SURGICAL TREATMENT

DatTim_SurgIC = Date and Time of Intracranial Surgery
DatTim_SurgEC = Date and Time of Extracranial Surgery
SurgTx_IC = Surgical Procedures Intracranial
SurgTx_EC = Surgical Procedures Extracranial

<table>
<tr><td>1. CDE Variable</td><td colspan="2">DatTim_SurgIC = Date and Time of Intracranial Surgery
DatTim_SurgEC = Date and Time of Extracranial Surgery
SurgTx_IC = Surgical Procedures Intracranial
SurgTx_EC = Surgical Procedures Extracranial</td></tr>
<tr><td>2. CDE Definition</td><td colspan="2">Surgical Treatment is differentiated into cranial and extracranial surgery.</td></tr>
<tr><td>3. Recommended instrument for assessment</td><td colspan="2">N/A.</td></tr>
<tr><td>4. Description of measure</td><td colspan="2">Calendar/clock.
Categorical; multiple entries possible.</td></tr>
<tr><td rowspan="2">5. Permissible values</td><td colspan="2"><u>Date</u>: DD-MMM-YYYY
99-999-9999 if unknown
<u>Time</u>: HH-MM (24 hour clock)
99-99 if unknown</td></tr>
<tr><td><u>Cranial surgery codes</u>
01: aneurysm (non trauma)
02: acute SDH
03: contusion
04: craniofacial surgery
05: CSF shunt
06: chronic SDH
07: decompressive craniectomy
08: depressed skull fracture
09: epidural hematoma
10: intracerebral hematoma
11: infection
12: optic nerve decompression
13: posterior fossa surgery
14: skull base fracture
15: ventriculostomy for CSF drainage
16: debridement – minimal for penetrating injuries
17: debridement – extensive for penetrating injuries
18: foreign body removal</td><td><u>Extracranial surgery codes</u>
21: maxillofacial
22: extremity fracture lower limb (internal fixation)
23: extremity fracture lower limb (external fixation)
24: extremity fracture upper limb (internal fixation)
25: extremity fracture upper limb (external fixation)
26: fasciotomy
27: laparotomy (abdomen)
28: pelvic fracture (internal fixation)
29: pelvic fracture (external fixation)
30: spinal stabilization/cervical
31: spinal stabilization/thoracic
32: spinal stabilization/lumbar
33: thoracotomy
34: tracheostomy
25: vascular (operative)
36: vascular (endovascular treatment)
37: wound closure/graft
38: other_____</td></tr>
</table>

	19: bone flap replacement 20: cranioplasty 21: other_____	
	Add + 5 to the first digit of surgery code to indicate repeat procedure, e.g.: the first operation for an acute SDH will be code 02, a second procedure for a recurrent subdural 52.	
6. Classification: Basic / Intermediate / Advanced	Identical.	
7. Procedure	Document information on a continuing basis and check/update on discharge/death from review of medical charts.	

8. Comments / Special instructions:
This element is aimed to capture information on surgical procedures performed primarily from a therapeutic perspective. Implantation of a ventricular catheter or parenchymal catheter solely for the purpose of monitoring is not considered intracranial surgery. Likewise, percutaneous placement of a gastric tube (PEG), a chest tube or urinary catheter, is not considered extracranial surgery. Many patients undergoing surgery will have multiple procedures performed within the same session. For example, evacuation of an acute subdural hematoma may be combined with a decompressive craniectomy. Cranial and extracranial surgical procedures should be documented separately, even if they are performed within the same operative session. The element allows for entry of five cranial and five extracranial surgical sessions. If more entries are required, a second page can be added.

9. Rationale / justification:
Many TBI patients, particularly those with more moderate or severe injuries undergo surgical procedures. It is considered highly relevant to accurately document the timing and nature of these procedures for a number of reasons: *first*, for patients with intracranial hematomas, timely evacuation is an important parameter of the quality of health care delivery. *Second*, knowledge of the timing and nature of cranial procedures is essential to interpretation of ICP monitoring. *Third*, the necessity for late cranial surgery for evacuation of a mass lesion can be considered a surrogate for progressive brain damage and consequently may be considered as early endpoint in some specific situations. Extracranial procedures may cause episodes of lower blood pressure or oxygenation secondary to anaesthesia or blood loss and thus carries a potential to increase the risk of secondary brain damage.
In previous trials and studies, information on surgical procedures has typically been documented in free text format, thus often precluding any meaningful analysis. We therefore propose the use of a predefined categorical coding. These codings have been established from review of the most common procedures, entered as free text format in previous studies. As approaches to therapy however may change, these codes may require updating following future experience.

10. References:
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Recommended time for assessment:
On a continuing basis with final completion upon discharge/death.