Nursing Care of the ECMO Patient

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Staffing

ICU Leveling

| Level 1 ICU | Vents, Swans, A-lines, Vasopressors/Sedatives, CRRT, Stabilized VADs/Transplant |
| Level 2 ICU | The entirety of level 1 plus; IABP; Stable Centrimag, Immediate Recovery of CABG/Valve |
| Level 3 ICU | The entirety of level 1&2 plus; Immediate Recovery of VADs/Transplants, ECMO, Unstable Admissions from Outlying Departments/Hospitals, Massive Transfusion Protocols |
Training

Didactic Class/Hands on Training - Initial

Discuss Pathophysiology that leads a patient to need the technology surrounding ECLS
- Pathophysiology and Indications for ECLS
- Patient selection

Describe techniques involved with ventilator management for patients undergoing ECLS therapy
- Advanced ventilator management
- Pathophys of ARDS

Describe the interplay of the ECLS circuit in relation to drug therapies
- Drug properties, drug dosing, and routine monitoring during ECLS
- Anticoagulation

Apply knowledge gained from lecture to patient at the bedside
- ECLS equipment

Training

Ongoing
We’re Getting an ECMO......

The process begins

Preparing for Admission
**Handoff**

Patient Handoff: Cath Lab to ICU Checklist

**Cath Lab Staff (Fellow or Attending)**

Procedural:
- ... (list of procedures)
- Key events (e.g., stents, bypass grafts, significant lab results)
- Code status

**Immediate Needs**

A, B, C

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**OR to ICU Handoff 4RHH**

**PATIENT IN ROOM**
- Patient on central monitor
- Patient on ventilator
- Bed plugged in
- Call to VCA

**ESSENTIAL TASKS**
- Patient in room
- Patient on ventilator
- Bed plugged in
- Call to VCA

**PATIENT IS STABLE**
- STOP HANDS OFF FOR HANDOFF

**PROCEED**
- Release orders (pathway?)
- Verify IV drips
- Connect CO cable
- Chest tubes to suction
- Change ECG leads
- Etc.

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**Immediate Needs**

A, B, C
Circulation
Sorting out the Lines, Tubes, and Drains

Monitoring
Hemodynamics
**Monitoring**

*Massive Transfusion Protocol - MTP*

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**Nursing**

*Measure from insertion site to the end of the metal coil.*
Circulation/Neuro Checks

We have to go where????

Transporting the ECMO patient
Transportation Policy
System and Nursing

Nursing Documentation
Orders

Beyond Initial Placement

The Next Steps In Patient Care…….
**Family**

ECMO (Extracorporeal Membrane Oxygenation) is a life support treatment for people with severe respiratory failure that does not respond to usual treatments. The person’s blood is circulated through the ECMO machine to remove waste and add oxygen, and then pumped back into the body through another large tube. This avoids a type of extracorporeal life support (ECLS) Excorporereal life. The patient may develop severe symptoms before receiving ECMO and often have been dependent on the treatment, death may still occur.

**How ECMO works**

ECMO is used to treat severe respiratory failure that does not respond to usual treatments. The ECMO machine circulates the patient’s blood through a large artificial lung and heart. The ECMO circuit is made up of tubing, a pump called an oxygenator, and a heater.

- The pump works like a heart and pumps blood with high oxygen content through the body, called the coronary circulation.
- The oxygenator works like the lungs, taking carbon dioxide out of the blood and adding oxygen to the blood.
- The oxygenated blood is pushed through the heater to warm the body to a normal temperature.
- The warmed blood is pumped back into the body through another large tube, called a catheter or return line.

**Immobility**

"Mobility Crew" Avoiding Deconditioning
CVICU Turning Protocol

Critical Care Mobility Guideline
Mechanical Assist Policy

Progressing Mobility

*Mobility Rounds – Individualizing Care*
Skin/Wound Care

“Skin Squad”

Weekly rounds
Review of findings
Review plan of care for skin integrity
Looking at trends over time – information entered into an electronic data base

Delirium

Operation Ross Liberation

[Diagram with flowchart showing various teams and processes associated with the operation.]
Post Discharge

Phone calls to patients – unit nurse coordinator

- Assist getting into programs

Victory Lap
Lessons Learned

Always Learning and Improving Care Delivery

Continue to improve documentation of process
  • Addition of distal perfusion line to EMR

Increasing family involvement with care
  • Engaging family in early mobility

Revisions in Mechanical Assist Policy
  • Team revisions – Nursing, Perfusion, Physicians, and VAD coordinators

Incorporation of ABCDEF bundle into care
  • Delirium Reduction

What Questions Do Have?

Thank You

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