

TRAUMA SERVICES
DEPARTMENTAL GUIDELINES AND
PROCEDURES

Procedure No:
Page Number: 1 of 2
Effective Date: 10/15

TITLE: BLUNT CARDIAC INJURY: INITIAL EVALUATION AND MANAGEMENT GUIDELINES

PURPOSE: To provide a guideline for the initial evaluation and management of blunt cardiac injury at the Hospital

I. DEFINITIONS:

Blunt Cardiac Injury (BCI) – refers to injury sustained due to blunt trauma to the heart. The manifestations of such range from clinically silent, transient arrhythmias to deadly cardiac wall rupture.

II. GUIDELINES/ RATIONALE:

The following is a guideline for the initial evaluation and management of blunt cardiac injury (BCI):

- 1) Initial evaluation and screening
 - a. Patients presenting with significant blunt thoracic injury should be screened for BCI with electrocardiography (EKG) and serum troponin I (TnI).
 - i. Injury patterns of significant blunt thoracic injury:
 1. Multiple thoracic injuries
 2. Pulmonary contusion
 3. Fracture of the first or second rib
 4. Three or more rib fractures
 - ii. A normal EKG and negative TnI (<1.0 ng/mL) rules out BCI.
 - iii. Neither elevated TnI nor EKG abnormality is diagnostic of BCI.
 - iv. Isolated sternal fracture, in the absence of signs of cardiac injury, does not require screening.
 - v. Cardiac enzymes should not be ordered.
 - b. Patients presenting with significant blunt thoracic injury and either unexplained hemodynamic instability or new onset arrhythmias (suspected BCI) should be

TRAUMA SERVICES
DEPARTMENTAL GUIDELINES AND
PROCEDURES

Procedure No:
Page Number: 2 of 2
Effective Date: 10/15

evaluated with echocardiography in addition to EKG and TnI.

2) Admission

- a. Patients with new EKG abnormalities or elevated TnI should be admitted to a monitored setting for continuous EKG with level of care based upon associated injuries.
- b. Patients with symptomatic BCI should be admitted to the TSICU.

3) Additional testing

- a. When the initial TnI is elevated or EKG is abnormal:
 - i. Repeat TnI should be ordered 6 hours after the initial laboratory test.
 - ii. Repeat EKG should be obtained the following morning.
- b. Patients with unexplained hemodynamic instability, persistent arrhythmia, or increasing TnI should be evaluated by transthoracic echocardiography (TTE). Transesophageal echocardiography should be obtained if TTE is not possible or if TTE is inadequate or of low quality.

4) The presence of BCI is not an absolute contraindication to operative intervention.

REFERENCES/BIBLIOGRAPHY:

DEPARTMENT OF PRIMARY RESPONSIBILITY:

TRAUMA SERVICES

REVISION HISTORY:

Effective Date	Version # (If Applicable)	Review or Revision Date (Indicate Reviewed or Revised)	Reviewed or Approved by: (Directors, Committees, Managers, and Stakeholders etc.)
10/15	1		Trauma Guideline Committee