

Innovation of the Critical Care Nurse: The Emergence of the Nurse ECMO Specialist and ECMO Innovation

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Objectives



DEFINE INNOVATION AND
INNOVATIONAL WORK.



IDENTIFYING THE FOUR
PILLARS OF INNOVATION



INNOVATION OF ECMO
SPECIALIST NURSE



ECMO

Every Challenge
Means
Opportunity

ECMO Every Challenge Means Opportunity

The Essence of Innovative Work

More than just change.

More than transformation.

It is about leveraging challenges into ideas and disruptive solutions.

4 Pillars of Innovation

Context

Culture

Capability

Collaboration



Context

- Original Care Model

- Initially managed our ECMO patients in the [intensive care unit](#) (ICU) with [perfusionists](#) from a contracted vendor.
- These perfusionists are health care professionals who complete an intense 2-year certification course focused on fluid and gas exchanges and management of the [ECMO device](#).
- They often manage patients on heart and lung bypass machines in the operating room during open-heart surgery, which is why many programs also lean on their expertise to manage ECMO in the ICU.^{[1](#)}

- Alignment of Values

- ICARE Value system
- Image maintenance

- Need for Guidance at the bedside

- Perfusionist Scope of Service

Culture

Support of the CNO

Executive Team

Keystakeholders

- Contracted Vendor Perfusionists
- Cardiovascular (CV) Surgeons
- ICU Physicians (Intensivists)
- ICU Clinical Supervisors
- The CV Surgery Team

Capability

Experience

One critical reason for switching to a nurse-driven program was to increase the nursing care for patients on ECMO.

Our experience using perfusionists proved that while experts in their field, perfusionists typically focus strictly on managing the ECMO device.

Using nurses in this role brought added value because the NES collaborates closely with the bedside nurses, intensivists, and other ancillary staff to provide the appropriate care.

In addition to the clinical expertise in ECMO management, the NES provides mentorship for bedside nurses, oversight for the clinical care, and support and education for the patients and families. Having the NES at the bedside 24 hours per day has brought increased clinical support for patients, and the bedside nurses and clinical supervisors have voiced strong support for the NES.

Switching to a nurse-driven program helped this program provide a higher level of care, maintain patient safety, and maximized our ability to provide holistic care.

Collaboration

Training

- Perfusion and Nursing sha
- Comprehensive training program to establish and maintain competencies for all concepts related to the initiation of ECMO on a patient, including initial cannulation on a patient, setting up and changing the ECMO circuit, daily care, and troubleshooting of the ECMO devices
- The critical parts of the education included didactic training in conjunction with hands-on training and simulation (known as wet-lab training in the ECMO environment) to provide baseline knowledge and skills.

Management

- Perfusionist
- MDs (Cardiology, Pulmonology, Intensivist, Cardiothoracic Surgery)

Innovation at work

The ability to adapt and be resourceful in unexpected situations



Our Growth



Ingenuity

the quality of being clever, original, and inventive

Inspiration

Leading from the Front

Pitfalls

1. Dual Role
2. Staffing
3. Job validation
4. National Recognition



recognized the high costs and lack of consistency seen with using a contracted vendor managing patients on ECMO. However, moving to a nurse-driven ECMO program required an upfront cost of one million dollars and the commitment of the nursing leadership team to ensure the project's success. To address the costs associated, the CNO, in conjunction with the director of critical care services, developed a proposed return on investment, which gained acceptance from the rest of the executive team and board of trustees. The CNO also collaborated with the executive team of our contracted vendor to establish a plan to provide training and support to our staff as we developed our program. The ICU manager became the project manager for implementing this nurse-driven NES model.

Our Program

Spearheaded by Dr Tuazon and Dr. Zainab.

Our Surgery service is Dr. Suarez

