

Current class offerings

Trauma:

- General trauma management
- Abdominal/hepatic/neuro/ortho/renal/thoracic
- Blood administration
- Tourniquets

Adult:

- Airway
- Shock
- Cardiac care
- Intravascular emergencies
- Stroke
- Sepsis
- Adult abuse
- Ventilation management

Pediatrics:

- Airway
- Cardiac
- Child abuse
- DKA
- Respiratory issues
- Sepsis
- Ventilation management

OB/GYN:

- Emergency delivery
- Trauma in pregnancy
- Neonatal care post-delivery
- Pregnancy complications
- Postpartum complications
- Post-delivery complications

General:

- Preparing patient for transport
- Helicopter safety class

EMS Region CEU focus

Mercyhealth Prehospital and Emergency Services Center–Rockford

- January: Congestive Heart Failure
- February: Documentation
- March: Drugs of Abuse

How to contact REACT:

If you would like REACT to come to your event or provide education to your agency or staff, please scan the QR code or contact us by visiting mercyeems.org. You can also contact Lois Hinton, REACT PR Coordinator, at lhinton@mhemail.org.

Do you have a topic you would like to see in the newsletter? Please contact Kyla Ruf at kruf@mhemail.org.

Follow us on Facebook @MercyhealthPrehospitalREACT

To dispatch REACT:

Prehospital: (855) 667-3228

Hospital: (800) MD-REACT
(800) 637-3228



Want to see a full listing of available educational offerings or schedule a visit with REACT? Scan the QR code above!

REACT Newsletter



Spring 2023

Stroke considerations for flight

Kyla Ruf, RN, BSN, CCRN, Flight Nurse



A cerebral vascular accident (CVA), also called a stroke, occurs when there is a decreased blood supply to part of the brain. CVAs can be either embolic (due to a clot) or hemorrhagic (due to a bleeding vessel). In either case, parts of the brain not receiving adequate perfusion become damaged or die. A stroke can cause lasting brain damage,

long-term disability, and death if not treated in a timely fashion.

According to the CDC, in 2020 one in six deaths from cardiovascular disease was due to stroke. Every 40 seconds, someone in the US has a stroke. Every 3.5 minutes, someone dies of stroke.

As a flight crew, a large portion of our transports consist of patients needing care at Mercyhealth's Comprehensive Stroke Center. There are many considerations to caring for stroke patients, but a huge component of our care revolves around ensuring we decrease the amount of time it takes to transport our patients to their designated care. There are several ways we accomplish this.

First and foremost, these patients need to be classified as needing transport to a comprehensive stroke center. This identification could occur in the field by EMS or interfacility. Rapid triage and determination of transport needs should be completed as quickly as possible. G-FAST has been utilized in our surrounding area with great success. A study completed by Mercyhealth's neurology team at demonstrated significant reduction in door-to-intervention time when utilizing a GFAST stroke assessment scale. With this easy-to-use singular assessment tool, patients scoring >3 points can be rapidly identified as potentially needing thrombectomy and additional treatment at a comprehensive stroke center. This ability to readily recognize these patients has

significantly decreased time to identification of transport need.

Next, transport needs to be activated to get your patient to their identified Comprehensive Stroke Center. At REACT, we've worked closely with Mercyhealth's neurology team to ensure that the consultation and transport components of transferring a patient are seamless to minimize delay. REACT ensures time limitations are at the forefront of our care. We train to minimize disruptions in care while rapidly loading our patients (when appropriate) to decrease transport time significantly.

Lastly, we work closely with Mercyhealth's stroke team to ensure patients arrive at the appropriate end destination as quickly as possible. We perform continuous neurological assessments, communicate with our neurologist frequently throughout our care, and will update with changes that may impact our patients care during all phases of transport. We also carry a wide range of medications including antihypertensives for the treatment of stroke patients. We receive the most up-to-date training including TNK and TPA administration, maintaining congruent care throughout all phases of transport. This ability to keep our comprehensive stroke team up-to-date with your patient's condition ensures the best care possible.



Passion: Is it required in health care?

Kari Cieslak RN, CFRN, CEN



Have you changed since you started your career in health care? If the answer is yes, ask yourself if you've changed for what you consider to be the better? Try to recall what first steered you toward a career in health care. Was it a relative who was involved in health care? A personal experience that touched your life or inspired you? A desire to take care of others? A curiosity to learn more about the science or art of health and medicine, or did it find you by chance? What was your why? Whatever drove you to choose a career devoted to the health and well-being of others had to be fueled at some point by passion. Passion, defined as an "intense, driving, or overmastering feeling or conviction" (Merriam-Webster) can certainly evolve or change over time, just like our own feelings and emotions.

It continues to be a challenging time for providers to remain engaged passionately in health care. The world remains burdened by uncertainties in global health. Patients continue to present with complex needs, acutely ill, requiring more resources that may not be always readily available. Health care staffing, like many other professions nationwide, remains a challenge. As providers we are also human and that spark or initial passion for the work that we do can dwindle. It's normal to feel symptoms of burnout or fatigue given the nature of the work that we do. During these times it's critical that we are able and willing to acknowledge these signs and attempt to find balance.

Burnout is common and can lead to physical and mental health decline. The provider who was once energetic, driven and determined, may exhibit negativity, difficulty concentrating, reduced performance and complacency. It's during this period that the provider may find themselves appearing "on edge," preoccupied or difficult to work with. They may complain about the work that they do and are unable to provide solutions to problems. So how do we address this, or better yet prevent it? It's important during these times to reflect inward and attempt to recall your why in health care, to reignite your passion.

Balance and wellness go hand in hand, as health care providers it is unfortunately common practice to neglect our own wellness. We need certain things to achieve balance, some of which include quality sleep, nutrition, movement, recreation, community, and a sense of purpose and belonging. When we allow ourselves to feel overworked in our profession, deprive ourselves of sleep or good nutrition, eliminate exercise, or isolate ourselves, we do ourselves a disservice. Our bodies and minds need these essential items to thrive. If we don't take care of ourselves, how are we able to take care of others?

Check in with yourselves and others. The toll of shift work is real. Attending a medical conference several years ago, I recall being told to "be mindful of what you are allowing to take a backseat in your life" and I have never found this to be more true. Fostering a healthy, balanced life outside of your profession helps to maintain your individual identity. It's part of your legacy. We should be extremely proud of the work that we do. We get to be the healers and the helpers, but we should also recognize that being a health care provider isn't who we are, but a part of the wonderful, complex individuals that we are.

What drives you to be a better clinician? How do you find balance in order to keep your passion fueled and prevent burnout? How do you take care of yourself so that you are able to take care of others and do so with passion? How do you keep yourself hungry to continue to learn, to avoid becoming complacent? Optimizing your wellness should help prevent burnout. Challenge yourself in 2023 to be a better-balanced provider. Start with something small, one day at a time. We own the passion for making lives better, and that should include our own as well.

mG-FAST, A single pre-hospital stroke screen for evaluating large vessel and non-large vessel strokes

Original research article by Roy El Koussa, Sarah Linder, Alicia Quayson, Shawn Banash, James J. MacNeal, Parshva Shah, Mariaelana Brenner, Ross Levine, Osama O. Zaidat and Vibhav Bansal



There are approximately 800,000 new ischemic strokes in the United States annually. Of these, close to 20% are the result of a large vessel occlusion (LVO). A large vessel occlusion is defined by a thrombus in one of the major cerebral vessels including the terminal internal carotid artery (ICA), middle cerebral artery (MCA), anterior cerebral artery (ACA), or basilar arteries. Studies have shown that pharmacologic thrombolytic therapy alone for LVOs is often ineffective for achieving artery recanalization.

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Early revascularization improves outcomes of patients with LVO with research demonstrating an average of 90 minutes saved if patients are admitted directly to a comprehensive stroke center capable of mechanical thrombectomy. It is therefore imperative that patients who are suffering from an LVO are transferred to these hospitals without delay. To accomplish this, a simple and effective screening tool for EMS to use in the field is necessary to simultaneously identify stroke patients and LVO. This chosen tool should have a high sensitivity and negative predictive value to ensure that no LVO is missed, while maintaining a low false positive rate to avoid overwhelming endovascular capable centers.

Several LVO stroke scales have been implemented in communities to enhance early recognition of LVO. However, these scales necessitate a tiered approach requiring EMS to either utilize two separate stroke scales, or complete complicated physical exams, unfamiliar to EMS and difficult to perform in the field. In the emergent setting, it is inefficient for multiple scales to be used for a single disease process.

Ideally, a single stroke scale should be utilized by EMS to triage all strokes, including LVO. The scale should be validated in the pre-hospital setting in a suspected stroke cohort, inclusive of stroke mimics. EMS professionals around the country are familiar with the Cincinnati Stroke Scale (Face-Arm-Speech-Time, FAST) which has high sensitivity for stroke. A score to identify LVO, that builds on this well-known scale, would be readily utilized by EMS to simultaneously screen for stroke and LVO. The G-FAST scale incorporates gaze deviation in FAST to preserve the high sensitivity of FAST for stroke detection with the added benefit of allowing simultaneous evaluation for LVO. The presence of gaze deviation is the single best predictor of LVO on the National Institute of Health Stroke Scale (NIHSS). It has a sensitivity and specificity for LVO of 58 and 95%, respectively.

Utilizing a single stroke scale in the field improves EMS dispatch-to-stroke center time, EMS dispatch-to-groin puncture time, and EMS door-to-intervention time. Implementation of mG-FAST as a pre-hospital screening tool is an effective method of triaging patients to the appropriate facility.

mG-FAST differs from G-FAST by giving greater weight (2 points) to gaze preference, the best predictor of LVO. This study prospectively enrolled 150 consecutive patients identified by EMS as potential strokes using only the mG-FAST scale. Patients with a score of 1 or 2 were paged as a non-LVO code stroke and those with an mG-FAST ≥ 3 as an LVO code stroke.

An mG-FAST score of 3 was chosen as the threshold for LVO for two main reasons. First, the presence of gaze preference (2 points) and hemiparesis of an extremity (1 point) are very predictive of LVO, therefore yielding a score of 3. Secondly, prior studies have demonstrated that the presence of all 3 signs of the FAST scale, which would also result in an mG-FAST score of 3, as highly predictive of LVO even in the absence of gaze deviation.

One hundred fifty consecutive patients were rated with this scale by EMS professionals in the pre-hospital setting and independently evaluated by a member of the stroke team upon arrival to the hospital. EMS dispatch-to-facility arrival time, EMS dispatch-to-arterial puncture time, door-to-arterial puncture time and door-to-intervention time were measured for the 15 months prior to and 18 months after implementation of mG-FAST.

Following implementation of mG-FAST, mean EMS dispatch-to-facility time decreased by 22 min; mean EMS dispatch-to-arterial puncture time decreased by 62 min; mean door-to-groin puncture time decreased by 27 min. Mean door-to-intervention time also decreased by 50 min.

Out of the 32 LVO patients with an mG-FAST of 3 or more, 10 were admitted to the comprehensive stroke center hospital and 12 were admitted to a non-comprehensive hospital. The mean EMS dispatch-to-facility time was 53.9 and 228.6 min, respectively. This resulted in a decrease of 174.7 min.

The use of mG-FAST drastically decreased the EMS dispatch-to-facility time, EMS dispatch-to-groin puncture time, and the EMS door-to-intervention time. Additionally, this study demonstrated that using mG-FAST as a pre-hospital LVO screening tool was an effective and efficient method in triaging patients to a comprehensive stroke center.

Utilizing a single comprehensive stroke assessment tool in the field improved EMS dispatch-to-facility time as well as EMS dispatch-to-groin puncture time in patients with LVO stroke. This study demonstrated that using mG-FAST as a pre-hospital stroke screening tool was an effective and efficient method in triaging patients into comprehensive stroke centers and non-comprehensive hospitals. mG-FAST is the only scale to our knowledge that has been prospectively validated in the pre-hospital setting in a suspected stroke cohort that allows the use of a single stroke scale to triage all strokes, including LVO. This scale has the highest sensitivity and highest negative predictive value of all stroke scales prospectively studied in the field. The utilization of this single scale for EMS to triage all stroke patients results in a simple, reliable, and effective tool ensuring a high level of compliance.

If you would like to read more about this study, visit mercyhealthsystem.org/gfast.