



Evaluation & Management of a Patient Presenting with Blunt or Penetrating Trauma

Description of the Activity	Trauma is a common clinical problem encountered by general surgeons. The surgeon should be able to triage, diagnose, and treat injured patients and understand when local resources require consultation of additional providers or transfer to a higher level of care. The surgeon is expected to assess, stabilize, and treat patients in the emergency department (ED) as their condition warrants.
Functions	<ul style="list-style-type: none">❖ Trauma bay<ul style="list-style-type: none">➤ Activate the trauma response based on the projected acuity of the patient as described by prehospital personnel.➤ Interpret prearrival data, and mobilize in-hospital personnel and equipment based on the available information.➤ Delegate roles to members of the trauma team.➤ Elicit clinical information from prehospital personnel, including, but not limited to, mechanism of injury, significant physiologic and anatomic data, and relevant patient comorbidities.➤ Lead the initial evaluation and management.➤ Complete the primary survey.➤ Perform a secondary survey.➤ Determine the need to repeat the primary survey based on continued reassessment of the patient.➤ Order and interpret laboratory and imaging studies based on a patient's clinical presentation.➤ Develop and prioritize a catalog of injuries based on examination as well as laboratory and imaging studies.➤ Manage a hemodynamically unstable injured patient.<ul style="list-style-type: none">▪ Activate the massive transfusion protocol when necessary.➤ Initiate special care of an older adult patient.<ul style="list-style-type: none">▪ Assess for frailty, and adjust management accordingly.➤ Initiate special care of a pregnant patient.<ul style="list-style-type: none">▪ Position a pregnant patient who is hypotensive.▪ Weigh the risks and benefits of ionizing radiation in the diagnostic evaluation.➤ Manage spinal injury.<ul style="list-style-type: none">▪ Identify the need for spinal precautions.▪ Clear a cervical spine to allow for cervical collar removal in an awake patient.▪ Clear a cervical spine to allow for cervical collar removal in an obtunded patient.▪ Log roll a patient.❖ Procedures<ul style="list-style-type: none">➤ Identify the need for and safely perform or delegate indicated bedside procedures, including but not limited to:<ul style="list-style-type: none">▪ Advanced airway management▪ Application of a pelvic binder or tourniquet▪ Arterial line placement▪ Arterial puncture for arterial blood gases▪ Central line placement▪ Chest tube placement



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	<ul style="list-style-type: none">▪ Debridement and closure of skin and scalp lacerations▪ Focused assessment with sonography for trauma (FAST)▪ Foley catheter▪ Splinting/traction▪ Resuscitative endovascular balloon occlusion of the aorta (REBOA) placement▪ Resuscitative thoracotomy <p>❖ Transition of care</p> <ul style="list-style-type: none">➤ Recognize and triage patients with hemodynamic instability who need to be taken immediately to the operating room.➤ Consult with additional surgical services based on identified associated injuries.➤ Determine the disposition of a patient.➤ Communicate a diagnostic treatment plan to a patient/caregiver(s).
Scope	<p>❖ In scope</p> <ul style="list-style-type: none">➤ Patients with blunt and penetrating thoracoabdominal trauma➤ Pregnant and older adult patients <p>❖ Out of scope</p> <ul style="list-style-type: none">➤ Patients with isolated extremity injury➤ Patients with thermal, chemical, or inhalation injury➤ Pediatric patients



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<p>1</p> <p><u>Limited Participation:</u></p> <p>Demonstrates understanding of information and has very basic skills</p> <p><u>Framework:</u></p> <p>What a learner directly out of medical school should know</p> <p>The attending can show and tell.</p>	<ul style="list-style-type: none"> • Demonstrates knowledge of ATLS protocols • Obtains history and performs basic assessment during trauma resuscitation • Orders and interprets simple diagnostic studies for a stable patient, including radiologic and lab evaluations • Develops a differential for a straightforward trauma patient 	<ul style="list-style-type: none"> • Performs a FAST exam with assistance but is unable to interpret the findings • Intervenes on a nonoperative trauma patient with straightforward problems (eg, holds pressure on or sutures lacerations, applies bandages) • Serves as an observer or requires significant guidance for all other procedures 	<ul style="list-style-type: none"> • Communicates with a patient/caregiver(s) with cultural humility and provides timely updates • Places indicated consults for a trauma patient who is not critically ill • Accurately documents trauma resuscitation • Accesses national best practice guidelines for management of trauma patients, requiring assistance to apply them • Demonstrates understanding of receiving consultant recommendations from other services and conducts an effective handoff of a trauma patient who is not critically ill • Initiates the process of floor/ICU admission or transition to the OR for nonemergent care of a stable patient
<p>2</p> <p><u>Direct Supervision</u></p> <p>Knows the steps of resuscitation but requires direction through principles and does not know the nuances of evaluation</p>	<ul style="list-style-type: none"> • Gathers prehospital information for a stable trauma patient • Prepares the trauma bay with equipment and personnel for a straightforward trauma resuscitation • Gathers relevant information from the patient and performs a basic ATLS survey for a patient who is not critically ill, incorporating other trauma protocols as indicated • Develops a comprehensive differential for a trauma patient who is not critically ill 	<ul style="list-style-type: none"> • Performs a FAST exam and interprets normal and obviously abnormal exams • Intervenes on a nonoperative trauma patient with more complex problems with assistance (eg, splinting, pelvic binder application) • Performs a complex procedure such as central line or chest tube placement with assistance 	<ul style="list-style-type: none"> • Customizes communication to a straightforward patient/caregiver(s) about management plans, considering personal/systemic biases; misses some elements when discussing expected outcomes and the anticipated treatment course • Identifies and places indicated consults for a trauma patient who is not critically ill • Provides timely and complete communication in the medical record for all members of the health care team to view • Identifies system factors that can impact trauma patient safety and lead to deviation from best practice guidelines



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<p><u>Framework:</u></p> <p>The learner can use the tools but may not know next steps or have a clear understanding of best diagnostic techniques or decision-making.</p> <p>The attending gives active help throughout the resuscitation to maintain forward progression.</p>	<ul style="list-style-type: none"> Orders lab tests and imaging for a critically injured trauma patient, requiring assistance with interpretation Recognizes when a patient may need procedural or operative intervention based on significant changes in vital signs and considers hemorrhagic shock in a hypotensive trauma patient 		<ul style="list-style-type: none"> Coordinates consultant communications and interdisciplinary care of a noncritically ill trauma patient Communicates with all trauma team members regarding next steps but omits some potentially important elements Articulates a care plan that considers priorities of multiple injuries Performs an effective handoff to a rehab unit or home care delivery system for a patient recovering from complex injury Elicits patient preferences and incorporates individual patient needs in a plan for transition of care after trauma
<p>3</p> <p><u>Indirect Supervision</u></p> <p>Can do a basic resuscitation but will not recognize subtle abnormalities or understand the nuances of a critically ill trauma patient</p> <p><u>Framework:</u></p> <p>The learner can perform the resuscitation in</p>	<ul style="list-style-type: none"> Gathers information from prehospital providers or OSH information for a critically ill trauma patient Prepares the trauma bay with equipment and personnel for resuscitation of a critically ill trauma patient Gathers relevant information and performs ATLS on a critically injured trauma patient using an evidence-based, protocolized approach Orders and interprets diagnostic studies, including radiologic and lab evaluations Recognizes when a patient needs an operative or procedural intervention and responds to subtle changes in vital signs Recognizes a patient in hemorrhagic shock and initiates a massive transfusion protocol when indicated 	<ul style="list-style-type: none"> Performs a FAST exam and identifies subtle abnormalities Intervenes on a nonoperative trauma patient with complex problems without assistance (eg, pelvic binder, traction splint) Performs straightforward and complex bedside procedures without assistance (eg, central line and chest tube placement) Requires guidance for a maximally invasive procedure such as resuscitative thoracotomy or REBOA placement Initiates but requires help to treat a patient in severe hemorrhagic shock using techniques such as rapid access to the chest or abdominal cavity, cross-clamping 	<ul style="list-style-type: none"> Communicates patient care information with cultural humility to caregivers of a complex or difficult trauma patient Provides feedback to team members about performance Identifies and places consults for a critically ill trauma patient Communicates with all team members regarding next steps, capturing all potentially important elements Gathers relevant information from OSH and synthesizes it into the institution's EMR system Applies national best practice guidelines to address a trauma patient's comprehensive needs and analyze outcomes Identifies the need for and coordinates consults for a critically ill patient



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<p>straightforward circumstances.</p> <p>The attending gives passive help. This help may be given while present for more complex cases or during a check-in for more routine cases.</p>	<ul style="list-style-type: none"> Develops a comprehensive differential for a critically ill trauma patient 	<p>the aorta, 4-quadrant packing, and damage control principles</p>	<ul style="list-style-type: none"> Clearly communicates with all health care team members and coordinates complex care plan discussions for trauma patients Implements a care plan that considers priorities of multiple injuries in a straightforward patient Initiates floor/ICU admission or transition to the OR for a complex trauma patient
<p>4</p> <p><u>Practice Ready</u></p> <p>Can manage more complex trauma evaluations and can take care of most cases with strong leadership and communication skills</p> <p><u>Framework:</u> The learner can treat all straightforward traumas and has a strong understanding of high-acuity cases and less common scenarios.</p> <p>The attending is available at the request of the learner but is not routinely needed for</p>	<ul style="list-style-type: none"> Leads the trauma team, preparing the trauma bay with equipment and personnel and directing ATLS protocols Recognizes when deviation from protocol is necessary; identifies missed injuries Orders and interprets all diagnostic studies for a trauma patient and develops an operative/procedural intervention plan based on the patient's condition Manages a critically ill trauma patient 	<ul style="list-style-type: none"> Adjusts technique to perform and interpret a FAST exam, considering patient-specific factors and mechanism of injury (eg, pregnancy) Oversees intervention on a nonoperative trauma patient with complex problems Performs most procedures independently but requires some guidance for maximally invasive procedures such as a resuscitative/clamshell thoracotomy or REBOA placement Treats a patient in severe hemorrhagic shock using techniques such as rapid access to the chest or abdominal cavity, cross-clamping the aorta, 4-quadrant packing, and damage control principles 	<ul style="list-style-type: none"> Customizes emotionally difficult news (eg, changes to the operative plan, adverse outcome, end-of-life discussion) for a patient/caregiver(s) with cultural humility, negotiating conflicts with the patient or health care team and facilitating goals-of-care discussions Oversees identification and placement of indicated consults for all trauma patients Maintains clear communication in a high-stress situation and provides constructive feedback to supervisors Reviews and provides feedback about documentation in the medical record Critically appraises evidence and integrates national best practice guidelines in local management protocols, tailoring recommendations to an individual trauma patient Oversees admission to the floor/ICU or transition to the OR for all trauma patients Implements a care plan that considers priorities of multiple injuries in a critically ill patient Manages communication with the OR and subspecialty teams regarding need for



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common presentations, though input may be needed for more complex presentations.			transition to the OR and priorities of operative management by multiple services <ul style="list-style-type: none">Oversees transfer of a patient to a long-term or home care setting and effectively navigates barriers for a patient with limited social and economic resources