

SUPPLEMENTARY MATERIALS

Supplementary File 1: Survey questions

Demographic Data: Practitioner and Practice Site Information

What is your specialty? (select all that apply)

- Intensivist
- Trauma surgeon
- General surgeon
- Orthopedic surgeon
- Neurosurgeon

What is your position

- Fellow
- Associate consultant
- Consultant

How many years have you been in your current position?

- <5 years
- 5–10 years
- >10 years

How long you have been certified by the certification board of your primary specialty, i.e., Saudi Board, American Board of Surgery, Royal College of Physicians and Surgeons of Canada, or their foreign equivalent?

- <10 years
- 10–20 years
- >20 years
- Not applicable

What is your geographic location?

- Central region
- Northern region
- Western region
- Eastern region
- Southern region

What is the level of your trauma center?

- Level I trauma center (a sophisticated definitive care facility central to the trauma system, where all severe and complex injuries are managed by an in-house attending surgeon)
- Level II trauma center (manages severe injuries with the availability of an attending surgeon and other medical personnel)
- Level III trauma center (large community hospitals that can survey, resuscitate, and stabilize all trauma victims even if they need definitive surgery; however, complex cases beyond the available resources are transferred to higher centers)
- Undesignated

Number of trauma cases seen per year?

- <50 cases
- 50–100 cases
- >100 cases

Number of ICU beds in your facility?

- <20 beds

- 20–60 beds
- 60 beds

What is your practice type? (select all that apply)

- Academic Teaching Hospital
- Ministry of Health Hospital
- Private Hospital
- Government (national guard, military, etc.)

Common types of trauma seen? (select all that apply)

- Fall
- Motor vehicle accidents
- Motorcycle
- Pedestrian
- blunt
- Stab
- Intracranial injuries
- Cerebral contusion or laceration
- Brainstem or cerebellar injury
- Pelvic fracture
- Femur shaft fracture
- Tibia or fibula fracture
- Spinal cord injury
- Other (free text)

VTE Prophylaxis General Questions

In your institution, decision on timing of VTE thromboprophylaxis in patients with traumatic brain injury (TBI) and spinal cord injury (SCI) is made by which service?

- Intensivists
- Trauma surgeons
- General surgeons
- Orthopedic trauma or spine surgeons
- Neurosurgeons
- Consensus between surgical, critical care, and neuro services

In your institution, decision on timing of VTE thromboprophylaxis in patients conservatively managed for solid organ injury is made by which service?

- Intensivists
- Trauma surgeons
- General surgeons
- Consensus between surgical and critical care services
- Not applicable for my specialty

Have you seen any cases of PE and DVT in TBI, SCI, and conservatively managed solid organ injury patients who were NOT on VTE thromboprophylaxis?

- Yes
- No

If yes, how many cases?

- 1–3 cases
- 4–6 cases
- >7 cases

Have you seen any complications after starting VTE thromboprophylaxis in TBI, SCI, and conservatively managed solid organ injury?

- Yes
- No

If yes, how many cases?

- 1–3 cases
- 4–6 cases
- >7 cases

What types of complication? (choose all that apply)

- Intracranial hemorrhage
- Spinal hematoma
- Retroperitoneal bleeding
- Activation of massive transfusion protocol (MTP)
- Increase blood products transfusion without the need to activate MTP
- Others (free text)

You consider the practice pattern of VTE thromboprophylaxis in TBI, SCI, and conservatively managed solid organ injury patients in your institution to be

- Conservative
- Appropriate
- Aggressive
- Undecided

Any protocol for VTE thromboprophylaxis in TBI, SCI, and conservatively managed solid organ injury patients has been implemented in your institution?

- Yes
- No
- In progress of developing one

Are you aware of any guidelines for VTE thromboprophylaxis in TBI, SCI, and conservatively managed solid organ injury patients? (Select all that apply)

- Eastern Association for the Surgery of Trauma (EAST)
- American College of Chest Physicians (ACCP)
- Brain Trauma Foundation
- Neurocritical Care Society
- None

Clinical Scenarios

A 53-year-old patient sustains a small subdural hematoma and multiple fractures (femur, stable pelvis, and ribs). You would start VTE thromboprophylaxis:

- In 24 h without a repeated CT head
- In 24 h if a repeated CT head is stable
- In 48 h without a repeated CT head
- In 48 h if a repeated CT head is stable
- In 72 h without a repeated CT head
- In 72 h if a repeated CT head is stable
- Not applicable to my specialty

A 24-year-old otherwise healthy male underwent a ventriculostomy for an isolated traumatic cerebral contusion. You would start VTE thromboprophylaxis

- In 24 h without a repeated CT head
- In 24 h if a repeated CT head is stable
- In 48 h without a repeated CT head
- In 48 h if a repeated CT head is stable
- In 72 h without a repeated CT head
- In 72 h if a repeated CT head is stable
- Wait until the ICP is within normal limits
- Wait until the ventriculostomy is removed
- Not applicable to my specialty

A 34-year-old male is admitted to the neurosurgical ICU after all-terrain vehicle (ATV) crash. The patient has a spinal cord injury and multiple rib fractures. You would start VTE thromboprophylaxis

- In 24 h without a repeated CT spine
- In 24 h if a repeated CT spine is stable
- In 48 h without a repeated CT spine
- In 48 h if a repeated CT spine is stable
- In 72 h without a repeated CT spine
- In 72 h if a repeated CT spine is stable
- Not applicable to my specialty

A 25-year-old male with a gunshot wound (GSW) in the abdomen. CT abdomen showed the trajectory of the GSW through the liver only and no other injury was identified. He is clinically stable and no evidence of active bleeding. Plan for conservative management. You would start VTE thromboprophylaxis

- In 24 h without a repeated CT abdomen
- In 24 h if a repeated CT abdomen is stable
- In 48 h without a repeated CT abdomen
- In 48 h if a repeated CT abdomen is stable
- In 72 h without a repeated CT abdomen
- In 72 h if a repeated CT abdomen is stable
- Other (please specify)
- Not applicable to my specialty

A 35-year-old male involved in a motor vehicle accident (MVA). CT abdomen showed grade IV splenic injury. No sign of active bleeding, he was hemodynamically stable, and you planned for conservative management. You would start VTE thromboprophylaxis

- In 24 h without a repeated CT abdomen
- In 24 h if a repeated CT abdomen is stable
- In 48 h without a repeated CT abdomen
- In 48 h if a repeated CT abdomen is stable
- In 72 h without a repeated CT abdomen
- In 72 h if a repeated CT abdomen is stable
- Not applicable to my specialty

Factors associated with Delayed Initiation of VTE Prophylaxis

In your opinion, what are your perceived barriers to early initiation of VTE prophylaxis within 72 h of injury (select all that apply)

- Lack of concrete evidence
- Lack of institutional-specific protocol
- Lack of communication between surgical, critical care, and neuro services

- Multiple surgical interventions (laparotomy, craniotomy, ICP monitor insertions, etc.)
- Severe head injuries
- Massive early transfusion and increasing blood transfusion requirements (>6 units of pRABC within 12 h of injury)
- Coagulopathy and severe thrombocytopenia
- Mean ISS > 25
- APACHE II score > 25
- Others (free text)

In your opinion, what are the important factors in determining eligibility for early VTE initiation in trauma patients?

Short Text Box

VTE Prophylaxis Preferred Agents, Dosing, and Conclusion

What options for the prevention of VTE in trauma patients most commonly used in your institution?

- Mechanical if no contraindication (e.g. lower extremity injuries)
- Pharmacological
- Combination of mechanical and pharmacological
- IVC filter

.If pharmacological, which agents? Select all that apply

- Unfractionated heparin (UFH)
- Low-molecular-weight heparin (LMWH)
- Fondaparinux
- Warfarin

If UFH, what dose?

- 5000 units every 12 h
- 5000 units every 8 h
- 2500 units every 12 h
- 2500 units every 8 h
- Undecided

If LMWH, what dose of enoxaparin?

- 40 mg every 12 h
- 30 mg every 12 h
- 40 mg every 24 h
- Weight-based dosing after discussion with a clinical pharmacist
- Undecided

Are you utilizing anti-Xa level for adjustment of LMWH for VTE prophylaxis in trauma patients?

- Yes
- No

Are you interested in a multicenter prospective RCT to evaluate the safety and efficacy for early (<48 h) versus late (>48 h) pharmacological VTE prophylaxis in trauma patients?

- Yes
- No

If yes, please write down your contact information or the institution contact information (optional)

Short Text Box