EMERGENT RESUSCITATIVE THORACOTOMY

Original Release/Approval		28 July 2007	Note: This CPG requires an annual review.	
Reviewed:	May 2012	Approved:	11 Jun 2012	
Supersedes:	Emergent Resuscitative Thoracotomy, 6 May 2009			
☐ Minor Changes *(or)*		☒ Changes are substantial and require a thorough reading of this CPG *(or)*		
☐ Significant Changes		PI monitoring plan added; ERT in blunt trauma revised		

1. **Goal.** Provide guidance on the indications to perform an emergent resuscitative thoracotomy (EDT).

2. **Background.**

   a. Resuscitative thoracotomy on the battlefield is indicated and warranted only in patients with penetrating injuries who present to a deployed MTF either in extremis or who have had a recent loss of vital signs. Though most of these casualties will not survive, a small percentage of patients who undergo an emergency thoracotomy can be salvaged with normal neurological outcomes.

   b. Emergency thoracotomy should be performed only in a facility able to support advanced damage control surgery and resuscitative efforts (e.g. level IIb, II+ or level III facility)

   c. A subxiphoid pericardial window should not be attempted in an unstable patient.

   d. Unstable patients with penetrating injuries suspicious for cardiac injury in a level IIb/+ or level III setting should undergo immediate emergency thoracotomy.

3. **Emergency Resuscitative Thoracotomy (ERT)for blunt injury should be based upon clinical judgment, recognizing that the data from civilian studies has demonstrated a very low survival rate when resuscitative thoracotomy is employed following blunt trauma.** In the deployed setting, one of the rare circumstances for use of emergency resuscitative thoracotomy on blunt trauma casualties if for a casualty who loses signs of life while witnessed in the MTF.

4. **Evaluation and Treatment.**

   a. See Appendix A for the Emergency Thoracotomy Algorithm.

5. **Performance Improvement (PI) Monitoring**.

   a. Intent (Expected Outcomes).

      1) ERT is performed only at a surgically capable facility

      2) ERT is not performed in patients presenting in traumatic cardiac arrest of greater than 10 minutes duration

   b. Performance/Adherence Measures.

      1) All ERTs in theater were performed for appropriate indications in surgically capable MTFs

      2) ERT was not performed in any patient presenting in traumatic cardiac arrest of greater than 10 minutes

c. Data Source.

1) Patient Record

2) Joint Theater Trauma Registry (JTTR)

d. System Reporting & Frequency.

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

The system review and data analysis will be performed by the Joint Theater Trauma System (JTTS) Director, JTTS Program Manager, and the Joint Trauma System (JTS) Performance Improvement Branch.

6. Responsibilities. It is the trauma team leader's responsibility to ensure familiarity, appropriate compliance and PI monitoring at the local level with this CPG.

7. References.

[1] Feliciano DV, Mattox KL, Moore EE (eds): *TRAUMA*.6th ed USA: McGraw-Hill Companies; 2008.

[2] *Emergency War Surgery*, Third United States Revision. USA: Borden Institute; 2004.

[3] Peitzman, et al (eds): *The Trauma Manual*.3rd ed Philadelphia: Lippencott Williams & Wilkins; 2008.

[4] Rhee PM, Acosta J, Bridgeman A, et al. Survival after emergency department thoracotomy. *J Am Coll Surg.* 2000;190(3): 288-98.

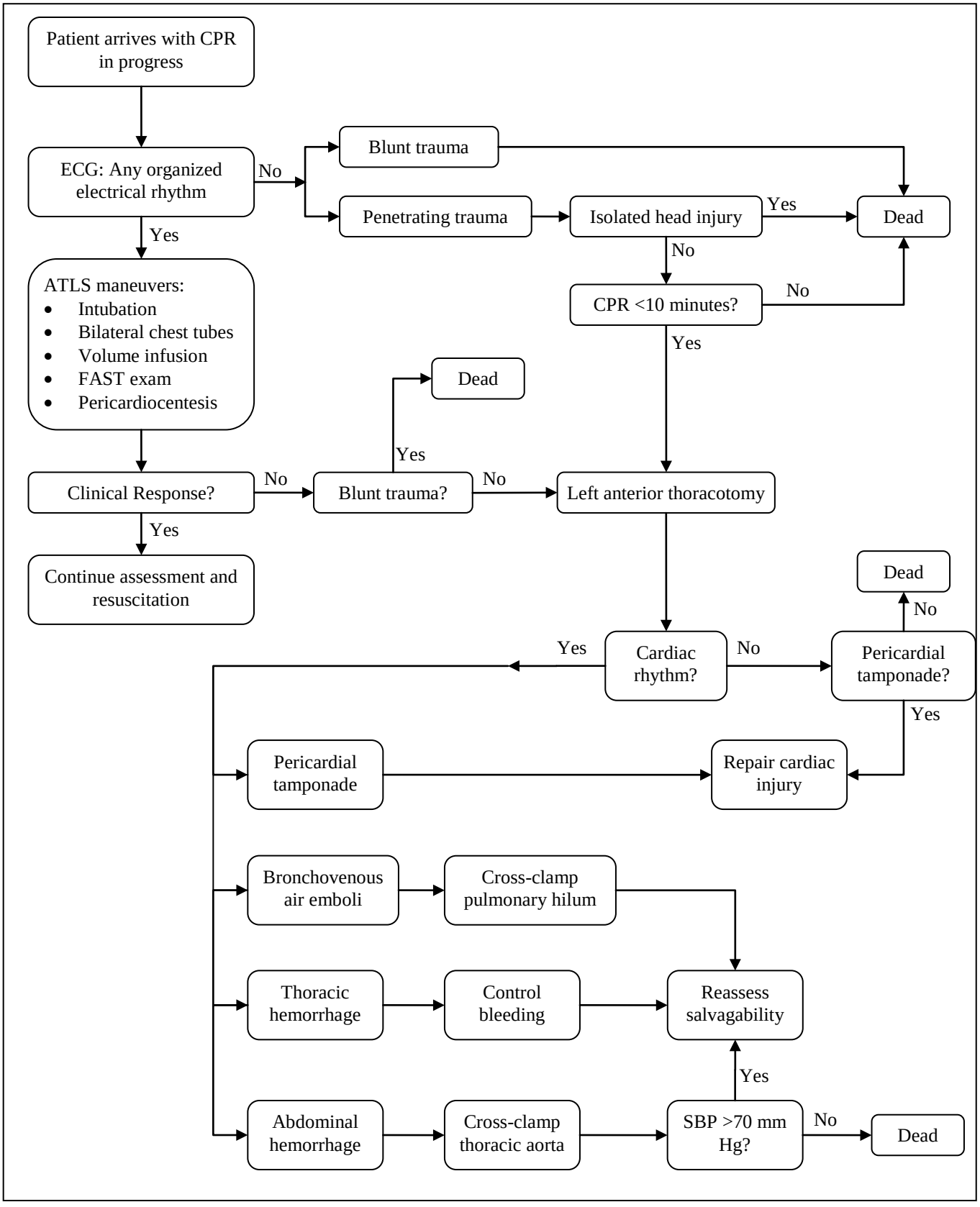
[5] MacFarlane C. Emergency thoracotomy and the military surgeon. *ANZ J Surg.* 2004; 74(4):280-4.

[6] Edens JW, Beekley AC, Chung KK, Cox ED, Eastridge BJ, Holcomb JB, Blackbourne LH. Longterm outcomes after combat casualty emergency department thoracotomy. *J Am Coll Surg*. 2009;209:188-197.

[7] Moore EE, Knudson MM, Burlew CC, et al. Defining the limits of resuscitative emergency department thoracotomy: a contemporary Western Trauma Association perspective. *J Trauma*. 2011;70(2):334-9.

Approved by CENTCOM JTTS Director, JTS Director and CENTCOM SG

APPENDIX A, EMERGENCY THORACOTOMY ALGORITHM



APPENDIX B,

ADDITIONAL INFORMATION REGARDING OFF-LABEL USES IN CPGs

1. **Purpose**. The purpose of this Appendix is to ensure an understanding of DoD policy and practice regarding inclusion in CPGs of "off-label" uses of U.S. Food and Drug Administration (FDA)–approved products. This applies to off-label uses with patients who are armed forces members.

2. **Background**. Unapproved (i.e., "off-label") uses of FDA-approved products are extremely common in American medicine and are usually not subject to any special regulations. However, under Federal law, in some circumstances, unapproved uses of approved drugs are subject to FDA regulations governing "investigational new drugs." These circumstances include such uses as part of clinical trials, and in the military context, command required, unapproved uses. Some command requested unapproved uses may also be subject to special regulations.

3. **Additional Information Regarding Off-Label Uses in CPGs**. The inclusion in CPGs of off-label uses is not a clinical trial, nor is it a command request or requirement. Further, it does not imply that the Military Health System requires that use by DoD health care practitioners or considers it to be the "standard of care." Rather, the inclusion in CPGs of off-label uses is to inform the clinical judgment of the responsible health care practitioner by providing information regarding potential risks and benefits of treatment alternatives. The decision is for the clinical judgment of the responsible health care practitioner within the practitioner-patient relationship.

4. **Additional Procedures**.

   a. Balanced Discussion. Consistent with this purpose, CPG discussions of off-label uses specifically state that they are uses not approved by the FDA. Further, such discussions are balanced in the presentation of appropriate clinical study data, including any such data that suggest caution in the use of the product and specifically including any FDA-issued warnings.

   b. Quality Assurance Monitoring. With respect to such off-label uses, DoD procedure is to maintain a regular system of quality assurance monitoring of outcomes and known potential adverse events. For this reason, the importance of accurate clinical records is underscored.

   c. Information to Patients. Good clinical practice includes the provision of appropriate information to patients. Each CPG discussing an unusual off-label use will address the issue of information to patients. When practicable, consideration will be given to including in an appendix an appropriate information sheet for distribution to patients, whether before or after use of the product. Information to patients should address in plain language: a) that the use is not approved by the FDA; b) the reasons why a DoD health care practitioner would decide to use the product for this purpose; and c) the potential risks associated with such use.