

PROCEDURE FOR: Open Chest: Registered Nurse Responsibilities

- POLICY:
1. In collaboration with the ICU Attending physician or designee, and the cardiothoracic surgeon, the ICU charge nurse has the prime responsibility to 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.
  2. The RN coordinator will direct patient preparation and room setup by clearly appointing jobs to all personnel. Keep in mind that while the patient's nurse may be assisting in direct patient care, they should not be the primary coordinator, as they need to be available to provide important history and background information to arriving personnel.
  3. 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
  4. Once necessary equipment has been procured & positioned, staff has assumes roles & positions, & the patient is prepped and draped, the ICU room transforms to an O.R. setting in which strict sterile technique is to be maintained at all times. Surgical instruments & sterile equipment may only be handled by the "sterile" (ICU) nurse, O.R nurse or tech, and physicians who are properly attired & assisting in the surgical field.
  5. ICU staff will be review open chest protocol annually and be validated on room set-up & equipment in a simulated setting.

EQUIPMENT: Cardiac Surgery ICU Call Tree  
Open Chest Cart - includes:  
Pack #1: Prep kit (contains sterile gloves, betadine & sponges)  
Pack #2: Basic Sterile Pack (contains gowns, gloves, towels, drapes)  
Pack #3: ICU Bleeder Tray (surgical instrument tray)  
Cauterizing Equipment with hand tool, grounding pad  
Additional gowns, masks, sterile gloves and hats  
Additional sterile linens - towels, half sheets  
Defibrillator with internal paddles (paddles in cart)  
Portable overhead procedure light  
Surgical Head-lamp  
Designated "open chest" table  
Cleared bedside table  
4 Sterile suction set-ups w/tubing and Yankaur  
Additional bottle of Betadine

PROCEDURE:

ACTION

POINTS OF EMPHASIS

1. Upon decision by the ICU Attending or designee to call an "Open

1. Call Tree includes:

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Chest", the Charge RN will notify the HUC to STAT page the Open Chest Call Tree (See Appendix A).

2. The Charge RN or designee will delegate staff to procure the open chest cart and other equipment, and will oversee the proper room set-up. Refer to Appendix B, Open Chest Room Set-up.
3. The Charge RN or designee will delegate roles to specific nurses.

POINTS OF EMPHASIS

- a. Attending physician
  - b. Cardiothoracic surgeon.
  - c. O.R.: "STAT OPEN CHEST" to ICU. (will activate OR RN & anesthesia)
  - d. ICU house staff & Chief surgical resident as appropriate (especially if night shift).
  - e. Nursing Administrative Manager
  - f. Switchboard operator - will place additional calls (i.e. respiratory, perfusionist, blood bank, pharmacy)
  - g. Action nurse, if available and transport aide.
2. Placement of equipment is standardized. Refer to diagram & place equipment in proper location in the room as items arrive.
  3. Roles include:
    - a. Med Nurse: Give meds/ administer fluids/ blood products.
    - b. Recording nurse: documents on frequent VS section of the ICU flowsheet, or CPR/code record, if appropriate.
    - c. Circulator - prepares meds, obtains additional equipment from cart, assist O.R. staff.
    - d. Sterile Nurse: will don full sterile attire, prep & drape the patient. Set up sterile field for surgeon. Assist with sterile equipment.
    - e. One nurse to watch other

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patients.

4. Prep patient's chest:
    - a. Remove chest dressing and steri-strips (while staff is doing compressions, if necessary).
    - b. Watch for pacing wires!  
Reposition wires to the side.
    - c. Position patient lines off the chest and within access.
    - d. Open Kit #1 (prep kit) and don sterile gloves. Pour the entire bottle of betadine on the chest, and begin scrubbing chest to umbilicus.
  5. Place Pack #2 (Basic Sterile Pack) containing gowns, towels & drapes on open heart bedside table & open pack.
    - a. The designated "sterile nurse" will don full sterile attire.
    - b. Sterile RN will continue scrub & proceed with draping (4
4. a. A non sterile nurse may don gloves & perform step a, b, & c. Once the chest is cleared, sterile gloves are required to start the scrub (step d).
  - b. If CPR is in progress, once the chest has been scrubbed, CPR must be performed with sterile gloves (and sterile towel if needed to maintain hand position).
5.
    - a. Have an additional bottle of Betadine ready to pour to continue scrub.
    - b. Have four sterile towels and four sterile half sheets ready

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- towels & half sheets). If the O.R. nurse has not yet scrubbed in, another staff member who has donned sterile gloves & gown may assist with draping.
- c. To drape - frame chest incision with sterile towels; Drape sterile half sheets around & on top of sterile towels; Drape area where CT surgeon will be working last.
6. Validate that everyone in the room has put on masks & hats. As O.R. staff (RN/tech, cardiothoracic surgeon, anesthesia) arrives, the charge nurse & circulator should assist them in gowning.
7. 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. If requested to open the set, do so while maintaining a sterile field.
8. Obtain and attach additional equipment as needed:
- a. Cautery machine with hand tool: apply grounding pad to patient (lateral or posterior thigh) & plug into the machine. Sterily hand off cautery tool & plug in to machine.
- b. Over-head lamp - turn on and adjust position
- c. Internal defibrillator paddles: attach to the defibrillator.
- d. Anticipate items that may be
- to be used as chest drape.
6. a. Sponges for O.R. staff to scrub in are located in the top drawer of the cart. Staff will request specific size sterile gloves
- b. Once the surgeon is gowned, staff will be asked to place, secure & adjust the head lamp.
7. a. Sterile suction tubing will be handed off to the physician - connect other end to wall suction.
- b. Do not open Pack # 3 unless directed. O.R. staff may bring their own cart & equipment.
- c. The initial tools the surgeon will use are packaged together on top of other instruments.
- 8.
- a. Instructions to turn machine on and for plug-ins and settings are posted on the device.
- b. A sterile cover will be placed on the lamp to allow for finer adjustment over the field).
- c. Maintain sterile technique as

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needed intraprocedurally:

- Sternal retractor
- knife, needle cutter & driver
- 6-0 prolene sutures & clips
- large cutter for sternal wires
- bone wax (used to control sternal bleeder)

items handed off to staff or placed in the field.

- DOCUMENTATION:
1. RN designated as recorder will document all events on special vital sign sheet and CPR record if appropriate.
  2. RN in charge of patient will write a focus note, per unit standards, addressing the event.

APPROVAL: ICU Standards Committee  
Nursing Standards Committee

EFFECTIVE DATE: 10/94

REVISION DATES: 11/96, 3/00, 10/03, 10/09