Created:	April 2022
Reviewed:	April 2024
Revised:	April 2024



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 15 years of age

Guidelines:

- A. Pediatric trauma patients < 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. Contraindications may include
 - i. Patients with active bleeding, coagulopathy, or anticoagulation at time of admission and not reversed
 - ii. Patients who are ambulatory with anticipated discharge within 24 hours of arrival
 - iii. Patients who are ambulatory (BMAT 4)
 - iv. Patients with intracranial hemorrhage, refer to flowchart marked Attachment A
 - c. If the patient is going to the operating room within 24 hours of arrival, may hold chemical DVT prophylaxis until after the surgery. The chemical DVT prophylaxis should be initiated within 24 hours post-op unless contraindicated.
- 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
- I. 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. <u>></u> 60 kg = 30 mg sq BID

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The Parkland Protocol



References:

- G. H., Guyatt, G. H., Akl, E. A., Crowther, M., Gutterman, D. D., & Schuünemann, 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.000000000001359. 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