



Georgia Quality Improvement Program Scientific Quick Shot Session

Safety of the TQIP Guideline for VTE Prophylaxis in TBI

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VTE Prophylaxis Safety in TBI



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•Modified Berne-Norwood Criteria for VTE prophylaxis in TBI

Table 3. Modified Berne-Norwood Criteria

Low risk	Moderate risk	High risk
No moderate or high risk criteria	Subdural or epidural hematoma > 8 mm Contusion or intraventricular hemorrhage > 2 cm Multiple contusions per lobe Subarachnoid hemorrhage with abnormal CT angiogram Evidence of progression at 24 hrs	ICP monitor placement Craniotomy Evidence of progression at 72 hrs
Initiate pharmacologic prophylaxis if CT stable at 24 hrs	Initiate pharmacologic prophylaxis if CT stable at 72 hrs	Consider placement of an IVC filter*

**Consider alternate strategies as described in text*



ACS TQIP

BEST PRACTICES IN
THE MANAGEMENT
OF TRAUMATIC
BRAIN INJURY






AMERICAN COLLEGE OF SURGEONS
Inspiring Quality:
Highest Standards, Better Outcomes



COMMITTEE
ON TRAUMA

Released January 2015

VTE Prophylaxis Safety in TBI



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**Jul 2017 -
Dec 2020**

- 12,922 trauma patients seen
- 552 TBI patients
- 269 TBI met inclusion

**Inclusion
Criteria**

- ≥ 18 yo and not pregnant
- Hosp LOS > 2 days
- AIS Head score > 2

Exclusion

- Heparin allergy
- Immediate neurosurgery intervention
- Death within 48h of arrival
- Berne Norwood HIGH RISK
- VTE prophylaxis NOT per guideline

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Group 1

Radiologist CT scan review

- CT before & after VTE ppx
- Clin eval before & after VTE ppx

Group 2

Clinical review

- CT before; NOT after VTE ppx
- Clin eval before & after VTE ppx

CT Scan Evaluation



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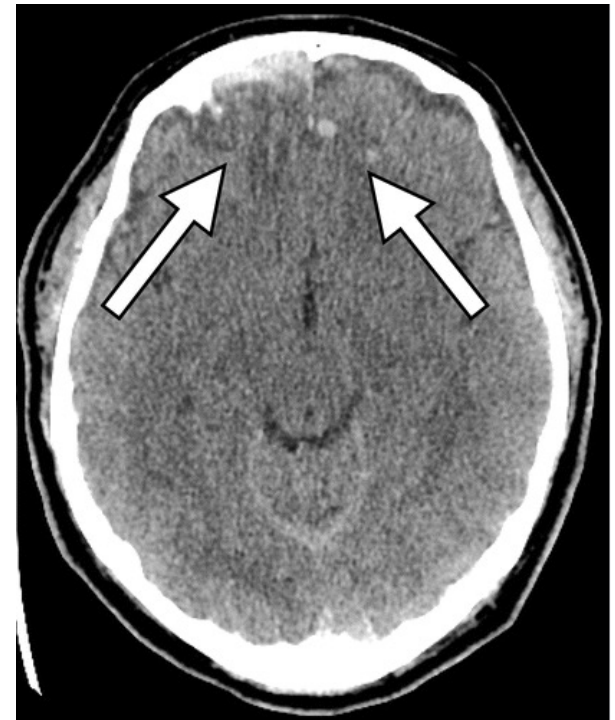
- One radiologist → reviewed all CTs
 - TBI Type: ICH, IPH, IVH, SDH, EDH
 - TBI Size Comparison

No change ($< 3\text{mm}$ increase)

Increase ($\geq 3\text{mm}$ increase)

New type hemorrhage

Resolution



Clinical Evaluation



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- Clinical Evaluation Determined by reviewing
 - H&P
 - Progress Notes
 - Discharge Summary
 - Nursing Documentation
 - GCS



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$n = 269$	CT After VTE Pro	Clinical Confirm
Total patients	55 (20%)	214 (80%)
Low Risk* VTE pro 24h after arrival	38 (69%)	79 (37%)
Moderate Risk* VTE pro 72h after arrival	17 (39%)	135 (63%)
CT progression bleed after VTE	0	-
Clinical decline after VTE	0	0

**Berne-Norwood Criteria used to categorize all study patients as low or moderate risk. Patients who were considered high risk were excluded.*

Conclusion



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Initiation of the TQIP TBI VTE prophylaxis guideline was found to be safe with no progression of intracranial hemorrhage.

