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| | POLICIES & PROCEDURES<br><br>Title: **PERICARDIOCENTESIS – ASSISTING WITH PERICARDIAL DRAIN INSERTION, ONGOING CARE AND REMOVAL**<br><br>I.D. Number: **1083** |
| Authorization<br><br>[x] SHR Nursing Practice Committee | Source: Heart Health<br>Date Effective: November 2013<br>Scope: **SHR Acute Care** |



**Definition**: Pericardiocentesis is a procedure done to remove excess fluid from the pericardial space in an urgent or elective setting. A drain may be left in place following the procedure. Best Practice is to use cardiac echocardiography as a guide to identify the approach site.

## 1. PURPOSE

1.1 To provide information necessary to assist with a pericardiocentesis.

1.2 To monitor for possible complications of the procedure (assisting with insertion, ongoing care and removal).

## 2. POLICY

2.1 The MRP or designate will obtain consent from the patient / designate prior to procedure.

2.2 The procedure will be performed by the Most Responsible Physician (MRP) or designate in a critical care area or in diagnostic imaging.

2.3 The MRP or designate is responsible for insertion and removal of the pericardial drain.

2.4 A Registered Nurse will assist with insertion and removal and perform ongoing care.

2.5 Insertion is performed using maximal barrier precautions.

2.6 Aspiration or irrigation of a pericardial drain is the responsibility of the physician.

2.7 It is recommended that in units other than critical care, patients with indwelling pericardial drains post procedure be cared for in observation units.

## 3. PROCEDURE

### 3.1 Assisting with Drain Insertion

3.1.1 Gather equipment needed: (See Appendix A)

3.1.2 Obtain baseline vital signs and clinical assessment.

3.1.3 Ensure patient has patent IV access.

3.1.4 Administer sedation/ analgesia as ordered at the discretion of physician.

3.1.5 Ensure continuous monitoring (ECG, BP, RR, and SpO2) occurs during the procedure.

3.1.6 Position the patient supine in low fowlers (if tolerated) or desired position as directed by MRP

3.1.7 Ensure that the access site is prepped and draped by MRP using maximal barrier precautions.

3.1.8 Monitor for possible complications during the procedure
- 3.1.8.1 Inadvertent puncture of a ventricle (ST segment elevation /arrhythmias)
- 3.1.8.2 Inadvertent puncture of a coronary artery (signs and symptoms of cardiac tamponade)
- 3.1.8.3 Inadvertent puncture of lungs, liver, stomach (unexplained epigastric or chest pain)
- 3.1.8.4 Signs and symptoms of pneumothorax or hemothorax

3.1.9 Send specimens for ordered tests. (Most common tests included: cell count, cytology, Gram stain, C&S, fungal, viral, protein and glucose).

3.1.10 For continued fluid removal attach a TRU-Close drainage bag to the pericardial drain using a stopcock.

3.1.11 Apply a sterile occlusive dressing ensuring the catheter is well secured.

### 3.2 Post Procedure Care

3.2.1 Assess vital signs; (HR, BP, RR, and SpO2) clinical condition and insertion site immediately post procedure and then q15min until stable then q4h.

3.2.2 Ensure a chest x-ray (as ordered) is reviewed post procedure.

3.2.3 Record amount and type of drainage removed by physician. For indwelling drain, record amount of drainage q4h and p.r.n.

***Note**: Ensure that the bellows on the TRU-Close drainage system remain compressed to maintain suction and that the stopcock remains in the open position.*

3.2.4 Change the TRU-close bag as needed (Close stopcock to patient prior to changing the bag and then re-open)

3.2.5 Report to MRP or designate
- 3.2.5.1 Hemodynamic compromise in the patient's condition (tachycardia, hypotension, increased SOB).
- 3.2.5.2 Pericardial drainage which becomes more sanguinous or new sanguinous drainage occurs.

3.2.6 Administer analgesia as required.

3.3 **Assisting with Drain Removal**

***Note:*** *A cardiac echocardiogram may be indicated prior to the drain removal to determine if resolution of the pericardial effusion has occurred.*

3.3.1 Remove dressing and cleanse site with chlorhexidine /alcohol.

3.3.2 MRP removes drain.

3.3.3 Apply sterile occlusive dressing to site post removal.

3.4 **Documentation**

3.4.1 **In the appropriate nursing record**
- 3.4.1.1 Date, time and physician inserting and removing the drain
- 3.4.1.2 How the patient tolerated insertion and / or removal of drain.
- 3.4.1.3 Record the amount and consistency of the initial drainage removed by the MRP and specimens sent.
- 3.4.1.4 For indwelling drains, the amount and type of drainage Q4h.
- 3.4.1.5 Baseline and ongoing vital signs.

## 4. REFERENCES:

Weigand, D. L., (ed.) (2011) Pericardiocentesis AACN Procedure Manual for Critical Care. (6th ed). St. Louis: Elsevier Saunders. pp. 355-370

Irwin, Richard S.; Rippe, James M. (2011) Irwin and Rippe's Intensive Care Medicine: 7th Edition Lippincott Williams & Wilkins

Shamovitz Gil Z., (update 2013) Pericardiocentesis http://emedicine.medscape.com/artcile

Technique of pericardiocentesis www.uptodate.com Last update March 29, 2012

**Appendix A**

## Supplies for Assisting With Insertion

- Echo Machine
- Sterile sleeve for ECHO probe
- Sterile lubricant
- Maximal barrier protection supplies (Sterile Gown, gloves, drapes, and face protection)
- Chlorhexidne 2% with Alcohol 70% solution / swab prep sticks
- Thoracentesis tray (SKU# 207401) or central venous insertion tray (SKU#510014)
- Pericardiocentesis set (SKU# 83129 - includes puncture needles, wire, dilator and catheter.)
- 3 way stopcock
- Scalpel #11
- Xylocaine 1% without epinephrine
- Sutures (Usually 2-0 silk)
- TRU-Close wound drainage kit (SKU#62100)
- Specimen tubes and appropriate requisitions
- Occlusive dressing (transparent film with taped borders – (i.e. Tegaderm IV advanced)
- 2 – 3 60 ml luer lock syringes
- Puncture needles, 25 and 21 gauge
- 3 - 12 ml syringes
- Sterile saline ampules (for bubble study)
- Sterile skin marker (SKU# 202214 )