SUBJECT: Traumatic Cardiac Injury Clinical Management Guideline

REVIEWED: Revised 11/30/2018 **PAGE:** 1 of 2

RECOMMENDATION(S): Dr. Ron Robertson **APPROVAL:** 07/01/2014

CONCURRENCE(S): Dr. Rawle Seupaul

EFFECTIVE: 07/01/2014

PURPOSE:

To provide guidelines for the diagnostic evaluation of traumatic cardiac injury.

CARDIAC INJURY - BLUNT

GUIDELINE:

The diagnosis of blunt cardiac injury should be considered in those patients with significant mechanism of injury and in those who respond poorly to resuscitative efforts.

CRITERIA:

- Obtain an EKG and troponin levels on all patients in whom blunt cardiac injury is suspected.
- New arrhythmias, ST changes, heart block, ischemia, and any unexplained EKG changes seen on EKG will require hospital admission.
- In circumstances where the EKG and troponin are normal, no further evaluation is recommended
- In circumstances where the EKG is normal and the troponin is elevated, admit for cardiac monitoring.
- For patients with hemodynamic instability or persistent new arrhythmia, an echocardiogram should be obtained.
- The presence of sternal fracture alone does not predict the presence of BCI and thus should not require monitoring in the setting of a normal EKG and troponin level.
- Nuclear medicine studies should not be obtained.
- CPK should not be obtained.
- Elderly patients with known cardiac disease, unstable patients, and those with abnormal EKG can safely undergo surgery with appropriate monitoring
- Cardiac CT or MRI may help differentiate acute MI from BCI to determine need for catheterization and/or anti-coagulation.

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CARDIAC INJURY - PENETRATING

GUIDELINE:

The possibility of penetrating cardiac injury should be considered in those patients who sustain penetrating trauma to the chest within the critical "box." This is an area bound by the thoracic inlet superiorly the costal margin inferiorly and the mid clavicular line laterally and extends through the patient to a similar area posteriorly.

While many patients who sustain penetrating injury to this area will present in extremis with evidence of bleeding, tamponade, or hemodynamic instability, some patients will show no evidence of these findings. In situations where there is no overt clinical evidence of injury to the heart from a penetrating injury inside the "box," the following criteria should be used.

CRITERIA:

- Urgent evaluation with FAST ultrasound in the Emergency Department for presence of pericardial fluid
  - If negative FAST, obtain CTA
- CXR if stable to help determine the trajectory of the projectile or presence of any retained projectile fragments, evidence of effusion, hemothorax or pneumothorax.

Reference: Practice Management Guideline/Eastern Association for the Surgery of Trauma