

Nurse to ECMO Nurse: Education & Training the ECLS Nurse

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We have no disclosures

Elaine Thomas-Horton, MSN, RN

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2011

- Cared for 23 ECMO Patients
- 40 ECMO I Certified RNs

WE'VE COME A LONG
WAY SINCE THOSE DAYS

2021

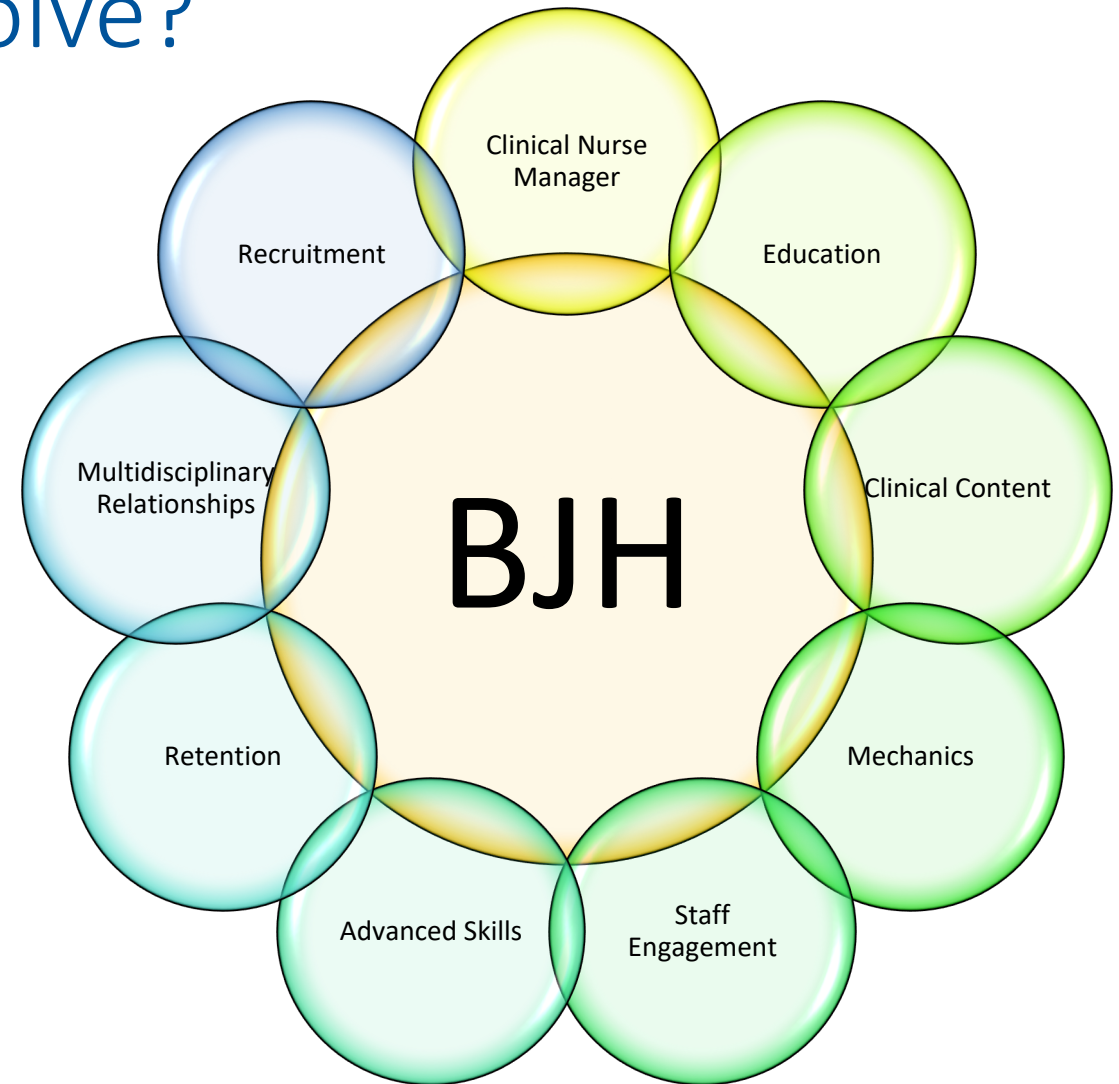
- Cared for >200 ECMO Patients
- 109 ECMO I Certified RNs

BUT IT'S ONLY THE BEGINNING

How Did We Successfully Evolve?

Program Alignment

- Support
 - Content development
 - Executing best practices
 - Collaborative care methods
- Goals
 - Improve patient outcomes
 - Implement safe guidelines & protocols
 - Increased employee satisfaction scores
- Growth
 - Attract & retain excellent nurses



Recruitment & Retention



November 20-21, 2021
The Ritz-Carlton Hotel, St. Louis, Missouri

Benefits: Working with State-of-the-Art Individuals & Equipment



- Enhanced our current program to appeal to high functioning individuals
 - Reputation & organizational structure
 - Innovative care models
 - Multidisciplinary approach
 - Respect and empowerment
 - Advanced educational opportunities



Benefits: ICU RN → ECLS RN

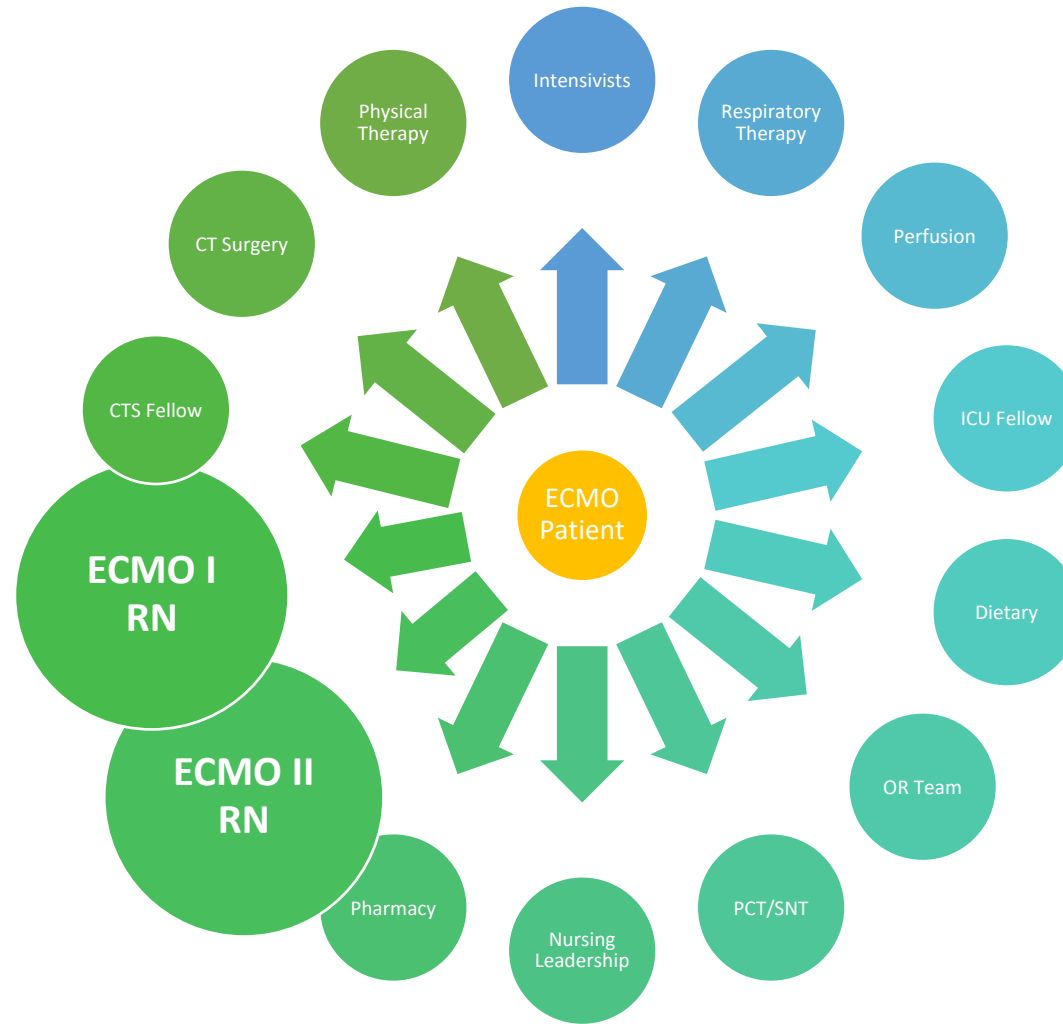
- Increase in house support
- Elevate core nursing staff
- Early identification of adverse events
- Execute ECMO specific therapies
 - Anticoagulation management
 - Circuit weaning guidelines
 - VV
 - VA
 - Ventilator weaning guidelines
 - Safe & aggressive weaning

Division of Roles



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ECMO Care Team



ECLS Nurse Responsibilities

- ECMO I Nurse

- Vital Sign Monitoring
- Drip Management
- Sedation Monitoring
- Hourly I&O
- Circuit Safety Checks
- Device Setting Management
- Wound Management

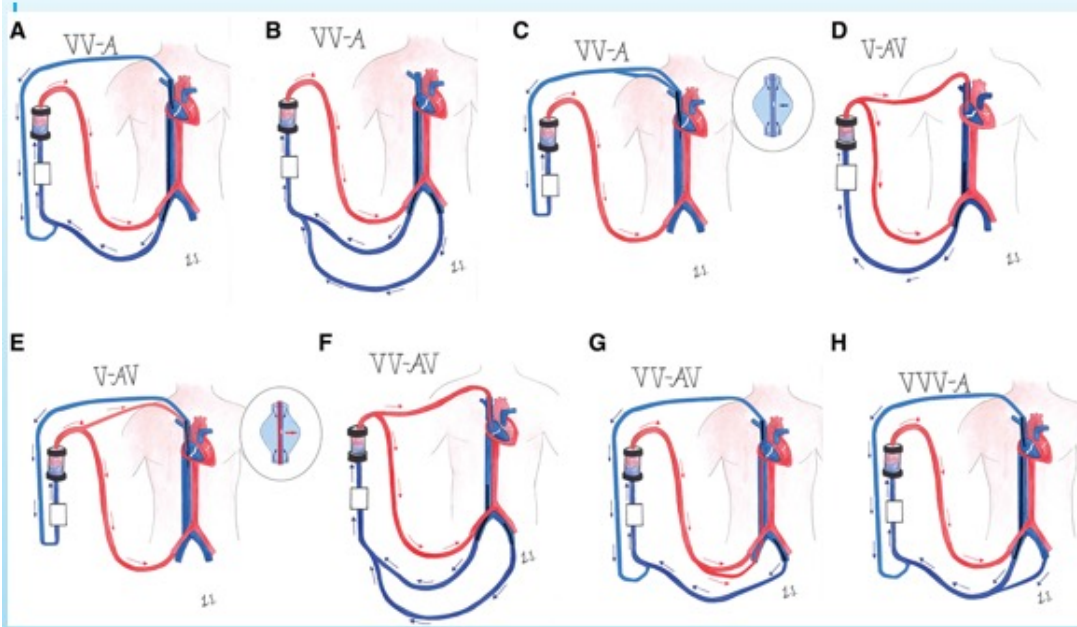
- ECMO II Nurse

- ECMO I Nurse +
 - Advanced Circuit Management
 - Advanced Safety Checks



Intro to ECLS-ECMO I

OHH THE PLACES TO CANNULATE



- 1 Year of ICU Experience
- Education Focus
 - Cannulation Approaches
 - Circuit & Monitor Awareness
 - Patient Management Considerations & Overview
- Introduction to ECMO + Medication treatments

ECMO II RN

- ECMO I RN 1 yr+
- 24/7 Coverage

Preventing Delays
in Treatment

Post Oxy-Gases

Initiating CRRT via
Circuit

Post-Oxygenator Blood Gas Skills Checklist

Name _____ Date: _____

SKILL: Obtain blood sample from post-oxygenator stopcock for blood gas monitoring in 56CTICU	Observed Procedure	Final Evaluator's Signature / Date
Obtain listed equipment: 2 ECMO clamps, 3 mL <u>luer</u> lock syringe, heparinized blood gas syringe, red <u>curoc</u> caps, alcohol swab, 10 mL prefilled saline flush syringe		
1. Put on clean gloves and mask with face shield or goggles.		
2. Obtain two ECMO clamps from circuit and have at ready in event of stopcock disconnection. <i>Observe stopcock for signs of leaking, loose connection, or cracking</i>		
3. Identify post-oxygenator 2-way stopcock. Remove red cap. a. Swab distal end of stopcock with alcohol to disinfect and let dry per hospital policy. <i>(*if red <u>curoc</u> cap is applied, omit above swabbing and remove)</i>		
4. Place 3 mL syringe on stopcock, turn 90 degrees, and withdraw (minimum) 2 mL waste. Return stopcock to "off" position towards the circuit tubing.		
5. Swab distal end of stopcock with alcohol and let dry per hospital policy. Place heparinized blood gas syringe on stopcock, turn 90 degrees, and withdraw sample. a. Return stopcock to "off" position towards the circuit tubing.		
6. Swab distal end of stopcock with alcohol and let dry per hospital policy. Place prefilled NS syringe on stopcock, withdraw any air noted in stopcock and flush (approximately 1-3ml) until clear. a. Return stopcock to "off" position towards the circuit tubing. ***Ensure complete de-airing of post-oxygenator stopcock as any air entrained will travel to patient***		
7. Ensure stopcock is turned to "off to circuit" position and place red cap or red <u>curoc</u> cap		

ECMO II RN Initial Skills Log

Name _____ Date: _____

SKILL: Flushing Post Pump & Pre-Membrane Pigtail	Observed Procedure	Supervised Flushes Initials/Date						Final Evaluator's Signature / Date
1. Complete full safety check.	**	*	*	*	*	*	*	
2. Aspirate any notable fibrin/clot (10mL syringe)								
3. Attach 10mL flush syringe.								
4. Flush until line clear. Add red caps.								
SKILL: Connect CRRT to ECMO	*	*	*	*				
1. Complete full safety check.								
2. Aspirate any notable fibrin/clot from each post pump and pre membrane pigtail (10mL syringe)								
3. Flush line until clear.								
4. Connect red CRRT line to red post pump pigtail (follow PP instructions).								
5. Connect blue CRRT line to blue pre membrane pigtail (follow PP instructions).								
6. Complete full safety check. Start therapy.								
SKILL: Disconnect CRRT from ECMO	*	*	*	*				
1. Complete full safety check.								
2. Disconnect red CRRT line from red post pump pigtail (follow PP instructions).								
3. Return blood according to PP (if applies)								
3. Disconnect blue CRRT line from blue pre membrane pigtail (follow PP instructions).								
4. Complete full safety check. Start therapy.								

Education



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Educational Methods

Enhanced

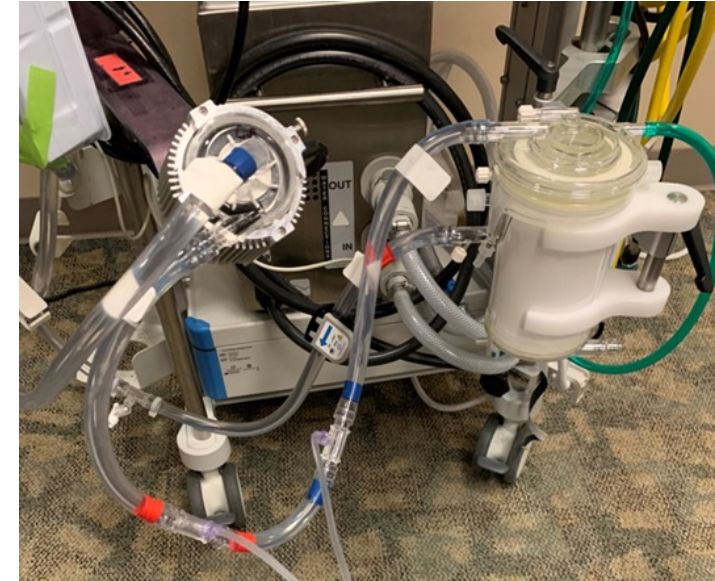
Evolved

Collaborative Training

Practice

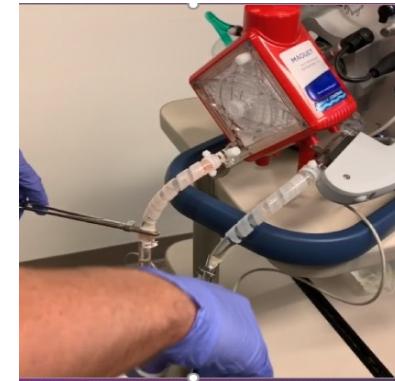
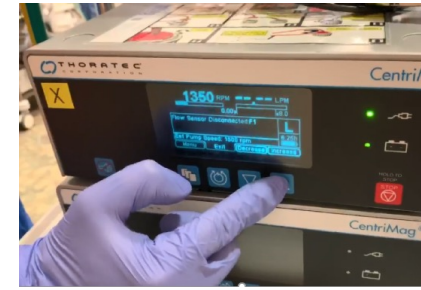
Prepare

Skills & Competency



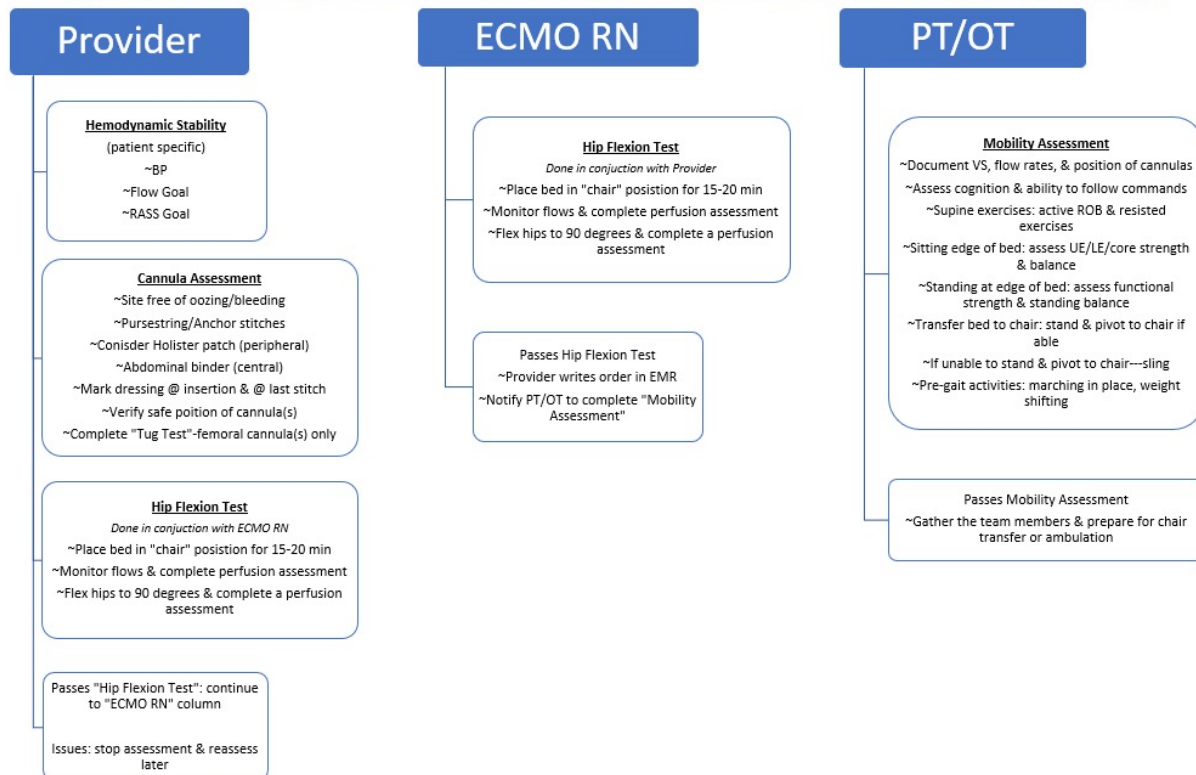
Examination of Adverse Events = Improved Safety Methods

- Emergency Considerations
- Safety Check Focus
 - Patient
 - Cart
 - Extra Equipment
- Cannula Assessment
 - Bleeding/Oozing
 - Sutures
 - Zip Ties
 - Hollister Patch
 - Abdominal Binder Use
 - Cannula Positioning



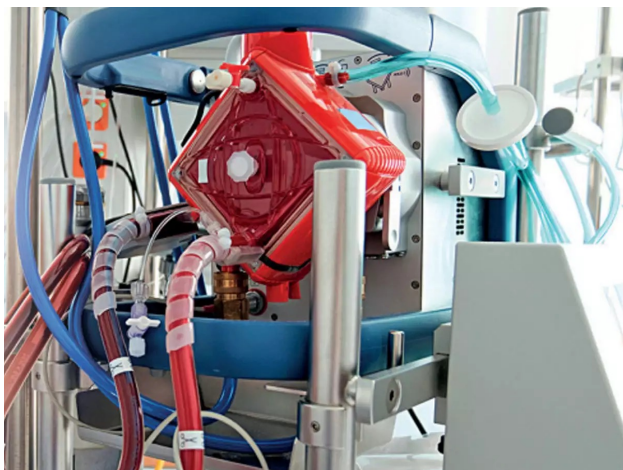
Experts: Protocols, Guidelines & Support

If patient is on IV anticoagulation therapy consult with the ICU team PRIOR to ambulation to discuss correct strategy

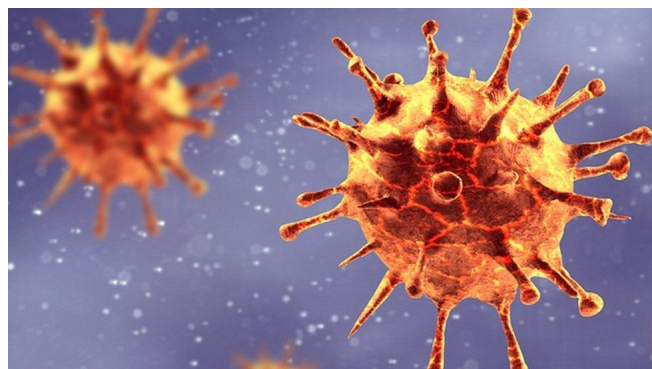


- Ambulating ECLS Patient
- Ordersets
- Policy & Procedure
- Proning ECMO Patients
- Circuit Assessments
- Accessing Circuit
- Cannulation: Tips for the ECMO RN
- Decannulation: Tips for the ECMO RN
- Troubleshooting

Unprecedented Challenges



- COVID Pandemic
- Consolidation of ECMO Patients
- Unstable Workforce
 - Contingent Care Model
 - Limited Years of Experience
 - Expedited Clinician Training
 - Influx of Contract Employees
- Team Morale





Jayme J
Dan Neff
Days



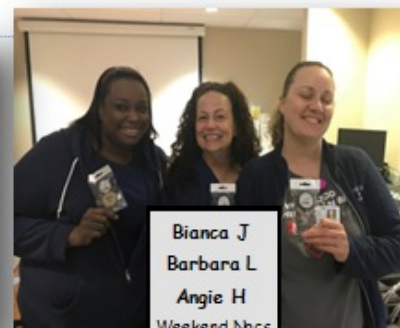
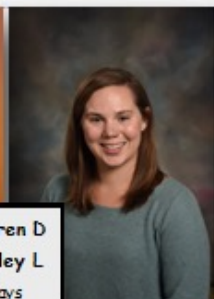
Mark F
Weekend Nocs



Meghan H
Days



Lauren D
Ashley L
Days



Bianca J
Barbara L
Angie H
Weekend Nocs



Karen L
Nocs

Not Pictured

- *Cole M
- *Nate T
- *Jane G
- *Luke M



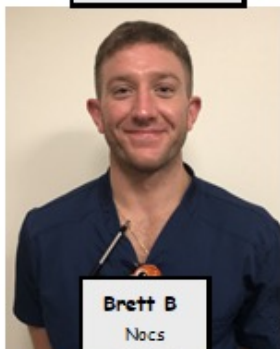
Victor V
Barb S
Days



Becky M
Justin K
Weekend Days



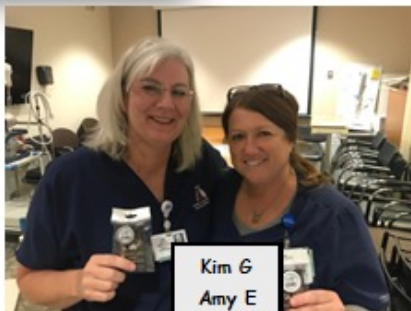
Sierra S
Nocs



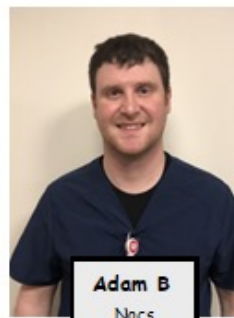
Brett B
Nocs



Melonie F
Days



Kim G
Amy E
Days



Adam B
Nocs



Joe F
Nocs

ECMO II RNs

Questions?

