

THE CEMS UPDATE

DELAWARE COUNTY EMS RECEIVES NATIONAL RECOGNITION

Congratulations to Delaware County Emergency Medical Services for receiving two 2022 National EMS Awards of Excellence at EMS World. DCEMS was named the *Dick Ferneau National EMS System of the Year for 2022* by the National Association of Emergency Medical Technicians (NAEMT) and EMS World magazine. DCEMS was presented the award at EMS World Expo in Orlando, Florida, the largest EMS-dedicated event in the world. Additionally, DCEMS was awarded *NAEMT-ACEP/Technimount EMS Safety in EMS Award* for advancing practitioner and patient safety.

Delaware County EMS provides emergency medical services for more than 174,000 residents of Delaware County and is one of the largest EMS services in Central Ohio. DCEMS is led by Director Jeff Fishel, and Wexner Medical Center physicians, Ash Panchal, MD (Medical Director), Nicole McAllister, DO (Associate Medical Director), and Brooke Moungey, MD (Associate Medical Director). We want to congratulate Delaware County EMS on the incredible recognition!



Brutus joined the DCEMS celebration.

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THE CEMS UPDATE provides news related to The Ohio State University Wexner Medical Center and the Center for EMS, including Med Center updates, EMS training and event highlights, and topics of interest from our many clinical experts.

For content requests please contact the Center for EMS at centerforems@osumc.edu or 614-293-5102.



MEDICAL DIRECTOR UPDATE

We want to introduce Travis Sharkey, MD, PhD, who recently joined the OSU Center for EMS medical direction team. Dr. Sharkey received his MD and PhD in biomedical engineering from The Ohio State University. He also completed an emergency medicine residency and EMS fellowship at OSU.

Dr. Sharkey is Associate Medical Director for the Worthington Division of Fire. His focus is on strengthening EMS educational opportunities through real-world experiences of local providers.

Dr. Sharkey's research includes investigating the use of artificial intelligence and natural language processing to support accurate and efficient dispatch of EMS providers, to get the right resources to the right people at the right time. Additionally, Dr. Sharkey works closely with Drs. Panchal and Wang of the OSU emergency medicine research team, providing opportunities for Central Ohio EMS to be involved in OSU's research and innovation.

Dr. Sharkey's unique educational background and innovative mindset supports the Center for EMS' goals of advancing prehospital emergency medical services and improving patient care. Please join us in welcoming Dr. Travis Sharkey to the OSU Center for EMS medical direction team.



Travis Sharkey, MD, PhD
Associate Medical Director,
OSU Center for EMS

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Mike Dick, MD receiving the Lifetime Achievement award

MIKE DICK, MD RECEIVES LIFETIME ACHIEVEMENT AWARD

The Ohio Department of Public Safety awarded Mike Dick, MD the Jack B. Liberator Lifetime Achievement Award. Dr. Dick started his medical career over 40 years ago as a paramedic before receiving a Master's in Pathology and MD from The Ohio State University. Dr. Dick's leadership has supported The Ohio State University East Hospital Emergency Department, the Center for EMS, regional committees, and local EMS.

Congratulations, Dr. Dick!

MEET OUR EMERGENCY DEPARTMENT PATIENT FLOW COORDINATORS!

Our Patient Flow Coordinators (PFC) are ED RN's who are assigned to manage patient intake in the Emergency Department along with managing patient discharges and admissions. They are often the most seasoned nurses in the ED. These are the individuals who answer your encode patient report and assign these patients to triage or ED rooms. They also handle communications for direct admissions, air medical transports, and private EMS transports.



Left to Right: Chelsea Bethge, RN (PFC); Jessica Irizarry, RN (CEMS); Cheryl Levering, RN (PFC)

Critical thinking skills are a must to be a PFC. These nurses need to think on their feet to ensure patients are being assigned to beds appropriately. Things a PFC must consider when performing their duties are possible incoming medics, acuity levels of patients, and in hospital bed availability.

When asked about the most challenging aspect of the PFC role, PFC Chelsea Bethge responded, "The greatest challenge for our PFCs is boarding hours. When we are unable to move patients out of ED rooms, this creates a backup in triage."

The PFCs work hard to maintain good relationships between ED staff and EMS personnel. "We want EMS personnel to know that patients don't just sit and wait in triage. This is the best opportunity to get treatments started quickly for a patient who is not assigned a bed. There is an attending physician assigned to triage who can order a multitude of treatments for a patient. We can perform 12-lead ECGs, consultations with our specialty services, and administer medications and treatments while a patient is in triage."



Left to Right: Chelsea Bethge, RN (PFC); Tara Meyer, RN (PFC); Anna Yonker, RN (PFC)



Left to Right: John Justice, RN (Charge RN); Kristi Allen, RN (PFC)

VIRTUAL REALITY SIMULATOR TO TRAIN AND ASSESS EMERGENCY PERSONNEL FOR MASS CASUALTY RESPONSE

As mass casualty incidents continue to escalate in the United States, we must improve frontline responder performance to increase the odds of victim survival. The First Responder Virtual Reality Simulator is a high-fidelity, fully immersive, automated, programmable virtual reality (VR) simulation designed to train frontline responders to treat and triage victims of mass casualty incidents. First responder trainees don a wireless VR head mounted display (HMD) linked to a compatible desktop computer. Trainees see and hear autonomous, interactive victims who are programmed to simulate individuals with injuries consistent with an explosion in an underground space. Armed with a virtual medical kit, responders are tasked with triaging and treating the victims on the scene. The VR environment can be made more challenging by increasing the environmental chaos, adding patients, or increasing the acuity of patient injuries. The VR platform tracks and records their performance as they navigate the disaster scene. Output from the system provides feedback to participants on their performance. Eventually, we hope that the First Responder system will serve both as an effective replacement for expensive conventional training methods as well as a safe and efficient platform for research on current triage protocols.

VR training video at go.osu.edu/mcivr_video.



"The VR system was very user friendly... It was a fun way to put SALT triage into action. The VR system was a great way to develop muscle memory versus sitting through a lecture."

– Andy Saunders, Westerville Fire

CEMS & ED LEADERSHIP VISIT CFD STATION 7



"The Emergency Department staff at The Ohio State University Wexner Medical Center are fortunate to interact with the various EMS agencies. The team appreciates and values the care they provide patients in the pre-hospital setting and enjoys building relationships with EMS, through ride alongs, station visits, and interacting with them while they are in the department. We are fortunate to work with highly skilled and trained EMS agencies and appreciate what they do!"

- Stephanie Sturges
Nurse Manager,
Emergency Services

BRONCHIOLITIS vs. ASTHMA

'Tis the Season for Bronchiolitis

You are dispatched to a call for a 13-month-old infant with respiratory distress. When you arrive, you find an ill appearing child with retractions and nasal flaring. Patient has a fever of 101°F and on auscultation you hear wheezing. Is this bronchiolitis or asthma?

What is Bronchiolitis?

Bronchiolitis is a disease of children under two years of age that is characterized by inflammation of the bronchioles--the medium sized airways within the lungs. Mucous formation from inflammation obstructs these airways resulting in wheezing and respiratory distress. Bronchiolitis is often associated with Respiratory Syncytial Virus (RSV) but may be caused by any respiratory virus. Bronchiolitis cases peak in the fall and winter seasons. and innovation.

Signs and Symptoms:

Typically, bronchiolitis starts with upper respiratory symptoms, such as cough, congestion, and fever.

Symptoms gradually worsen at around days 3-5 and typically present with signs of respiratory distress such as tachypnea, retractions, nasal flaring, head bobbing, and grunting. Lungs may have wheezes which can be confusing when trying to differentiate bronchiolitis from asthma. Young babies under 6 weeks of age may have periods of apnea with bronchiolitis, characterized by a pause in breathing lasting more than 15 seconds. Children with bronchiolitis may also experience dehydration. Risk factors for more severe disease include prematurity, chronic lung disease, immunocompromised, congenital heart disease, and age less than 3 months.

Management:

Supportive care is the mainstay of treatment. Initial assessment should include obtaining a pulse oximetry and delivering supplemental oxygen as needed, with a goal saturation of 90% or above. Nasal suction may improve respiratory distress, however in a patient with severe symptoms,

consider using CPAP to support the patient's work of breathing. Intubation is reserved for patients with respiratory failure, confusion, or somnolence, or for neonates experiencing apneas that do not improve with CPAP. IV fluids may be needed for those unable to maintain hydration. The AAP does not recommend using steroids or bronchodilators in bronchiolitis, however, in a patient over 6 months of age who has a history of wheezing, eczema, or food allergy, a trial of albuterol could be considered.



Chelsea Kadish, MD
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Proximal RCA after placement of drug eluting stent.
Arrow illustrates location of 100% stenosis before stent.

GREAT CATCH!

Mifflin Township M132 responded to a 60-year-old male who was experiencing left-sided chest pain and cardiogenic shock. ECG revealed STEMI and the patient was taken directly to The Ohio State University East Hospital Cath Lab.

Coronary angiography revealed 100% stenosis of the proximal RCA. A drug eluting stent was placed with complete return of blood flow.

First medical contact to reperfusion = 68 minutes!

EVENT HIGHLIGHTS

Emergency Care Education Series January 18, 2023

A 5-hour cardiovascular continuing education day where EMS and nursing staff attended ventricular assist devices, heart failure, cardiac arrest, ultrasound, and STEMI presentations by some of OSU's cardiovascular and clinical experts. The culinary education team of Cameron Stauffer and Michael Carnahan provided a heart-healthy lunch-and-learn.



Heart Healthy Lunch-and-Learn by Cameron Stauffer and Michael Carnahan

SALT Virtual Reality Training Ongoing



MEET THE NEW CENTER FOR EMS TEAMMATES!

Jessica Borden – Senior Outreach Coordinator

Jessie joined the Center for EMS in early 2023. She began her career in emergency services in 2002. She has experience in the urban setting of Central Ohio and the rural landscape of the Rocky Mountain region. Her experience includes structure firefighting, wildland firefighting, paramedicine, and federal incident management. Jessie is a graduate of The Ohio State University and holds a Master of Science in Leadership with an emphasis in Homeland Security and Emergency Management. Her interests include prehospital care research and training development.



Jessica Irizarry – Senior Outreach Coordinator

Jessica recently joined the Center for EMS after 5 years in the Wexner Medical Center Emergency Department as a Charge RN and Patient Flow Coordinator. Jessica adds nearly 12 years of registered nursing experience to the Center for EMS, including expertise in surgery, addiction, and emergency services. Jessica's years of service in the emergency department brings a unique skillset that will support the collaboration of prehospital and hospital emergency providers.

