

**Created:** April 2022  
**Reviewed:** February 2023  
**Revised:** April 2022

---

## DVT Prophylaxis in the Pediatric Trauma Patient

---

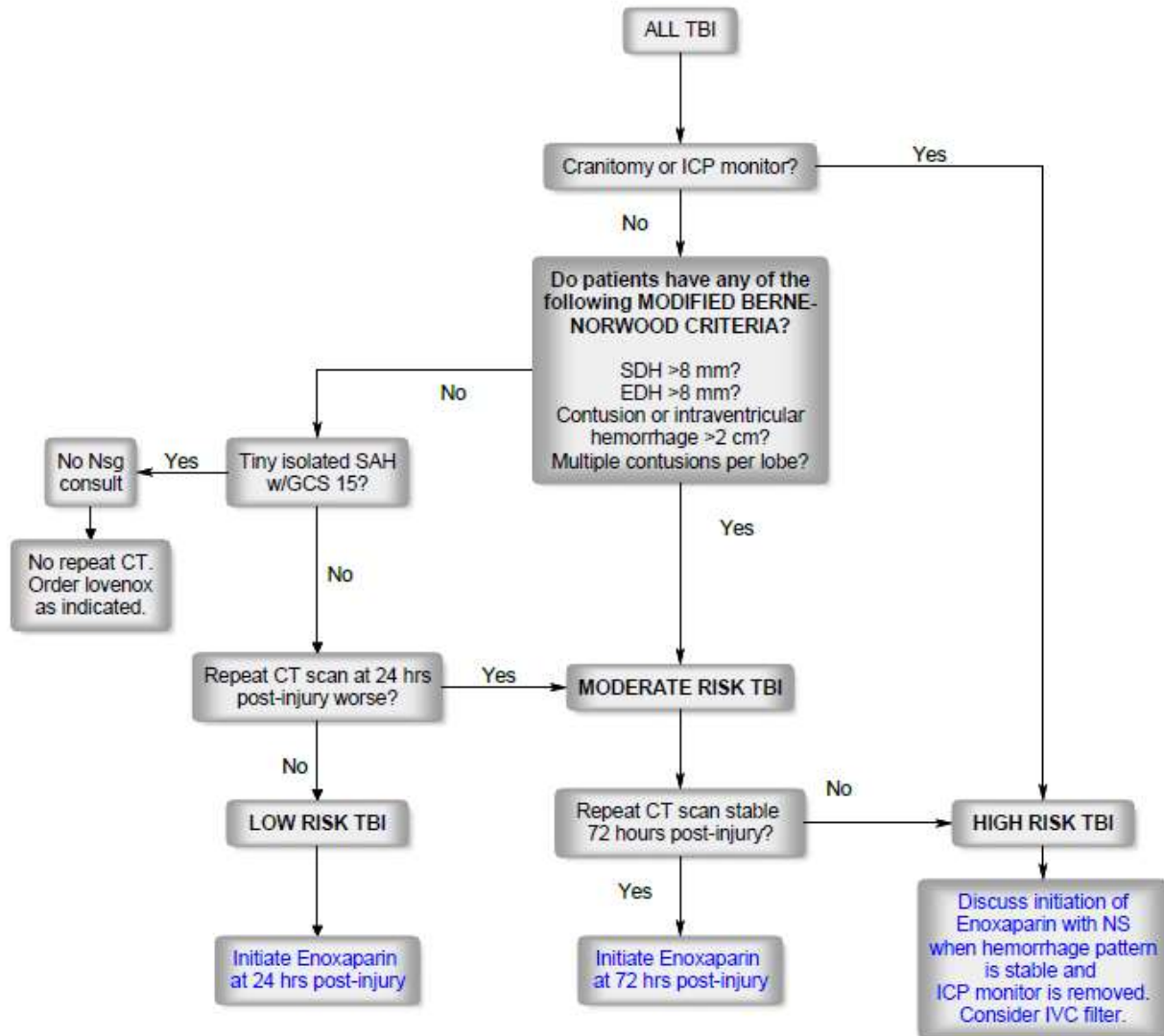
**Purpose:** To provide guidelines for DVT prophylaxis in the pediatric trauma patient

**Definitions:** Pediatric is defined as a patient less than or equal to 15 years of age

**Guidelines:**

- A. Pediatric trauma patients  $\leq$  15 years of age should be assessed for DVT risk factors and started on chemical DVT prophylaxis within the first 24 hours after arrival unless contraindicated
  - a. Consider DVT prophylaxis in younger post-pubertal children
- B. High Risk Factors may include
  - a.  $>$  1 lower extremity long bone fractures, complex pelvic fracture, or spinal cord injury
  - b. Obesity
  - c. Major surgical procedure
  - d. History of venous thrombosis
  - e. Bedrest
  - f. Intubation
  - g. Central venous catheter
    - i. includes tunneled, non-tunneled, and PICCs
  - h. Inflammatory disease such as Systemic Lupus Erythematosus, Inflammatory Bowel Disease, etc.
  - i. Thrombophilia, either known or having a family history
  - j. Hyperosmolar state
    - i. serum osmolarity  $>$  320 mOsm/kg
  - k. Birth control medication
  - l. Cancer diagnosis
  - m. Nephrotic Syndrome
- C. Chemical DVT prophylaxis should be considered after intracranial hemorrhage if repeat head CT shows stability or improvement with hemorrhage
  - a. See Parkland Protocol Flowchart marked as Attachment A
- D. Recommended Dosing
  - a.  $<$  60 kg = 0.5 mg/kg/dose sq BID
  - b.  $\geq$  60 kg = 30 mg sq BID

The Parkland Protocol



If Nsg signs off case, TS can initiate prophylactic enoxaparin.

If positive for DVT/PE, consider placement of IVC filter if therapeutic anticoagulation is contraindicated.

## References:

- G. H., Guyatt, G. H., Akl, E. A., Crowther, M., Gutterman, D. D., & Schünemann, H. J. (2012). Executive summary: antithrombotic therapy and prevention of thrombosis: American College of Chest Physicians evidence-based clinical practice guidelines. *Chest*, 141(2), 7S-47S. BTF guidelines, 2017
- Brain Trauma Foundation guidelines, 2017
- Abdel-Aziz, H; Dunham, C. M., Malik, R. J., and Hileman, B. M. (2015). Timing for deep vein thrombosis chemoprophylaxis in traumatic brain injury: An evidenced based review. *Critical Care*, 19(96), 1-10. Doi: 10.1186/s13054-015-0814z
- Pastorek, R. A., Cripps, M. W., Bernstein, I. H., Scott, W. H., Madden, C. J., Rickert, K. L., Wolf, S. E., & Phelan, H. A. (2014). The Parkland Protocol's Modified Berne-Norwood criteria predict two tiers of risk for traumatic brain injury progression. *Journal of Neurotrauma*, 31, 1737-1743. DOI: 10.1089/neu.2014.3366
- Phelan, H. A., Eastman, A. L., Madden, C. J., Aldy, K., Berne, J. D., Norwood, S. H., Scott, W. W.,... Minei, J. P. (2012). TBI risk stratification at presentation: A prospective study of the incident and timing of radiographic worsening in the Parkland Protocol. *Journal of Acute Care Surgery*, 73, 12-127. DOI: 10.1097/TA.0b013e3182606327
- Mahajerin A, Petty JK, Hanson SJ, Thompson AJ, O'Brien SH, Streck CJ, Petrillo TM, Faustino EV. Prophylaxis against venous thromboembolism in pediatric trauma: A practice management guideline from the Eastern Association for the Surgery of Trauma and the Pediatric Trauma Society. *J Trauma Acute Care Surg*. 2017 Mar;82(3):627-636. doi: 10.1097/TA.0000000000001359. PMID: 28030503.
- Cincinnati Children's Hospital (2014). Venous thromboembolism (VTE) prophylaxis in children and adolescents. Best Evidence Statement. Retrieved from <https://www.guideline.gov/content.aspx?id=47904>