

Traumatic Brain Injury Pathways

for Adult ED Patients Being Admitted to Trauma Service

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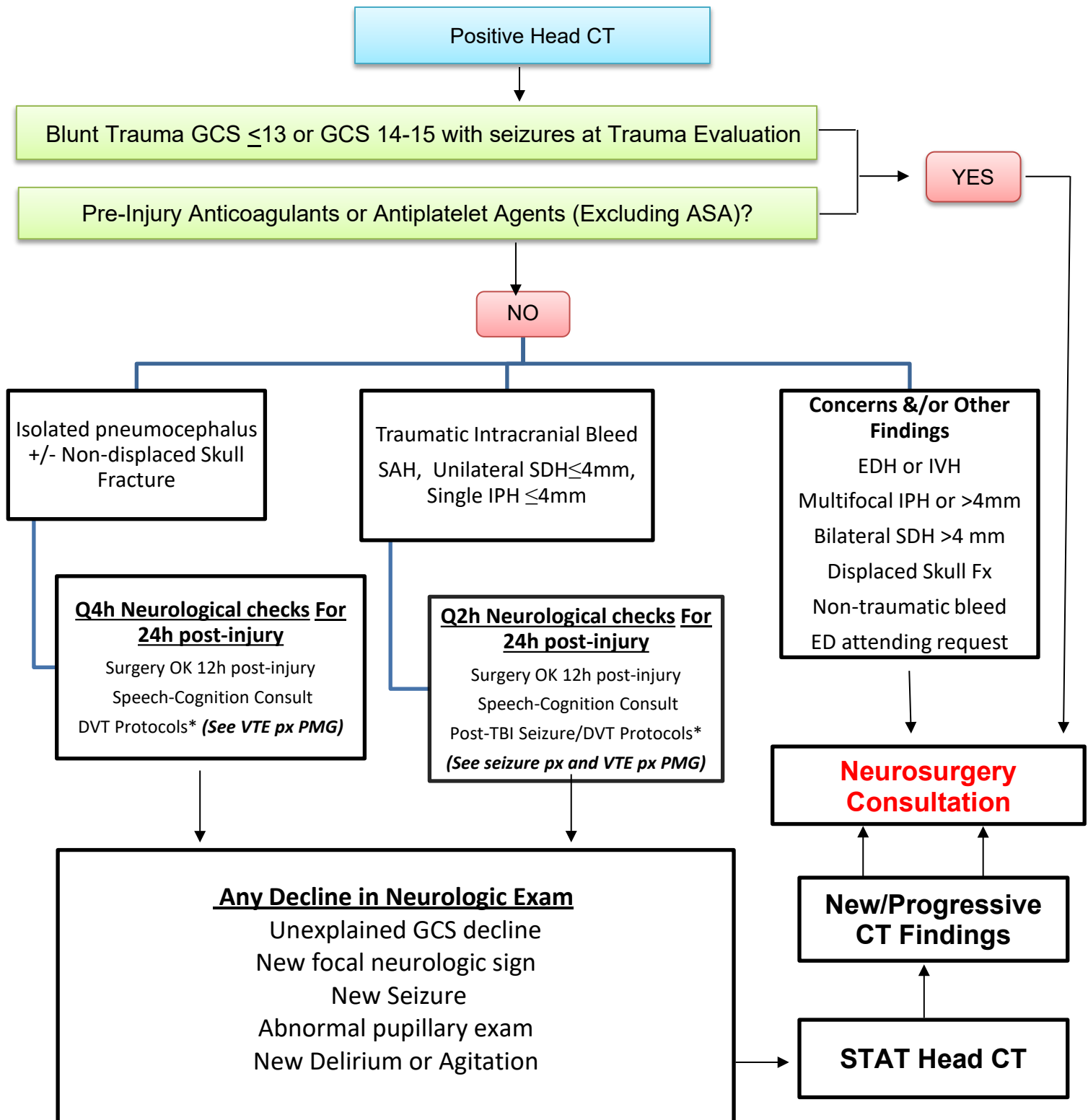
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ABBREVIATIONS

CBC	Complete Blood Count
Cl	Chloride
CPP	Cerebral Perfusion Pressure
CSF	Cerebrospinal Fluid
CT	Computed Tomography
CVP	Central Venous Pressure
d	Day
DVT	Deep Venous Thrombosis
ED	Emergency Department
EEG	Electroencephalography
EDH	Epidural Hematoma
EVD	External Ventricular Drain
FFP	Fresh Frozen Plasma
GCS	Glasgow Coma Scale
h	Hour
HOB	Head of Bed
ICH	Intracerebral/Intraparenchymal Hematoma/Hemorrhage
ICP	Intracranial Pressure
INR	International Normalized Ratio
IPH	Intracerebral/Intraparenchymal Hematoma/Hemorrhage
MDTC	Multidisciplinary Trauma Conference
mL	Milliliter
Na	Sodium
NSU	Neurosurgery
PaCO ₂	Partial pressure of Carbon dioxide
PaO ₂	Partial pressure of Oxygen
PI	Process Improvement
PT	prothrombin time
PTT	partial thromboplastin time
Q	Every
SAH	Subarachnoid hemorrhage
SBP	Systolic Blood Pressure
SDH	Subdural Hemorrhage
TBI	Traumatic Brain Injury
TICU	Trauma Intensive Care Unit
TPOPPS	Trauma Program Operational Process Performance Committee

Minimal Traumatic Brain Injury Pathway

for Adult ED Patients Being Admitted to Trauma Service Only



*DVT prophylaxis can be initiated at 24h post-injury; patients with an isolated pneumocephalus WITHOUT a skull fracture, DVT prophylaxis does **NOT** need to be held.

*ASA can be resumed at 14 days postinjury. If need to resume ASA <14d, c/s neurosurgery

Traumatic Brain Injury Pathway, GCS 9-15

Positive CT Head
in Adult ED Patient Being Admitted to Trauma Service

GCS 14-15 Excluded from Minimal TBI Pathway
or GCS 9-13 (any mechanism) on initial evaluation

TRAUMA SERVICE ADMISSION

Consult Neurosurgery Consult
Speech-Pathology
7d Seizure prophylaxis protocol
CBC, PT/INR, PTT
Consider Reversal of
Anticoagulant/Antiplatelet Use
DVT Protocols (*See VTE px PMG*)

Consider Repeat Imaging within 6-24h, if any of following:

- High Risk CT Features:
 1. SDH or IPH > 4 mm
 2. Epidural hemorrhage
- Clinical Deterioration
- Anticoagulant/Antiplatelet Use
- Consultant request

Traumatic Brain Injury Pathway, GCS < 9

ADULT ED PATIENT ADMITTED TO TRAUMA WITH POSITIVE HEAD CT

Consult Neurosurgery (*Trauma Attending & Neurosurgery Attending to have Direct Conversation for Major Diverging MultiTeam Plans*)

Consult Speech-Pathology

7d Seizure prophylaxis protocol; Arterial Blood Gas, CBC, PT/INR, PTT

Intubation - Keep PaCO₂ 35-40, PaO₂>60

HOB > 60 degrees (or reverse Trendelenberg until Spine cleared)

SBP > 90 mm Hg

Consider FFP (and/or K-Centra) for target INR<1.7

Consider DDAVP for pre-injury antiplatelet use

Consider Platelet transfusion only for NSGY interventions

Maintain Euvolemia; Optimize Sedation and Analgesia

Low threshold for Hyperosmolar Therapy

DVT Protocols (*See VTE px PMG*)

If ICP Monitor Placed

CPP <60

1st line: Phenylephrine
2nd line: Norepinephrine

ICP >20

Drain CSF if EVD

ICP >20

ICP >20

CPP < 60

Hyperosmolar Therapy

3% NaCl (Bolus +/- Gtt)

CVP high: Mannitol bolus q6h

CVP low: 3% NaCl bolus q6h

Q6h BMP, Osm

Max: Na 160, Osm 320

- Contact TICU Attending or fellow
- Contact Neurosurgery (decompressive craniectomy vs. PB coma)
- Monitor intraabdominal pressures
- Consider pentobarbital coma (req Neurology c/s with continuous EEG)
- Consider Palliative Care c/s

Persistent ICP >20 and/or CPP <60

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