



## CLINICAL PROCEDURE

### Open Chest: Registered Nurse Responsibilities

**A. EFFECTIVE DATE :**

April 2020

**B. PURPOSE :**

To outline the procedure and RN role responsibilities during an open chest cardiothoracic intervention in the ICU.

**C. POLICY :**

There are no policy statements associated with this procedure.

**D. SCOPE :**

UConn Health, John Dempsey Hospital, **Intensive Care Unit**

**E. DEFINITIONS :**

None

**F. MATERIAL(S) NEEDED :**

1. **Open Chest Cart - includes:**
  - a) Pack #1: Prep kit (contains sterile gloves, gowns and ChloroPrep)
  - b) Pack #2: Basic Sterile Pack (sterile suction tubing, yankauer tip suction catheter, Bovie hand piece, laparotomy drapes and sponges)
  - c) Pack #3: ICU Bleeder Tray (surgical instrument tray)
  - d) Cauterizing Equipment with hand tool, grounding pad
  - e) Additional gowns, masks, sterile gloves and hats
  - f) Additional sterile linens - towels, half sheets
  - g) Internal paddles for defibrillator
2. Portable overhead procedure light
3. Surgical Head-lamp
4. Designated "open chest" table
5. Code cart and defibrillator
6. Cleared bedside table
7. (4)Sterile suction set-ups w/tubing and Yankauer
8. 3-4 liters normal saline for irrigation

## G. PROCEDURE :

1. **The primary indication for calling an “Open Chest” includes evidence of severe hemodynamic compromise that may be related to:**
  - a) cardiac tamponade
  - b) bleeding
  - c) cardiac standstill / cardiac arrest
  - d) Brady or tachy arrhythmias
  - e) Myocardial infarction
2. **The ICU Attending or designee ( i.e. ICU APRN/Resident) will:**
  - a) Prior to activating “Open Chest” in the ICU, confirm with the Cardiothoracic Surgeon that they plan to open the chest in the ICU (vs. the OR) and clarify whether the surgeon wants the OR Open Heart Team called in. This will be communicated to the ICU Charge RN and Health Unit Clerk (HUC) to assure that the correct staff are paged to the correct location.
3. **The ICU Charge RN will:**
  - a) Coordinate (or appoint another ICU RN to coordinate) nursing care in response to the need to emergently open a patient’s chest for cardiothoracic intervention
4. **The ICU Charge RN or designated RN coordinator will:**
  - a) Direct the HUC to dial **7777** & request that the Hospital Operator page / activate the **“STAT Open Chest to The ICU”**. **The Open Chest-ICU Call Tree (Appendix A) delineates the staff to be paged.**
  - b) Delegate staff to procure the open chest cart and other equipment and oversee proper room set-up as per the **Open Chest Room Set-up Diagram (Appendix B)**
  - c) Assign **specific roles** to the ICU RNs/ NCA. Roles include:
    - i. RN or MA to perform CPR if indicated.
    - ii. RN to manage airway/breathing until Respiratory Therapy or Anesthesia arrives.
    - iii. RN to manage defibrillation, if indicated.
    - iv. Circulating Nurse: prepares meds, obtains equipment from open chest cart, assist O.R. staff
    - v. Med Nurse: administer meds/ fluids/ blood products.
    - vi. Sterile Nurse: will don full sterile attire, prep & drape the patient. Set up sterile field for surgeon. Assist with sterile equipment.
    - vii. Recording nurse: documents events using the RRT/code narrator.
  - d) **Validate that everyone in the room has put on masks & hats.**
5. **Once necessary equipment has been procured and positioned and staff has assumed roles and positions, the patient is prepped and draped. The ICU room is transformed into an O.R. setting in which strict sterile technique is to be maintained at all times. Surgical instruments and sterile equipment may only be handled by the “sterile” (ICU) nurse, O.R nurse or tech, and physicians who are properly attired to assist in the surgical field.**
6. **The ICU RNs will:**
  - a) **Prep the patient’s chest:** A **non-sterile** nurse will don regular gloves & perform these steps:
    - i. Remove chest dressing and steri-strips (while staff is doing compressions, if necessary).
    - ii. Reposition epicardial pacing wires off to the side of the chest
    - iii. Position patient lines off the chest and within access.
  - b) **Initiate the scrub:**
    - i. Open **Pack #1** (prep kit) and don **sterile gloves**.
    - ii. Begin scrubbing chest to umbilicus with Chloraprep.
    - iii. If CPR is in progress, once chest has been scrubbed, CPR must be performed with sterile gloves & sterile towel if needed to maintain hand position).

- c) Place **Pack #2 (Basic Sterile Pack)** containing gowns, towels & drapes on open heart bedside table & open pack. The designated “sterile nurse” will don **full sterile attire**, continue to scrub chest with additional ChloroPrep and drape.
  - i. Additional ChloroPrep is found in the open chest cart.
  - ii. Drape the chest with 4 sterile towels in a picture frame pattern, then drape patient with sterile laparotomy drape
  - iii. If the O.R. nurse has not yet scrubbed in, another staff member who has donned sterile gloves & gown may assist with draping.
- d) As O.R. staff (RN/tech, cardiothoracic surgeon, anesthesia) arrives, the charge nurse or circulator RN should assist them in gowning.
  - i. Sponges for O.R. staff to scrub in are located in the top drawer of the cart;
  - ii. Staff will request specific size sterile gloves
  - iii. Once the surgeon is gowned, staff will be asked to place, secure & adjust the head lamp
- e) Once individuals have gowned, and remaining Pack #2 items have been draped and/or placed in the sterile field as needed, **Place Pack #3 (ICU Bleeder Tray) on the table.** Pack # 3 contains the initial instruments the surgeon needs.
  - i. Do not open Bleeder Tray unless requested to do so by the surgeon. It may not need to be opened if OR staff use their own instrument set.
  - ii. If requested to open the set, be sure to maintain a sterile field.
  - iii. Sterile suction tubing will be handed off to the physician – connect other end to wall suction.
- f) Obtain and attach additional equipment as needed:
  - i. **Cautery machine with hand tool:** apply grounding pad to patient’s lateral or posterior thigh and plug into machine. Sterily hand off cautery tool and plug in. (Instructions are posted on the device.)
  - ii. **Over-head lamp** - turn on and adjust position. A sterile cover will be placed on the lamp to allow for finer adjustment over the field.
  - iii. **Internal defibrillator paddles** (located in open chest cart): attach to the defibrillator.
  - iv. Anticipate items that may be needed **intraoperatively:**
    - sternal retractor
    - knife, needle cutter & driver
    - 6-0 prolene sutures & clips
    - large cutter for sternal wires
    - bone wax (used to control sternal bleeder)
  - v. **Maintain sterile technique** as items are handed off to staff for placement in the sterile field

**H. ATTACHMENTS :**

[Appendix A: Open Chest Call Tree](#)

[Appendix B: Open Chest Room Set-up](#)

**I. REFERENCES :**

None

**J. SEARCH WORDS :**

Open Chest

**K. ENFORCEMENT:**

Violations of this policy or associated procedures may result in appropriate disciplinary measures in accordance with University By-Laws, General Rules of Conduct for All University Employees, applicable collective bargaining agreements, the University of Connecticut Student Code, other applicable University Policies, or as outlined in any procedures document related to this policy.

**L. STAKEHOLDER APPROVALS :**

- |  |                          |
|--|--------------------------|
| 1. <u>Jonathan Hammond, MD (Signed)</u><br>Dr. Jonathan Hammond, Cardiothoracic Surgery              | <u>2/11/2020</u><br>Date |
| 2. <u>Gracia Mui, MD (Signed)</u><br>Dr. Gracia Mui, ICU Surgical Co-Director                        | <u>2/24/2020</u><br>Date |
| 3. <u>Yasser Al-Baghdadi, MD (Signed)</u><br>Dr. Yasser Al-Baghdadi, ICU Surgical Co-Director        | <u>2/11/2020</u><br>Date |
| 4. <u>Patricia Hurley (Signed)</u><br>Patricia Hurley, ICU Nurse Manager                             | <u>2/24/2020</u><br>Date |
| 5. <u>Julie Anne Laflamme, RN, MSN (Signed)</u><br>Julie Ann Laflamme, ICU Clinical Nurse Specialist | <u>2/25/2020</u><br>Date |
| 6. <u>Scott Allen, MD (Signed)</u><br>Scott Allen, MD Chief Medical Officer                          | <u>3/13/2020</u><br>Date |
| 7. <u>Caryl Ryan, MS, RN (Signed)</u><br>Caryl Rayan, MS, RN Chief Nursing Officer                   | <u>3/31/2020</u><br>Date |

**M. COMMITTEE APPROVALS :**

*Original Policy approved by:*

1. ICU Standards Committee
2. Nursing Standards Committee

**N. FINAL APPROVAL :**

- |  |                          |
|--|--------------------------|
| 1. <u>Andrew Agwunobi, MD, MBA (Signed)</u><br>Andrew Agwunobi, MD<br><b>UConn Health Chief Executive Officer</b>                | <u>4/16/2020</u><br>Date |
| 2. <u>Anne D. Horbtauck (Signed)</u><br>Anne D. Horbatuck, RN, BSN, MBA<br><b>Clinical Policy Committee Co-Chair</b>             | <u>4/21/2020</u><br>Date |
| 3. <u>Scott Allen, MD (Signed)</u><br>Scott Allen, MD<br><b>Clinical Policy Committee Co-Chair</b>                               | <u>4/17/2020</u><br>Date |
| 4. <u>Caryl Ryan, MS, RN (Signed)</u><br>Caryl Ryan, MS, RN<br><b>VP Quality and Patient Service &amp; Chief Nursing Officer</b> | <u>4/16/2020</u><br>Date |

**O. REVISION HISTORY :**

1. Policy approved: 10/1994
2. Reviewed: 6/12, 6/15, 2/17
3. Revised: 11/96, 3/00, 10/03, 10/09, 4/2020