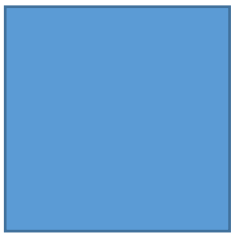
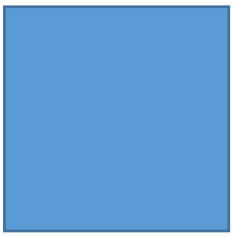
Maine Medical Center Trauma Clinical Practice Guideline (MMCT-CPG)



VTE Prophylaxis

(MMC-CPG ID: VTE_23)



Contributors

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First Publication Date	Publication Date	Supersedes CPG dated
01/01/2023	06/01/2023	01/01/2020

Guidelines translate best evidence into best practice. A well-crafted guideline promotes quality by reducing healthcare variations, improving diagnostic accuracy, promoting effective therapy, and discouraging ineffective – or potentially harmful – interventions.

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PURPOSE

These guidelines are intended to provide a basic framework for the initiation of venous thromboembolism (VTE) prophylaxis in admitted adult trauma patients.

BACKGROUND

Trauma patient are at increased risk for VTE. All patients on the trauma service should be treated with VTE prophylaxis; mechanical or chemoprophylaxis.

INITIAL MANAGEMENT

Indications for sequential compression devices:

All patient admitted to the trauma service should be treated with mechanical VTE prophylaxis with sequential compression devices.

Indications for chemoprophylaxis:

All patients admitted to the trauma service should be treated with low molecular weight heparin (LMWH) barring contraindications to the regimen/special populations

Special populations:

1. **Epidural catheter**: patients with a request for epidural catheter or current epidural catheter in place should be treated with SCD's and subcutaneous unfractionated heparin (UFH)
    a. Chemoprophylaxis in patients with epidural analgesia guided by Spectrum APMS guidelines
    b. When UFH dosing is >10,000u/d, must wait 4 hours after the last dose to place or remove epidural, must wait 2 hours post epidural placement to resume

2. **Creatinine Clearance < 30ml/min**: use weight based UFH

3. **Severe thrombocytopenia with platelet count <50k**: use SCDs

4. **History of HIT**: use fondaparinux with CrCl>50mL/min. Consider bivalrudin if patient requires a continuous infusion, consult with pharmacy.

5. **Patient on therapeutic anticoagulation**: resume outpatient regimen or alternative form of therapeutic anticoagulation when clinically appropriate

6. **Grade 3+ solid organ injury OR large soft tissue hematoma**: Start LMWH when patient remains hemodynamically stable x 24h

7. **Traumatic Brain Injury**:

TABLE 1 - Modified Berne-Norwood Criteria

Risk Stratification	Criteria	Initiation of VTE Prophylaxis
Low risk	No moderate- or high-risk criteria	Pharmacologic prophylaxis at 24h post injury if CT stable
Moderate risk	Subdural hematoma >8 mm Epidural hematoma >8 mm Contusion or intraventricular hemorrhage >2 cm Multiple contusions in a single lobe Subarachnoid hemorrhage with abnormal CT angiogram Evidence of progression at 24 h	Pharmacologic prophylaxis at 72h post injury if CT stable
High risk	ICP monitor placement Polytrauma with TBI Craniotomy Evidence of progression at 72 h	Initiate in collaboration with Neurosurgery Consider screening lower-extremity duplex or IVC filter

Patients should be treated with UFH if they meet consideration for any of the other special populations.

Reasons to hold chemoprophylaxis
- Hold VTE prophylaxis doses prior to and immediately following external ventricular drain placement/removal
- Hold VTE prophylaxis 48 hours postop from neurosurgical interventions (e.g. craniectomies)

Choice of Agent

Agent	BMI/Weight consideration	Dose/Frequency
Enoxaparin	BMI	
	<40 kg/m2	30mg SQ BID
	>40 kg/m2	40mg SQ BID
	Lovenox relatively contraindicated in women < 50kg and men < 60kg, recommend heparin	
Heparin	Weight	Dose/Frequency
	<100kg	5000u SQ Q12
	100-19kg	5000u SQ Q8
	>150kg	7500u SQ Q8

Screening:

Only those patients who cannot receive chemoprophylaxis for an extended period of time (7+ days) will receive routine lower extremity venous ultrasound duplex screening

IVC filter

IVC filters are not recommended for primary prophylaxis. IVC filter may be considered if patients are unable to receive chemoprophylaxis for an extended period of time (7+ days) due to risk of hemorrhage and are immobilized (eg severe TBI with GCS<8, paraplegia, quadriplegia, complex pelvic fractures, long bone fractures)

- Special Considerations: The following patients should undergo screening for LE DVT and be considered for IVC filter
    - Patients admitted with new quadriplegia or paraplegia NOT on chemoprophylaxis
    - Patients admitted with pelvic fracture, lower extremity long bone fracture NOT on chemoprophylaxis

PERFORMANCE IMPROVEMENT MONITORING

Rates of VTE complications in admitted trauma patients will be monitored by the Trauma Registry.

Performance / Adherence Measures

1. Will assess adherence and refer to Trauma PIPS as needed

Data Source

1. Timing of initiation, type of prophylaxis, and complications will be recorded in the MMC EMR

SYSTEM REPORTING & FREQUENCY

The above constitutes the minimum criteria for PI monitoring of the MMCT-CPG. System reporting will be performed annually; additional PI monitoring and system reporting may be performed as needed.

RESPONSIBILITIES

The system review and data analysis will be performed by the MMC Trauma Service under the direction and responsibility of the MMC Trauma Medical Directory and MMC Trauma Medical Program Manager.

It is the Trauma Medical Director's responsibility to ensure familiarity, appropriate compliance, and PI monitoring with this MMCT-CPG.

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