Blunt Cardiac Injury (BCI) Practice Management Guideline

Patients at high risk for BCI:
1. Blunt chest trauma AND at least one of the following:
   a. Complaints of chest pain
   b. Hemodynamically unstable patients unresponsive to resuscitation
   c. Arrhythmia other than sinus tachycardia

Patients not requiring screening:
1. Sternal fractures without the above

**Flowchart**

Patient suspected of BCI

Check 12 lead EKG and Troponin
**Do not check CK, CK-MB**

Normal

May be safely discharged home in absence of other admission criteria

Abnormal

1. ICU or stepdown admission with telemetry
2. Repeat EKG and troponin in 6 hours
3. Notify NP, Chief, Fellow, and/or Staff

Hemodynamically stable

No

Check transthoracic echo, if not optimal evaluation proceed to transesophageal echo

Yes

Continue to monitor until EKG is normal and troponin is downtrending.
**Special Consideration in BCI**

Underlying cardiac disease

1. In patients with known underlying coronary artery disease and BCI, use of CT or MRI coronary angiography may be able to distinguish between structural injury and acute myocardial infarction.

Use of Swan Ganz Catheters

1. In setting of unclear etiology of post-traumatic hypotension, use of pulmonary artery catheters may provide useful information, and is considered safe in BCI.

Operative Intervention

1. Elderly patients with BCI are safe to proceed with surgery with appropriate monitoring.
2. Patients with new arrhythmia are safe to proceed to the operative theater.
Sources:

5. Rajan G, Zellweger R. Cardiac troponin I as a predictor of arrhythmia and ventricular dysfunction in trauma patients with myocardial contusion. J Trauma. 2004;57:801Y808