

IN THIS ISSUE

Prone Patient Transports
Five Keys to Rapid Activation
Critical Care Transport of ECMO
Patients
Monitoring the Drive
2020 Trauma Annual Report

AirCurrents

CareFlight Air and Mobile Services

SPRING 2021



Prone Patient Transports: CareFlight Meets the Challenge

By Andrew C. Hawk, MD

Intubated and mechanically ventilated patients in the ICU are traditionally positioned in the supine (“face up”) position. However, in select cases, such as in the face of severe ARDS (acute respiratory distress syndrome) and persistently low oxygen levels despite standard interventions, transitioning to the prone (modified “face down”) position may be lifesaving. In fact, the Miami Valley Hospital ICU, as a tertiary referral critical care center, has been “proning” select complex intubated patients for years. Transporting an intubated mechanically ventilated prone patient between medical facilities is another story. Pre-pandemic, CareFlight had never been asked to transport a patient in the prone position. Flash forward to the present: COVID-19 changed all of that.

COVID-19 in its harshest form causes lung injury, including severe ARDS. Placing the intubated and

mechanically ventilated COVID-19 patient with severe ARDS in the prone position is occurring earlier and more often in ICU care. With those factors in mind, early in the pandemic CareFlight developed a defined procedure for transporting the intubated patient in the prone position. With her ICU experience, Kristen Wright, RN, CareFlight clinical operations manager, spearheaded the development and implementation of this novel critical care transport process.

CareFlight met the challenge of transporting patients in the prone position. Providing a secure transition of the patient to the transport cot; maintaining appropriate patient positioning and padding while continuously monitoring and providing patient care in transport; and providing guidance on “Reverse CPR” were included in the prone patient transport educational process.



Kristen Wright, RN

(continued on next page)



To date, multiple intubated prone COVID-19 patients have been safely transported by both CareFlight air and MICU.

CareFlight transported more than 700 possible, probable, presumed, and COVID-19 positive patients by air and MICU in 2020. We continue to transport COVID-19 patients in 2021 and, when requested, CareFlight will transport, by air or MICU, intubated ventilator patients in the prone position.



If you or your transport program have questions regarding prone patient transport:

Please contact Kristen Wright at krwright@premierhealth.com or myself.



Andy Hawk, MD
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Five Keys to Rapid Activation

By Brian Bates, Outreach Manager

When you need the CareFlight helicopter, expediting transfer to definitive care is the utmost priority. By having five key pieces of information at hand, the activation process of the helicopter will be streamlined:

1. Scene Request: Requesting Agency and Location
Hospital Transfers: Referring Hospital Name
2. Destination
3. Weight (if known)
4. Diagnosis
5. Has anyone else turned down the flight?

The CareFlight communication center will activate the closest CareFlight helicopter and then return to your call to gather further information. This rapid activation process saves valuable time and allows us to get to your patient faster, decreasing total time to definitive care. Additionally, Fire/EMS, Police, and Dispatchers can utilize the CareFlight mobile application to request the CareFlight helicopter. The CareFlight mobile application is designed to streamline the helicopter activation request while also allowing you to see in real time our progress to your location.



To schedule an application demonstration:

Call Brian Bates at **(937) 208-4399**.



Photo by Mike Ullery



Monitoring the Drive

By Brian Bates, Outreach Manager

Last year, CareFlight Air and Mobile completed over 4,400 Mobile Intensive Care Unit (MICU) transports for a total of 264,879 miles traveled, which in turn equates to many hours driving on the roads. With MICU missions occurring any time, day or night, and with so many hours on the road, it is imperative that safety is in the forefront of our minds at all times.

Crew fatigue is a leading cause of ambulance crashes across the country and a factor that can often go unnoticed without the proper checks and balances in place. One of the many ways CareFlight Air and Mobile strives to ensure MICU crew safety is through real-time vehicle monitoring. Each one of CareFlight's five MICUs is outfitted with a Blue-Sky Network's Hawkeye 5500 onboard vehicle management and communication system.

Each Hawkeye device is capable of reporting GPS position, speed, acceleration, g-forces, and driver behavior. The device allows the CareFlight communication center to track each MICU in real time and to receive alerts for excessive speed, harsh braking and accelerating, and crash and rollover detection.

The Hawkeye 5500 has redundant data uplink capabilities (cellular and satellite) to ensure 100% connectivity of each CareFlight MICU. Additionally, each MICU is outfitted with a forward- and rear-facing drive camera that provides video monitoring of the MICU cab, as well as the driver's view of the road ahead. Together, these devices provide a layer of safety that allows the CareFlight communication center, along with our leadership team, to be alerted to any pre-cursor events, giving our team the ability to intervene prior to a catastrophic event.

Here at CareFlight Air and Mobile, we are one team with one mission: to provide safe critical care transport, 24/7, 365!



Critical Care Transport of ECMO Patients by Air and Ground

Michelle Baldwin, BSN, RN, CFRN, Paramedic and Marcia Roemer, MSN, RN, CEN, Paramedic

Transporting critically ill patients is nothing new for CareFlight. However, in recent years, a unique patient population has emerged in the transport world who require a specialized therapy. The use of Extracorporeal Membrane Oxygenation (ECMO) and the facilities that provide it have increased. With the onset and continuation of COVID and its complications, a growing number of patients are critically ill and require ECMO as a life-saving intervention.

ECMO provides life-saving support to patients with cardiac and/or pulmonary failure. It is a process where blood is pumped from the venous system and circulated through a machine to oxygenate the blood and remove carbon dioxide. That blood is then reinfused into either the venous system or the arterial system, depending on the level of support the patient requires.

ECMO is a supportive therapy that can be initiated within a referring facility, however, in some instances, it would then require patient transfer for ongoing management and treatment of severe cardiac or acute respiratory failure. For this transfer to occur, there must be a collaborative plan utilizing experts from multiple health care disciplines to ensure the safest and most stable transport possible. In addition to the critical care transport team, these disciplines include cardiothoracic surgeons, operating room staff, critical care physicians, intensive care nurses, respiratory therapists, and perfusionists.

When the decision is made to transfer a patient who is on ECMO, a call is placed to Premier Health's Regional Referral Center (RRC). Information is then sent to the CareFlight Communication Center where the appropriate vehicle is dispatched to complete the transfer. Via air, this would include one of the four Dauphin helicopters in the CareFlight fleet. The Dauphin is unparalleled due to its larger size, dual engines, and spacious interior, which make it uniquely capable of transporting the additional caregivers and equipment required for these critically ill patients. These features, together with the ability to fly at speeds of up to 180mph, make the Dauphin one of the most elite helicopters in the industry. For transfers via ground, especially in situations involving inclement weather and shorter out-of-hospital times, one of CareFlight's five Mobile Intensive Care Units (MICU) can also complete the transfer request.

During the actual transport phase of care for a patient on ECMO, the perfusionist accompanies the patient onboard the aircraft or MICU and manages the ECMO system. All other aspects of the patient's overall care, including the ventilator, intravenous medications, and any other equipment, such as the intra-aortic balloon pump and

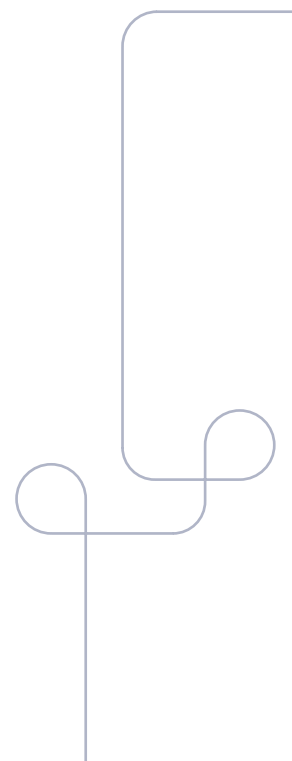
transvenous pacemaker, are managed by the CareFlight medical crew. Once en route, the crew closely and continuously monitors the patient and his or her airway, titrates drips, manages the equipment, and intervenes as necessary.

Transportation of patients requiring ECMO has changed throughout the years. Previously, ECMO systems were very large, and not suitable for transport especially by air. With modern technology, we not only have smaller, portable versions of earlier ECMO systems available, but many



outlying facilities are now able to initiate this life-saving treatment followed by the transfer of patients to a tertiary care facility. These patients can present a logistical challenge, but with careful attention to detail, methodical movements, and an ever-present eye on safety, transfers are completed seamlessly. CareFlight Air and Mobile Services is proud to bridge that gap.

ECMO team members include left to right: Courtney Fritzsche, RT; Zack Gabbard, HVICU RN; Michael Moyer, Flight Nurse; Vincent Nardy, DO; and Benjamin C. Post, Flight Nurse
Not pictured: Perfusionist



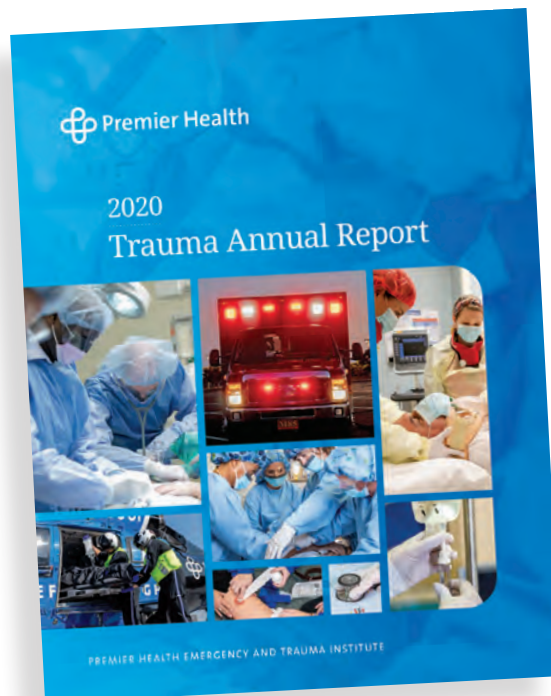
2020 Trauma Annual Report

Premier Health is proud to provide comprehensive, nationally recognized trauma care for the communities we serve. The 2020 Trauma Annual Report provides a complete picture of our trauma care – from life-saving technologies and research to international trauma outreach and our response to COVID-19.



We invite you to view the report

Visit PremierHealth.com/TAR



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*Miami Valley
Hospital Mission
We will improve the health
of the communities we
serve with others who
share our commitment
to provide high-quality,
cost-effective health
care services.*