PURPOSE:
To guide the care of trauma related penetrating injury to the thoracic region.

POLICY STATEMENT:
Any penetrating weapon or missile that enters or traverses the chest between the sagittal planes described by the nipples should be considered high risk for cardiac injury. Midline injuries in the superior chest are high risk for great vessel, tracheobronchial, esophageal, AND cardiac injuries. Penetration below the nipples anteriorly or tips of the scapulae posteriorly should be considered a potential thoracoabdominal injury, and workup for abdominal injury must be considered as well. Penetrating injury to the posterior chest should be treated in the same way as an anterior chest injury would be approached.

PROCEDURES:

I. Complete an initial assessment to determine stability
   a. Stable:
      i. Obtain CXR looking for any treatable injuries.
      ii. Consider CT, bronchoscopy or endoscopy as indicated
   b. Unstable:
      i. Determine if the injury is inside or outside of the box
      ii. Complete a FAST or CXR, if appropriate, looking for tamponade or pneuomthorax
      iii. Ipsilateral chest tube placement for injuries outside the box
      iv. ED Thoracotomy (EDT) for injuries inside the box without signs of life. Consider need for operation based on injuries found

II. Resuscitative/EDT Guidelines:
   a. Availability of trained personnel, especially a trauma surgeon.
   b. Suspected major blood vessel injury resulting in rapid deterioration following penetrating chest trauma

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Prepared by: *MGR, TRAUMA PROGRAM*
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c. Documented vital signs lost within 5 minutes of arrival for non-intubated patients and active cardiac arrest/ACLS protocol in progress.

d. No measurable vital signs on arrival in ED, but evidence of spontaneous respiratory effort in ED.

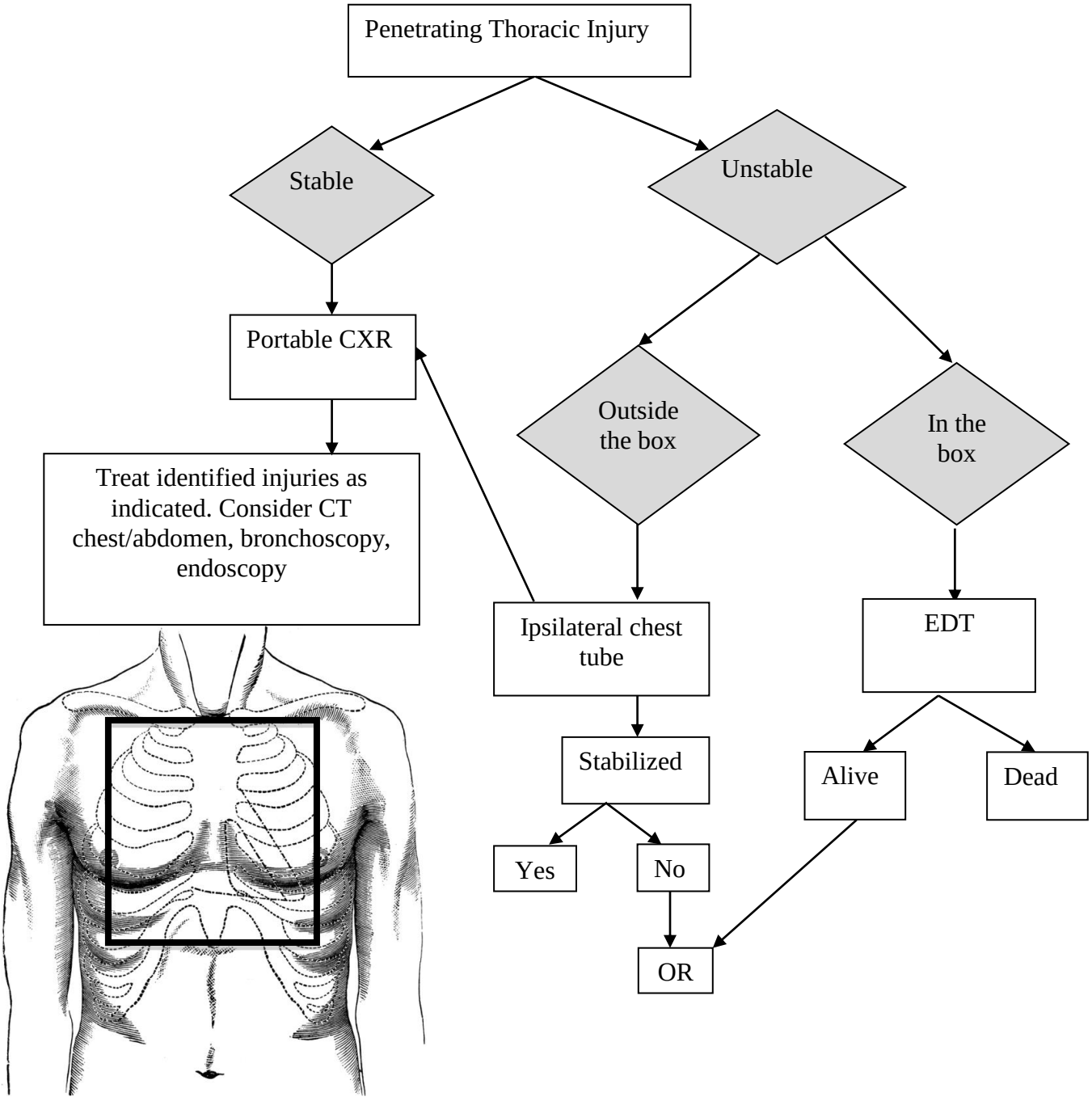
e. Thoracotomy should not be routinely performed for blunt trauma or asystolic cardiac arrest.

f. Thoracotomy should not be done for normothermic patients without vital signs in the field.

I. ADDITIONAL RESOURCES

a. Karmy-Jones R, Namias N, Coimbra R, Moore EE, Schreiber M, McIntyre R, Jr., et al. Western Trauma Association critical decisions in trauma: Penetrating chest trauma. *J Trauma Acute Care Surg 2014; 77*(6): 994-1002.

b. Seamon, M, Haut, E, Van Arendonk, K, Barbosa, R, et al. An evidence-based approach to patient selection for emergency department thoracotomy, *J Trauma Acute Care Surg 2015; (79)*1: 159-173. doi: 10.1097/TA.0000000000000648



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