



RT to ECMO Specialist: Pathway to An Excellent Career

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No Financial Disclosures

Agenda/Objectives



- Congrats, you're a Respiratory Therapist!
- Acute care vs Critical Care
- Career Options
- Growing in your field
- ECMO? Yes, ECMO!!!!



Congrats, you're a Respiratory Therapist!!



Job Description

- Stethoscope
- Comfortable shoes
- Patient assessment*
- Breath sounds
- Pulse oximetry
- Breathing treatments
- O2 devices (appropriate device at the appropriate time)
- Time management
- Ventilators
- Specialty gases
- Patient advocacy
- AARC/NBRC
- Credentials



Acute Care vs Critical Care





Acute Care	Critical Care
ER	ICU only
Floor assignments	Ventilators: conventional, Jet, HFOV, etc.
Aerosol treatments	Specialty Gases: nitric oxide, nitrogen
CPT	Bedside invasive procedures
IPPB/IPV	Specialty care (NICU, PICU, CICU, MICU, TNCC, etc.)
Non-invasive ventilation	Transport
O2 therapy, Heliox	Intubation
Tracheostomy care	ECMO.....😊

Behind every great doctor
is an even greater
Respiratory Therapist.



Career Path Opportunities





Remain bedside
PFT
Transport
Home Health
Management
Asthma clinic
CRNA?
Travel RT
ECMO???

ECMO!!!!!!



**How do I
become an
ECMO
specialist?!?!?**



- ❖ ECMO (Extra-corporeal Membrane Oxygenation) is a high risk, low occurrence method of life support utilized once all modes of conventional life support have been proven unsuccessful. ECMO specialists are specially trained members of the healthcare team who are integral members of the ECMO service team and are proficient at caring for ECMO patients, under the direction and supervision of an ECMO-trained physician.
- ❖ ECMO specialists are registered nurses, registered respiratory therapists, certified perfusionists, or physicians who have a strong intensive care background and have a minimum of one year neonatal, pediatric, cardiac, or adult intensive care experience.
- ❖ Minimum 1 year of quality icu experience
- ❖ Acts with integrity by adhering to federal, state, and local regulations and all organized policies, procedures, and practices. This includes adherence to all health system, location, departmental policies, annual mandates, and required licensure/certifications.
- ❖ Remains within stated administrative guidelines, in accordance to conduct, attendance, punctuality, and professionalism.

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- ❖ Successful completion of an accredited school of respiratory therapy and have successfully completed the registry examination for advanced level partitioners as a Registered Respiratory Therapist (RRT) by the National Board of Respiratory Care (NBRC).
 - ❖ Strong intensive care background (at least one year of NICU, PICU, MICU, CICU or other critical care experience preferred).
 - ❖ Employment in an active ECMO center
 - ❖ Unencumbered state license status
 - ❖ Current BLS and ACLS Certification (NRP, PALS, etc.)
 - ❖ Strong understanding of human cardiopulmonary system

- ❖ Presents with a motivated, positive demeanor
- ❖ Fosters a collaborative working environment and commits to the learning experience of others
- ❖ Attends 10 of 12 monthly ECMO team meetings to review cases, stay abreast of updates in ECMO practice, review quality metrics, review ECMO specific guidelines, etc.
- ❖ Attends ECMO wet labs per departmental stated cadence
- ❖ Commits to accrue a minimum of 200 annual live pump hours
- ❖ Assumes responsibility for continuous learning by engaging in educational activities supported by the department and ECMO community.

- ❖ Capability and willingness to commit to shifts outside of normal working schedule to maintain ECMO competency, i.e., flexible work schedule.
- ❖ Demonstrate effective closed-loop communication skills, ability to adapt to and function in stressful environments, develop crucial technical skills, apply critical thinking skills, and maintain professionalism.
- ❖ Successfully complete pre-entry exam with a minimum score of 90%.
- ❖ Interview
- ❖ Attend in-house ECMO training class
- ❖ 2-3 days per month apart from normal schedule dedicated to ECMO program

ECMO Class!!





- 4-5 days
 - Didactic $\approx$ 30 hours
 - Hands on $\approx$ 10
 - Multi-discipline approach
 - Industry contributions
 - Open forum for all (didactic only)
- Pre and Post class exam (must successfully complete with 90% score)
 - Daily quizzes



Agenda

History of ECMO

ECMO Physiology

ECMO Vocabulary

The ECMO Circuit

ECMO Cannulas

Inclusion & Exclusion Criteria

Clinical Management of the ECMO patient

Mechanical Ventilation on ECMO

Veno-Arterial ECMO

Ven-Venous ECMO

ECMO Complications and Troubleshooting

Interpreting blood gases

ECMO Pharmacology/Anticoagulation

Occupational and Physical Therapy

Hemodynamics

CRRT

Hematology



THERE IS
NO CRYING

— IN —
ECMO





Is able to prevent, detect and manage circuit related complications during bedside practice

Integrates Performance/Practice

Shows how to prevent, detect and manage circuit related complications in water-drills/simulation setting

Demonstration of Learning

Knows how to prevent, detect, manage circuit related complications

Interpretation/Application

Knows main circuit related complications

Fact Gathering

DOES



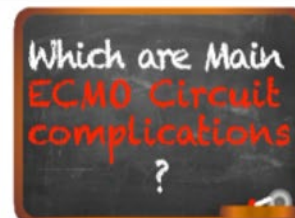
SHOWS



KNOWS HOW

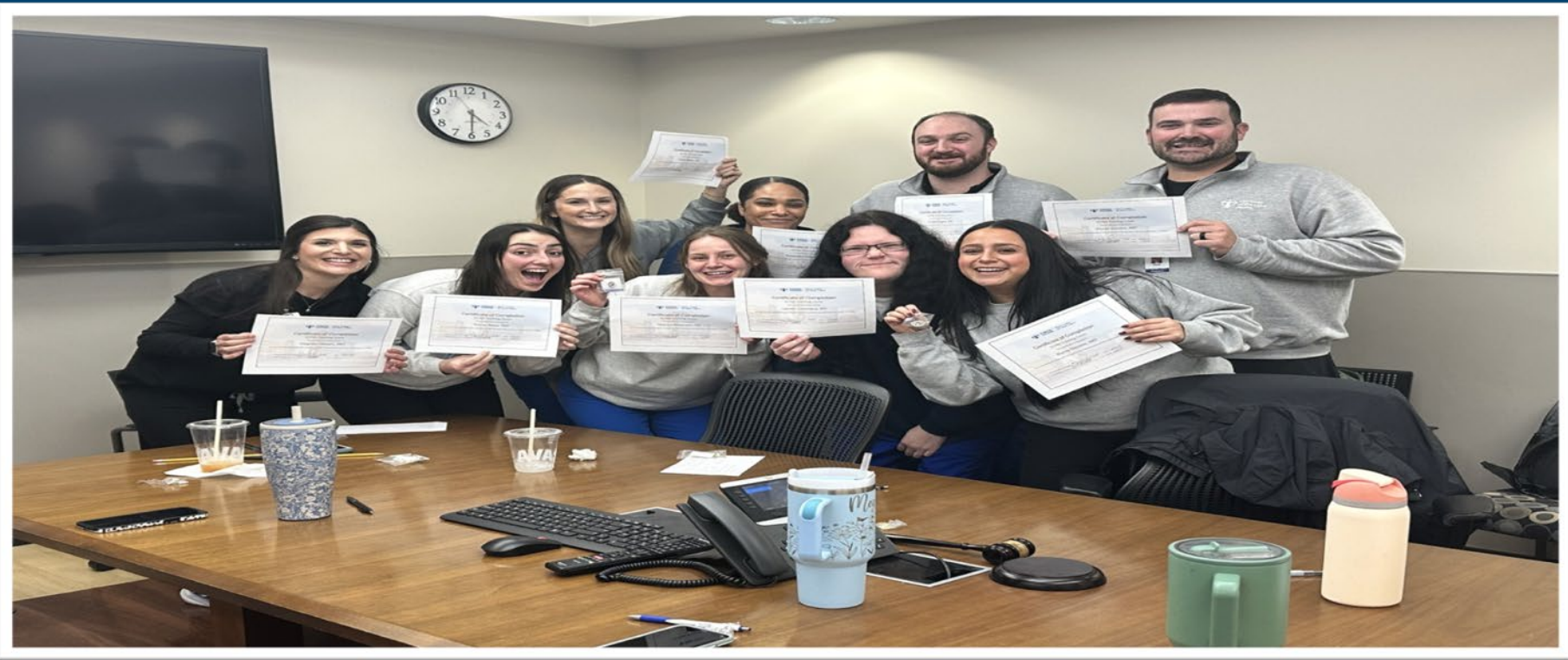


KNOWS



Miller's prism of clinical competence
(ECMO adapted)

ECMO Team 2025





1:1 competency check-offs

Orientation shifts

2 minimum

Day shift only

Last 4-6 hours with me @ bedside

Volunteer army approach

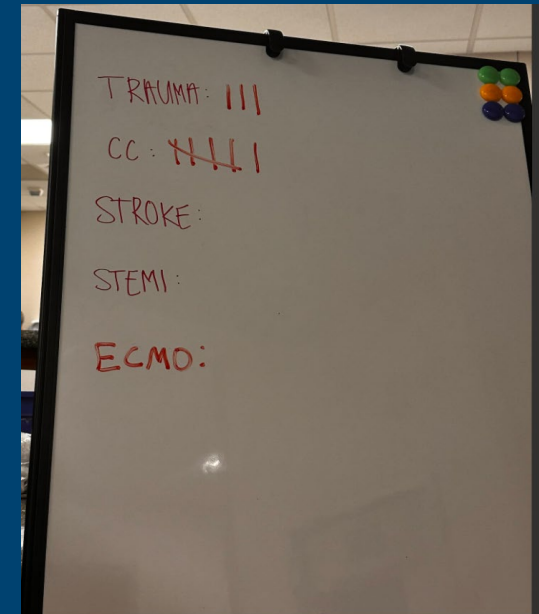
ECMO Specialist differentials

Attend conferences

Participate in case reviews (contribute)

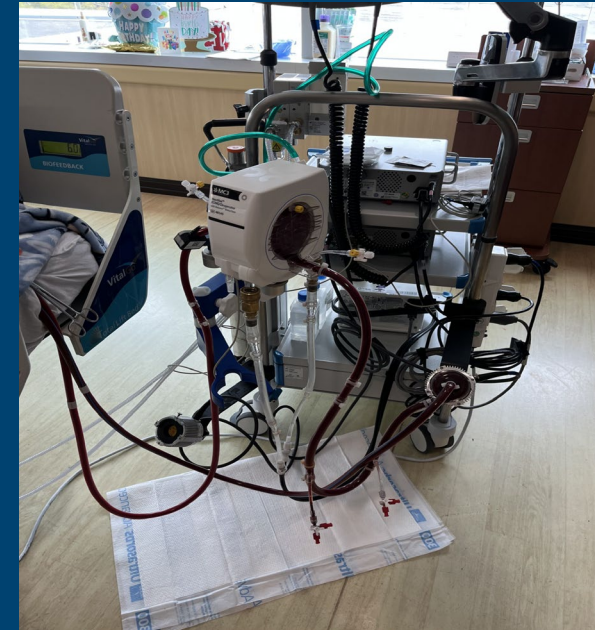
Daily Expectations

- Bedside report 645 am/pm
- Review circuit from cannula to cannula
- Review pump settings
- **Red plug**
- Emergency back up system
- Rupture pack
- Chart review
- ECMO rounds
- Patient mobility (prn)
- Be at bedside when others enter (family, Xray, Echo, MD, etc)
- Patient & family advocate



Daily Expectations

- Patient & family advocate
- In-House transport
- Check bedside cart
- Check cannulation cart
- Review Standby ECMO pump
- Punctuality
- Attendance
- Keep area clean
- Supplies
- Be prepared for anything!



Monthly Expectations

- Team Meetings (10/12)
- Case Review (10/12)
- ECMO Chat (optional)
- Monthly quiz (12/12)
- Staffing gaps

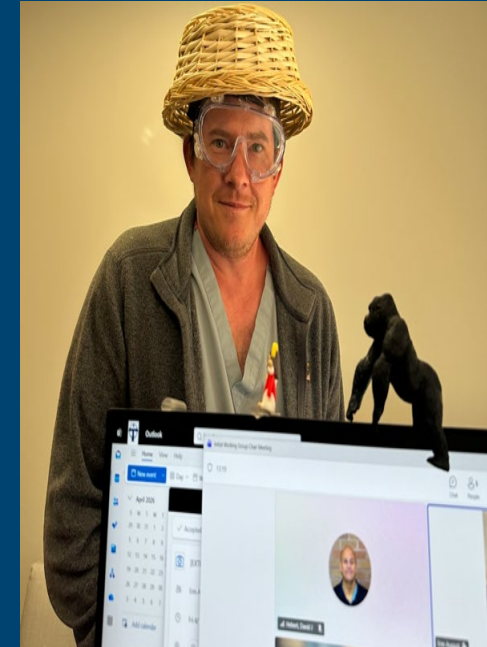


Quarterly/Annual Expectations

- Wet Drills
- Annual written Exam
- Conferences
- Lectures/Assist with training class



Have Fun!!





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Thank You!!

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