

# ED Stroke Care

Laying the foundation vs.  
"just a pit stop"

Jeremy Joslin, MD

Associate Professor, Emergency Medicine

Medical Director, Emergency Department, Downtown Campus

Upstate Medical University

# Objectives

- Discuss the role of the ED provider in acute stroke care
- Describe acute medical management for the ED provider
- Discuss system-based interventions that can be deployed in the ED

# ED Stroke Care

- Just a pit stop?
- The foundation of quality stroke care is finished in the ED
  - Started by EMS system
  - Finished in the ED
- Foundation of quality built on recognition of stroke symptoms, activation of resources, and emergency stabilization.

Isn't this cookbook  
medicine?

“As an academic medical center, we have tended to focus on the brilliant—the cutting-edge procedures, the medical innovations—because we push those envelopes really well,” says William Bornstein, CQO for Emory Healthcare. “This current movement is about looking at more routine care and being able to deliver it reliably for every patient every time.”

Often, physicians disparagingly refer to such standardizations as “cookbook medicine,” voiced by the comment, “I didn’t go to medical school to practice cookbook medicine.” But it is failure in handling the routine that generally leads to medical errors.

# What is the ED's role?

- Recognition of stroke
- Activation of resources
- Emergency stabilization

# Recognition

- EMS use of CPSS
  - Communication of the CPSS
  - High sensitivity
  - Low specificity
- Pit crew model
  - Immediate exam by provider at arrival
- Stroke mimics

# Stroke mimics

- Hypoglycemia
- Seizure
- Migraine
- Sepsis/Encephalopathy
- TGA
- Hemorrhage



# Activation of Resources

- EMS notification
- Immediate stroke code activation by ED attending
  - Dedicated iPad with custom web script
  - Linked to hospital paging system
  - Near-realtime stroke activations with ETA, symptoms, LKW, etc.
  - Reduced time to activation

# Emergency stabilization

- A-B-C
- First aid for the brain

# A-B-C

- Identification of dense lesions with high risk for aspiration
- Stabilization of airway with endotracheal intubation
- Oxygenation
- Resuscitation of circulation
- Confirm glucose for walk-in patients

# First aid for the brain...

- Head of the bed
- Evaluation of cervical spine immobilization (removal stressed)
- Blood pressure control
- Blood pressure support

# Rapid Imaging Innovations

- Direct to CT
- Direct to CTA

# Direct to CT

- EMS notification (LKW<6hrs & +CPSS)
- ED activation
- On arrival, pit crew approach
  - Registration identifying and banding
  - Nursing liaising with CT scanner
  - ED provider assessing safety and necessity
  - Neurology provider beginning rapid assessment

# Direct to CTA

- Similar to Direct to CT
  - Identification of LVO
    - Strong symptoms
    - Dense hemiparesis
    - Estimated NIHSS > 6
  - Large bore IV access already obtained

“Quality is never  
an accident.  
It is always  
the result of  
intelligent  
effort.”

John Ruskin