull fracture w/o mention of intracranial injury w/brief (<1 hr) LOC	Mild	Mild, LOC
803.03	other closed skull fracture w/o mention of intracranial injury w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
803.04	other closed skull fracture w/o mention of intracranial injury w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
803.05	other closed skull fracture w/o mention of intracranial injury w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
803.06	other closed skull fracture w/o mention of intracranial injury w/LOC of unspecified duration	Mild	Mild, LOC
803.09	other closed skull fracture w/o mention of intracranial injury w/concussion unspecified	Mild	Mild, LOC unknown
803.1	other closed skull fracture with cerebral laceration and contusion	n/a	n/a
803.10	other closed skull fracture with cerebral laceration and contusion w/state of consciousness unspecified	Moderate	Mod/Sev
803.11	other closed skull fracture with cerebral laceration and contusion w/o LOC	Moderate	Mod/Sev
803.12	other closed skull fracture with cerebral laceration and contusion w/brief (<1 hr) LOC	Moderate	Mod/Sev
803.13	other closed skull fracture with cerebral laceration and contusion w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
803.14	other closed skull fracture with cerebral laceration and contusion w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
803.15	other closed skull fracture with cerebral laceration and contusion w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
803.16	other closed skull fracture with cerebral laceration and contusion w/LOC of unspecified duration	Moderate	Mod/Sev
803.19	other closed skull fracture with cerebral laceration and contusion w/concussion unspecified	Moderate	Mod/Sev
803.2	other closed skull fracture with subarachnoid subdural and extradural hemorrhage	n/a	n/a
803.20	other closed skull fracture with subarachnoid subdural and extradural hemorrhage w/state of consciousness unspecified	Moderate	Mod/Sev
803.21	other closed skull fracture with subarachnoid subdural and extradural hemorrhage w/o LOC	Moderate	Mod/Sev
803.22	other closed skull fracture with subarachnoid subdural and extradural hemorrhage w/brief (<1 hr) LOC	Moderate	Mod/Sev
803.23	other closed skull fracture with subarachnoid subdural and extradural hemorrhage w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
803.24	other closed skull fracture with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
803.25	other closed skull fracture with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev

803.26	other closed skull fracture with subarachnoid subdural and extradural hemorrhage w/LOC of unspecified duration	Moderate	Mod/Sev
803.29	other closed skull fracture with subarachnoid subdural and extradural hemorrhage w/concussion unspecified	Moderate	Mod/Sev
803.3	closed skull fracture with other and unspecified intracranial hemorrhage	n/a	n/a
803.30	closed skull fracture with other and unspecified intracranial hemorrhage w/state of Unconsciousness Unspecified	Moderate	Mod/Sev
803.31	closed skull fracture with other and unspecified intracranial hemorrhage w/o LOC	Moderate	Mod/Sev
803.32	closed skull fracture with other and unspecified intracranial hemorrhage w/brief (<1 hr) LOC	Moderate	Mod/Sev
803.33	closed skull fracture with other and unspecified intracranial hemorrhage w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
803.34	closed skull fracture with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
803.35	closed skull fracture with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
803.36	closed skull fracture with other and unspecified intracranial hemorrhage w/LOC of unspecified duration	Moderate	Mod/Sev
803.39	closed skull fracture with other and unspecified intracranial hemorrhage w/concussion unspecified	Moderate	Mod/Sev
803.4	other closed skull fracture with intracranial injury of other and unspecified nature	n/a	n/a
803.40	other closed skull fracture with intracranial injury of other and unspecified nature w/state of consciousness unspecified	Moderate	Mod/Sev
803.41	other closed skull fracture with intracranial injury of other and unspecified nature w/o LOC	Moderate	Mod/Sev
803.42	other closed skull fracture with intracranial injury of other and unspecified nature w/brief (<1 hr) LOC	Moderate	Mod/Sev
803.43	other closed skull fracture with intracranial injury of other and unspecified nature w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
803.44	other closed skull fracture with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
803.45	other closed skull fracture with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
803.46	other closed skull fracture with intracranial injury of other and unspecified nature w/LOC of unspecified duration	Moderate	Mod/Sev
803.49	other closed skull fracture with intracranial injury of other and unspecified nature w/concussion unspecified	Moderate	Mod/Sev
803.5	other open skull fracture w/o mention of intracranial injury	n/a	n/a
803.50	other open skull fracture w/o mention of intracranial injury w/state of consciousness unspecified	Mild	Mild, LOC unknown
803.51	other open skull fracture w/o mention of intracranial injury w/o LOC	Mild	Mild, no LOC
803.52	other open skull fracture w/o mention of intracranial injury w/brief (<1 hr) LOC	Mild	Mild, LOC
803.53	other open skull fracture w/o mention of intracranial injury w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
803.54	other open skull fracture w/o mention of intracranial injury w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
803.55	other open skull fracture w/o mention of intracranial injury w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
803.56	other open skull fracture w/o mention of intracranial injury w/LOC of unspecified duration	Moderate	Mod/Sev
803.59	other open skull fracture w/o mention of intracranial injury w/concussion unspecified	Moderate	Mod/Sev
803.6	other open skull fracture with cerebral laceration and contusion	n/a	n/a
803.60	other open skull fracture with cerebral laceration and contusion w/state of consciousness unspecified	Penetrating	Mod/Sev
803.61	other open skull fracture with cerebral laceration and contusion w/o LOC	Penetrating	Mod/Sev
803.62	other open skull fracture with cerebral laceration and contusion w/brief (<1	Penetrating	Mod/Sev

	hr) LOC		
803.63	other open skull fracture with cerebral laceration and contusion w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
803.64	other open skull fracture with cerebral laceration and contusion w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
803.65	other open skull fracture with cerebral laceration and contusion w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
803.66	other open skull fracture with cerebral laceration and contusion w/LOC of unspecified duration	Penetrating	Mod/Sev
803.69	other open skull fracture with cerebral laceration and contusion w/concussion unspecified	Penetrating	Mod/Sev
803.7	other open skull fracture with subarachnoid subdural and extradural hemorrhage	n/a	n/a
803.70	other open skull fracture with subarachnoid subdural and extradural hemorrhage w/state of consciousness unspecified	Penetrating	Mod/Sev
803.71	other open skull fracture with subarachnoid subdural and extradural hemorrhage w/o LOC	Penetrating	Mod/Sev
803.72	other open skull fracture with subarachnoid subdural and extradural hemorrhage w/brief (<1 hr) LOC	Penetrating	Mod/Sev
803.73	other open skull fracture with subarachnoid subdural and extradural hemorrhage w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
803.74	other open skull fracture with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
803.75	other open skull fracture with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
803.76	other open skull fracture with subarachnoid subdural and extradural hemorrhage w/LOC of unspecified duration	Penetrating	Mod/Sev
803.79	other open skull fracture with subarachnoid subdural and extradural hemorrhage w/concussion unspecified	Penetrating	Mod/Sev
803.8	other open skull fracture with other and unspecified intracranial hemorrhage	n/a	n/a
803.80	other open skull fracture with other and unspecified intracranial hemorrhage w/state of consciousness unspecified	Penetrating	Mod/Sev
803.81	other open skull fracture with other and unspecified intracranial hemorrhage w/o LOC	Penetrating	Mod/Sev
803.82	other open skull fracture with other and unspecified intracranial hemorrhage w/brief (<1 hr) LOC	Penetrating	Mod/Sev
803.83	other open skull fracture with other and unspecified intracranial hemorrhage w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
803.84	other open skull fracture with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
803.85	other open skull fracture with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
803.86	other open skull fracture with other and unspecified intracranial hemorrhage w/LOC of unspecified duration	Penetrating	Mod/Sev
803.89	other open skull fracture with other and unspecified intracranial hemorrhage w/concussion unspecified	Penetrating	Mod/Sev
803.9	other open skull fracture with intracranial injury of other and unspecified nature	n/a	n/a
803.90	other open skull fracture with intracranial injury of other and unspecified nature w/state of consciousness unspecified	Penetrating	Mod/Sev
803.91	other open skull fracture with intracranial injury of other and unspecified nature w/o LOC	Penetrating	Mod/Sev
803.92	other open skull fracture with intracranial injury of other and unspecified nature w/brief (<1 hr) LOC	Penetrating	Mod/Sev
803.93	other open skull fracture with intracranial injury of other and unspecified nature w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
803.94	other open skull fracture with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev

803.95	other open skull fracture with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
803.96	other open skull fracture with intracranial injury of other and unspecified nature w/LOC of unspecified duration	Penetrating	Mod/Sev
803.99	other open skull fracture with intracranial injury of other and unspecified nature w/concussion unspecified	Penetrating	Mod/Sev
804.0	closed fractures involving skull or face with other bones w/o mention of intracranial injury	n/a	n/a
804.00	closed fractures involving skull or face with other bones, w/o mention of intracranial injury, w/state of consciousness unspecified	Mild	Mild, LOC unknown
804.01	closed fractures involving skull or face with other bones, w/o mention of intracranial injury, w/o LOC	Mild	Mild, no LOC
804.02	closed fractures involving skull or face with other bones, w/o mention of intracranial injury, w/brief (<1 hr) LOC	Mild	Mild, LOC
804.03	closed fractures involving skull or face with other bones, w/o mention of intracranial injury, w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
804.04	closed fractures involving skull or face with other bones, w/o mention of intracranial injury, w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
804.05	closed fractures involving skull or face with other bones, w/o mention of intracranial injury, w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
804.06	closed fractures involving skull or face with other bones, w/o mention of intracranial injury, w/LOC of unspecified duration	Mild	Mild, LOC
804.09	closed fractures involving skull or face with other bones, w/o mention of intracranial injury, w/concussion unspecified	Mild	Mild, LOC unknown
804.1	closed fractures involving skull or face with other bones with cerebral laceration and contusion	n/a	n/a
804.10	closed fractures involving skull or face with other bones with cerebral laceration and contusion w/state of consciousness unspecified	Moderate	Mod/Sev
804.11	closed fractures involving skull or face with other bones with cerebral laceration and contusion w/o LOC	Moderate	Mod/Sev
804.12	closed fractures involving skull or face with other bones with cerebral laceration and contusion w/brief (<1 hr) LOC	Moderate	Mod/Sev
804.13	closed fractures involving skull or face with other bones with cerebral laceration and contusion w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
804.14	closed fractures involving skull or face with other bones with cerebral laceration and contusion w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
804.15	closed fractures involving skull or face with other bones with cerebral laceration and contusion w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
804.16	closed fractures involving skull or face with other bones with cerebral laceration and contusion w/LOC of unspecified duration	Moderate	Mod/Sev
804.19	closed fractures involving skull or face with other bones with cerebral laceration and contusion w/concussion unspecified	Moderate	Mod/Sev
804.2	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage	n/a	n/a
804.20	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/state of consciousness unspecified	Moderate	Mod/Sev
804.21	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/o LOC	Moderate	Mod/Sev
804.22	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/brief (<1 hr) LOC	Moderate	Mod/Sev
804.23	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
804.24	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
804.25	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC w/o return	Severe	Mod/Sev

	to pre-existing conscious level		
804.26	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/LOC of unspecified duration	Moderate	Mod/Sev
804.29	closed fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/concussion unspecified	Moderate	Mod/Sev
804.3	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage	n/a	n/a
804.30	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/state of consciousness unspecified	Moderate	Mod/Sev
804.31	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/o LOC	Moderate	Mod/Sev
804.32	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/brief (<1 hr) LOC	Moderate	Mod/Sev
804.33	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
804.34	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC and Return To Pre- Existing Conscious Level	Severe	Mod/Sev
804.35	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
804.36	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/LOC of unspecified duration	Moderate	Mod/Sev
804.39	closed fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/concussion unspecified	Moderate	Mod/Sev
804.4	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature	n/a	n/a
804.40	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/state of consciousness unspecified	Moderate	Mod/Sev
804.41	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/o LOC	Moderate	Mod/Sev
804.42	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/brief (<1 hr) LOC	Moderate	Mod/Sev
804.43	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
804.44	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
804.45	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
804.46	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/LOC of unspecified duration	Moderate	Mod/Sev
804.49	closed fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/concussion unspecified	Moderate	Mod/Sev
804.5	open fractures involving skull or face with other bones w/o mention of intracranial injury	n/a	n/a
804.50	open fractures involving skull or face with other bones w/o mention of intracranial injury w/state of consciousness unspecified	Mild	Mild, LOC unknown
804.51	open fractures involving skull or face with other bones w/o mention of intracranial injury w/o LOC	Mild	Mild, no LOC
804.52	open fractures involving skull or face with other bones w/o mention of intracranial injury w/brief (<1 hr) LOC	Mild	Mild, LOC
804.53	open fractures involving skull or face with other bones w/o mention of intracranial injury w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
804.54	open fractures involving skull or face with other bones w/o mention of intracranial injury w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
804.55	open fractures involving skull or face with other bones w/o mention of intracranial injury w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev

804.56	open fractures involving skull or face with other bones w/o mention of intracranial injury w/LOC of unspecified duration	Moderate	Mod/Sev
804.59	open fractures involving skull or face with other bones w/o mention of intracranial injury w/concussion unspecified	Moderate	Mod/Sev
804.6	open fractures involving skull or face with other bones with cerebral laceration and contusion	n/a	n/a
804.60	open fractures involving skull or face with other bones with cerebral laceration and contusion w/state of consciousness unspecified	Penetrating	Mod/Sev
804.61	open fractures involving skull or face with other bones with cerebral laceration and contusion w/o LOC	Penetrating	Mod/Sev
804.62	open fractures involving skull or face with other bones with cerebral laceration and contusion w/brief (<1 hr) LOC	Penetrating	Mod/Sev
804.63	open fractures involving skull or face with other bones with cerebral laceration and contusion w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
804.64	open fractures involving skull or face with other bones with cerebral laceration and contusion w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
804.65	open fractures involving skull or face with other bones with cerebral laceration and contusion w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
804.66	open fractures involving skull or face with other bones with cerebral laceration and contusion w/LOC of unspecified duration	Penetrating	Mod/Sev
804.69	open fractures involving skull or face with other bones with cerebral laceration and contusion w/concussion unspecified	Penetrating	Mod/Sev
804.7	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage	n/a	n/a
804.70	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/state of consciousness unspecified	Penetrating	Mod/Sev
804.71	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/o LOC	Penetrating	Mod/Sev
804.72	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/brief (<1 hr) LOC	Penetrating	Mod/Sev
804.73	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
804.74	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
804.75	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
804.76	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/LOC of unspecified duration	Penetrating	Mod/Sev
804.79	open fractures involving skull or face with other bones with subarachnoid subdural and extradural hemorrhage w/concussion unspecified	Penetrating	Mod/Sev
804.8	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage	n/a	n/a
804.80	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/state of consciousness unspecified	Penetrating	Mod/Sev
804.81	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/o LOC	Penetrating	Mod/Sev
804.82	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/brief (<1 hr) LOC	Penetrating	Mod/Sev
804.83	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
804.84	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
804.85	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) Loss Consciousness w/o return to pre-existing conscious level	Penetrating	Mod/Sev
804.86	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev

	unspecified intracranial hemorrhage w/LOC of unspecified duration		
804.89	open fractures involving skull or face with other bones with other and unspecified intracranial hemorrhage w/concussion unspecified	Penetrating	Mod/Sev
804.9	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature	n/a	n/a
804.90	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/state of consciousness unspecified	Penetrating	Mod/Sev
804.91	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/o LOC	Penetrating	Mod/Sev
804.92	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/brief (<1 hr) LOC	Penetrating	Mod/Sev
804.93	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
804.94	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
804.95	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
804.96	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/LOC of unspecified duration	Penetrating	Mod/Sev
804.99	open fractures involving skull or face with other bones with intracranial injury of other and unspecified nature w/concussion unspecified	Penetrating	Mod/Sev Mild, LOC unknown
850	concussion	Mild	Mild, no LOC
850.0	concussion w/o LOC	Mild	Mild, LOC
850.1	concussion w/brief LOC	Mild	Mild, LOC
850.11	concussion w/LOC of 30 min or less	Mild	Mild, LOC
850.12	concussion w/LOC From 31-59 min	Moderate	Mod/Sev
850.2	concussion w/moderate LOC	Moderate	Mod/Sev
850.3	concussion w/prolonged LOC and return to pre-existing conscious level	Severe	Mod/Sev
850.4	concussion w/prolonged LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
850.5	concussion w/LOC of unspecified duration	Mild	Mild, LOC Mild, LOC unknown
850.9	concussion unspecified	Mild	n/a
851.0	cortex (cerebral) contusion w/o mention of open intracranial wound	n/a	n/a
851.00	cortex (cerebral) contusion w/o mention of open intracranial wound, state of consciousness unspecified	Moderate	Mod/Sev
851.01	cortex (cerebral) contusion w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
851.02	cortex (cerebral) contusion w/o mention of open intracranial wound w/brief (<1 hr) LOC	Moderate	Mod/Sev
851.03	cortex (cerebral) contusion w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
851.04	cortex (cerebral) contusion w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
851.05	cortex (cerebral) contusion w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
851.06	cortex (cerebral) contusion w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
851.09	cortex (cerebral) contusion w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
851.1	cortex (cerebral) contusion with open intracranial wound	n/a	n/a
851.10	cortex (cerebral) contusion with open intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
851.11	cortex (cerebral) contusion with open intracranial wound w/o LOC	Penetrating	Mod/Sev
851.12	cortex (cerebral) contusion with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
851.13	cortex (cerebral) contusion with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
851.14	cortex (cerebral) contusion with open intracranial wound w/prolonged (>24 hrs) LOC	Penetrating	Mod/Sev

	hrs) LOC and return to pre-existing conscious level		
851.15	cortex (cerebral) contusion with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
851.16	cortex (cerebral) contusion with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
851.19	cortex (cerebral) contusion with open intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
851.2	cortex (cerebral) laceration w/o mention of open intracranial wound	n/a	n/a
851.20	cortex (cerebral) laceration w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
851.21	cortex (cerebral) laceration w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
851.22	cortex (cerebral) laceration w/o mention of open intracranial wound w/brief (<1 hr) LOC	Moderate	Mod/Sev
851.23	cortex (cerebral) laceration w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
851.24	cortex (cerebral) laceration w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
851.25	cortex (cerebral) laceration w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
851.26	cortex (cerebral) laceration w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
851.29	cortex (cerebral) laceration w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
851.3	cortex (derebral) laceration with open intracranial wound	n/a	n/a
851.30	cortex (derebral) laceration with open intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
851.31	cortex (derebral) laceration with open intracranial wound w/o LOC	Penetrating	Mod/Sev
851.32	cortex (derebral) laceration with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
851.33	cortex (derebral) laceration with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
851.34	cortex (derebral) laceration with open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
851.35	cortex (derebral) laceration with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
851.36	cortex (derebral) laceration with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
851.39	cortex (derebral) laceration with open intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
851.4	cerebellar or brain stem contusion w/o mention of open intracranial wound	n/a	n/a
851.40	cerebellar or brain stem contusion w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
851.41	cerebellar or brain stem contusion w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
851.42	cerebellar or brain stem contusion w/o mention of open intracranial wound w/brief (<1 hr) LOC	Moderate	Mod/Sev
851.43	cerebellar or brain stem contusion w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
851.44	cerebellar or brain stem contusion w/o mention of open intracranial wound w/prolonged (>24 hrs) Loss Consciousness and return to pre-existing conscious level	Severe	Mod/Sev
851.45	cerebellar or brain stem contusion w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
851.46	cerebellar or brain stem contusion w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
851.49	cerebellar or brain stem contusion w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
851.5	cerebellar or brain stem contusion with open intracranial wound	n/a	n/a
851.50	cerebellar or brain stem contusion with open intracranial wound w/state of	Penetrating	Mod/Sev

	consciousness unspecified		
851.51	cerebellar or brain stem contusion with open intracranial wound w/o LOC	Penetrating	Mod/Sev
851.52	cerebellar or brain stem contusion with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
851.53	cerebellar or brain stem contusion with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
851.54	cerebellar or brain stem contusion with open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
851.55	cerebellar or brain stem contusion with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
851.56	cerebellar or brain stem contusion with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
851.59	cerebellar or brain stem contusion with open intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
851.6	cerebellar or brain stem laceration w/o mention of open intracranial wound	n/a	n/a
851.60	cerebellar or brain stem laceration w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
851.61	cerebellar or brain stem laceration w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
851.62	cerebellar or brain stem laceration w/o mention of open intracranial wound w/brief (Less Than 1 Hour) LOC	Moderate	Mod/Sev
851.63	cerebellar or brain stem laceration w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
851.64	cerebellar or brain stem laceration w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
851.65	cerebellar or brain stem laceration w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
851.66	cerebellar or brain stem laceration w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
851.69	cerebellar or brain stem laceration w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
851.7	cerebellar or brain stem laceration with open intracranial wound	n/a	n/a
851.70	cerebellar or brain stem laceration with open intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
851.71	cerebellar or brain stem laceration with open intracranial wound w/o LOC	Penetrating	Mod/Sev
851.72	cerebellar or brain stem laceration with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
851.73	cerebellar or brain stem laceration with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
851.74	cerebellar or brain stem laceration with open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
851.75	cerebellar or brain stem laceration with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
851.76	cerebellar or brain stem laceration with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
851.79	cerebellar or brain stem laceration with open intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
851.8	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound	n/a	n/a
851.80	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
851.81	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
851.82	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound w/brief (<1 hr) LOC	Moderate	Mod/Sev
851.83	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
851.84	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and Return To Pre- Existing	Severe	Mod/Sev

	Conscious Level		
851.85	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
851.86	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
851.89	other and unspecified cerebral laceration and contusion w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
851.9	other and unspecified cerebral laceration and contusion with open intracranial wound	n/a	n/a
851.90	other and unspecified cerebral laceration and contusion with open intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
851.91	other and unspecified cerebral laceration and contusion with open intracranial wound w/o LOC	Penetrating	Mod/Sev
851.92	other and unspecified cerebral laceration and contusion with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
851.93	other and unspecified cerebral laceration and contusion with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
851.94	other and unspecified cerebral laceration and contusion with open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
851.95	other and unspecified cerebral laceration and contusion with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
851.96	other and unspecified cerebral laceration and contusion with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
851.99	other and unspecified cerebral laceration and contusion with open intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
852.0	subarachnoid hemorrhage following injury w/o mention of open intracranial wound	n/a	n/a
852.00	subarachnoid hemorrhage following injury w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
852.01	subarachnoid hemorrhage following injury w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
852.02	subarachnoid hemorrhage following injury w/o mention of open intracranial wound w/brief (<1 hr) LOC	Moderate	Mod/Sev
852.03	subarachnoid hemorrhage following injury w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
852.04	subarachnoid hemorrhage following injury w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
852.05	subarachnoid hemorrhage following injury w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
852.06	subarachnoid hemorrhage following injury w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
852.09	subarachnoid hemorrhage following injury w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
852.1	subarachnoid hemorrhage following injury with open intracranial wound	n/a	n/a
852.10	subarachnoid hemorrhage following injury with open intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
852.11	subarachnoid hemorrhage following injury with open intracranial wound w/o LOC	Penetrating	Mod/Sev
852.12	subarachnoid hemorrhage following injury with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
852.13	subarachnoid hemorrhage following injury with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
852.14	subarachnoid hemorrhage following injury with open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
852.15	subarachnoid hemorrhage following injury with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
852.16	subarachnoid hemorrhage following injury with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
852.19	subarachnoid hemorrhage following injury with open intracranial wound	Penetrating	Mod/Sev

	w/concussion unspecified		
852.2	subdural hemorrhage following injury w/o mention of open intracranial wound	n/a	n/a
852.20	subdural hemorrhage following injury w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
852.21	subdural hemorrhage following injury w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
852.22	subdural hemorrhage following injury w/o mention of open intracranial wound w/brief (<1 hr) LOC	Moderate	Mod/Sev
852.23	subdural hemorrhage following injury w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
852.24	subdural hemorrhage following injury w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
852.25	subdural hemorrhage following injury w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
852.26	subdural hemorrhage following injury w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
852.29	subdural hemorrhage following injury w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
852.3	subdural hemorrhage following injury with open intracranial wound	n/a	n/a
852.30	subdural hemorrhage following injury with open intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
852.31	subdural hemorrhage following injury with open intracranial wound w/o LOC	Penetrating	Mod/Sev
852.32	subdural hemorrhage following injury with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
852.33	subdural hemorrhage following injury with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
852.34	subdural hemorrhage following injury with open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
852.35	subdural hemorrhage following injury with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
852.36	subdural hemorrhage following injury with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
852.39	subdural hemorrhage following injury with open intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
852.4	extradural hemorrhage following injury w/o mention of open intracranial wound	n/a	n/a
852.40	extradural hemorrhage following injury w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
852.41	extradural hemorrhage following injury w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
852.42	extradural hemorrhage following injury w/o mention of open intracranial wound w/brief (Less Than 1 Hour) LOC	Moderate	Mod/Sev
852.43	extradural hemorrhage following injury w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
852.44	extradural hemorrhage following injury w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev
852.45	extradural hemorrhage following injury w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
852.46	extradural hemorrhage following injury w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
852.49	extradural hemorrhage following injury w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
852.5	extradural hemorrhage following injury with open intracranial wound	n/a	n/a
852.50	extradural hemorrhage following injury with open intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
852.51	extradural hemorrhage following injury with open intracranial wound w/o LOC	Penetrating	Mod/Sev
852.52	extradural hemorrhage following injury with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev

852.53	extradural hemorrhage following injury with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
852.54	extradural hemorrhage following injury with open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
852.55	extradural hemorrhage following injury with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
852.56	extradural hemorrhage following injury with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
852.59	extradural hemorrhage following injury with open intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
853.0	other and unspecified intracranial hemorrhage following injury w/o mention of open intracranial wound	n/a	n/a
853.00	other and unspecified intracranial hemorrhage following injury w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
853.01	other and unspecified intracranial hemorrhage following injury w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
853.02	other and unspecified intracranial hemorrhage following injury w/o mention of open intracranial wound w/brief (<1 hr) LOC	Moderate	Mod/Sev
853.03	other and unspecified intracranial hemorrhage following injury w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
853.04	other and unspecified intracranial hemorrhage following injury w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and Return To Pre-Existing Conscious Level	Severe	Mod/Sev
853.05	other and unspecified intracranial hemorrhage following injury w/o mention of open Intracranial Wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
853.06	other and unspecified intracranial hemorrhage following injury w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
853.09	other and unspecified intracranial hemorrhage following injury w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
853.1	other and unspecified intracranial hemorrhage following injury with open intracranial wound	n/a	n/a
853.10	other and unspecified intracranial hemorrhage following injury with open intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
853.11	other and unspecified intracranial hemorrhage following injury with open intracranial wound w/o LOC	Penetrating	Mod/Sev
853.12	other and unspecified intracranial hemorrhage following injury with open intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
853.13	other and unspecified intracranial hemorrhage following injury with open intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
853.14	other and unspecified intracranial hemorrhage following injury with open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
853.15	other and unspecified intracranial hemorrhage following injury with open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
853.16	other and unspecified intracranial hemorrhage following injury with open intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
853.19	other and unspecified intracranial hemorrhage following injury with open intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
854.0	intracranial injury of other and unspecified nature w/o mention of open intracranial wound	n/a	n/a
854.00	intracranial injury of other and unspecified nature w/o mention of open intracranial wound w/state of consciousness unspecified	Moderate	Mod/Sev
854.01	intracranial injury of other and unspecified nature w/o mention of open intracranial wound w/o LOC	Moderate	Mod/Sev
854.02	intracranial injury of other and unspecified nature w/o mention of open intracranial wound w/brief (<1 hr) LOC	Moderate	Mod/Sev
854.03	intracranial injury of other and unspecified nature w/o mention of open intracranial wound w/moderate (1-24 hrs) LOC	Moderate	Mod/Sev
854.04	intracranial injury of other and unspecified nature w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Severe	Mod/Sev

	intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level		
854.05	intracranial injury of other and unspecified nature w/o mention of open intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Severe	Mod/Sev
854.06	intracranial injury of other and unspecified nature w/o mention of open intracranial wound w/LOC of unspecified duration	Moderate	Mod/Sev
854.09	intracranial injury of other and unspecified nature w/o mention of open intracranial wound w/concussion unspecified	Moderate	Mod/Sev
854.1	Intracranial injury of other and unspecified nature with open Intracranial wound	n/a	n/a
854.10	intracranial injury of other and unspecified nature with open Intracranial wound w/state of consciousness unspecified	Penetrating	Mod/Sev
854.11	intracranial injury of other and unspecified nature with open Intracranial wound w/o LOC	Penetrating	Mod/Sev
854.12	intracranial injury of other and unspecified nature with open Intracranial wound w/brief (<1 hr) LOC	Penetrating	Mod/Sev
854.13	intracranial injury of other and unspecified nature with open Intracranial wound w/moderate (1-24 hrs) LOC	Penetrating	Mod/Sev
854.14	intracranial injury of other and unspecified nature with open Intracranial wound w/prolonged (>24 hrs) LOC and return to pre-existing conscious level	Penetrating	Mod/Sev
854.15	intracranial injury of other and unspecified nature with open Intracranial wound w/prolonged (>24 hrs) LOC w/o return to pre-existing conscious level	Penetrating	Mod/Sev
854.16	intracranial injury of other and unspecified nature with open Intracranial wound w/LOC of unspecified duration	Penetrating	Mod/Sev
854.19	intracranial injury of other and unspecified nature with open Intracranial wound w/concussion unspecified	Penetrating	Mod/Sev
907.0	late effect of intracranial injury w/o skull fracture	n/a	n/a
950.1	injury to optic chiasm	Unclassified	Unclassified
950.2	injury to optic pathways	Unclassified	Unclassified
950.3	injury to visual cortex	Unclassified	Unclassified
959.01	other and unspecified injury to head	Mild	Mild, LOC unknown
V15.5_1	personal history of injury presenting hazards to health	n/a	n/a
V15.5_F	personal history of injury presenting hazards to health	n/a	n/a
V15.5_E	personal history of injury presenting hazards to health	n/a	n/a
V15.5_D	personal history of injury presenting hazards to health	n/a	n/a
V15.5_C	personal history of injury presenting hazards to health	n/a	n/a
V15.5_B	personal history of injury presenting hazards to health	n/a	n/a
V15.5_A	personal history of injury presenting hazards to health	n/a	n/a
V15.5_9	personal history of injury presenting hazards to health	n/a	n/a
V15.5_8	personal history of injury presenting hazards to health	n/a	n/a
V15.5_7	personal history of injury presenting hazards to health	n/a	n/a
V15.5_6	personal history of injury presenting hazards to health	n/a	n/a
V15.5_5	personal history of injury presenting hazards to health	n/a	n/a
V15.5_4	personal history of injury presenting hazards to health	n/a	n/a
V15.5_3	personal history of injury presenting hazards to health	n/a	n/a
V15.5_2	personal history of injury presenting hazards to health	n/a	n/a
V15.52_0	personal history of traumatic brain injury	n/a	n/a
V15.52_F	personal history of traumatic brain injury	n/a	n/a
V15.52_E	personal history of traumatic brain injury	n/a	n/a
V15.52_D	personal history of traumatic brain injury	n/a	n/a
V15.52_C	personal history of traumatic brain injury	n/a	n/a
V15.52_B	personal history of traumatic brain injury	n/a	n/a
V15.52_A	personal history of traumatic brain injury	n/a	n/a
V15.52_9	personal history of traumatic brain injury	n/a	n/a
V15.52_8	personal history of traumatic brain injury	n/a	n/a

V15.52_7	personal history of traumatic brain injury	n/a	n/a
V15.52_6	personal history of traumatic brain injury	n/a	n/a
V15.52_5	personal history of traumatic brain injury	n/a	n/a
V15.52_4	personal history of traumatic brain injury	n/a	n/a
V15.52_3	personal history of traumatic brain injury	n/a	n/a
V15.52_2	personal history of traumatic brain injury	n/a	n/a
V15.52_1	personal history of traumatic brain injury	n/a	n/a
V15.59_1	personal history of other injury	n/a	n/a
V15.59_F	personal history of other injury	n/a	n/a
V15.59_E	personal history of other injury	n/a	n/a
V15.59_D	personal history of other injury	n/a	n/a
V15.59_C	personal history of other injury	n/a	n/a
V15.59_B	personal history of other injury	n/a	n/a
V15.59_A	personal history of other injury	n/a	n/a
V15.59_9	personal history of other injury	n/a	n/a
V15.59_8	personal history of other injury	n/a	n/a
V15.59_7	personal history of other injury	n/a	n/a
V15.59_6	personal history of other injury	n/a	n/a
V15.59_5	personal history of other injury	n/a	n/a
V15.59_4	personal history of other injury	n/a	n/a
V15.59_3	personal history of other injury	n/a	n/a
V15.59_2	personal history of other injury	n/a	n/a
V15.52	history of traumatic brain injury	Unclassified	Unclassified

*The following codes were excluded due to inability to classify severity: 907.0, late effects of intracranial injury without skull fracture; 950.X, injury to the optic nerve and pathways; V15.52, personal history of traumatic brain injury.

eAppendix 3. Dementia ICD-9 Diagnostic Code List

ICD-9 Codes	Diagnosis	FY2016 VHA Dementia Code List (Prevalent Diagnoses)	Modified FY2016 VHA Dementia Code List (Incident Diagnoses)
046.11	Variant creutzfeldt-jakob disease	X	
046.19	Other and unspecified creutzfeldt-jakob disease	X	
046.3	Progressive multifocal leukoencephalopathy	X	
046.79	Prion disease of the CNS/NEC/NOS	X	
290.0	Senile dementia uncomplicated	X	X
290.10	Presenile dementia uncomplicated	X	X
290.11	Presenile dementia with delirium	X	X
290.12	Presenile dementia with delusional features	X	X
290.13	Presenile dementia with depressive features	X	X
290.20	Senile dementia with delusional features	X	X
290.21	Senile dementia with depressive features	X	X
290.3	Senile dementia with delirium	X	X
290.40	Vascular dementia uncomplicated	X	X
290.41	Vascular dementia with delirium	X	X
290.42	Vascular dementia with delusions	X	X
290.43	Vascular dementia with depressed mood	X	X
291.2	Alcohol-induced persisting dementia	X	
292.82	Drug-induced persisting dementia	X	
294.10	Dementia in conditions classified elsewhere without behavioral disturbance	X	X
294.11	Dementia in conditions classified elsewhere with behavioral disturbance	X	X
294.20	Dementia, unspecified, without behavioral disturbance	X	X
294.21	Dementia, unspecified, with behavioral disturbance	X	X
294.8	Other persistent mental disorders due to conditions classified elsewhere	X	X
331.0	Alzheimer's disease	X	X
331.11	Pick's disease	X	X
331.19	Other frontotemporal dementia	X	X
331.82	Dementia with lewy bodies	X	X

eTable. Traumatic Brain Injury Case Distribution

	NPCD only	CTBIE only	Both	Total
No TBI	176,838	0	1,941	178,779
Mild TBI, without LOC	7,476	5,296	4,987	17,759
Mild TBI, with LOC	10,184	4,609	8,304	23,097
Mild TBI, LOC unknown	55,004	0	0	55,004
Moderate/Severe TBI	78,690	2,809	1,420	82,919
Total	328,192	12,714	16,652	357,558

CTBIE, Comprehensive Traumatic Brain Injury Evaluation; LOC, loss of consciousness; NPCD, National Patient Care Database; TBI, traumatic brain injury.