

Scenario Overview

Scenario Title	Milestone Assessment: Trauma
Scenario Developer	Thomas Yang, MD & Leigh Evans, MD
Date	10/06/19, Revision 12/12/19, Revision 01/13/20
Case Summary	Elderly male presents to a single provider-covered community ED at 1148PM via private vehicle after a fall at home. Patient has left sided subdural hematoma with no midline shift, mildly displaced rib fracture with large hemopneumothorax, grade III spleen laceration. He is on Eliquis for Atrial fibrillation. Learner will be required to perform initial trauma stabilization which will require intubation, chest tube insertion and transfer to a Level 1 trauma center.
Learning Objectives	<p>Goals and Objectives:</p> <ol style="list-style-type: none"> 1. Able to manage critically ill traumatized patient and prioritize interventions 2. Recognize need for early transfer to Level 1 trauma center 3. Avoid distraction of management by interruption 4. Perform intubation and chest tube insertion with facility <p>Critical Actions (Clinical Management):</p> <ol style="list-style-type: none"> 1. Perform primary survey including E-FAST 2. Check finger stick 3. Correctly calculate GCS 4. Needle thoracostomy 5. Intubation 6. Address reversal of DOAC 7. Initiate transfer to Level 1 trauma center 8. Appropriate prioritization of interruption – noncritical ECG <p>Critical Actions (Teamwork and Communication):</p> <ol style="list-style-type: none"> 1. Clear communication with son regarding goals of care, shared decision making 2. Clear communication with Trauma surgeon 3. Communicate concern about potential intracranial hemorrhage 4. Clear communication with provider team
Information Provided to Learner (Chief Complaint):	78 year old male on blood thinner presents after fall on his left side. According to his daughter, he is more confused than normal.
Milestones Assessed	<p>PC1 – Emergency Stabilization: prioritizes critical initial stabilization action and mobilizes hospital support services in the resuscitation of a critically ill or injured patient and reassesses after stabilizing intervention</p> <p>PC7 – Disposition: Establishes and implements a comprehensive disposition plan that uses appropriate consultation resources; patient education regarding diagnosis; treatment plan; medications; and time and location specific disposition instructions.</p> <p>PC8 – Multitasking: Employs task switching in an efficient and timely manner in order to manage the ED</p> <p>PC9 – Approach to Procedures: Performs the indicated procedure on all appropriate patients (including those who are uncooperative, at the extremes of age, hemodynamically unstable and those who have multiple co-morbidities, poorly defined anatomy, high risk for pain or procedural complications, sedation requirement), takes steps to avoid potential complications, and recognizes the outcome and/or complications resulting from the procedure</p>

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HPI/ROS(Information Learner Must Obtain)	78 year old male brought into resuscitation room by wheelchair by triage nurse. He is accompanied by his daughter. He was walking to the bathroom when he slipped and fell on the left side and hit the head on the toilet seat. There was a loss of consciousness. Daughter found him on the floor and was able to help him to ambulate to his sofa. Within 10 minutes, patient was complaining of rib pain so daughter drove him to the emergency department.
Notes to facilitator (tips on how to run the case)	Primary survey demonstrates decreased breath sounds on the left, bruising and tenderness over lower left chest wall, GCS 8. Patient has normal HR (70s), systolic BP 105, O2 saturation 91% on RA. Provider should perform E-FAST (decreased lung sliding on left), no free fluid on abdominal exam. Patient requires left sided needle thoracostomy, intubation and chest tube insertion for hemopneumothorax (400 cc of blood). During intubation, SBP decreases to 80 after RSI medications. At same time, nurse interrupts learner with an ECG from another examining room (sinus tachycardia). SBP remains at 85. Learner must initiate transfer to Level 1 trauma center and speak to trauma surgeon prior to any imaging. With resuscitation, SBP increases to 110. While awaiting transport, CT demonstrates subdural hematoma, resolving hemothorax, and grade III splenic laceration. Updates trauma surgeon.
Patient Information	<p>Name: Julius King Gender: Male Age: 78 Weight: 100kg Medications: Eliquis, Metoprolol, Atorvastatin, Metformin, Lisinopril Allergies: NKDA Past Medical History: Afib, HTN, DMII, Hyperlipidemia Social History: Smoker in the past, social drinker</p>
Abnormal Physical Exam Findings	<p>A - Airway Intact B – Decreased Breath Sounds on the left C – Tender in LUQ, Palpable Pulses D – GCS 8 E – Ecchymosis to LUQ, Left Lower Chest F – No lung sliding on the left</p>
Set up Requirements	<p>Mannequin: Sim Man 3G Equipment: Ultrasound, Intubation Kit, Chest tube kit, C-Collar IV Access: 1 on the RUE Props: Wig Moulage: Bruise in the left lower chest wall and the left side temporal head</p>

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Duration or Event Based	Monitor Settings	Patient Auscultation sounds	Patient Parameters	Trigger/Cue to next state
Initial State	HR: 70 ECG Rhythm: Atrial Fibrillation RR: 20 BP: 104/70 Sat: 91% RA ETCO2: 35 Temp: 98.6 F	Heart: irregular rhythm Lung: Decreased Breath Sounds Bowel: Normal	Eyes: PERRLA Convulsions: None Secretions: None Bleeding: None	Primary Survey/Chest Tube Placement GCS: 8 (E4V2M2) Eye open spont Incomprehensible Sounds Extension to pain

Duration or Event Based	Monitor Settings	Patient Auscultation sounds	Patient Parameters	Trigger/Cue to next state
Next State	HR: 90 ECG Rhythm: Atrial Fibrillation RR: 20 BP: 98/66 Sat: 91% O2 Intubated ETCO2: 35	Heart: Irregular rhythm Lung: Bilateral Breath sounds but decreased on the left Bowel: Normal	Eyes: PERRLA Convulsions: None Secretions: None, Not able to clear spontaneously Bleeding: None	Handed EKG to sign prior to intubation. Intubate with C-Collar removed

Duration or Event Based	Monitor Settings	Patient Auscultation sounds	Patient Parameters	Trigger/Cue to next state
Next State	HR: 95 ECG Rhythm: Atrial Fibrillation RR: Intubated BP: 92/55 Sat: 100% intubated ETCO2: Intubated	Heart: irregular rhythm Lung: Bilateral Breath sounds but decreased on the left Bowel: Normal	Eyes: Closed Convulsions: None Secretions: None (NG Tube Placed) Bleeding: None	Pan CT shows subdural hematoma with no midline shift, spleen laceration with left side rib fracture and left sided hemopneumothorax

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Duration or Event Based	Monitor Settings	Patient Auscultation sounds	Patient Parameters	Trigger/Cue to next state
Next State	HR: 104 ECG Rhythm: Atrial Fibrillation RR: Intubated BP: 90/50 Sat: 100% Intubated ETCO2: Intubated	Heart: irregular rhythm Lung: Bilateral Breath sounds but decreased on the left Bowel: Normal	Eyes: Closed Convulsions: None Secretions: None (NG Tube Placed) Bleeding: None	pRBC transfusion/Eliquis Reversal (K Central/FFP)
Duration or Event Based	Monitor Settings	Patient Auscultation sounds	Patient Parameters	Trigger/Cue to next state
Next State	HR: 100 ECG Rhythm: Atrial Fibrillation RR: Intubated BP: 102/56 Sat: 100% Intubated ETCO2: Intubated	Heart: irregular rhythm Lung: Bilateral Breath sounds but decreased on the left Bowel: Normal	Eyes: Closed Convulsions: None Secretions: None (NG Tube Placed) Bleeding: None	Communication with Yale Trauma Surgeon via Y-Access and Transfer Initiation – Ends the case

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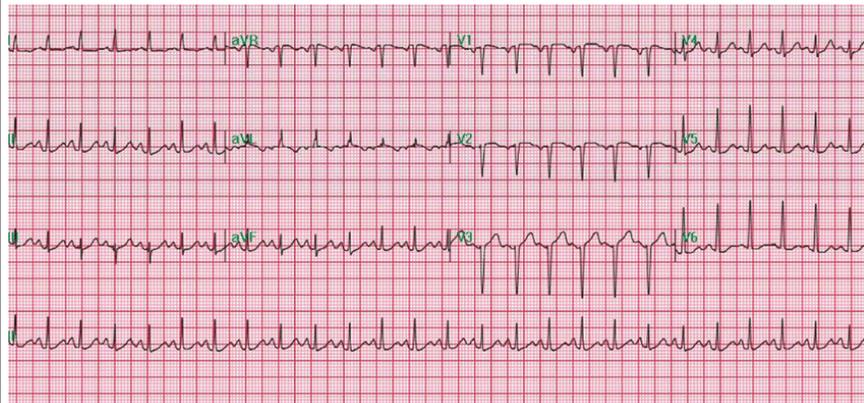
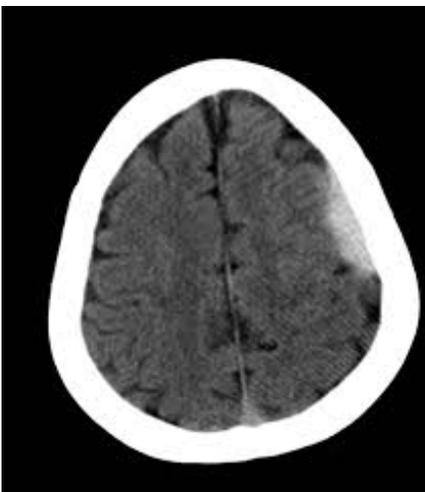
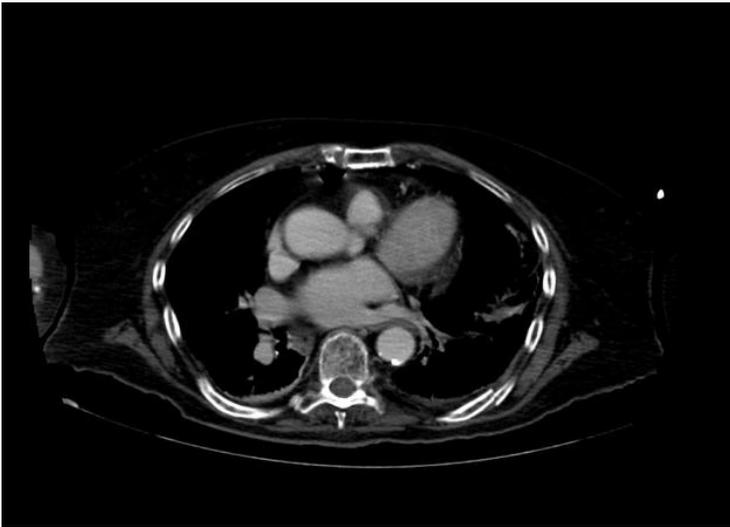
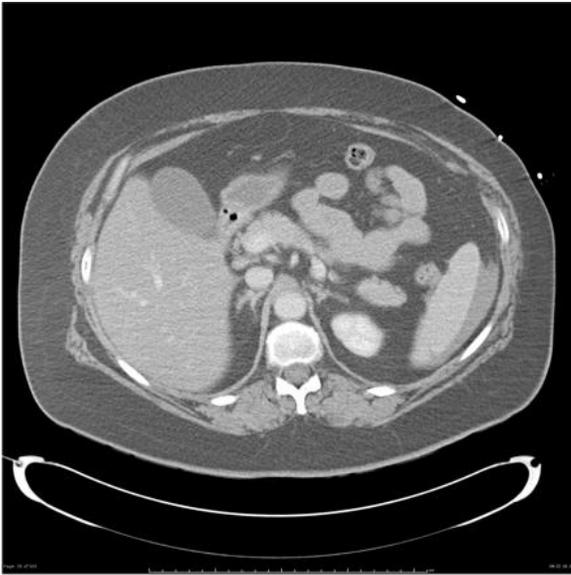
Laboratory Results	Na: 142 K: 3.8 CL: 99 HCO3: 21 BUN: 29 Cr: 1.1 Glucose: 96 Lipase: 14 AST: 24 ALT: 21 T.Bili: 1.0 D.Bili: 0.2	Utox: neg UA: neg WBC: 11.2 HGB: 9.6 PLT: 194 PT: 14 PTT: 35 INR: 1.2 Lactic Acid: 2.4 Troponin: 0.00	After intubation pH: 7.39 paCO2: 38 paO2: 340 FIO2: 100% EtOH: Neg	
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Radiology/Media Results



E-FAST – Decreased lung sliding on left
CT – Subdural Hematoma, Rib Fracture and Spleen

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Medication to be available

Fluids,
Blood
FFP/K Centra
Etomidate
Ketamine
Succinylcholine
Rocuroium
Morphine/Fentanyl
Antibiotics
Propofol

Resources in room

C-Collar
Ventilator
Chest Tube Tray
Ultrasound
Intubation Materials

References

<https://www.ebmconsult.com/articles/chest-tube-placement-thoracostomy-procedure>

