PARAMEDIC TIP SHEET #10:
Pericardiocentesis

Indications for Pericardiocentesis

- Physical exam findings and/or a mechanism of injury/illness strongly supportive for the diagnosis of pericardial tamponade WHEN accompanied by:
  1) cardiac arrest, most often with Pulseless Electrical Activity, when standard resuscitation methods have been unsuccessful
  2) shock or severe cardiovascular collapse

Methods

The following pericardiocentesis method assumes that initial care of the patient has already begun.

1. The patient is placed in the supine position.

2. A history of dextrocardia should be identified. If normal ECG complexes are present in all leads, it may be assumed that dextrocardia does not exist.

3. Attach a 10 – 20 cc (minimum volume) syringe to a long needle with a luer fitting. Options include a long spinal needle or an intracardiac prefilled syringe needle (empty). A 3-inch, 16-20 ga. needle is preferred.

4. Insert the needle immediately inferior to the xiphoid at a 30 – 45 degree angle. Direct the needle toward the left shoulder (right shoulder if dextrocardia is present).

5. Aspirate during insertion. Once fluid is encountered, stop advancing the needle and continue aspirating. Aspirate up to approximately 30 ml.

6. Though some sources advocate leaving the needle in place, this practice has increased risks in the prehospital setting due to excessive movement.

7. Reassess for improvement. Repeated centesis may be necessary.

Tips

- Pericardiocentesis is reserved for the patient who is approaching or in cardiac arrest due to presumed pericardial tamponade. The use of other pre-arrest or arrest interventions prior to centesis without success assists in the diagnosis of pericardial tamponade.

- If unable to locate the heart on the initial approach, repeat with a different angle. Ensure the direction of the needle is appropriate.

- Since pericardial tamponade often results in sudden cardiac arrest, the paramedic must be prepared to immediately apply this therapy when indicated. Having all necessary supplies and instruments prepared in a centesis kit will be invaluable to the paramedic and the patient.

- This procedure is relatively common in cardiac arrest with PEA as a last resort attempt at resuscitation.