Policy Name: ECMO Deployment- Adult

Effective Date: 05/04/15

Policy Primary: DUH ECMO Medical Director

Status: Published

Final Approval: Approved by: DUH ECMO Steering Committee Date:

Glossary:
Term:
Definition:

Definitions:

Level:

Personnel:

Competencies/Skills:

Required Resources:

Policy Statement:
Purpose: To establish a protocol for the initiation of Adult Extracorporeal Membrane Oxygenation outside of the Operating Room.

Adult ECMO Deployment is initiated when a patient meets criteria for Adult ECMO cannulation without the presence of exclusion criteria as outlined below.

1. An adult patient is any patient being treated in an adult service area including the ED, SICU, CTICU, CCU, MICU, Adult Cathlab/EP, MRI/Radiology, or Birthing Center weighing greater than 30kg.

2. Criteria for adult ECMO cannulation outside of the operating room may include:

   a. Witnessed, in-hospital, cardiac arrest believed to be of reversible origin with immediate initiation of quality CPR/ACLS/CALS.

   b. Cardiogenic shock unresponsive to conventional management (inotropes, IABP) as a result of reversible cardiopulmonary compromise (i.e. bridge to surgery or recovery).

   c. Respiratory failure from reversible etiology or as a bridge to Lung Transplant.

   d. Bridge to VAD or Heart Transplant.

   e. Unusual cases such as airway compromise, cold water drowning, obstetrical emergencies, anaphylaxis, etc.
3. Exclusions for adult ECMO cannulation outside of the operating room may include:
   a. Unwitnessed cardiac arrest.
   b. Out of hospital cardiac arrest.
   c. Known neurological devastation.
   d. Irreversible disease process with no exit strategy (i.e. VAD or transplant).
   e. Multi-organ failure.

Adult ECMO Deployment: 970-ECMO (3266)
✓ May be initiated by an attending, fellow, house officer (or their designee) by paging 970-ECMO
✓ It is recommended that this be a numeric page initiated by dialing the pager number and leaving a call back number so that a conversation occurs between requesting team and the ECMO surgeon

With the ECMO surgeon’s approval, dial 115 and request an “Adult ECMO Deployment”.

- For patients undergoing active CPR or rapidly decompensating or in the case of an ECMO catastrophe, a designee (HUC, clerk, or charge nurse) may call 115 and request “Adult ECMO Deployment” while the attending, fellow, or house officer is simultaneously contacting 970-ECMO.
- The caller, CT Surgical Fellow and/or CT Surgeon may cancel ECMO deployment at any time by calling 115 and requesting “Cancel Adult ECMO Deployment”
- Elective ECMO cannulations may be posted to the OR schedule and take place in the operating room if deemed appropriate by the surgeon.

To mobilize the Adult ECMO Team after surgeon approval (or simultaneously in cases of ECMO catastrophe, cardiopulmonary arrest and/or rapidly decompensating patient):

1. Call 115.
   a. Ask for “Adult ECMO Deployment”.
   b. The operator will prompt the caller for the following:
i. Patient Location
   1. Unit
   2. Room/Bed

ii. Caller’s name

iii. Callback # - the callback # must be to someone who is available to speak with the surgeon and answer questions regarding the patient.

2. “Adult ECMO Deployment”
   a. The operator will send out a batch text page with the following information:
      i. “Adult ECMO Deployment. Unit/Room/Bed. Caller’s Name. Callback #.”
   b. The batch text page will be sent to the following:
      i. ECMO Surgeon (970-ECMO)
      ii. ECMO Manager (970-3793)
      iii. CT Surgical Fellow (970-3333)
      iv. Perfusionists (970-1599, 970-5661)
      v. Adult RT Supervisors (970-6698, 970-8278)
      vi. Cardiac OR Nursing (970-1999) and DMP OR Front Desk (7665):
         1. Weekdays 5:30am-9pm Charge Nurse receives page and responds with staffing
         2. Off-hours OR Front desk receives page and calls appropriate personnel in from home, assigns in-house staffing as available
         3. “Posts” case ASAP
      vii. CTICU Charge Nurse (970-7672)
      viii. MICU Charge Nurse (970-3084)

   ix. It is the intent of this batch page that personnel immediately respond to the location specified without calling back.

3. Responsibilities during Adult ECMO Deployment are as follows:
   a. Unit attending/fellow/house officer or designee:
i. Obtain consent for ECMO procedure if feasible.

ii. Manage patient medically, provide anesthesia as needed

b. Attending Surgeon

i. Return call to deployment contact for patient details- provide consult for ECMO candidacy, approve deployment; cancel deployment if necessary.

ii. Triage call to colleague or 970-1499 if unavailable.

iii. Arrive on location to cannulate patient. Assume responsibility for patient.

iv. Act as team leader.

v. Communicate cannulation needs to ECMO team including type of ECMO VA vs. VV, cannula preference, additional and/or unusual equipment/supply needs.

c. CT Fellow

i. Arrive on location and begin prepping patient for cannulation.

ii. Gain venous and arterial access as indicated.

iii. Assist with cannulation and associated procedures.

d. Perfusionist

i. Arrive on location with pump and prepare circuit for initiation. May need to communicate with surgeon on arrival for appropriate pump selection. Assume CardioHelp pump unless otherwise specified.

ii. Make appropriate cannulae available to surgical team.

iii. Initiate ECMO and stabilize patient according to protocol.

iv. Document according to protocol.

v. Complete charges and restock Adult Mobile ECMO Cart- all items on stock list that are stocked or billed by perfusion services as well as cannulae and insertion kits.

vi. The pediatric perfusionist is paged, but need only respond if in-house. The pediatric perfusionist will not call the adult perfusionist, or respond from home unless requested separately.

e. Adult RT Supervisor

i. Arrive on location, assist unit RTs and perfusionist as needed.
f. Cardiac OR Nurses
   i. Arrive on location and assist surgeon with procedure.
   ii. Charge for perioperative supplies used.
   iii. Appropriately document surgical procedure.
   iv. Restock perioperative supplies used in the Adult Mobile ECMO Cart- all nursing items on stock list.

g. CTICU Charge Nurse or designee
   i. Bring Adult Mobile ECMO Cart to patient bedside.
   ii. Ensure someone is documenting procedure.
   iii. Assist bedside nurse with patient care or assist surgical team as needed.
   iv. Designate someone to arrange for CTICU bed if needed.

h. MICU Charge Nurse or designee
   i. Arrive at patient’s bedside.
   ii. Call Transfusion Services (681-2644), if not already done:
      1. Notify of ECMO patient.
      2. Request 4 units RBC, 4 units FFP (or more depending on patient condition as ordered by unit provider)
      3. Send a NA or designee to pick up blood cooler.
   iii. Call Fluoroscopy (684-7430) for stat portable fluoro if VV ECMO cannulation is anticipated, may be canceled later if necessary.
   iv. Page CT Anesthesia (970-1399) if requested by surgeon for TEE assistance.
   v. Assist with crowd control and patient care as needed.

REFERENCES

Citations:

Policies:

Authoritative Source:
Additional References:

Attachment Names:

Company:

Entities:
DUH